20-Ton Canaries: The Great Whales of the North Atlantic

Introduction

Symposium Articles

Current Issues Facing North Atlantic Right Whales and Stakeholders

Dr. Michael J. Moore

[pages 309–318]

Abstract: At the beginning of the Symposium sessions at the Massachusetts Institute of Technology and at Boston College Law School, Dr. Michael Moore provided a narrative and photographic introduction to current threats to whale survival, with particular reference to North Atlantic waters off the eastern coast of the United States and the most endangered whale species, the North Atlantic right whale, Eubalaena glacialis. The conditions experienced by North Atlantic right whales reflect conditions faced by all the great whales of the North Atlantic. Given the 1935 absolute moratorium on hunting right whales in any waters, there are three major areas of current concern for whale conservation and survival noted in Dr. Moore’s presentation and addressed in legal terms by subsequent contributors to the Symposium: (1) entanglement in commercial fishing gear; (2) vessel strikes; and (3) ambient and episodic marine noise. Each of these is generated by human activities on the oceans.
Antarctic Whaling: Australia’s Attempt to Protect Whales in the Southern Ocean

Donald K. Anton

Abstract: This Article examines Australia’s attempt to protect whales in the Antarctic Southern Ocean, in an area that almost all states consider beyond national jurisdiction. Such an examination is important because of the apparently intractable divide on the issue in the International Whaling Commission. The Article begins by outlining the evolution of the Australian cultural and legal posture toward whaling. It also sets out current Australian whaling law, including the establishment of the Australian Whale Sanctuary in the Exclusive Economic Zone of the Australian mainland and external territories (including the purported Australian Antarctic Territory in the Southern Ocean). The Article then analyzes how municipal litigation has been deployed as a protection strategy in Australian courts by NGOs in an attempt to protect whales in the Antarctic Southern Ocean. The Article then turns attention to significant legal limits and problems connected to this strategy. Finally, the Article concludes by highlighting the benefits and costs associated with the unilateral Australian legal approach in the Southern Ocean.

Beyond Winter v. NRDC: A Decade of Litigating the Navy’s Active SONAR Around the Environmental Exemptions

Robin Kundis Craig

Abstract: To find ultra-quiet modern submarines, the Navy uses high-powered active sonar. However, active sonar is also linked to marine mammal strandings and other types of harms to whales, dolphins, fish, and sea turtles. This connection has led to over a decade of challenges against the Navy’s active sonar training exercises in the Pacific, culminating in the U.S. Supreme Court’s November 2008 decision in Winter v. Natural Resources Defense Council. This Article suggests that the Supreme Court’s failure to reach the merits of the case—the actual legality of the Navy’s training exercises off the southern California coast—is the most troubling part of the Court’s somewhat cabined analysis of the lower courts’ preliminary injunctions. Specifically, this Article argues that the Navy sonar litigation represents a progressive elimination both of flexibility in the applicable environmental requirements and effective oversight of military actions that could ensure that neither national security nor environmental goals are unnecessarily sacrificed.
Policy Considerations and Measures to Reduce the Likelihood of Vessel Collisions with Great Whales

Jeremy Firestone

[pages 389–400]

Abstract: Both globally and along the North American east coast of the Atlantic Ocean, reported ship strikes of great whales have been at historic highs during the past fifteen years. Ship strikes present a particularly grave threat to the North Atlantic right whale, given its severely depleted population status and the fact that right whales live, breed, and raise their young in areas that are heavily used by massive commercial vessels that travel at lethal speeds. Fortunately, decreasing the possibility of lethal strikes is not complicated—seasonally slow down vessels to ten knots and/or re-route them around those areas where right whales are known to aggregate. Here I describe the plight of the right whale and a series of scientific studies that can, and in some instances have, been used to facilitate legally defensible and common sense government measures to protect great whales.

Whales, Whaling, and the Warming Oceans

Alison Rieser

[pages 401–430]

Abstract: In its first campaign of ocean diplomacy for the twenty-first century, the United States is trying to save the international whaling regime from breaking apart over the issue of commercial whaling. On the assumption that a reformed whaling regime could address the challenges whales face due to global warming, negotiators have come closer to a compromise than any previous attempt. But any effort to maintain a role for the International Whaling Commission (IWC) must not undermine the application by other regimes of new international norms, which include protecting the integrity and resilience of marine ecosystems. A compromise that does not repudiate the “whales-eat-our-fish” notion underlying the IWC’s current view of the ecosystem approach will hinder progress in other ocean governance institutions whose need for reform greatly surpasses that of the IWC.
A New Paradigm for Conservation of Great Whales in the Urban Sea of the United States—Species in Need of a “Green Knight”

Richard Max Strahan

[pages 431–482]

Abstract: The great whales of the North Atlantic live, breed, and are now being injured and killed in the “Urban Sea”—a growing feature of the United States coastline resulting from coastal development. The primary threats to great whales are anthropogenic: vessel strikes and entanglement in commercial fishing gear. Despite their popularity as cultural icons, and federal and state protective regulations on the books, endangered whales increasingly suffer collateral damage from coastal commerce. Ample law and technology exist to eliminate these problems. Rather than advancing the protection of whales, however, government agencies and some non-profit organizations have aggravated the problem through their lack of meaningful action. This essay examines systemic reasons why harmful entanglements in commercial fishing gear continue to occur and are likely to go on unabated into the future. The essay then proposes a paradigm shift for approaching these problems that will protect whales and will also benefit other wildlife in the ocean and its coastal Urban Sea.

A Multi-Faceted Approach Is Necessary to Protect Endangered Species: A Case Study of the Critically Imperiled North Atlantic Right Whale

Regina Asmutis-Silvia

[pages 483–496]

Abstract: While protection of endangered species in the United States is mandated for listed species under the Endangered Species Act and the Marine Mammal Protection Act, both require ancillary efforts to ensure their intents are enforced. Science, negotiation, litigation, and lobbying for political solutions are all tools that can be brought to bear to ensure compliance with protective laws. However, there is a right and wrong time for the use of each of these tools. This paper provides a short discussion of the available tools, the likelihood of success or failure of each depending on when and how they are used, and it makes the case for a multi-faceted approach to protection of endangered species, using critically endangered right whales as a case study.
NOTES

THE TIMING OF CHALLENGES TO COMPEL CRITICAL HABITAT DESIGNATION UNDER THE ENDANGERED SPECIES ACT: SHOULD COURTS TOLL THE GENERAL FEDERAL STATUTE OF LIMITATIONS?

Matthew D. Crawford

[pages 497–534]

Abstract: The Secretary of the Interior, acting through the Fish and Wildlife Service, is directed by the Endangered Species Act to designate critical habitat concurrently with the listing of a species as endangered or threatened. However, the ESA allows FWS to delay critical habitat designation upon a finding that designation is not prudent or that it is not determinable. FWS has liberally exercised these exceptions to avoid designating critical habitat for the majority of listed species. In response, citizen groups regularly file suit to compel designation. Difficulties arise when the failure to designate occurred more than six years before the filed action. Some federal courts hold the general civil statute of limitations, 28 U.S.C. § 2401(a), bars actions to compel designation. Others have relied on principles of equitable tolling to allow actions to go forward. This Note argues that courts should toll the statute of limitations in actions to compel designation where FWS made a “not determinable” finding because it constitutes a failure to act despite a non-discretionary, mandatory duty, but that “not prudent” findings constitute final agency action and should start the clock running for statute of limitations purposes.

TRANS-ATLANTIC REACH: THE POTENTIAL IMPACT OF THE EUROPEAN UNION’S NEW CHEMICAL REGULATIONS ON PROOF OF CAUSATION IN U.S. FEDERAL COURTS

Leslie E. Kersey

[pages 535–570]

Abstract: On June 1, 2007, a new set of regulations governing nearly all chemical substances took effect throughout the EU’s twenty-seven member states. The primary goal of the legislation, called REACH, is to improve the protection of human health and the environment from risks posed by toxic chemical exposure. No equivalent federal legislation exists in the United States. As a result, chemicals that the EU will soon ban or restrict under REACH will continue to enter American homes and workplaces. This Note explores how private law—particularly in the
form of toxic tort litigation—may fill the gap in U.S. chemicals regulation, and induce manufacturers to produce safer products for U.S. consumption. Focusing on the potential of REACH to influence the establishment of general causation in toxic tort litigation, it analyzes whether and to what extent REACH data is likely to assist toxic tort plaintiffs in U.S. federal courts. The Note concludes that, although REACH is likely to provide plaintiffs with additional evidentiary support of general causation in some instances, it seems unlikely that REACH data alone will be sufficient to support causation claims at the federal level.

FIXING THE FARM BILL: USING THE “PERMANENT PROVISIONS” IN AGRICULTURAL LAW TO ACHIEVE WTO COMPLIANCE

Charlene C. Kwan

[pages 571–606]

Abstract: Agricultural policy in the United States over the past three-quarters of a century has involved supporting farmers in the unpredictable business of growing crops. Until 1973, such domestic supports took the form of a loan-based system that controlled crop prices. The current payment-based system, put into place after 1973, has encouraged overproduction and run afoul of WTO trade rules. Moving back to a loan-based system, or incorporating elements of such a system into U.S. agricultural legislation, could potentially cure problems of overproduction and other domestic ills. A loan-based system could also bring the United States back into alignment with WTO trade rules, protecting it from potentially expensive sanctions by other countries. Furthermore, it is important to understand the ramifications of such a loan-based system because all farm bills since 1949 are simply modifications to loan-based “permanent provisions,” and in the absence of new legislation, these provisions take effect.

THE DEVELOPMENT OF ROADWAY AIR RIGHTS: BOSTON’S FUTURE, A SLAVE TO ITS PAST

Andrew Schulte

[pages 607–636]

Abstract: The City of Boston and the Commonwealth of Massachusetts have attempted to develop air rights over the Boston Extension of the Massachusetts Turnpike ever since its construction during the 1960s. There is widespread agreement among politicians, developers and residents that such development would solve myriad existing problems—from aesthetics to safety, to a dire shortage of groundwater. Neverthe-
less, very little has been built and the turnpike remains an open scar, di-
viding the urban landscape and undermining important civic objectives. This Note attempts to explain the historical and legal obstacles that have prevented the development of air rights: namely, a misunderstanding of city planning, a weak and belated home rule amendment, and the lingering effects of an Irish-Yankee rivalry.
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A SYMPOSIUM

20-TON CANARIES: THE GREAT WHALES OF THE NORTH ATLANTIC

INTRODUCTION

In the spring of 2008, members of the Boston College Environmental Affairs Law Review and its advisors began to conceive of a symposium in which the condition of the world’s ocean ecosystems would be examined by highlighting the challenges faced by one particularly compelling group of charismatic species—the great whales of the North Atlantic. Current conditions in the oceans have made the whales, we believe, proverbial canaries in the marine coalmine, bellwethers of concern for human environmental welfare and the ability of law to respond to environmental challenges. The health of great whale populations is imperiled by anthropogenic threats both immediate and particularized—including ship strikes, entanglement in commercial fishing gear, and ocean noise—and fundamental and long term—notably global warming, pollution, and degradation of food supply. The legal and political structures that address the precarious survival of the great whales are revealingly limited. The symposium took place in cooperation with the Massachusetts Institute of Technology’s Sea Grant College Program, and the two-day event began with an evening session and reception at MIT.¹

Eric Dolin, author of Leviathan: A History of Whaling in North America, set the historical context for current threatened whale populations, canvassing the nearly two centuries of whale hunting largely responsible for the devastating declines—and in some cases extinction—of species and populations of great whales.² Dr. Michael Moore of the Woods Hole Oceanographic Institution surveyed the range of modern day threats to

¹ The Boston College Environmental Affairs Law Review expresses its appreciation for the coordinating efforts of Clifford Goudey and Andrea Cohen of the MIT Sea Grant College Program.
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great whales primarily caused by injurious interactions with human commercial activities on the oceans. Our panel of experts then picked up the “canaries in a coalmine” theme in a question and answer session with the audience, moderated by Douglas Fraser of the Cape Cod Times.

During the symposium’s second day at Boston College Law School, Dr. Moore presented an extended scientific analysis of anthropogenic harms to great whales’ welfare and survival, and our panel of experts expanded upon topics introduced in the previous night’s session. The scholars addressed a broad range of threats to great whales, and responsive legal efforts at protection and mitigation. These symposium presentations led to the articles and essays published in this volume.

In a panel dedicated to fundamental, long-term threats, Professor Alison Rieser discussed the need for institutions of ocean governance to adopt functional ecosystem approaches to conservation. Professor Don Anton provided a useful comparative analysis of Australia’s governmental attempts to protect great whales in the Antarctic Southern Ocean. Professor Wil Burns highlighted the linkage between global warming and increasing threats to the survival of great whales, as much a potential catastrophe as whale-hunters’ harpoons had been in the late nineteenth and early twentieth centuries.3

A second panel focused on immediate and particularized threats to great whales. Professor Robin Craig outlined the decade of litigation reverberating around the Navy’s injurious testing of sonar in critical marine mammal habitats. Professor Jeremy Firestone presented several realistic policy measures that could reduce the likelihood of vessel collisions with great whales. Citizen activist and experienced nonattorney pro se litigant Richard Max Strahan surveyed the legal and policy responses of state and federal governments and nongovernmental organizations to the injuries and mortality inflicted on great whales by entanglement in commercial fishing gear, presented his conclusions finding all responses flawed, and suggested necessary fundamental changes including the need for a “green knight” to come forward to defend the welfare and survival of the great whales.

The symposium was attended by a number of concerned citizens, activists, and accomplished scientists. In response to analyses and policy perspectives presented at the event, one of these attendees—Regina

3 Although Professor William C. G. Burns was not able to prepare an article for this symposium, readers can note his exploration in a prescient earlier article concerning the linkage between climate change and the welfare and international protection of marine cetaceans. See Wil Burns, From the Harpoon to the Heat: Climate Change and the International Whaling Commission in the 21St Century, 13 Geo. Int’l. Envtl. L. Rev. 335 (2001).
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Asmutis-Sylvia, senior biologist at the Whale and Dolphin Conservation Society—submitted an essay that is included here. In the future, the journal will welcome such responses to the points of view presented in its pages.

Patrick Connolly,
Editor in Chief, Volume 36
Boston College Environmental Affairs Law Review
CURRENT ISSUES FACING NORTH ATLANTIC RIGHT WHALES AND STAKEHOLDERS

DR. MICHAEL J. MOORE*

Abstract: At the beginning of the Symposium sessions at the Massachusetts Institute of Technology and at Boston College Law School, Dr. Michael Moore provided a narrative and photographic introduction to current threats to whale survival, with particular reference to North Atlantic waters off the eastern coast of the United States and the most endangered whale species, the North Atlantic right whale, *Eubalaena glacialis*. The conditions experienced by North Atlantic right whales reflect conditions faced by all the great whales of the North Atlantic. Given the 1935 absolute moratorium on hunting right whales in any waters, there are three major areas of current concern for whale conservation and survival noted in Dr. Moore’s presentation and addressed in legal terms by subsequent contributors to the Symposium: (1) entanglement in commercial fishing gear; (2) vessel strikes; and (3) ambient and episodic marine noise. Each of these is generated by human activities on the oceans.

Introduction

At the beginning of the Symposium sessions at the Massachusetts Institute of Technology and at Boston College Law School, Dr. Michael Moore provided a useful and illuminating narrative and photographic introduction to current threats to whale survival, with particular reference to North Atlantic waters off the eastern coast of the United States and the most endangered whale species, the North Atlantic right whale, *Eubalaena glacialis*. The conditions experienced by North Atlantic right whales reflect conditions faced by all the great whales of the North Atlantic. Elements of Dr. Moore’s oral presentation are condensed and

* Michael Moore trained as a veterinarian at the University of Cambridge in the United Kingdom. He then worked for the International Whaling Commission on an Icelandic whaling ship, and then as a companion animal veterinarian. In 1991, he completed a Ph.D. in the Woods Hole Oceanographic/Massachusetts Institute of Technology Joint Program in Biological Oceanography. He has worked at the Woods Hole Oceanographic Institution since 1986, and continues to study the effects of human activities and disease on marine vertebrates. The opinions expressed in this article are those of the author and do not necessarily reflect the positions of the Woods Hole Oceanographic Institution.
presented here in summary form as a backdrop to the legal and policy contributions that follow. Dr. Moore noted several published research and reference works that would be useful to legal scholars seeking further grounding in this area.¹

Given the 1935 absolute moratorium on hunting right whales in any waters, there are three major areas of current concern for whale conservation and survival noted in Dr. Moore’s presentation and addressed in legal terms by subsequent contributors to the Symposium: (1) entanglement in commercial fishing gear; (2) vessel strikes; and (3) ambient and episodic marine noise. Each of these is generated by human activities on the oceans.

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Right whales have been a matter of commercial interest for at least a thousand years, since King Sancho the Wise, a Basque provincial king who granted privileges in 1150 to certain persons to take whales, imposed a duty on whalebone.² Subsequently, there occurred a millennium of human-right whale interaction. For most of those years, the interaction was a matter of harvest—taking whales for their baleen and oil. Now, however, the interaction is primarily incidental to other commercial enterprises and raises serious regulatory and mitigation questions, walking a tightrope of tensions between commerce and conservation.

One of the first groups seriously concerned about whale conservation, at least on paper, were planners for what became the Discovery Investigations based at South Georgia Island in the South Atlantic at the beginning of the Antarctic whaling era in the 1920s.³ Their con-

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cern was focused on conserving the whale-hunting industry itself rather
than the whales per se, but they produced a series of careful studies
published in the Discovery Reports series covering the years from 1920
to 1980 that conveyed a great deal of information about Southern
Ocean whales, their distribution, and ecology.

North Atlantic right whales have had a long history of whale-
hunting pressure. They were desirable prey to hunt because they are
large, containing a great deal of oil, and easy to kill, because they are
relatively slow and more buoyant than other species, and so tend to
spend a great deal of time at or near the surface. The whale hunting
began with shore-based whaling with spears, then moved to offshore,
and ultimately motorized and highly mechanized, whaling. The North
Atlantic right whale was essentially commercially extinct by the 1700s,
so low in numbers that it wasn’t a significant part of nineteenth century
Yankee whaling as a major profit line, although whalers still killed them
opportunistically until the total ban of 1935.4

The relict population of North Atlantic right whales is mostly
found along the eastern coast of the United States and the Canadian
Maritimes. Pregnant whales migrate south each winter to Georgia and
Florida to calve, returning to Cape Cod Bay to feed in early spring.
They then move to the Great South Channel off Nantucket and then to
Canada off Nova Scotia for the summer. Some non-calving animals win-
ter in more northern latitudes. There are only about 350 of these ani-
mals left. As a result of the whales’ distinctive individual markings, a
large collection of sightings, other research reports, and photographs
compiled by the New England Aquarium from their own research crews
and from other institutions around New England and the eastern sea-
board, we probably know this whale population in terms of the number
of animals within the species better than any other species of mammal
in the world.5 We know the majority of them individually and have
sighting records that cover many individuals for the majority of their
lives. We know an animal’s gender, we often know both parents, its
grandparents, offspring, whether it has been calving, whether it has
been entangled, how many times it has been entangled, whether it has
been hit by a ship or a propeller, and more. Accumulating this unique

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4 Randall R. Reeves et al., Near-Annihilation of a Species: Right Whaling in the North Atlan-
tic, in The Urban Whale, supra note 1, at 39.
5 Philip K. Hamilton et al., Right Whales Tell Their Own Stories: The Photo-Identification
Catalog, in The Urban Whale, supra note 1, at 75.
amount of individual-based monitoring has allowed modeling of trajectories for the whole population.\textsuperscript{6}

The North Atlantic right whale has low reproductive and population growth rates.\textsuperscript{7} Despite the identification catalog, it is actually very difficult to make categorical statements about trends in North Atlantic right whale demographics. About four percent of them die annually, and they average an annual five percent recruitment (birth) rate. That means the population is not growing much, if at all.\textsuperscript{8} In comparison, the Southern right whale (\textit{Eubalaena australis}) population in the Southern Ocean is estimated to number over 10,000 animals and enjoys a seven percent net increase each year.\textsuperscript{9} The fundamental difference in survival rates appears to lie with the difference in the degree of interaction between humans and whales in the two hemispheres. The Southern Hemisphere has a higher ratio of ocean to land mass compared to its northern counterpart; it also has far less industrial activity, fishing gear, noise, and shipping. A Southern right whale population that calves in Argentina can withstand losing sixty or seventy calves in a year because there are so many of them, whereas a good calving year for the North Atlantic right whale population is thirty calves in all.

We have learned a great deal by intensive study of the carcasses of dead whales for the past thirty-five years.\textsuperscript{10} In the twenty-year period from 1986 to 2005, there have been fifty recorded deaths, the majority from unnatural human-generated causes: nineteen from vessel collisions and twelve estimated from fatal entanglements. Additionally, during that period eight animals that remained entangled survived.\textsuperscript{11}

In \textit{North Atlantic Right Whales in Crisis}, we noted the serious effects of commercial fishing gear entanglements on these whales, not just in terms of conservation and sustainability of the population’s numbers, but also in terms of welfare considerations for whales (the issue of physical suffering).\textsuperscript{12} In contrast to smaller mammals that lack the mass

\begin{footnotes}
\item[7] See generally Scott D. Kraus et al., \textit{Reproductive Parameters of the North Atlantic Right Whale}, 2 J. Cetacean Res. & Mgmt. (Special Issue) 231 (2001).
\item[8] See sources cited supra note 6.
\item[10] See generally Morphometry, supra note 1.
\item[11] See generally Amy R. Knowlton & Scott D. Kraus, \textit{Mortality and Serious Injury of Northern Right Whales (Eubalaena glacialis) in the Western North Atlantic Ocean}, 2 J. Cetacean Res. & Mgmt. (Special Issue) 193 (2001); Scott D. Kraus et al., supra note 1.
\item[12] See generally Kraus et al., supra note 1.
\end{footnotes}
and power to break free from serious entanglements, right whales can often break away from being anchored in fishing gear. When this happens they are not necessarily rope-free. The entangling ropes remain on the animals and there is the risk of a constriction problem. Significant constriction entails a poor prognosis although entanglement often takes months to result in a fatality.\textsuperscript{13}

Entanglement produces some disturbing cases. From necropsies one can see bones of whales’ flippers notched by entangling ropes or multiple sites of entanglement in a single animal, as in a recent case of a whale that came ashore dead in Virginia, first sighted entangled in Canadian waters. The fishing-gear rope was wrapped many times through the baleen in the mouth, over the blow hole, partially occluding one nostril, as well as around the left flipper, eliciting a massive bony reaction as the rope cut down to the flipper bones. It took five months for that whale to die. The origin of the rope was unknown. Ropes often cut deeply into entangled whales’ tissues. Attempts have recently been made to model how a rope cuts into a whale.\textsuperscript{14} If a rope is merely flexing back and forth with an appendage, without slipping over the skin, it doesn’t cut in, but as soon as a tightened rope begins to slide on an entangled body part, then the “cheese-wire effect” begins to saw into and through the body part.

In chronic, long-duration entanglements, the entangled whale loses weight due to lack of feeding. They lose their normal blubber condition, so therefore are no longer positively buoyant, and sink when dead. In contrast to vessel strikes, which can kill animals in seconds or minutes like an explosive harpoon, entanglements kill over weeks and months. Fixed fishing-gear entanglements thus represent, in addition to the sustainable conservation considerations, a very serious animal welfare concern for a form of impact that is uniquely painful in the prolonged suffering it causes.

In the context of national policy, the entanglement problem presents a classic conflict between the cultural and socioeconomic value of commercial fisheries versus the risk of species extinction and significant animal welfare concerns.\textsuperscript{15}

In terms of entanglement mitigation measures, there are two major avenues for improvement—improvements to commercial fishing gear to prevent entanglements, and efforts at lessening the amount of

\textsuperscript{13} See generally Moore et al., Entangled Right Whales, supra note 1.
\textsuperscript{14} See generally Winn et al., supra note 1; Becky L. Woodward et al., Experimental Modeling of Large Whale Entanglement Injuries, 22 Marine Mammal Sci. 299 (2006).
\textsuperscript{15} See generally Moore et al., Entangled Right Whales, supra note 1.
gear in the water through more efficient gear deployment practices. A recent equipment-based effort has been introduced by government agencies, including weak links to break fishermen’s buoys off the ropes linked to the entangling gear. A fundamental flaw of this approach is that the break-away linkage is located at the point where the buoy and rope are connected, but very often the buoy is not involved in the actual entanglement; instead, it merely drags along behind. Seasonal and dynamic area management efforts are also in effect, limiting the time and placement of gear in order to limit the exposure of whales to gear. Massachusetts took the initiative in attempting to limit line in the water column by making it negatively buoyant, but this measure only addresses line between traps. The problem of line from the trap to the surface buoy remains.

One of the major shortcomings of governmental mitigation efforts is that they have been undertaken without adequate attempts to scientifically model proposed changes in the laboratory and in the field before imposing potentially ineffective rules and substantial costs upon the fishing industry. There is a need for better prior evaluations of efficacy before industry is forced to suffer substantial costs. Because severe entanglements continue to occur routinely, the fishery industry in particular becomes more and more resistant to further regulatory changes because they have seen the cost and inadequacies of previous government rules.

Other responses to the entanglement problem may have more impact, including reductions of effort. A recent paper compared the catch by U.S. lobstermen in the Gulf of Maine, west of the Hague line, with the Canadian catch off western Nova Scotia. The Canadians severely limit effort and volume of fishing gear in the water. There are very different amounts of effort, but ultimately a very similar total catch. This supports the concept that perhaps fishermen need not have so much effort and gear in the water in order to actually make a better profit. Similar recent reports come from Maine’s Monhegan Island, where there is local management of the lobster fishery. By cutting back on the season and the number of traps, they hope to reduce their fuel and bait costs and actually improve net economic returns, while reducing the risk of fixed gear damage to whales.

16 See generally Myers et al., supra note 1.
The same dichotomy between commercial interests and species protection is presented by other threats to whales in coastal waters. The problem of vessel strikes is simpler in some ways than entanglement. There are two forms of vessel strike: sharp trauma, where animals at or near the surface are sliced by propeller blades, and blunt trauma, where a ship’s bow or other blunt structure such as the keel hits a whale’s skull or shatters its vertebra.\(^{18}\)

In terms of mitigation efforts for vessel strikes, the most successful approach in the past decade has been mariner education. Nautical charts, for example, now contain information on right whale avoidance areas, how to recognize a right whale, and the like. There have been shipping lane adjustments in the Bay of Fundy area and Massachusetts Bay, subtly changing the vessel passage lanes on the basis of whale sighting data. In mid-October 2008 the National Oceanic and Atmospheric Administration issued operational measures for a North Atlantic right whale ship-strike reduction strategy, including reducing seasonal speed limits to ten knots in significant potential conflict areas, which is a significant improvement.\(^{19}\) In attempts to keep ships and whales separate, other experimental efforts have shown promising results. In these experiments, automatic ship location identification systems (automatic transponders) have been linked to receiving stations in cell towers in that region to determine which ships are avoiding designated conflict areas and which are not.\(^{20}\) It is planned for ship operators to receive a polite letter indicating that the ships have not avoided the conflict areas and suggesting that they do so.\(^{21}\)

In addition to fixed fishing gear and ship-collision impacts, harm from episodic noise and the masking of normal whale acoustic communication by persistent ambient background noise from sources such as ships and mobile fishing gear appear to pose a significant—yet not

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\(^{19}\) See generally Angelia S. M. Vanderlaan & Christopher T. Taggart, Vessel Collisions with Whales: The Probability of Lethal Injury Based on Vessel Speed, 23 Marine Mammal Sci. 144 (2007).

\(^{20}\) See generally Angelia S.M. Vanderlaan & Christopher T. Taggart, Ships Voluntarily Alter Course to Protect Endangered Whales (Mar. 13, 2009) (unpublished manuscript, on file with author).

\(^{21}\) E-mail from Moira Brown, Senior Scientist, Canadian Whale Institute, to author (Feb. 18, 2009, 05:58:00 EST) (on file with author).
well-understood—systemic concern regarding acoustic exposures.\textsuperscript{22} We also worry about sonar and seismic exposures. \textit{The Urban Whale} addresses noise exposure, and indicates that the hearing frequency range for right whales is directly impacted by the frequencies of ships’ sonar, airguns, and bottom-profiler acoustic mechanisms, presenting substantial issues that relate to the effects upon hearing for right and other whales.\textsuperscript{23}

There are other issues that need to be considered as well, notably habitat quality. Reproductive success and body condition are tightly tied in with ecosystem productivity, particularly in terms of food quantity and quality.\textsuperscript{24} The issue of toxic contaminants is significant,\textsuperscript{25} as is vulnerability to infectious diseases. Sixty-five percent of right whales are currently shedding \textit{Giardia}, although we do not know whether that is problematic.\textsuperscript{26} In addition, there is the genetic question of inbreeding: the fact that the most endangered species of whales exists in such a small remnant population poses long-term survival concerns.\textsuperscript{27}

In summary, fixed fishing-gear entanglements and vessel contacts are serious causes of injury and death for endangered whales. Some mitigation measures have been set in motion, but more and better measures could be implemented. In terms of values, the question of extinction and avoidance of prolonged suffering to animals is counterpoised against consumer satisfaction and societal nutrition. This Symposium addresses the need to balance human behavior and resource consumption with a sustainable and humane global ecology. Those are the kinds of costs and benefits we need to balance. It is perhaps worth adding that the silver lining to the current global economic depression

\textsuperscript{22} See generally Susan E. Parks et al., \textit{Short- and Long-Term Changes in Right Whale Calling Behavior: The Potential Effects of Noise on Acoustic Communication}, 122 J. ACOUSTICAL SOC’Y AM. 3725 (2007).

\textsuperscript{23} Susan E. Parks & Christopher W. Clark, \textit{Acoustic Communication: Social Sounds and the Potential Impacts of Noise}, in \textit{The Urban Whale}, supra note 1, at 310.


is that consumption of raw and manufactured resources has taken a substantial downturn. One knock on effect of this is reduced ship traffic and less demand for seafood. For right whale species survival and welfare this is not a bad thing. While the human race grapples with the current economic crisis, it is critical that we radically rethink what it takes for a peaceful, equitable, and sustainable human footprint on the global ecosystem.
ANTARCTIC WHALING: AUSTRALIA'S ATTEMPT TO PROTECT WHALES IN THE SOUTHERN OCEAN

DONALD K. ANTON*

Abstract: This Article examines Australia’s attempt to protect whales in the Antarctic Southern Ocean, in an area that almost all states consider beyond national jurisdiction. Such an examination is important because of the apparently intractable divide on the issue in the International Whaling Commission. The Article begins by outlining the evolution of the Australian cultural and legal posture toward whaling. It also sets out current Australian whaling law, including the establishment of the Australian Whale Sanctuary in the Exclusive Economic Zone of the Australian mainland and external territories (including the purported Australian Antarctic Territory in the Southern Ocean). The Article then analyzes how municipal litigation has been deployed as a protection strategy in Australian courts by NGOs in an attempt to protect whales in the Antarctic Southern Ocean. The Article then turns attention to significant legal limits and problems connected to this strategy. Finally, the Article concludes by highlighting the benefits and costs associated with the unilateral Australian legal approach in the Southern Ocean.

Introduction

This paper considers the effectiveness of the unilateral actions of a self-styled “middle power”—in this case Australia—for the protection of whales. It is important to reflect on the individual activities of a state like Australia because the long-running stalemate under the International Convention for the Regulation of Whaling (ICRW) between the anti-whaling forces and pro-whaling forces is, in my view, probably as good as it gets for the foreseeable future. The standoff represents, as

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David Victor suggests, a Pareto-optimal situation—even if the situation is messy and unstable.\(^1\) If either side were to achieve the totality of its ambitions in the International Whaling Commission (IWC), it is likely that it would spell the end of the ICRW as the accepted global mechanism for international cooperation and coordination on whaling.\(^2\) Indeed, at the 2007 IWC meeting, the Japanese delegation announced that it was considering withdrawal from the treaty and the Commission altogether after years of condemnation and acrimony.\(^3\) If the ICRW stalemate is as good as it gets for international regulation of whaling, then our best hope for whale protection probably lies, at least for now, outside the IWC and, as I say, it becomes important to analyze and compare the various approaches of individual states.

One of the fundamental, long-term threats to whales in the Southern Ocean remains the so-called scientific whaling carried out by Japan under the second phase of its Whale Research Program under Special Permit in the Antarctic (JARPA II).\(^4\) Japan first introduced its Whale Research Program under Special Permit in the Antarctic (JARPA) in

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the 1987–88 Southern Ocean whaling season. The principal focus of JARPA was Antarctic minke whales, with an initial take of 300 ±10% each season. Since the 1995-96 season, the annual take has increased to 400 ±10%. Through the 2004-05 season, an eighteen year period, over 6800 Antarctic minke whales were taken in Antarctic waters under JARPA; a very large number when compared to a total of 840 whales taken globally by Japan for scientific research in the thirty-one year period prior to the IWC commercial whaling moratorium. It is widely reported that much of the whale meat generated by JARPA (and now JARPA II) winds up in fish markets and on dinner plates, or even as pet food.

JARPA II commenced with a two-year feasibility study in June of 2005. JARPA II has four stated program objectives: “(1) monitoring of the Antarctic ecosystem; (2) modelling competition among whale species and developing future management objectives; (3) elucidation of temporal and spatial changes in stock structure; and (4) improving the management procedure for Antarctic minke whale stocks.” The program’s reach has expanded from JARPA to include the lethal study of humpback and fin whales. It also continues and increases the take of minke whales, which were the only whales killed under JARPA. JARPA II also leaves open the possibility of “studying” (i.e., taking) other whale species that feed on Antarctic krill, although no other species are specifically mentioned.

The JARPA II program sets forth the current Japanese lethal limits on whale killing in the Antarctic. During the two-year feasibility study, the maximum number of permitted kills was 850 ±10% minke whales

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6 Id.
7 Id.
11 Id.
12 Id. at 4–5 n.3.
13 Id. at 4 nn.2–3.
14 Id. at 4–5 n.3.
and 10 fin whales.\textsuperscript{15} The maximum for the full program, which commenced in 2007–08, is 850 ±10\% minke whales, 50 fin whales, and 50 humpback whales.\textsuperscript{16} The addition of fin and humpback whales is a significant development and major worry. Humpback whales are listed as Annex I species (most threatened) under the Convention on International Trade in Endangered Species.\textsuperscript{17} Fin whales are listed as endangered on the World Conservation Union (IUCN) Red List.\textsuperscript{18} Another concern lies in the fact that species of these whales that are sampled might include whales that live in depleted breeding populations.\textsuperscript{19} The permitted amount of minke whale killings has more than doubled under JARPA II.\textsuperscript{20} Under the lethal component of the program in 2006–07, 505 Antarctic minke whales and three fin whales were killed.\textsuperscript{21} In 2007, a total of 551 Antarctic minke whales were taken under the JARPA II program.\textsuperscript{22} No fin or humpback whales were killed.\textsuperscript{23}

In 2005, at the annual meeting of IWC, Japan sought approval for JARPA II, which as indicated, more than doubles its “scientific” whaling in the Antarctic Southern Ocean. It should be noted that the IWC established the Southern Ocean Whale Sanctuary in the Southern Ocean in 1994 (although this Sanctuary is not recognized by and does not apply to Japan because it lodged an objection within the prescribed period under Article V.3 of the ICRW).\textsuperscript{24} The IWC rejected approval of

\textsuperscript{15} Id. at 5 n.3.  
\textsuperscript{16} Chair’s Summary Report of the 59th Annual Meeting, supra note 10, at 5 n.3.  
\textsuperscript{20} Id.  
\textsuperscript{23} See id. In December 2007, Japan announced that it would suspend, for two to three years, its planned hunt of humpback whales. Alan Goodall, Opinion, Inflammatory Actions at Sea, Japan Times, Jan. 1, 2008, available at http://search.japantimes.co.jp/cgi-bin/eo20080101a4.html.  
JARPA II. By Resolution 2005-1 (passed by a majority of thirty votes to twenty-seven votes with one abstention), the IWC “strongly urge[d] the Government of Japan to withdraw its JARPA II proposal.” Nonetheless, Japan has continued to issue special permits for scientific whaling under JARPA II.

Resolution 2007-1, adopted at the IWC annual meeting in 2007, reiterated IWC concern about the special permit system and specifically Japan’s institution of the JARPA II program. This resolution explained IWC concerns about the program and its skepticism about the scientific purposes of JARPA II. It specifically criticized the expansion of the program to fin whales and humpback whales and the doubling of the take for minke whales. The Resolution concluded with a request that Japan indefinitely cease to implement the lethal components of JARPA II and adopt multiple policy recommendations suggested by the IWC. New Zealand proposed the resolution and numerous other countries sponsored it, including Australia, Great Britain, and the United States. The resolution received forty votes in favor, two against, with one abstaining. Japan and twenty-six other states refused to participate in the process because they believed the resolution was counter-productive to its efforts to “normalize” whaling within the IWC. The principal development regarding special permit whaling at the 2008 IWC annual meeting was the formal agreement upon a method for reviewing permit applications—including

26 See Resolution on JARPA II, supra note 8.
27 Id.
28 Id.
the JARPA II program. A small, independent expert workshop was held in September 2008 to review new proposals, and to review the results of existing proposals—including the JARPA II program. The impasse within the IWC, however, appears as intractable as it has ever been. As several astute scholars observe:

Despite severe condemnation of its whaling policies, Japan hews to the position that whaling is no longer an issue of species conservation as was the situation in the 1960s and 1970s, when several whale species had been over-harvested and effective measures to protect the endangered species were urgently needed. The government of Japan maintains that most of the eighty-plus species of whales are not endangered and that many species are abundant and increasing.

... Japan consistently adheres to its official position that its opting out of the IWC regulations and its disregard of the moratorium are justified because Japanese whaling is exclusively for “scientific research” purposes and consists of regulated catches of whale species that Japan deems not endangered.

Given the logjam in the IWC, can anti-whaling states working outside the Commission get any better purchase on the issue? The remainder of this paper considers the individual initiatives of Australia outside the IWC. In Section I, I outline the evolution of the Australian posture toward whaling. I also describe Australian whaling law, including the establishment of the Australian Whale Sanctuary in the Exclusive Economic Zone of the Australian mainland and external terri-


territories (including the purported Australian Antarctic Territory). In Section II, I analyze how municipal litigation has been deployed as a protection strategy in Australian courts by NGOs in an attempt to protect whales in the Antarctic Southern Ocean. Section III then turns attention to potential legal limits and problems connected to this strategy. I conclude by highlighting the benefits and costs associated with the unilateral Australian legal approach in the Southern Ocean.

I. THE AUSTRALIAN REGULATION OF WHALING

For most of its history Australia was a significant whaling nation. This is perhaps not surprising given its proximity to the major whaling waters of the Southern Ocean and the strong economic incentive formerly involved. From the early nineteenth century through the 1960s, the Australian colonies (and later states) of Tasmania, South Australia, Victoria, New South Wales and Western Australia were engaged in whaling, sometimes very heavily, and established numerous onshore whaling stations. Australia began shifting its whaling policy in 1978 to fa-


37 See generally MAX COLWELL, WHALING AROUND AUSTRALIA (1969) (surveying the history of whaling in Australia); WILLIAM JOHN DAKIN, WHALEMEN ADVENTURERS: THE STORY OF WHALING IN AUSTRALIAN WATERS AND OTHER SOUTHERN SEAS RELATED THERETO, FROM THE DAYS OF SAILS TO MODERN TIMES (1934) (same).

38 See 1 COMMONWEALTH OF AUSTRALIA, WHALES AND WHALING: REPORT OF THE INDEPENDENT INQUIRY CONDUCTED BY THE HON. SIR SYDNEY FROST (Austl. Gov’t Publ’g Serv. 1978), 26–37. The Inquiry is often referred to as the “Frost Inquiry.”
vor the protection of whales. By 1989, it was staunchly anti-whaling with an uncompromising “policy of complete protection for all whales . . . .” It is today one of the vanguard anti-whaling states, deploying a mix of municipal and international law, diplomacy, and policy instruments to promote a complete and permanent ban on all whaling.

Because of historical development and the Australian federal division of maritime jurisdictional competence, the legal regulation of whales in Australia has been a federal affair of concurrent jurisdiction—a matter over which both the states and the Commonwealth Government legislated. Indeed, prior to Federation, what regulation existed was provided by the Imperial Parliament of Great Britain and the Australian colonies together. The first Australian Commonwealth federal legislation, the Whaling Act 1935, followed the 1931 Convention for the Regulation of Whaling and established a system of licensing. It was amended by the Whaling Act 1935-1948 (No. 66) to give effect to the 1946 ICRW. Section 4 of the Act, presaging contemporary Australian jurisdictional stretch, extended the Convention to: “Australian waters beyond territorial limits to the Territories of the

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42 See, e.g., Southern Whale Fishery Act, 55 Geo. 3, c. 45 (1815) (Eng.); Southern Whale Fishery Act, 51 Geo. 3, c. 34 (1811) (Eng.); Southern Whale Fishery Act, 42 Geo. 3, c. 18 (1802) (Eng.); Southern Whale Fishery Act, 26 Geo. 3, c. 50 (1786) (Eng.).

43 See, e.g., DAKIN, supra note 37, at 33–34 (discussing Tasmanian Act Regulating Whaling, 1838 (Tas.)); Stow, supra note 41, at 82 (discussing the repeal of the Whaling Ordinance of 1860 (W. Austl.) by Act No. 15, 1937 (W. Austl.)).


Commonwealth, to ships registered in Australia, whether or not such ships are in Australian waters of a Territory of the Commonwealth, and to all ships over which the Commonwealth has jurisdiction.\textsuperscript{46} Following the passage of Australian whaling regulations under the Act, the Japanese Government registered its protest of the regulations as they might be applied in Antarctica.\textsuperscript{47} The extraterritorial application of the Act, however, was unclear and the Act was rarely enforced in the Australian Antarctic Territory (AAT).\textsuperscript{48}

The Whaling Industry Act 1949 also followed the 1946 ICRW and created the Australian Whaling Commission (AWC).\textsuperscript{49} The Act, however, was not intended to implement the Convention per se. Instead, the AWC was to develop and coordinate whaling in Australia, especially Western Australia.\textsuperscript{50} The AWC was empowered to commence whaling as an instrumentality of the Australian Government using a whaling station at Babbage Island, off the coast from Carnarvon, Western Australia.\textsuperscript{51} The AWC’s life was short, however, and the operation was sold in 1956 and the Act was repealed that same year.\textsuperscript{52}

Four years later, in 1960, the next piece of federal legislation bearing on whales was enacted.\textsuperscript{53} Like the 1935 Commonwealth legislation, the Whaling Act 1960 was concerned with the rational exploitation of whales and the regulation of whaling through licenses and permits for whalers. It also had application to waters offshore the AAT, in a manner similar to the 1935 Act,\textsuperscript{54} but again, was never enforced against non-Australian nationals.

Over the next 18 years, public and official sentiment about whaling became strongly oppositional. In 1980, two years after the Frost Inquiry into Whales and Whaling, the Australian Parliament repealed the Whaling Act 1960 and replaced it with the Whale Protection Act 1980.


\textsuperscript{47} R.A. Swan, \textit{Australia in the Antarctic: Interest, Activity and Endeavour} 222 (1961).

\textsuperscript{48} \textit{See} Triggs, \textit{supra} note 46, at 309.

\textsuperscript{49} Whaling Industry Act, 1949 (Austl.).

\textsuperscript{50} \textit{See} Colwell, \textit{supra} note 37, at 152–53.


\textsuperscript{52} Whaling Industry Act Repeal Act, 1956 (Austl.); Colwell, \textit{supra} note 37, at 162.

\textsuperscript{53} Whaling Act, 1960 (Austl.).

Adopting the dramatic national policy change favoring whale protection reflected in the recommendations of the Frost Inquiry, the 1980 Act eschewed the mere regulation of whaling in favor of conservation and prohibited the killing, capturing, injuring, or interfering with cetaceans. In terms of jurisdictional reach, initially the Whale Protection Act 1980 borrowed the Australian Fishing Zone (AFZ) construct from Australian fisheries law as the basis for establishing persons subject to the Act. The Act applied to Australian nationals regardless of location, but only applied to non-nationals when present in the AFZ. While the Act also applied to “every external territory” —including the claimed AAT—waters around the AAT were excluded from the AFZ by the Fisheries Management Act 1991. Thus, no attempt was made to regulate the whaling activities of other states in the Southern Ocean adjacent to the AAT.

The Whale Protection Act 1980 also made its application subservient to “the obligations of Australia under international law, including obligations under any [international] agreement between Australia and another country or countries.” In the context of whale protection in the Southern Ocean this meant that it was not intended to apply to whaling activities that were in conformity with the ICRW. It presumably also meant that jurisdiction over non-nationals would also have to be in conformity with rules established by the Antarctic Treaty System.

Be that as it may, in 1994 Australia formally declared an Exclusive Economic Zone (EEZ) under the 1982 United Nations Convention on the Law of the Sea. The basis of the AFZ was amended to account for this development in the Australian fisheries law. The AFZ was defined to consist of those waters adjacent to Australia and its external territo-

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55 Whale Protection Act, 1980, § 9 (Austl.).
56 Id. § 6(2); see Fisheries Act, 1952, § 4 (Austl.). The AFZ was defined as waters adjacent to Australia and its external Territories out to 200 nautical miles, but excluding “excepted waters” or internal or coastal waters of a state. Fisheries Management Act, 1991, § 4(1) (Austl.); Fisheries Amendment Act, 1978, § 3 (Austl.).
57 Whale Protection Act, 1980, § 6(2) (Austl.).
59 This omission was apparently premised on the concern that extending Australian jurisdiction over non-nationals in Antarctic waters would endanger the benefits of cooperation under the 1959 Antarctic Treaty and Australia’s influence within the Treaty system. See id. at 18.
60 Whale Protection Act, 1980, § 6(3) (Austl.).
61 See Maritime Legislation Amendment Act, 1994, sched. 1 (Austl.).
ries (including the AAT) within the EEZ. For fisheries, the 1992 proclamation excepting waters offshore the AAT remained in force under the Fisheries Management Act 1991 following the establishment of the Australian EEZ. The situation, however, changed for whales in the Southern Ocean with the 1994 EEZ declaration. Under the Whaling Protection Act 1980, the jurisdictional basis of the Act’s operation changed from the AFZ to the EEZ. As a result, all whaling (conducted by nationals and non-nationals alike) in the purported Australian EEZ off the AAT became regulated by Australian law. The Act did, however, remain subordinate to Australia’s international legal obligations, including the ICRW and the 1959 Antarctic Treaty.

Australian legal protection for whales was again strengthened in 1999 with the repeal of the Whale Protection Act 1980 and the enactment of the Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act). The EPBC Act takes a comprehensive approach in relation to environmental responsibilities about which the federal government has deemed appropriate to legislate. In connection with whales, the Act follows a recommendation of the 1996 National Task Force on Whaling. The Task Force urged Australia to “work towards the establishment of a global whale sanctuary in all international waters and [EEZs], established under the United National [sic] Convention on the Law of the Sea, up to the territorial seas of each coastal State . . . through an appropriate amendment to [the ICRW].”

The EPBC Act takes up the idea of an EEZ whale sanctuary and, in order to “assist in the co-operative implementation of Australia’s

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62 The definition still excluded the coastal waters of a state and proclaimed “excepted waters.” See id.
65 A UNIVERSAL METAPHOR, supra note 39, at x. Peter Bridgewater has argued that the idea that each whale should have sanctuary is beyond the dictates of both what is required by conservation and the precautionary principle. Peter Bridgewater, Whaling or Wailing?, 55 INT’L SOC. SCI. J. 555, 558–59 (2003).
international environmental responsibilities,” the Act establishes an Australian Whale Sanctuary (AWS) to help ensure the conservation of whales and other cetaceans. It gives “formal recognition of the high level of protection and management afforded to cetaceans” by the Australian government. It is an offense under the Act to kill, injure, take, interfere with, treat, or possess whales within the AWS. The AWS includes, inter alia, all waters of the Australian EEZ (other than coastal waters of a State of the Northern Territory). This includes the waters of the EEZ declared adjacent to the AAT, without exception as to jurisdiction over non-nationals. Moreover, the EBPC Act does not contain any requirement that it must be read subject to Australia’s international obligations.

The EPBC Act contains provisions that permit the Minister for the Environment to make Recovery Plans for listed threatened species or ecological communities. A Recovery Plan must contain research and management actions that help halt the decline of the species or community and assist in its recovery and long-term survival. A Commonwealth agency is prohibited from taking action that would breach a Recovery Plan. To date, five Recovery Plans have been adopted for whales (Blue Whales, Fin Whales, Humpback Whales, Sei Whales, and Southern Right Whales). In each of the Recovery Plans, a threat of primary concern to Australia is the potential expansion of de facto commercial whaling under the guise of scientific whaling. The IWC Convention allows member states to issue special permits to kill whales for research purposes and then process these animals for sale. Since 1986, Japan and Iceland have issued special permits for several whale species as part of their scientific whal-

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67 Id. § 3(2)(e)(ii).  
68 Id. § 225(1).  
69 Id. §§ 229–230. The offense is punishable by imprisonment up to two years or a fine not exceeding one thousand penalty units or both. Id. § 229(2)  
70 Id. § 225(2).  
71 Id. § 5(4).  
72 EPBC Act § 269A(3) (1999) (Austl.).  
73 Id. § 270(1).  
74 Id. § 268.  
ing research programs. The recent expansion of these programs in the Northern Hemisphere involve the killing of various baleen whales including minke, Bryde’s, fin, sperm and sei whales.\textsuperscript{76}

In addressing this threat, each Recovery Plan seeks to prevent commercial whaling and the expansion of scientific whaling by continuing to support the bans on direct take of the relevant whales and by maintaining its position on promoting high levels of whale protection in all relevant international agreements, including the ICRW, the Convention on International Trade in Endangered Species, and the Convention on Migratory Species.\textsuperscript{77} The Recovery Plans also address threats posed by, \textit{inter alia}, (i) acoustic disturbances, (ii) marine debris and entanglement threats, (iii) potential impacts of tourism and whale watching, (iv) physical disturbance and development activities (such as ship-strike, aquaculture, pollution, recreational boating, and exploration and extraction industries), (v) prey depletion, and (vi) the impact of climate change on the species.\textsuperscript{78}

A significant aspect of the EPBC Act lies in its generous grant of third-party enforcement rights.\textsuperscript{79} If “a person has engaged, engages or proposes to engage in conduct consisting of an act or omission that constitutes an offence or other contravention of [the] Act or the regulations” an “interested person . . . may apply to the Federal Court for an injunction.”\textsuperscript{80} An “interested person,” in the case of an individual, is: (i) an Australian citizen or resident whose interests have been or will be affected by the conduct; or, more importantly, (ii) a citizen or resident who has engaged in environmental conservation or protection activities any time within two years prior to the conduct.\textsuperscript{81} In the case of an organization, an “interested person” is defined the same as an interested


\textsuperscript{77} See \textit{Blue, Fin and Sei Whale Recovery Plan}, supra note 76, at 8; \textit{Humpback Whale Recovery Plan}, supra note 76, at 8; \textit{Southern Right Whale Recovery Plan}, supra note 76, at 8.

\textsuperscript{78} See \textit{Blue, Fin and Sei Whale Recovery Plan}, supra note 76, at 6–8; \textit{Humpback Whale Recovery Plan}, supra note 76, at 6–8; \textit{Southern Right Whale Recovery Plan}, supra note 76, at 6–8.

\textsuperscript{79} EPBC Act § 475 (1999) (Austl.).

\textsuperscript{80} \textit{Id.} § 475(1).

\textsuperscript{81} \textit{Id.} § 475(6).
individual, except that an organization that has engaged in environmental conservation or protection activities within two years prior to the conduct must also have these activities as its object or purpose. These provisions have been broadly construed by Australian courts.

II. USING AUSTRALIAN COURTS: THE CASE OF JAPANESE WHALING

Australia and Japan, in particular, have been at loggerheads over the whaling issue since Australia adopted its staunch anti-whaling position. For nearly twenty years, Australia has challenged Japan’s scientific whaling program in the Antarctic Southern Ocean. As played out in government press releases and the media in Australia, the dispute has harsh overtones of nationalism and a desire to “win” against Japan in some sort of international “competition.” The same media posture seems to prevail in Japan, too.

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82 Id. § 475(7).
84 A Universal Metaphor, supra note 39, at 62. “Australia has consistently questioned the basis of the Japanese scientific whaling program and urged the Japanese Government to withhold permits for the annual slaughter of several hundred minke whales.” Hawke, supra note 40, at 25.
On January 15, 2008, the Federal Court of Australia issued declaratory relief and an injunction against Kyodo Senpaku Kaisha Ltd. (Kyodo), a Japanese whaling company operating in the Southern Ocean. Kyodo operated in the Australian Whale Sanctuary (AWS), within the claimed EEZ off the Australian Antarctic Territory (AAT). The court declared that Kyodo had breached sections 229–232 and 238 of the EPBC Act by killing, treating, and possessing whales in the AWS in the EEZ adjacent to the Australian Antarctic Territory. It also enjoined Kyodo from the further killing, injuring, taking, or interfering with any Antarctic minke whale, fin whale, or humpback whale in the AWS adjacent to the AAT.

A. Application for Leave to Serve Process in Japan

The case was brought in 2004 by Humane Society International (HSI), a non-governmental organization, which sued Kyodo for alleged illegal whaling under Australian federal law, seeking the declaration and injunction ultimately granted. As discussed above, the law giving rise to the action is found in the EPBC Act, including legal standing for HSI. The AWS is established under section 225 of the EPBC Act. By virtue of sections 5(1), 5(4), and 5(5) of the EPBC Act, section 8 of the Australian Antarctic Territory Act 1954, section 10 of


88 Id. at 525–26. The description of this case is drawn from an earlier article: Donald K. Anton, False Sanctuary: The Australian Antarctic Whale Sanctuary and Long-Term Stability in Antarctica, 8 SUSTAINABLE DEV. L. & POL’Y 17 (2008).


91 EPBC Act, 1999, § 475(7) (Austl.). Under section 475(7) of the EPBC Act, HSI was determined to be an “interested person” for the purpose of standing, presumably because during the two years prior to the acts complained of, HSI had engaged in activities related to the protection of whales in furtherance of its objects or purposes. Humane Soc’y Int’l Inc. v. Kyodo Senpaku Kaisha Ltd., (2004) 212 A.L.R. 551, ¶ 15; see EPBC Act, 1999, § 475(7) (b) (Austl.).
the Seas and Submerged Lands Act 1973 and the 1994 Proclamation of the EEZ adjacent to the Australian Antarctic Territory, the Australian Whale Sanctuary applies to the declared AAT EEZ.\textsuperscript{92} As discussed, Sections 229 through 230 of the EPBC Act make it an offense to kill, injure, take, interfere with, treat, or possess whales without an Australian permit, within the AWS.\textsuperscript{93} The offense provisions expressly apply to both Australian nationals and nationals or residents within the AWS, but only to non-nationals beyond the outer limits of the AWS.\textsuperscript{94}

One of the elements that the applicant had to satisfy in order to be granted leave to serve originating process in Japan was that the violation complained of took place “in the Commonwealth.”\textsuperscript{95} Such an investigation, because dictated by Australian law, allowed the court a rare, but missed, opportunity to consider the international legality of the exercise of Australian adjudicative and enforcement jurisdiction in relation to the AAT EEZ. Initially, Justice Allsop was prepared to treat as conclusive the determination of the boundaries of the Commonwealth by the Executive Branch of government, including the EEZ.\textsuperscript{96}

Before denying the initial application for leave to serve process, Justice Allsop took the extraordinary step of inviting the amicus curiae intervention of the Attorney-General to provide the government’s views on the application of “legislation and treaties involved . . . in the light of what might be seen to be Australia’s national interest, including . . . relations between Australia and Japan.”\textsuperscript{97} The Attorney-General stated that “an assertion of jurisdiction by an Australian court over claims concerning rights and obligations found in the [EEZ of the AAT] . . . would or may provoke an international disagreement with Japan, undermine the status quo attending the Antarctic Treaty, and ‘be contrary to Australia’s long term national interests.’”\textsuperscript{98} According to Justice Allsop, this view was based on the recognition of three realities by the gov-


\textsuperscript{93} Under section 7 of the EPBC Act, Chapter 2 of the Criminal Code (Austl.), with the exception of Part 2.5, applies to all offences against the Act. EPBC Act, 1999, § 7 (Austl.).

\textsuperscript{94} Id. §§ 5(3), 224(2).

\textsuperscript{95} Fed. Ct. R. 8.2(1) (Austl.).


\textsuperscript{97} Id. ¶ 3.

ernment. First, Japan would regard enforcement of the EPBC Act against Japanese vessels and its nationals in the AAT EEZ as a breach of international law. Second, the exercise of enforcement jurisdiction against foreigners generally in the AAT EEZ, based on the Australian territorial claim, would “prompt a significant adverse reaction from other Antarctic Treaty Parties.” Third, the Australian government has not enforced the Australian law in Antarctica against the nationals of other state parties, except where there has been voluntary submission to Australian law.

In accepting that exercising jurisdiction might upset diplomatic concord under the Antarctic Treaty and be contrary to Australian national interest, Justice Allsop also stated that any injunctive relief granted would ultimately be futile because of “the difficulty, if not impossibility, of enforcement of any court order” and could place the Federal Court “at the centre of an international dispute . . . between Australia and a friendly foreign power . . . .” As a result, Allsop ruled that he “should not exercise a discretion to place the Court in such a position” and denied the application for leave to serve process in Japan.

Significantly, following the intervention of the Attorney-General, Allsop appeared prepared to return to consider the merits of the validity of the Australian claim to jurisdiction in the AAT EEZ as a predicate to granting or denying leave to serve process related to an event occurring “in the Commonwealth.” Allsop raised the issue of whether all “the area” of the Southern Ocean south of sixty degrees south latitude, in which the AAT EEZ is claimed, is high seas (in which an EEZ may not exist) because Article VI of the Antarctic Treaty protects “the rights . . . of any State under international law with regard to the high seas

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99 Id. ¶ 13. Violation would arise presumably because either Australia does not have good title to Antarctic territory from which to project an EEZ or, alternatively, the extension of Australia’s Antarctic claim to the EEZ is prohibited by Article IV of the Antarctic Treaty. See Antarctic Treaty art. IV, opened for signature Dec. 1, 1959, 12 U.S.T. 796, 402 U.N.T.S. 74 (entered into force June 23, 1961) [hereinafter Antarctic Treaty].


103 Id. ¶ 35.

104 Id. ¶¶ 36–37.

105 Id. ¶¶ 2–4.
within that area.”106 In fact, however, it seems that Allsop was really interested in how Article IV of the Antarctic Treaty and its prohibition on making any “new claim, or enlargement of an existing claim, to territorial sovereignty in Antarctica” might bear on the proclamation of Australia to an Antarctic EEZ in 1994.107

In particular, Allsop noted the submission by the Attorney-General that there is a distinction between the “enlargement of an existing claim to territorial sovereignty” and the claim of Australia to an Antarctic EEZ:

[I]t was submitted on behalf of the Attorney-General, [that] the claim of Australia to the Antarctic EEZ is not one of sovereignty in the full sense over the waters adjacent to the Antarctic Territory (except for the territorial sea), but of claims . . . to exercise the rights of exploitation, conservation, management and control, and enforcement thereof, given to coastal States by UNCLOS . . . . The recognition of the limitations (short of full claims to sovereignty) of Australia’s claims to the Antarctic EEZ becomes important in assessing whether . . . the acts of the respondent and the contraventions of the EPBC Act took place “in the Commonwealth.”108

In the end, however, Allsop did not decide on the operative effect of Article IV of the Treaty in relation to the declared AAT EEZ.109 Instead, he used the submission by the Attorney-General to contrast the contrary position of Japan (and most of the rest of the world). Allsop noted that “[a]s far as Japan is concerned, the Australian Antarctic EEZ is the high seas which is not subject to any legitimate control by Australia under UNCLOS and domestic legislation provided for thereby (such as the EPBC Act).”110 The conflicting positions thus contrasted, Allsop accepted the Attorney-General’s position that international discord would follow by granting leave to serve process, and it became “unnecessary to decide whether the Antarctic EEZ is, or can be seen as, ‘in the Commonwealth’ . . . .”111

106 See id. ¶ 7 (quoting Antarctic Treaty, supra note 99, art. VI); see infra notes 136–140 and accompanying text.
107 Antarctic Treaty, supra note 99, art. IV(2).
109 See id. ¶ 42.
110 Id. ¶ 12.
111 Id. ¶ 42. Allsop did, however, indicate that the submission of the Attorney-General had great force. Id.
Significantly, Allsop noted cultural differences with respect to whaling and hinted that the current stigma attached to whaling might signal a move away from conservation and sustainable utilization to a wish by some to preserve charismatic mega-fauna at all costs.\textsuperscript{112} Allsop explained:

The whales being killed . . . are seen by some as not merely a natural resource that is important to conserve, but as living creatures of intelligence and of great importance not only for the animal world, but for humankind and that to slaughter them . . . is deeply wrong. These views are not shared by all. . . . They are views which, at an international level, are mediated through the Whaling Commission and its procedures, by reference to the Whaling Convention and the views of nation States. They are views which contain a number of normative and judgmental premisses . . . which do not arise in any simple application of domestic law, but which do, or may, arise in a wider international context.\textsuperscript{113}

B. The Appeal

On appeal, a Full Bench of the Federal Court reversed Justice Allsop.\textsuperscript{114} Taking a more dualistic, traditional Australian approach to the underlying legal and international relations issues, none of the appellate judges gave any weight to the international political considerations raised by the Attorney-General.\textsuperscript{115} Even the dissent was in agreement on this point, stating that “[c]ourts must be prepared to hear and determine matters whatever their political sensitivity either domestically or internationally. To approach the matter otherwise, is to compromise the role of the courts as the forum in which rights can be vindicated whatever the subject matter of the proceedings.”\textsuperscript{116} The majority held that the action was made clearly justiciable by the Aus-

\textsuperscript{112}Id. ¶ 29. Even those opposed to lifting the moratorium on whaling recognize that objections based on threatened, depleted stocks have “a limited duration, as the reintroduction of commercial whaling under the [Revised Management Plan] can be scientifically justified. In time, the IWC can be expected to authorize commercial whaling of Minke whales.” Alexandre Gillespie, \textit{The Ethical Question in the Whaling Dispute}, 9 \textit{Geo. Int’l Envtl. L. Rev.} 355, 359 (1997).

\textsuperscript{113}\textit{Humane Soc’y Int’l Inc.}, 2005 WL 1244815, ¶ 29.


\textsuperscript{115}See id. at 430.

\textsuperscript{116}Id. at 435.
tralian Parliament under the EPBC Act and related authority.\textsuperscript{117} The court had clear jurisdiction. The applicant had clear standing. Accordingly, jurisdiction could be assumed by service or submission and questions of futility would arise, if at all, at the time of the issuance of injunctive or declaratory relief.\textsuperscript{118}

C. The Trial

On remand, the matter was heard in September 2007 and Kyodo, as expected, did not appear. Instead of relying on a default, HSI proceeded to prove the facts supporting its claim for declarative and injunctive relief. Following the guidance provided by the majority of the Full Federal Court on appeal regarding public interest injunctions, Allsop granted the declaration and injunction sought by HSI.\textsuperscript{119} This, of course, raises the prospect of contempt proceedings in Australian courts because Kyodo failed to comply with the injunction in the 2007–08 whaling season.\textsuperscript{120} It also raises the question of whether the federal government is prepared to enforce the injunction in the event of violation by intercepting and seizing Kyodo ships operating in the AAT EEZ. Indeed, it has the potential to bring the unilateral exercise of Australia’s prescriptive, adjudicative, and enforcement jurisdiction to bear on ships and individuals in an area that almost all other states view as the high seas and, if they are correct, are thus subject to the exclusive jurisdiction of the flag state.\textsuperscript{121} Expanding jurisdiction this dramatically is clearly inconsistent with uniform past Australian practice not to enforce Australian laws against non-nationals in Antarctica.\textsuperscript{122}

\textsuperscript{117} See id. at 431.

\textsuperscript{118} Id.


Yet, in the late 2007 national election campaign, the recently elected Labor government pledged to “[e]nforce Australian law banning the slaughter of whales in the Australian Whale Sanctuary.”123 Additionally, the new Australian Government Solicitor wrote to Justice Allsop in December 2007 during the trial of the HSI case on instructions from the new Attorney-General. The letter stated that the court should not rely on the views of the Attorney-General of the previous government. Instead, the letter highlighted that the new “Government believes that the matter would best be considered by the Court without the Government expressing its view.”124

During the 2007–08 Southern Hemisphere summer whaling season, the Australian government dispatched the Oceanic Viking to monitor whaling in the Southern Ocean, but it neither intercepted nor seized any Japanese whaler operating in the AAT EEZ.125 The government claimed that the Oceanic Viking was being used to collect evidence that might be used in international litigation challenging the lawfulness of Japanese whaling for “scientific purposes” under the ICRW.126 But, given the current government’s position, one is still left to wonder if it is only a matter of time before the Australian government will act against Japanese ships and Japanese nationals in the AAT EEZ.

III. THE LIMITS OF AUSTRALIAN DOMESTIC LITIGATION

Because the Kyodo case arises under the claim by Australia to an EEZ in Antarctica, it is important to consider the underlying legal foundation of the claim and the implications it has for the ATS.127 Legally, only coastal states can assert claims to an EEZ because its delimitation is dependent upon the presence of a coast.128 This means that the starting point for analysis of any maritime claim is the valid
to nonnationals within what is defined as the “Australian Fishing Zone” (AFZ), but since there is no AFZ appurtenant to the AAT, the Act only applies to nationals. See id; see also Fisheries Management Act, 1991 § 4 (Austl.); Proclamation No. S52, supra note 63.

123 See A Universal Metaphor, supra note 39.
126 Id.; see supra note 36 and accompanying text.
128 UNCLOS, supra note 121, at arts. 5-15, 55-57. UNCLOS recognizes the rights of landlocked states in the EEZ. Id., at art. 69.
title of a state to the territory from which the maritime claim is advanced. The Australian Antarctic territorial claim, from which its maritime claim to an EEZ in Antarctica derives, is based on an Order in Council dated February 7, 1933, by which the British Government asserted what it called “sovereign rights” —as opposed to sovereignty— over “that part of the territory in the Antarctic Seas which comprises all the islands and territories other than Adélie Land situated south of the 60th degree of South Latitude and lying between the 160th degree of East Longitude and the 45th degree of East Longitude . . . .”129 The Order also placed the administration of the territory under the authority of the Commonwealth of Australia.130 Of course, Australia could receive no more than what was validly claimed and placed under Australian administration by the British Government under the principle of nemo dat quod non habet.131

A. Article IV and the Declaration of an Antarctic EEZ

Without exaggeration, it can be said that the entire edifice of international law in Antarctica is built on Article IV of the Antarctic Treaty.132 It has allowed claimants, potential claimants, and non-claimants, all with radically different interests in Antarctica and different views about its legal status, to cooperate peacefully for scientific purposes for nearly fifty years. Textually, Article IV(2) has direct bearing on the legality of Australia’s declaration of an Antarctic EEZ in 1994 and enforcement of the Australian AWS under the EPBC Act. Specifically, the treaty prohibits a state from asserting a “new claim, or enlargement of an existing claim, to territorial sovereignty in Antarctica . . . .”133 The effect “would seem to be that EEZs cannot be claimed off [Antarctic] territory . . . .”134

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129 Australian Antarctic Territory Order in Council, 1933 (U.K.), as reprinted in LONDON GAZETTE, Feb. 14, 1933, No. 33911, at 1011 (emphasis added).
130 Id. The Australian Antarctic Territory Acceptance Act 1933 was promulgated under Section 122 of the Australian Constitution in order to accept the territory placed under Australian administration by the 1933 British Order in Council. The territory accepted was denominated as the Australian Antarctic Territory (AAT). Australian Antarctic Territory Acceptance Act, 1933, § 2 (Austl.).
133 Antarctic Treaty, supra note 99, at art. IV(2).
What then are the implications of this prohibition and how, if at all, does it apply to the Australian Antarctic EEZ and the assertion of jurisdiction against Kyodo? If, in fact, the effect is to prohibit the declaration of an EEZ in Antarctica, then the entire Kyodo case fails, at least at international law, for want of an internationally recognized basis of jurisdiction. The nub of the matter though is what constitutes a “claim” and what constitutes “territorial sovereignty” under Article IV(2).

1. “Claims” to Maritime Zones

It has been argued that claims to maritime zones in the Antarctic are not “claims” in the sense that term is employed in Article IV.\(^{135}\) Maritime zones are said to exist \emph{ipso facto} as juridical features of the coastal state provided by international law.\(^{136}\) The EEZ, being a maritime zone, so the argument goes, thus is not a “claim” or “enlargement of an existing claim” and so does not fall afoul of Article IV. The problem, though, is not as straightforward as this, especially as it concerns the EEZ.

The EEZ, unlike ancient customary maritime zones, is a modern creation of international law.\(^{137}\) It only slowly emerged during the negotiation of the United Nations Convention on the Law of the Sea (UNCLOS) adopted in 1982 and, even then, required a period of gestation before confident claims of custom were advanced and accepted.\(^{138}\) The EEZ, unlike ancient customary maritime zones, is exceptionally large. It dramatically extends exclusivity with respect to natural resources up to 200 nautical miles from coastal baselines. In recognition of the dramatic enclosing aspects of the new maritime zone (not to mention the transfer of wealth in the form of resources), the parties to


\(^{137}\) Churchill & Lowe, \textit{supra} note 134, at 160.

\(^{138}\) The EEZ is claimable today under both UNCLOS and at customary international law. \textit{See Continental Shelf (Libya v. Malta), 1985 I.C.J. 13, 32–33 (June 3).}
UNCLOS merely established the maximum limit of the EEZ. This requires that states seeking to establish an EEZ first have to put the world on notice with a declaration of the EEZ claimed.

In these circumstances, it is difficult to characterize the declaration of an EEZ, in Antarctica or elsewhere, as anything but a claim. The EEZ did not exist in 1961 when the Antarctic Treaty came into force. Upon its establishment, it did not automatically attach to a coastal state by virtue of international law, as may be the case in connection with the territorial sea or the contiguous zone. An EEZ is not created ipso facto, but must be declared. Accordingly, under Article IV(2) of the Antarctic Treaty it seems clear that the declaration of an EEZ is a “claim” that is prohibited, provided the other conditions of the Article are satisfied.

2. New Claim or Enlargement of Claim

It needs to be remembered that Article IV(2) prohibits new claims or the enlargement of existing claims. This raises the question of how a declaration purporting to establish an Antarctic EEZ should be treated under Article IV(2). Is it a new claim or is it an enlargement of an existing claim? The answer depends on the position adopted as to whether maritime zones, outside the high seas, exist in the Antarctic Southern Ocean. If there are only high seas, then the claim would be seen as new. If, however, the historic territorial sea and contiguous zone were seen as existing prior to entry into force of the Antarctic Treaty, then the claim to an EEZ more resembles enlargement. Under either approach, however, it is clear that a claim exists that is prohibited by Article IV.

The prohibitions on new or enlarged claims under Article IV both have particular salience for Australia’s AAT EEZ. As noted, the concept of the EEZ did not exist in 1961 when the Antarctic Treaty

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139 UNCLOS, supra note 121, at art. 57; David Joseph Attard, The Exclusive Economic Zone in International Law 212 (1986); Julia Green, Antarctic EEZ Baselines: An Alternative Formula, 11 Int’l J. Marine & Coastal L. 333, 335 (1996).


141 See UNCLOS, supra note 121, at art. 2.

142 See id. at art. 33.

143 See discussion infra part IV.B.
came into force. In terms of maritime zones, the most a claimant state
could have legitimately asserted in 1961 was a three to twelve mile ter-
ritorial sea and a maximum additional twelve mile contiguous zone.\textsuperscript{144} With the entry into force of Article IV of the Antarctic Treaty, a legal
bar to EEZ claims was established because such a claim would either
be a new claim or the enlargement of an existing claim.\textsuperscript{145}

It has been argued that the concept of intertemporal law should
allow claimant states to take into account developments in the law of
maritime zones.\textsuperscript{146} As a consequence, even though no EEZ existed in
1961, the international law of today permits the declaration of an EEZ,
which is said to permit claimant states to Antarctic EEZs.\textsuperscript{147} This ig-
nores, of course, the fact that an EEZ is not a juridical consequence of
possessing a coast that automatically arises, but must be claimed in the
sense of a claim prohibited by Article IV as discussed above. It also ig-
nores the application of the principle of the critical date—intertempo-
ral law’s counterpart.\textsuperscript{148}

Admittedly, the law must move with the times. However, the essen-
tial bargain struck in the Antarctic Treaty was a commitment that noth-
ing done subsequently would prejudice existing claims (or potential
claims), in exchange for a commitment that no new or enlarged claims
would be made (and that nothing done subsequently could better ex-
isting or potential claims). To allow the intertemporal law to under-
mine the essence of the treaty—by attributing an EEZ to all claimant
states by operation of law—would defeat the stability and security cre-
ated by the Treaty, which are its fundamental objects and purposes.

Instead, in gauging whether EEZ claims are permissible under
the Antarctic Treaty, it is first necessary to establish the critical date—
the date upon which the legal position depends.\textsuperscript{149} Developments
with respect to claims subsequent to the critical date are ignored and

\textsuperscript{144} See Kenneth Bailey, Australia and the Law of the Sea 21–29 (1959); Myres S.
McDougal & William T. Burke, The Public Order of the Oceans: A Contemporary
International Law of the Sea chs. 5 & 6 (1962).

\textsuperscript{145} Donald R. Rothwell & Christopher C. Joyner, Domestic Perspectives and Regulations in
Protecting the Polar Marine Environment: Australia, Canada and the United States, in Protect-

\textsuperscript{146} Francisco Orrego Vicuña, The Law of the Sea and the Antarctic Treaty System: New Ap-
proaches to Offshore Jurisdiction, in The Antarctic Legal Regime 97, 99–100 (Christopher

\textsuperscript{147} Id.


denied legal effect.\textsuperscript{150} Upon entry into force on June 23, 1961, Article IV of the Antarctic Treaty fixed the date after which the legal situation with respect to the permissibility of claims could not be altered.\textsuperscript{151} Accordingly, the subsequent development of the concept of the EEZ can have no application.

3. Territorial Sovereignty in Antarctica Versus Sovereign Rights

The language of Article IV(2) of the Antarctic Treaty precludes new or enlarged claims “to territorial sovereignty in Antarctica.” The focus here is on the phrase “territorial sovereignty.” Because territorial sovereignty does not exist within the EEZ, but instead “sovereign rights” pertain,\textsuperscript{152} and because the Antarctic Treaty is only concerned with claims in Antarctica, it has been argued that Article IV(2) does not limit a claim to an EEZ.\textsuperscript{153} The claim to sovereign rights in an EEZ, in other words, does not involve “territorial sovereignty in Antarctica.” If this is accurate, then despite being a “claim” in the Article IV(2) sense, a claim to an EEZ would not violate the Article.

In examining the distinction between sovereignty and sovereign rights, one is hard pressed to find a legal definition that clearly separates the two. It is true that Article 56(1) of UNCLOS elaborates specific purposes for which exclusive “sovereign rights” in the EEZ may be exercised. Likewise, Article 2 of the UNCLOS provides that the “sovereignty” of a coastal state extends to the limits of the territorial sea. UNCLOS does not provide a definition for either term.\textsuperscript{154} It does, however, confirm strong similarities in connection with the power, and limitations on that power, both entail. Importantly, it establishes that neither sovereignty nor sovereign rights are absolute.\textsuperscript{155}

\textsuperscript{150} Yehuda Z. Blum, Historic Titles in International Law 208–09 (1965).
\textsuperscript{151} Id. at 209; see Gillian Doreen Triggs, Australia's Sovereignty in Antarctica: The Validity of Australia’s Claim at International Law 256 (Melbourne Univ. Programme in Antarctic Studies, Publ'n No. 61, 1983) (on file with author).
\textsuperscript{152} UNCLOS, supra note 121, at art. 56(1)(a).
\textsuperscript{154} Those authors that do make distinctions must do so based on instances of different treatment in the Convention text. See, e.g., James L. Zackrison & James E. Meason, Chile, Mar Presencial, and Law of the Sea, NAVAL WAR C. REV., Summer 1997, at 65, 76.
\textsuperscript{155} More generally, as John Jackson writes, “[a] multitude of treaties and customary international law norms impose international legal constraints” on what is presumably the more expansive notion of sovereignty. John H. Jackson, The Great 1994 Sovereignty Debate: United States Acceptance and Implementation of the Uruguay Round Results, in Politics, Values
the obvious example where sovereignty must give way is the right of foreign flag vessels to exercise the right of innocent passage.\textsuperscript{156} In the EEZ, other states continue to enjoy the freedom of navigation, over-flight, and the laying of submarine cables, despite the coastal state’s exclusive sovereign rights over all natural resources.\textsuperscript{157}

Perhaps more important are the similar aspects, in terms of power, thought to be entailed in the concepts of sovereignty and sovereign rights, especially as those rights are applied in the EEZ. Fundamentally, both encompass the power entailed in the principle of permanent sovereignty over natural resources. Both entail, in other words, the exclusive control over, and access to, all the natural resources within their respective ambits, subject to the limits of international law.\textsuperscript{158} The political and economic consequences of such power are readily apparent, both for individual states able to declare an EEZ and for the broader international community. The enclosure of the oceans by virtue of the EEZ has given individual states exclusive control over approximately thirty-six percent of the total area of the sea.\textsuperscript{159} This area “contains over ninety per cent of all presently commercially exploitable fish stocks [and] about eighty-seven per cent of the world’s known submarine oil deposits . . . .”\textsuperscript{160}

Likeness in terms of power, rather than difference, is no doubt one reason why states are only accorded “sovereign rights” over natural resources found in their territory under the Convention on Biological Diversity.\textsuperscript{161} Likeness in terms of power, rather than difference, is also no doubt one reason that the British claim to territory in the Antarctic, to which Australia succeeded, is couched in terms of “sovereign rights,” not “sovereignty.”\textsuperscript{162} For these reasons it is logical and appropriate that Article IV(2) applies with similar force to limit the extension of EEZ maritime claims.
In Australia’s case, however, there is the additional reason that its claim in Antarctica is limited to “sovereign rights.” As detailed above, in laying claim to the territory Australia succeeded to as the AAT, the British Government merely asserted “sovereign rights” in Antarctica, not “sovereignty.” By definition, any extension of Australia’s claim relates to sovereign rights. This means that in order for Article VI(2) to have any application for Australia, it must be directly applicable to claims to sovereign rights, including sovereign rights in an EEZ.

B. Article VI

A key objection to maritime claims to an EEZ in Antarctica relies on the fact that under Article VI nothing in the Antarctic Treaty can “prejudice or in any way affect the rights, or the exercise of the rights, of any State under international law with regard to the high seas” in Antarctica. A number of states maintain that this means all Antarctic seas are to be considered high seas because there are no recognized sovereign coastal states within the ATS. In other words, for the 187 states that do not recognise territorial claims in Antarctica, all marine areas adjacent to Antarctica are high seas because there are no coastal states. The counter position, elaborated by Stuart Kaye and Don Rothwell, is that Article VI is silent about which seas are to be considered high seas under the Antarctic Treaty, and instead it should be “interpreted as merely seeking to preserve rights in those high seas, wherever they might be.”

163 See supra notes 129–131 and accompanying text.
164 Antarctic Treaty, supra note 99. The convention applies in the area south of sixty degrees south latitude, including the oceans and all the areas claimed by Australia as falling within the AAT EEZ. See id.
166 See, e.g., Note from the Embassy of the United States of America to the Australian Department of Foreign Affairs and Trade (March 31, 1995), as reprinted in 17 AUSTL. Y.B. INT’L L. 383, 383 (1996).
167 Kaye & Rothwell, supra note 135, at 199.
For the argument here, let us accept _arguendo_ Australia’s territorial claim in Antarctica. Let us also accept that Article VI itself provides no guidance as to which seas south of sixty degrees south latitude are high seas. That does not mean, however, the area of high seas in the Antarctic Southern Ocean cannot be determined. As demonstrated above in connection with Antarctic EEZ claims, the existence of legal rights and obligations must be determined in light of the critical date of June 23, 1961.\(^{168}\) Freedom on the high seas at that time could have been limited, at most, by a twelve nautical mile territorial sea.\(^ {169}\) Anything beyond that point, subject to the limited jurisdiction of the coastal state in the further contiguous zone, would have been deemed the high seas. Accordingly, the assertion of an EEZ in Antarctica that exceeds twelve nautical miles appears contrary to Article VI of the treaty.

C. Article VIII and Jurisdiction

Even in the unlikely event that a declaration of an Antarctic EEZ is permissible, the exercise of jurisdiction over non-nationals (at least belonging to treaty parties such as Japan that do not recognise Antarctic claims) is prohibited either by Article VIII of the Antarctic Treaty, customary international law, or both. Turning to Article VIII first, it provides:

> In order to facilitate the exercise of their functions under the present Treaty, and without prejudice to the respective positions of the Contracting Parties relating to jurisdiction over all other persons in Antarctica, observers . . . and scientific personnel . . . and members of the staffs accompanying any such persons, shall be subject only to the jurisdiction of the Contracting Party of which they are nationals in respect of all acts or omissions occurring while they are in Antarctica for the purpose of exercising their functions.\(^ {170}\)

Clearly, as written, Article VIII only addresses observers, scientific personnel, and their staff. For these individuals, jurisdiction (prescriptive, adjudicative, and enforcement) can only be exercised by the state of nationality. This would be true of scientific personnel and

\(^{168}\) This is the date on which the Antarctic Treaty came into force.

\(^{169}\) See _supra_ note 144 and accompanying text.

\(^{170}\) Antarctic Treaty, _supra_ note 99.
their staffs engaged in research of the Antarctic marine ecosystem. Because Kyodo is engaged in what it claims is “scientific” whaling under the International Convention for the Regulation of Whaling—a claim, as seen above, strongly disputed by many—it might argue that Article VIII is directly applicable in the sense that those conducting the whaling for Kyodo are scientific personnel and their staff. As such, Australia would have no international basis for the exercise of jurisdiction over Kyodo under the EPBC Act.

Regardless of the merits of this argument, the sounder and longer term view requires that jurisdiction in Antarctica over non-nationals (regardless of status) ordinarily be prohibited on other grounds. Looking to treaty interpretation, the practice of parties to the Antarctic Treaty, including Australia and all the other claimant states, has been consistently and uniformly to refrain from exercising adjudicative and enforcement jurisdiction over non-nationals of states party to the Antarctic Treaty. Extensive research (albeit and unfortunately limited to the English language) has failed to disclose any instance subsequent to the entry into force of the Antarctic Treaty where a state has prosecuted and punished (under civil law or criminal law) a non-national of a state party, without consent of the state of nationality, for action taken in the treaty area.

Under Article 31(3)(b) of the Vienna Convention on the Law of Treaties (Vienna Convention), nearly fifty years of apparently consistent practice by all states must have a bearing on how the parties view Article VIII of the Antarctic Treaty and on its proper interpretation. The obvious and evident result of this long and consistent practice is that Article VIII is now to be interpreted as prohibiting, as against all

174 See Vienna Convention on the Law of Treaties art. 31 (3) (b), opened for signature May 23, 1969, 1155 U.N.T.S. 331 (stating that interpretation of a treaty includes looking to “[a]ny subsequent practice in the application of the treaty which establishes the agreement of the parties regarding its interpretation”).
non-nationals, adjudicative and enforcement jurisdiction for acts or omissions in the treaty area. A similar, if somewhat reverse, application of Article 31(3)(b) of the Vienna Convention is analysed by Anthony Aust in connection with charter services under Article 5 of the Convention on International Civil Aviation.\(^{175}\) Article 5:

> does not require a charter airline to obtain permission to land en route, provided it does not pick up or set down passengers or cargo. However, the practice of the parties over many years has been to require charter airlines to seek permission to land in all cases, and the article is now so interpreted.\(^{176}\)

Even if this interpretation of Article VIII of the Antarctic Treaty were to be rejected, an alternative argument militates in favour of limiting the exercise of adjudicative and enforcement jurisdiction to nationals in the Antarctic treaty area. This argument relies on customary international law. Just as the practice of states over time is important in the interpretation of a treaty, it is also a key element in the generation of customary international law.\(^{177}\) In terms of practice, the uniform and consistent position of states, at least since 1961, if not before, has been to refrain from exercising adjudicatory or enforcement jurisdiction against non-nationals.\(^{178}\) Just as importantly, all the claimant states, and in particular the “specially affected states” claiming Antarctic EEZs, have engaged in this practice of abstention.\(^{179}\)

The more difficult question is why states have uniformly and consistently acted this way. The answer to this question is, of course, essential because of the need to establish the requisite *opinio juris* accompanying the practice. Accepting a positivist’s view of the situation, only if the answer is that states are refraining to exercise adjudicatory and enforcement jurisdiction because of a sense of legal obligation,

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can we conclude that a customary norm of preclusion of such exercise exists. I suspect that for the vast majority of states for which we could find evidence, the practice would be engaged in because of an underlying belief in its legal requirement.

**Conclusion**

For those, like me, who oppose unsustainable commercial whaling (or any whaling of threatened species) there is an admitted attraction to possibilities of protective action for whales in the Southern Ocean under Australian law based on Australia’s historic claims to sovereign rights in Antarctica. It would allow the circumvention of the apparently intractable paralysis in the IWC. It would allow for relatively quick independent third-party review and the order of any necessary interim and warranted permanent relief. Provided the necessary political will, it would allow for effective enforcement of any relief ordered. In all these matters, Australia and other states committed to the conservation of whales have much at stake.

But there are significant downsides that, in my view, outweigh the attractions of unilateral action under Australian law. Most importantly, the exercise of adjudicative and enforcement jurisdiction in the Antarctic AWS significantly risks, first, the continuing stability of the Antarctic Treaty System (ATS) and the broader environmental values it serves. As I have written, the long-running battle between the anti-whaling forces and whalers is being played out in Australian courts because of the failure to address the issues within what is seen as a “dysfunctional” whaling regime. However, because the Australian litigation involves what most other states will view as the unlawful exercise of Australian jurisdiction in the Southern Ocean, there is a very real prospect that an ongoing whaling dispute will have a detrimental “ripple effect” on the ATS (and perhaps even beyond). The danger is that the issue of whales and whaling might distort and obscure the larger environmental picture in Antarctica. Private litigation, based on an internationally disputed claim to sovereign rights over Antarctic territory and a further contested claim to an EEZ appurtenant to that territory, ought not to serve as a proxy for cooperative (and hopefully effective) international management of the Antarctic environment.

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180 Anton, supra note 88, at 24.
The negative incentives presented by the unilateral exercise of Australian jurisdiction over whales in the Southern Ocean are also dangerous. The exercise of jurisdiction by Australia over non-nationals and resources in the Antarctic AWS threatens in the longer term other jurisdictional claims over resources, and probably not for the conservation and protection of those resources, but for their exploitation. The big danger is that if other states follow Australia’s lead in claiming sovereign rights and exercising attendant jurisdiction, the chances of natural resource over-exploitation and environmental harm in the Antarctic is increased. It will, I believe, in the long run exacerbate the likelihood of a scramble for important, scarce, and ultimately economically viable resources.
BEYOND WINTER V. NRDC: A DECADE OF LITIGATING THE NAVY’S ACTIVE SONAR AROUND THE ENVIRONMENTAL EXEMPTIONS

ROBIN KUNDIS CRAIG*

Abstract: To find ultra-quiet modern submarines, the Navy uses high-powered active sonar. However, active sonar is also linked to marine mammal strandings and other types of harms to whales, dolphins, fish, and sea turtles. This connection has led to over a decade of challenges against the Navy’s active sonar training exercises in the Pacific, culminating in the U.S. Supreme Court’s November 2008 decision in Winter v. Natural Resources Defense Council. This Article suggests that the Supreme Court’s failure to reach the merits of the case—the actual legality of the Navy’s training exercises off the southern California coast—is the most troubling part of the Court’s somewhat cabined analysis of the lower courts’ preliminary injunctions. Specifically, this Article argues that the Navy sonar litigation represents a progressive elimination both of flexibility in the applicable environmental requirements and effective oversight of military actions that could ensure that neither national security nor environmental goals are unnecessarily sacrificed.

Introduction

In the murky world of the oceans’ depths, sound becomes an important means of enhancing survival, both for sea creatures such as whales and, according to the U.S. Navy, for Americans. Since the mid-1990s, the Navy has been working to employ lower-frequency sonar (“Sound Navigation and Ranging”) on its patrol ships to allow better detection of increasingly quiet submarines. Specifically, the Navy has been testing three types of active sonar systems that emit pulses of sound into the water and then detect the echoes as that sound pulse

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bounces off objects.\textsuperscript{1} Mid-Frequency Active Sonar (MFAS), which the Navy has been using since World War II, employs frequencies of one to ten kilohertz (kHz) and typically can detect objects one to ten nautical miles away.\textsuperscript{2} Low-Frequency Active Sonar (LFAS) uses sound frequencies of less than 1 kHz, which suffer less attenuation in seawater and hence allow the Navy to detect objects up to 100 nautical miles away.\textsuperscript{3} The Navy uses its Surveillance Towed Array Sensor System (SURTASS) LFAS system for long-range search and surveillance of submarines,\textsuperscript{4} and it would like to employ that system in at least 75\% of the world’s oceans.

The problem, however, is that these active sonar systems are \textit{loud}. MFAS systems can emit continuous sound of more than 235 decibels (dB)—a noise level comparable to a rocket blastoff, according to the Natural Resources Defense Council (NRDC).\textsuperscript{5} While the Navy disputes that comparison, its own studies indicate that the sound pulse can still be 140 dB as far as 300 miles away from the source.\textsuperscript{6} Such sonar pulses are strongly correlated with adverse effects on marine organisms, including mass whale and dolphin strandings and physical trauma to and deaths of whales, dolphins, seals, sea lions, sea turtles, and even fish.

Using a variety of statutes and raising both substantive and procedural challenges to the Navy’s activities, environmental organizations and others have been seeking to stop or modify the Navy’s uses of MFAS and LFAS for over a decade now. Much of this litigation has been concentrated in Hawaii and California. Nevertheless, in 2008, the Navy began to implement an undersea warfare training range on the east coast of the United States, and sonar litigation efforts are already beginning there. Thus, Navy sonar litigation is about to become a nationwide phenomenon.

\textsuperscript{1} United States Navy, Ocean Stewardship: Understanding Sonar, http://www.navy.mil/oceans/sonar.html (last visited Mar. 17, 2009). In contrast, passive sonar systems merely use hydrophones to detect, amplify, and identify sounds from other sources. \textit{Id.}

\textsuperscript{2} \textit{Id.}

\textsuperscript{3} \textit{Id.}

\textsuperscript{4} \textit{Id.}


While a detailed review of all of this litigation would exceed the limitations of a symposium format, that litigation is summarized in the Appendix chart. Most important for this Article is the fact that, to date, three different federal district courts—the Northern District of California,\(^7\) the Central District of California,\(^8\) and the District of Hawaii\(^9\)— have each issued a narrowly tailored injunction requiring that various of the Navy’s sonar training exercises employ mitigation measures designed to allow such training to proceed while minimizing potential harm to marine wildlife.

Nevertheless, on November 12, 2008, the U.S. Supreme Court decided *Winter v. NRDC (Winter VII).*\(^{10}\) The case involved the Navy’s use of MFAS in fourteen large-scale training exercises off the coast of southern California (SOCAL exercises) between February 2007 and January 2009.\(^{11}\) The Supreme Court vacated the challenged portions of the Central District of California’s preliminary injunction, holding that the Navy’s interest in effective training and the public interest in national defense tipped the balance of equities “strongly” in the Navy’s favor.\(^ {12}\) Indeed, according to the Court, “the proper determination of where the public interest lies does not strike us as a close question.”\(^ {13}\)

Thus, despite the fact that it acknowledged the “seriousness” of the interests in marine mammals, and while the lower courts have engaged in complex balancing of public interests, the Supreme Court, like many discussions of the Navy sonar litigation and the Navy’s own litigation posture,\(^ {14}\) essentially figured the controversy over Navy sonar solely in terms of a trade-off between two public policy objectives: marine biodiversity protection and national security.\(^ {15}\) Strikingly absent from the ma-

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\(^7\) Natural Res. Def. Council, Inc. v. Evans, 279 F. Supp. 2d 1129 (N.D. Cal. 2003) [Evans II].


\(^10\) 129 S. Ct. 365 (2008) [Winter VII].

\(^11\) Id. at 371.

\(^12\) Id. at 377–78.

\(^13\) Id. at 378.

\(^14\) See, e.g., Ocean Mammal Inst. v. Cohen, No. 98-CV-160, 1998 WL 2017631, at *3 (D. Haw. Mar. 9, 1998) (noting the military defendants’ argument “that any delay in the study will also delay the decision to employ a low-frequency active sonar submarine detection system in coastal waters, thereby compromising the safety of Navy personnel and the nation as a whole.”).

jority’s opinion was any discussion regarding the legality of the Navy’s exercises or of the legality of the environmental exemptions upon which it was relying, even though the Council on Environmental Quality’s (CEQ’s) “emergency circumstances” exemption from the National Environmental Policy Act (NEPA) was an issue presented to the Court.

While scholars and litigants will undoubtedly be debating the meaning of the Supreme Court’s preliminary injunction ruling for years to come—and for the record, I think that ruling is best explained in light of the Court’s long history of deciding that the military is different when it comes to environmental law—this Article instead suggests that the Court’s failure to reach the actual legality of the Navy’s activities and especially of the environmental law exemptions it relies upon is the far more troubling aspect of the case, especially in light of the decade-long progression of Navy sonar litigation. Specifically, this Article argues that the history of that litigation represents a progressive elimination of both the flexibility and effective oversight that could ensure that neither national security nor environmental goals are unnecessarily sacrificed, in favor of increasingly comprehensive environmental exemptions that generally neither require nor—especially in light of the Supreme Court’s decision—even allow for consideration of either the legitimacy of national security needs or the use of mitigation measures. It concludes that, at least in times of (relative) peace, the carefully tailored injunctions of the federal district courts are in fact more effective tools for balancing important federal interests than the binary national security exemptions in the relevant federal environmental statutes, particularly given the lack of procedural or substantive coordination among those exemptions.

I. The Navy’s Sonar and Marine Life

Marine mammal strandings were one of the first indications that LFAS and MFAS may cause serious harm to marine life. Strandings oc-


cur when marine animals swim or float to shore and become trapped on beaches or in shallow water. By 2007, “[m]ass strandings of several species of whales following naval exercises ha[d] been documented in the Bahamas, the Canary Islands, Hawaii, North Carolina, Japan, Greece, Spain, Taiwan, the Madeira Archipelago, and the U.S. Virgin Islands.” The International Whaling Commission’s Scientific Committee concluded that the evidence establishes that the Navy’s MFAS is associated with these strandings; similarly, the Navy’s Office of Naval Research has concluded that the evidence that active sonar causes strandings is “completely convincing.”

Post-mortem studies of the whales stranded in the Bahamas revealed that they had suffered “hemorrhages in the inner ear, in some tissues adjacent to the ear, and in the fluid spaces surrounding the brain, as well as clotting in the cerebral ventricles . . . .” Later studies have also suggested that when whales dive rapidly to avoid active sonar, “injuries such as hemorrhaging around the brain, ears, kidneys, and acoustic fats, acute spongiotic changes in the central nervous system, and gas/fat emboli and lesions in the liver, lungs, and other vital organs” can occur. In addition, evidence indicates that “MFA sonar disrupts activities critical to marine mammals’ survival, such as food foraging and mating . . . .” Scientific uncertainty over the decibel levels required to cause such injuries and behavioral responses has been the source of intense debate in the Navy sonar litigation.

The Navy’s active sonar potentially affects other marine species, as well. In the Northern District of California, litigation has raised issues regarding the effects of active sonar on endangered and threatened species of sea turtles, Chinook salmon, Coho salmon, chum salmon, and steelhead. In scientific studies, fish exposed to low-frequency so-

19 Gates, 546 F. Supp. 2d at 977.
24 See, e.g., Evans I, 232 F. Supp. 2d at 1049.
nar “suffered internal injuries at 160 dB, eye damage at 170 dB, auditory damage at 180 dB, and transient stunning at 190 dB.” Moreover, such studies indicate that fish begin to show avoidance behavior at sonar levels as low as 128 dB, with significant reactions at 150 dB.

II. The Relevant Statutes and Their National Security Exemptions

A plethora of federal environmental statutes are potentially relevant to the Navy’s use of LFAS and MFAS. Some of these statutory provisions, notably NEPA’s Environmental Impact Statement (EIS) requirement, apply to every use of Navy sonar by virtue of the Navy’s status as a federal agency. Application of others, such as the Marine Mammal Protection Act (MMPA), Endangered Species Act (ESA), and Fur Seal Act, depend on the presence of particular marine species. Finally, other statutes become relevant based on independent marine regulations and policies. These statutes include the Magnuson-Stevens Fishery Conservation and Management Act (MSA), the relevance of which depends largely on the prior existence of fishery management plans; the Coastal Zone Management Act (CZMA), application of which depends on the relevant state’s coastal zone management plan; and the National Marine Sanctuary Act, which becomes relevant only if the federal government has already created a national marine sanctuary in the area of LFAS and MFAS activity.

A. National Environmental Policy Act (NEPA)

NEPA has been the most influential federal environmental statute in the Navy sonar litigation, as the Winter v. NRDC line of cases suggests. The operative provision of NEPA is its Environmental Impact Statement (EIS) requirement—specifically, that “all agencies of the Federal Government shall” draft an EIS for “proposals for legislation and other major Federal actions significantly affecting the quality of the human environment” that addresses five elements, including reasonable alternatives to the action proposed.

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26 Id.
28 Id. § 4332(2)(C). The five elements of an EIS are: (1) “the environmental impact of the proposed action”; (2) “any adverse environmental effects which cannot be avoided should the proposal be implemented”; (3) “alternatives to the proposed action”; (4) “the relationship between local short-term uses of man’s environment and the maintenance
Case law has clarified that NEPA’s EIS requirement is purely a procedural requirement—while the federal agency must perform the environmental evaluation, NEPA does not compel that agency to choose the least environmentally damaging alternative. Nevertheless, case law and the CEQ’s regulations require that federal agencies perform the environmental impact analysis as early in the decision-making process as possible, in order to allow the agency to identify unintended environmental consequences and potentially less damaging alternatives before it has committed itself to a particular course of action. Failure to comply with NEPA is grounds for reversing the agency’s final decision.

The CEQ regulations define “federal agency” to be “all agencies of the Federal Government,” excluding Congress, the judiciary, and the president. Thus, the Navy is generally subject to NEPA’s requirements. Moreover, NEPA itself contains no express exemptions from its EIS requirement. Similarly, the CEQ’s regulations state most broadly that “[a]ll agencies of the Federal Government shall comply with these regulations.” However, the CEQ also expresses an intent to “allow each agency flexibility” in implementing NEPA, and its regulations anticipate variations in how NEPA applies.

Two such CEQ-allowed variations are relevant to the Navy sonar litigation. In Winter v. NRDC, the CEQ invoked its “emergency circum-

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31 Id. § 1502.16.
32 Id. § 1502.14.
33 Id. § 1500.1(c) (“The NEPA process is intended to help public officials make decisions that are based on understanding of environmental consequences, and take actions that protect, restore, and enhance the environment.”); id. § 1502.1 (“The primary purpose of an environmental impact statement is to serve as an action-forcing device to insure that the policies and goals defined in the Act are infused into the ongoing programs and actions of the Federal Government.”).
34 Id. § 1508.12.
35 See 42 U.S.C. § 4333 (2000); see also 40 C.F.R. § 1500.2(a) (“Federal agencies shall to the fullest extent possible . . . interpret and administer the policies, regulations, and public laws of the United States in accordance with the policies set forth in the Act and in these regulations.”); 40 C.F.R. § 1500.6 (repeating 42 U.S.C. § 4333 and adding that “[t]he phrase ‘to the fullest extent possible’ in [42 U.S.C. § 4332] means that each agency of the Federal Government shall comply with that section unless existing law applicable to the agency’s operations expressly prohibits or makes compliance impossible.” (emphasis added)).
36 40 C.F.R. § 1507.1.
37 Id.
stances” regulations.\textsuperscript{38} Under these regulations, “[w]here emergency circumstances make it necessary to take an action with significant environmental impact without observing” normal NEPA procedures, “the Federal agency taking the action should consult with the Council about alternative arrangements.”\textsuperscript{39} Both the Central District of California and the Ninth Circuit determined that no emergency circumstances existed to justify alternative NEPA compliance measures.\textsuperscript{40} As noted, although the Supreme Court granted certiorari in part to address the propriety of this exception, the majority never reached the issue.\textsuperscript{41}

Second, the CEQ has more specifically addressed the particular needs of national security in the NEPA EIS process.\textsuperscript{42} However, the Navy has not invoked this NEPA national security exemption, probably because that exemption focuses on maintaining the secrecy of classified information and projects—\textit{not} on shortcutting the required environmental analysis or eliminating the potential need for mitigation measures.

\textbf{B. Marine Mammal Protection Act of 1972 (MMPA)}

The MMPA\textsuperscript{44} protects all marine mammals\textsuperscript{45} under U.S. jurisdiction through a general moratorium on the “taking” of such species.\textsuperscript{46} As defined in the Act, “[t]he term ‘take’ means to harass, hunt, capture, or kill, or attempt to harass, hunt, capture, or kill any marine mammal.”\textsuperscript{47}

The Navy’s use of its LFAS and MFAS can both “kill” and “harass” marine mammals, creating a \textit{prima facie} violation of the MMPA. The definition of “kill” is perhaps obvious. The National Marine Fisheries

\textsuperscript{38} \textit{See} Decision Memorandum Accepting Alternative Arrangements for the U.S. Navy’s Southern California Operating Area Composite Training Unit Exercises (COMPTUEXs) and Joint Task Force Exercises (JTFEXs) Scheduled to Occur Between Today and January 2009, 73 Fed. Reg. 4189, 4189 (Jan. 24, 2008) (accepting the CEQ’s alternative procedures).

\textsuperscript{39} 40 C.F.R. § 1506.11.

\textsuperscript{40} \textit{Winter V}, 518 F.3d 658, 687 (9th Cir. 2008); Natural Res. Def. Council, Inc. v. Winter, 527 F. Supp. 2d. 1216, 1230 (C.D. Cal. 2008) [\textit{Winter V}].

\textsuperscript{41} \textit{But see} Winter VII, 129 S. Ct. 365, 390–91 (2008) (Ginsburg, J., dissenting) (agreeing with the lower courts that use of the “emergency circumstances” exception was inappropriate).

\textsuperscript{42} 40 C.F.R. § 1507.3(c).

\textsuperscript{43} \textit{Id.}


\textsuperscript{45} \textit{See id.} § 1362(6) (defining “marine mammal”).

\textsuperscript{46} \textit{Id.} § 1371(a).

\textsuperscript{47} \textit{Id.} § 1362(13).
Service’s (NMFS’s) definitions of “harass” create two kinds of harassment:

*Level A Harassment* means any act of pursuit, torment, or annoyance which has the potential to injure a marine mammal or marine mammal stock in the wild.

*Level B Harassment* means any act of pursuit, torment, or annoyance which has the potential to disturb a marine mammal or marine mammal stock in the wild by causing disruption of behavioral patterns, including, but not limited to, migration, breathing, nursing, breeding, feeding, or sheltering but which does not have the potential to injure a marine mammal or marine mammal stock in the wild.\(^{48}\)

Notably, these definitions count as “harassment” any action “which has the potential” to interfere with marine mammals, effectively placing the burden on the actor to protect marine mammals.

The MMPA establishes a number of exceptions to its taking moratorium. Most relevant to the Navy sonar litigation, the Act allows for incidental take permits (ITPs).\(^{49}\) For activities other than commercial fishing, NMFS may issue an ITP only for a “specified activity” taking place within “a specified geographical region,” where the activity might result in an “incidental, but not intentional” take of “small numbers of marine mammals of a species or population stock. . . .”\(^{50}\) In addition, the total take must “have a negligible impact on such species or stock,” and NMFS must promulgate regulations specifying both “permissible methods of taking pursuant to such activity, and other means of effecting the least practicable adverse impact on such species or stock and its habitat, paying particular attention to rookeries, mating grounds, and areas of similar significance” and “requirements pertaining to the monitoring and reporting of such taking.”\(^{51}\) ITPs can last up to five years, but NMFS must withdraw the permit if either the regulations are inadequate or the incidental take is having more than a negligible impact on the species or stock.\(^{52}\)

Significantly, perhaps, the Navy has treated its LFAS and MFAS differently for purposes of the MMPA. For its SURTASS LFAS system, the

\(^{48}\) 50 C.F.R. § 216.3 (2008).


\(^{50}\) Id.

\(^{51}\) Id.

\(^{52}\) Id. § 1371(a)(2)(B).
Navy sought—and in 2002 NMFS granted—an ITP.\textsuperscript{53} NMFS’s 2002 LFAS incidental take regulation\textsuperscript{54} divided the world into 15 biomes\textsuperscript{55} and allowed “incidental take by Level A and Level B harassment” of eleven species of baleen whales, twenty-two species of toothed whales and dolphins, and fifteen species of seals and sea lions.\textsuperscript{56} The actual ITP consisted of a yearly “Letter of Authorization” for specific activities, and authorized activities had to “be conducted in a manner that minimizes, to the greatest extent practicable, any adverse impacts on marine mammals, their habitat, and the availability of marine mammals for subsistence uses.”\textsuperscript{57} The regulations also established: (1) a series of mitigation measures designed to ensure that no marine mammals were subjected to sounds of greater than 180 dB;\textsuperscript{58} and (2) extensive monitoring requirements.\textsuperscript{59} The 2002 regulation also established four “off-shore areas of critical biological importance for marine mammals”\textsuperscript{60} and allowed proponents to petition NMFS to designate additional Biologically Important Marine Mammal Areas.\textsuperscript{61}

Despite successful challenges in court, the 2002 regulation remained effective through August 15, 2007.\textsuperscript{62} Nevertheless, the Northern District of California’s 2002 preliminary injunction required the Navy to mitigate its use of LFAS beyond what was required in the regulation,\textsuperscript{63} a conclusion it confirmed in response to the parties’ later cross-motions for summary judgment.\textsuperscript{64}

Responding to this litigation, in 2003 Congress amended the MMPA’s ITP requirements for military readiness activities.\textsuperscript{65} As a result of these amendments, the MMPA now provides that:

\begin{footnotesize}
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    \item \textsuperscript{54} Id.
    \item \textsuperscript{55} 50 C.F.R. § 216.180(a) (2002).
    \item \textsuperscript{56} Id. § 216.180(b).
    \item \textsuperscript{57} Id. § 216.182.
    \item \textsuperscript{58} Id. § 216.184.
    \item \textsuperscript{59} Id. § 216.185.
    \item \textsuperscript{60} Id. § 216.184(f).
    \item \textsuperscript{61} 50 C.F.R. § 216.191 (2002).
    \item \textsuperscript{62} Id. § 216.181.
    \item \textsuperscript{63} Evans I, 232 F. Supp. 2d 1003, 1033 (N.D. Cal. 2002).
    \item \textsuperscript{64} Evans II, 279 F. Supp. 2d 1129, 1164 (N.D. Cal. 2003). For a more detailed discussion of the regulation and the litigation, see Karpinsky, supra note 15, at 397–407.
For a military readiness activity . . . a determination of “least practicable adverse impact on such species or stock” . . . shall include consideration of personnel safety, practicality of implementation, and impact on the effectiveness of the military readiness activity. Before making the required determination, the Secretary shall consult with the Department of Defense regarding personnel safety, practicality of implementation, and impact on the effectiveness of the military readiness activity.66

The amendments also changed the definition of “harassment.” For military readiness activities, “harassment” means:

(i) any act that injures or has the significant potential to injure a marine mammal or marine mammal stock in the wild; or
(ii) any act that disturbs or is likely to disturb a marine mammal or marine mammal stock in the wild by causing disruption of natural behavioral patterns, including, but not limited to, migration, surfacing, nursing, breeding, feeding, or sheltering, to a point where such behavioral patterns are abandoned or significantly altered.67

Acts that fit within subparagraph (i) qualify as Level A harassment, while those that fall within subparagraph (ii) are Level B harassment.68

Thus, in the 2003 amendments, Congress effectively granted the military greater freedom to injure marine mammals or to disrupt their behavior than the MMPA would otherwise allow. For the SOCAL exercises at issue in Winter v. NRDC, the Navy concluded that Level A harassments would occur if whales and dolphins were exposed to sonar levels of 215 dB or greater, while Level B harassment events would occur when such cetaceans were exposed to sonar levels between 173 dB and 215 dB.69

Congress also added a general national defense exception to the MMPA through the 2003 amendments.70 Under this exemption:
The Secretary of Defense, after conferring with the Secretary of Commerce, the Secretary of the Interior, or both, as appropriate, may exempt any action or category of actions undertaken by the Department of Defense or its components from compliance with any requirement of this chapter, if the Secretary determines that it is necessary for national defense.\footnote{16 U.S.C. § 1371(f)(1).}

The exemption cannot last longer than two years,\footnote{Id. § 1371(f)(2)(B).} and the Secretary must fairly immediately report the exemption to the Committees on Armed Services in both the House and the Senate.\footnote{Id. § 1371(f)(4).}


However, LFAS remains governed by the ITP, and hence the MMPA remains a live issue in the \textit{Natural Resources Defense Council, Inc. v. Gutierrez} LFAS litigation in the Northern District of California.\footnote{No. C-07-04771 EDL, 2008 WL 360852 (N.D. Cal. Feb. 6, 2008).} NMFS finalized its new SURTASS LFAS regulations in August 2007,\footnote{Taking Marine Mammals Incidental to the U.S. Navy Operations of Surveillance Towed Array Sensor System Low Frequency Active Sonar, 72 Fed. Reg. 46,846 (Aug. 21, 2007) (to be codified at 50 C.F.R. pt. 216).} and these regulations are intended to remain in effect until August 15, 2012.\footnote{50 C.F.R. § 216.181 (2007).} The 2007 regulations are very similar to the 2002 regulations, except that NMFS eliminated the biome approach\footnote{See id. § 216.180(a).} and has now designated ten Biologically Important Marine Mammal Areas.\footnote{Id. § 216.184(f).}

\section{C. Endangered Species Act of 1973 (ESA)}

To date, the ESA has been most relevant in the Northern District of California litigation, which explicitly reviewed the effects of the
Navy’s LFAS on sea turtles and fish as well as marine mammals.\textsuperscript{82} In order to qualify for protection under the ESA,\textsuperscript{83} a species must be “listed” by either the U.S. Fish & Wildlife Service (terrestrial species) or NMFS (marine and anadromous species).\textsuperscript{84} Moreover, with the listing, the relevant agency is supposed to designate the species’ critical habitat.\textsuperscript{85}

A number of marine and anadromous species have been listed for protection under the ESA.\textsuperscript{86} Once listed, a species receives two sets of protections, both of which are relevant to the Navy’s sonar activities. First, section 7 imposes duties on federal agencies, which the Act defines as “any department, agency, or instrumentality of the United States.”\textsuperscript{87} Pursuant to section 7(a)(1), federal agencies must “carry[] out programs for the conservation of endangered species and threatened species” listed under the Act, while under section 7(a)(2) every federal agency must “insure that any action authorized, funded, or carried out by such agency . . . is not likely to jeopardize the continued existence of any endangered species or threatened species or result in the destruction or adverse modification of” its critical habitat.\textsuperscript{88}

Second, section 9 prohibits “any person subject to the jurisdiction of the United States” from taking endangered species “within the United States or the territorial sea of the United States” or “upon the high seas.”\textsuperscript{89} In addition, it is illegal for any such person to violate any regulation governing any listed species,\textsuperscript{90} which generally serves to extend the “take” prohibition to threatened species as well.\textsuperscript{91} The ESA’s definition of “person” explicitly includes “any officer, employee, agent, department, or instrumentality of the Federal Government,”\textsuperscript{92} and hence these prohibitions also apply to the Navy.

\textsuperscript{82} Evans II, 279 F. Supp. 2d 1129, 1175–88 (N.D. Cal. 2003).
\textsuperscript{84} Id. §§ 1532(15), 1533(a)(1)–(2).
\textsuperscript{85} Id. § 1533(a)(3)(A).
\textsuperscript{87} 16 U.S.C. § 1532(7).
\textsuperscript{88} Id. § 1536(a)(1)–(2).
\textsuperscript{89} Id. § 1538(a)(1)(B)–(C).
\textsuperscript{90} Id. § 1538(a)(1)(G).
\textsuperscript{91} 50 C.F.R. § 17.31(a) (2007).
\textsuperscript{92} 16 U.S.C. § 1532(13).
Under the ESA, “[t]he term ‘take’ means to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct.” 93 According to NOAA’s regulations:

**Harass** in the definition of “take” in the Act means an intentional or negligent act or omission which creates the likelihood of injury to wildlife by annoying it to such an extent as to significantly disrupt normal behavioral patterns which include, but are not limited to, breeding, feeding, or sheltering. 94

“Harm,” in contrast, is “an act which actually kills or injures wildlife. Such act may include significant habitat modification or degradation where it actually kills or injures wildlife by significantly impairing essential behavioral patterns, including breeding, feeding or sheltering.” 95

The ESA also defines its relationship to the MMPA. In general, “no provision of [the ESA] shall take precedence over any more restrictive conflicting provision of the [MMPA].” 96 As a result, dually protected species like the North Atlantic right whale enjoy the benefit of the most protective provisions in either Act.

In 2003, Congress amended the ESA to provide the Department of Defense with exemptions from critical habitat designations. 97 However, very few marine and anadromous species have critical habitat designated at all, and Congress explicitly preserved the requirements that the military comply with the section 7(a)(2) “consultation” requirement and the section 9 “take” prohibition. 98 Thus, this Department of Defense exemption has not been relevant—and is unlikely to become relevant—to the Navy’s use of active sonar.

Nevertheless, since 1978, any federal agency may seek an exemption from the requirements of section 7(a)(2) from the Endangered Species Committee. 99 While this “God Squad” has only rarely allowed such exemptions, the ESA explicitly provides that the Committee must “grant an exemption for any agency action if the Secretary of Defense finds that such exemption is necessary for reasons of national secu-

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93 Id. § 1532(19).
94 50 C.F.R. § 17.3.
95 Id.
99 Id. § 1536(e).
However, given that NMFS has not yet found that the Navy’s active sonar jeopardizes a listed species, the Navy has not yet invoked this exemption procedure.

The ESA provides a number of exemptions from the section 9 “take” prohibition. Of these, the section 7 incidental take statement (ITS) has been most relevant to the Navy sonar litigation. In connection with formal consultation pursuant to section 7(a)(2), NMFS will issue a formal Biological Opinion, and this Biological Opinion may contain an ITS that exempts the acting federal agency from section 9 “take” liability. However, if the species concerned is a marine mammal, the taking must also be authorized under the MMPA’s incidental take provisions and comply with those MMPA requirements.

In February 2007, the Navy completed its section 7 formal consultation with NMFS regarding MFAS training activities. NMFS issued its Biological Opinion on February 9, 2007, and included a blanket ITS that exempted MFAS activities from section 9 liability through January 2009. Notably, the lower courts in Winter v. NRDC found that the plaintiffs had not shown likely violations of the ESA with respect to MFAS training. However, the ESA ITS covers only MFAS, and in 2008 the Northern District of California still found likely violations of the ESA with respect to SURTASS LFAS.

D. Fur Seal Act

The Fur Seal Act of 1966 implements the Convention on the Conservation of North Pacific Fur Seals. Although limited in scope, it has been raised (unsuccessfully) in at least two rounds of Navy sonar litigation.

The heart of the Fur Seal Act is its prohibition on the taking of the North Pacific Fur seal in the North Pacific Ocean, which the Act

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100 Id. § 1536(j).
104 Decision Memorandum, supra note 38, at 4190.
105 Id.
109 See id. § 1151(b) (defining “Convention”).
110 Id. § 1152.
defines rather specifically as “the waters of the Pacific Ocean north of the thirtieth parallel of north latitude, including the Bering, Okhotsk, and Japan Seas.” Nevertheless, given the Navy’s far-ranging use of LFAS and MFAS, this geographic restriction will be met at least some of the time, and the Fur Seal Act’s definition of “person” explicitly includes “any officer, employee, agent, department, or instrumentality of the Federal Government . . . .” “Take” and “taking” mean “to harass, hunt, capture, or kill, or attempt to harass, hunt, capture, or kill.” Therefore, if the Navy operated its active sonar in the North Pacific Ocean and harassed or killed fur seals, it could “take” those seals in violation of the Act.

The Fur Seal Act has limited exceptions. The two most important allow Indians, Aleuts, and Eskimos to take fur seals for subsistence purposes and takings for scientific research purposes. Unlike the MMPA, Congress has not amended the Fur Seal Act to provide exceptions or lower burdens of proof for national security, national defense, or the military.

E. Magnuson-Stevens Fishery Conservation and Management Act (MSA)

The MSA seeks to conserve and manage commercially important fish stocks by establishing eight regional fishery management councils (FMCs). FMCs regulate important fish stocks through fishery management plans (FMPs), which they must promulgate in accordance with a series of national standards. The Secretary of Commerce, acting through NMFS (NOAA Fisheries), reviews the Councils’ FMPs.

Much of the MSA regulates foreign and domestic fishing activities and hence would seem inapplicable to the Navy’s use of MFAS and LFAS. However, the MSA prohibits “any person” from “violat[ing] any provision of this chapter or any regulation or permit issued pursuant to

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111 Id. § 1151(d).
112 Id. § 1151(g).
113 Id. § 1151(i).
114 16 U.S.C. § 1151(m).
115 Id. § 1153.
116 Id. § 1154.
118 Id. § 1801(b)(1).
119 Id. § 1852(a)(1).
120 Id. §§ 1852(h)(1), 1853.
121 Id. § 1851(a).
122 Id. § 1802(39).
this chapter.”\textsuperscript{124} and generally prohibits fishing in state or federal waters except as in compliance with applicable law.\textsuperscript{125} Moreover, the MSA defines “fishing” to be:

(A) the catching, \textit{taking}, or harvesting of fish;
(B) the attempted catching, \textit{taking}, or harvesting of fish;
(C) any other activity which can reasonably be expected to result in the catching, \textit{taking}, or harvesting of fish; or
(D) any operations at sea in support of, or in preparation for, any activity described in subparagraphs (A) through (C).\textsuperscript{126}

While the Act itself does not define “take,” NOAA’s regulations broadly provide that “[c]atch, \textit{take}, or \textit{harvest} includes, but is not limited to, any activity that results in killing any fish . . . .”\textsuperscript{127} Finally, the “persons” subject to the Act explicitly include the federal government and “any entity of any such government.”\textsuperscript{128} Thus, if the Navy’s SONAR kills fish in violation of an FMP or conservation-related regulations, the Navy could violate the MSA.

The MSA contains no general exemptions for national security, national defense, or the military. Moreover, the MSA’s prohibitions on violating the Act, its implementing regulations, or permits issued under the Act apply without exception to all “persons.”

Nevertheless, the Navy is entitled to some relief from the more specific requirement that vessels fish in accordance with state and federal law. This requirement applies only to vessels “other than a vessel of the United States,” and owners or operators of vessels “other than a vessel of the United States.”\textsuperscript{129} Vessels of the United States, in contrast, are prohibited only from transferring fish illegally to foreign vessels within the United States’ exclusive economic zone and from illegally fishing in foreign waters.\textsuperscript{130} Thus, the MSA makes it difficult for the Navy’s sonar operations to create liability in domestic waters for fishing without a permit.

\textsuperscript{124} Id. § 1857(1)(A).
\textsuperscript{125} Id. § 1857(2).
\textsuperscript{126} Id. § 1802(16) (emphasis added).
\textsuperscript{127} 50 C.F.R. § 600.10 (2007) (emphasis added).
\textsuperscript{128} 16 U.S.C. § 1802(36).
\textsuperscript{129} Id. § 1857(2).
\textsuperscript{130} Id. § 1857(3), (5).
Both the California and the Hawaii litigation have raised issues under the CZMA. The CZMA\textsuperscript{131} encourages states to protect their coastal zones\textsuperscript{132} by providing federal incentives—financial and otherwise—to states that enact Coastal Zone Management Plans (CZMPs).\textsuperscript{133} From the Navy’s perspective, the most important incentive that Congress created was the federal consistency provision, which requires that “[e]ach Federal agency activity within or outside the coastal zone that affects any land or water use or natural resource of the coastal zone shall be carried out in a manner which is consistent to the maximum extent practicable with the enforceable policies of approved State management programs.”\textsuperscript{134}

Under the Act, the “coastal zone” can be a rather limited area—“the coastal waters (including the lands therein and thereunder) and the adjacent shorelands (including the waters therein and thereunder), strongly influenced by each other and in proximity to the shorelines of the several coastal states . . . .”\textsuperscript{135} Nevertheless, the consistency requirement applies to federal activities occurring within or outside of the coastal zone, so long as those activities could affect resources within the state’s coastal zone. Given that active sonar sound waves travel far underwater, MFAS and LFAS can trigger (and have triggered) the CZMA’s consistency requirement. Of course, what “consistency” actually requires depends on the details of each state’s CZMP.

The CZMA empowers the President to exempt any federal activity from the consistency requirement.\textsuperscript{136} However, the President’s exemption authority is not unbridled. First, the President must wait until there is an appealable judgment that the federal activity will violate the consistency requirement.\textsuperscript{137} Second, the Secretary of Commerce must certify that mediation is unlikely to result in compliance.\textsuperscript{138} Third, the Secretary of Commerce must request an exemption from the President in writing.\textsuperscript{139} Fourth, the President must “determine[] that the activity is in the paramount interest of the United States” before granting the ex-

\begin{footnotesize}
\begin{enumerate}
  \item \textsuperscript{132} Id. § 1452(2).
  \item \textsuperscript{133} Id. §§ 1454–1455b, 1456a–1456c, 1460.
  \item \textsuperscript{134} Id. § 1456(c)(1)(A).
  \item \textsuperscript{135} Id. § 1453(1).
  \item \textsuperscript{136} Id. § 1456(c)(1)(B).
  \item \textsuperscript{137} 16 U.S.C. § 1456(c)(1)(B).
  \item \textsuperscript{138} Id.
  \item \textsuperscript{139} Id.
\end{enumerate}
\end{footnotesize}
Finally, “[n]o such exemption shall be granted on the basis of a lack of appropriations unless the President has specifically requested such appropriations as part of the budgetary process, and the Congress has failed to make available the requested appropriations.”

President George W. Bush invoked this exemption for the first time during the Winters v. NRDC litigation, but the validity of the presidential order was not at issue before the U.S. Supreme Court. However, the Central District of California raised concerns about the constitutionality of the CZMA exemption procedure that may become important in future litigation.

G. National Marine Sanctuary Act (NMSA)

The NMSA allows the Secretary of Commerce (acting through NOAA) to designate “any discrete area of the marine environment as a national marine sanctuary” if: (1) “the area is of special national significance”; (2) the area needs protection; and (3) the area is manageable. Once designated, each sanctuary is managed according to a federal management plan.

The NMSA makes it illegal for “any person to . . . destroy, cause the loss of, or injure any sanctuary resource managed under law or regulations for that sanctuary.” Moreover, “[a]ny person who destroys, causes the loss of, or injures any sanctuary resource is liable to the United States for an amount equal to the sum of . . . the amount of response costs and damages resulting from the destruction, loss, or injury,” plus interest. A “sanctuary resource” is “any living or nonliving resource of a national marine sanctuary that contributes to the conservation, recreational, ecological, historical, educational, cultural, archeological, scientific, or aesthetic value of the sanctuary.” The Act does not define “person,” but NOAA’s implementing regulations provide that “persons” include “any officer, employee, agent, department,
agency or instrumentality of the Federal government . . .” Thus, the Navy is subject to the NMSA.

In addition, once a sanctuary is designated, federal agencies must consult with the Secretary of Commerce when their activities could affect sanctuary resources; thus, the Navy’s sonar could be subject to this consultation requirement. The Secretary “shall . . . recommend reasonable and prudent alternatives, which may include conduct of the action elsewhere,” in order to protect sanctuary resources. If the acting agency declines to follow the Secretary’s recommendations, the agency head must explain the reasons for refusing in writing. Moreover:

If the head of a Federal agency takes an action other than an alternative recommended by the Secretary and such action results in the destruction of, loss of, or injury to a sanctuary resource, the head of the agency shall promptly prevent and mitigate further damage and restore or replace the sanctuary resource in a manner approved by the Secretary.

Of course, the NMSA’s requirements apply only if the Navy’s operations could affect a designated National Marine Sanctuary. There are only thirteen National Marine Sanctuaries, plus the Papahānaumokuākea Marine National Monument in the northwest Hawaiian Islands. To date, therefore, the NMSA has been most relevant to Navy operations off of Hawaii and California, although it may become relevant in the future to the Navy’s planned sonar operations in the Atlantic Ocean and around Florida.

The NMSA contains no explicit exemption for national defense, military, or national security activities. However, NOAA can issue special use permits to allow certain activities to occur in a National Marine Sanctuary that would otherwise be prohibited. In order to issue the permit, NOAA must “determine[] such authorization is necessary . . . to establish conditions of access to and use of any sanctuary resource; or . . . to promote public use and understanding of a sanctuary re-

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151 Id. § 1434(d)(2).
152 Id. § 1434(d)(3).
153 Id. § 1434(d)(4).
154 50 C.F.R. § 922.1. The thirteen sanctuaries are identified in subparts F through R of pt. 922 of the C.F.R. Id.
source.” These conditions are unlikely to apply to the Navy’s use of LFAS and MFAS, although individual sanctuary management plans could well exempt certain military activities.

The NMSA does create defenses to liability for the destruction of sanctuary resources that might apply to the Navy’s use of active sonar near a National Marine Sanctuary. Specifically, a person is not liable if “the destruction or loss of, or injury to, the sanctuary resource was caused solely by . . . an act of war, . . . and the person acted with due care”; if “the destruction, loss, or injury was caused by an activity authorized by Federal or State law”; or if “the destruction, loss, or injury was negligible.” The first defense might be relevant if the Navy operates its sonar in exact compliance with a federal court order or NOAA’s recommendations after the NMSA consultation. Moreover, because military readiness training is also generally authorized under federal law, the second defense might also be generally available to the Navy.

III. ENVIRONMENTAL EXEMPTIONS AND WINTER V. NRDC

Although the Supreme Court did not reach these issues, Winter v. NRDC highlights many of the complications that can result from military activities, multiple federal environmental statutes, and multiple exemption requirements and procedures.

Originally, in January 2006, plaintiffs sought a temporary restraining order (TRO) against the Navy’s use of active sonar in its Pacific Rim war games, filing the related complaint in June of 2006. As then filed, the plaintiffs would have raised challenges under the MMPA as well as other statutes. However, two days after NRDC filed the lawsuit, the Department of Defense invoked the MMPA’s new national defense exemption. Nevertheless, the district court issued a TRO on July 3, 2006, prompting a settlement among the parties. The court then dismissed the case with prejudice but retained jurisdiction to ensure that the Navy implemented the mitigation measures that the settlement required.

Five environmental groups and Jean-Michel Cousteau then filed a new action on March 22, 2007, alleging claims under NEPA, the ESA, and the CZMA in response to the Navy’s determination to conduct the

156 Id. § 1441(a)(1).
157 Id. § 1443(a)(3).
158 Natural Res. Def. Council, Inc. v. Winter, 513 F.3d 920, 921 n.2 (9th Cir. 2008) [Winter IV].
159 DoD Press Release, supra note 74.
160 Winter IV, 513 F.3d at 921 n.2.
161 Id.
SOCAL exercises *without* mitigation. In response to the plaintiffs’ motion for a preliminary injunction, the Central District of California concluded that NMFS’s February 2007 Biological Opinion and ITS complied with section 7 of the ESA and hence denied an injunction on ESA grounds, despite the fact that the Navy predicted that its SOCAL exercises would result in 710 takes of blue whales, fin whales, humpback whales, sei whales, and sperm whales, all of which are listed for protection under the ESA.

The CZMA issue, however, became more interesting. The Navy concluded that it did not have to discuss its use of MFAS in its federal consistency determination submitted to the California Coastal Commission (CCC), on grounds that MFAS use would occur outside California’s coastal zone and hence would not affect the state’s coastal resources. In addition, it failed to implement the CCC’s proposed mitigation measures. Both the Central District of California and Ninth Circuit disagreed with the Navy’s logic, emphasizing that MFAS would send potentially damaging sound into California’s coastal waters. In response to these courts’ injunctions, on January 15, 2008, President George W. Bush exempted the SOCAL exercises from the CZMA’s consistency requirements. As a result, the CZMA compliance dropped out of the lawsuit at the Supreme Court—although the Central District of California expressed “significant concerns about the constitutionality” of that presidential exemption.

In its Environmental Assessment under NEPA, the Navy predicted that its SOCAL exercises would result in “approximately 170,000 instances of Level B harassment” under the MMPA, including permanent injury to 436 of the estimated 1211 remaining Cuvier’s beaked whales. Nevertheless, and especially in light of the Department of Defense’s 2007 invocation of the MMPA national security exemption

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164 Id. at *5.
165 Id. at *8.
166 Id.
167 Winter III, 530 F. Supp. 2d 1110, 1117–18 (C.D. Cal. 2008); remanded, 513 F.3d 920 (9th Cir. 2008); reissued, 527 F. Supp. 2d 1216 (C.D. Cal. 2008), aff’d, 518 F.3d 658 (9th Cir. 2008), cert. granted, 128 S. Ct. 2964 (2008); Winter I, 2007 WL 2481037, at *8–*9; see Natural Res. Def. Council v. Winter, 508 F.3d 885, 886 (9th Cir. 2007) [Winter II].
169 Id. at 1219–20, 1232–38.
170 Winter I, 2007 WL 2481037, at *5; see Winter VI, 518 F.3d 658, 668–69 (9th Cir. 2008).
for all Navy MFAS activities, the Navy concluded that a full EIS was unnecessary and issued a Finding of No Significant Impact instead.\textsuperscript{171}

In 2007 and very early 2008, both the Central District of California and the Ninth Circuit concluded that the plaintiffs were likely to prevail on their claims that the Navy violated NEPA.\textsuperscript{172} In response, on January 15, 2008, the CEQ found, pursuant to its regulations, that “emergency circumstances” existed, allowing the Navy to proceed through abbreviated NEPA procedures.\textsuperscript{173} The Ninth Circuit remanded the case for reconsideration,\textsuperscript{174} but the Central District of California concluded that no emergency circumstances existed to justify the CEQ’s alternative arrangements under NEPA\textsuperscript{175} and that a preliminary injunction was still warranted even in the absence of the CZMA claim.\textsuperscript{176} Ten days later, the Ninth Circuit affirmed.\textsuperscript{177}

The U.S. Supreme Court granted \textit{certiorari} on June 23, 2008.\textsuperscript{178} As framed by the Navy petitioners, the two issues that the Court would address were: (1) “Whether CEQ permissibly construed its own regulation in finding ‘emergency circumstances’”; and (2) “Whether, in any event, the preliminary injunction, based on a preliminary finding that the Navy had not satisfied NEPA’s procedural requirements, is inconsistent with established equitable principles limiting discretionary injunctive relief.”\textsuperscript{179}

Thus, by the time the case reached the Supreme Court, only the most procedural of the myriad of potential environmental statutes that might have informed the Navy’s conduct of its MFAS exercises—NEPA—was still at issue (although, of course, the Navy was found to have probably complied with the ESA). As noted, the Supreme Court did not even reach that issue, deciding the case instead on the propriety of injunctive relief.\textsuperscript{180} The validity of the many environmental exemptions upon which the Navy relied received different levels of judicial review, and the Navy completed its training exercises without any decision

\begin{footnotes}
\item[173] \textit{Winter V}, 527 F. Supp. 2d. at 1224–25.
\item[174] \textit{Winter IV}, 513 F.3d 920, 922 (9th Cir. 2008).
\item[175] \textit{Winter V}, 527 F. Supp. 2d at 1225–32.
\item[176] \textit{Id.} at 1238–39.
\end{footnotes}
on the merits of the litigation, in potential derogation of both federal environmental law and Congress’s recognition of states’ interests in their coastal zones. Because the SOCAL exercises ended in January 2009, many of the remaining challenges are arguably now moot, calling into question the courts’ abilities to police such national security activities.

Conclusion: The Procedural Component of Balancing National Security and Environmental Policies

In issuing the first permanent injunction against the Navy’s unmitigated use of LFAS in 2003, the Northern District of California recognized both that “the public interest in military preparedness and protection against enemy submarine attacks through early detection is of grave importance” and that “the public interest in protecting the world’s oceans and the sea creatures that depend upon the oceanic environment to survive is also of the highest importance.”\textsuperscript{181} It and the two other district courts that have handled Navy sonar litigation so far have balanced these two important public interests by issuing narrowly tailored rather than blanket injunctions against the use of LFAS and MFAS, and by imposing mitigation measures upon rather than stopping the Navy’s activities entirely. Thus, the courts so far have tended to agree with NRDC policy analyst Michael Jasny, who declared in settling the most recent Hawaii litigation: “We don’t have to choose between national security and protecting the environment . . . .”\textsuperscript{182}

As the use of environmental exemptions in the Winter \textit{v.} NRDC line of cases makes clear, however, there is no uniform national standard for determining exactly when and how national defense activities must comply with environmental requirements, and the Navy wants to engage in active sonar training without mitigation. With the exception of the ESA’s ITS and the MMPA’s national defense exemption, the exemptions it has invoked in the Winter cases, unlike the equitable power of the courts, are inherently binary: the activity is either subject to the environmental requirements or it is not. Moreover, in this litigation, the ITS as well has been employed in a binary fashion, completely exempting MFAS activities from section 9. By its very nature, therefore, the

\textsuperscript{181} \textit{Evans II}, 279 F. Supp. 2d 1129, 1138 (9th Cir. 2003).

\textsuperscript{182} Carolyn Whetzel, \textit{Navy Department Agrees to Limit Use of Low-Frequency Sonar in Pacific Ocean}, 157 Daily Env’t Rep. (BNA) A–5 (Aug. 14, 2008); see also Reynolds, \textit{supra} note 15, at 801–02 (emphasizing that the court injunctions have underscored NRDC’s position that balancing is possible).
Winter litigation suggests that most of the existing national security exemptions in the environmental statutes are excessively blunt instruments that do not allow adequate balancing of two important public policies, especially during peacetime.

Perhaps more importantly, there is also no necessary coordination or oversight of the military’s invocation of national security exemptions. Exemptions from the MMPA are entirely within the discretion of the Department of Defense, while exemptions from the CZMA rest solely with the President—but only after a court has found that the military is violating the federal consistency requirement and the military refuses to compromise. Thus, a CZMA exemption becomes available only after the military has been found to be actually violating federal law. NEPA contains no real national security exemption at all, leading to the stretching of the CEQ’s emergency circumstances exception in the Winter decisions. Finally, in the national security context, the ESA’s normally rigorous Endangered Species Committee process is subject to the Secretary of Defense’s determination that the exemption is necessary for reasons of national security. Whether the Committee members can or would challenge the Secretary’s determination of necessity remains an untested but intriguing question. That question, however, underscores a more basic one for these national security exemptions: Who watches the watchmen?

One would think that if a military activity—such as the Navy’s training exercises involving MFAS and LFAS—were a candidate for exemption from the various national environmental policies, comprehensive evaluation of the potential exemptions from specific environmental statutes would be of benefit to both the military and to the public. In addition, a more centralized and comprehensive exemption review process could allow a more nuanced approach to the balancing of national security and environmental interests than the binary exemption provisions currently allow, avoiding blanket prohibitions on important military training exercises while at the same time producing closer analysis of what mitigation measures are feasible and advisable rather than allowing unbridled military discretion to inflict environmental harms in peacetime.

To be sure, the MMPA ITP and ESA ITS exemptions already allow for the imposition of mitigation measures. Moreover, an active balancing approach is messy, complex, and subject to trial-and-error revisions, such as when the Hawaii District Court revised its preliminary injunction in May 2008 in response to the Navy’s actual experiences with the
mitigation restrictions in its March 2008 training exercises. Nevertheless, allowing for such adaptive management and oversight can force both the military and the environmental community to figure out when exactly—if ever—environmental policies and national security are irrefutably and unavoidably in conflict. Taking its cue from the district courts, Congress should therefore adopt exemption procedures that require the acquisition of such information before a binary choice is made to sacrifice either national security or marine biodiversity. Such comprehensive review and flexibility would best serve both public policies at stake as well as the overall public interest in the oceans.

### APPENDIX: NAVY SONAR LITIGATION

<table>
<thead>
<tr>
<th>Name of Litigation, Opinion(s), and Court(s)</th>
<th>Claim(s)/Cause(s) of Action &amp; Resolution(s)</th>
<th>Type, Purpose, and Location of Sonar Use</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>Ocean Mammal Inst. v. Cohen</em></td>
<td>NEPA, [MMPA], [ESA] The district court denied plaintiffs’ motion for a preliminary injunction because they did not show irreparable harm or a likelihood of success on the merits.</td>
<td>Use of LFAS adjacent to the west coast of Hawaii specifically to test its effects on humpback and sperm whales.</td>
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<tr>
<td>No. 98-CV-160, 1998 WL 2017631 (D. Haw. Mar. 9, 1998)</td>
<td>164 F.3d 631 (9th Cir. 1998) The Court of Appeals affirmed, plus noted that the issues were now moot because testing was complete.</td>
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<tr>
<td><em>Kanoa Inc. v. Clinton</em></td>
<td>NEPA, MMPA, ESA, Fur Seal Act Plaintiff whale watching tour company lacked standing under the Administrative Procedure Act to bring NEPA, ESA, and MMPA claims, and the Fur Seal Act did not provide a cause of action.</td>
<td>Use of LFAS about 10 miles off the island of Hawaii to test its effects on humpback and sperm whales (Phase III testing by Navy).</td>
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<tr>
<td>1 F. Supp. 2d 1088 (D. Haw. 1998)</td>
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<tr>
<td><em>Haw. County Green Party v. Clinton</em></td>
<td>MMPA, ESA Case was moot because the Navy finished its testing in March 1998 and its permits expired in July 1998.</td>
<td>Use of LFAS off the Kona coast of the island of Hawaii to test its effects on whales (Phase III testing by Navy).</td>
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</table>
reopening the prior litigation was not warranted. Plaintiffs’ ESA claims failed for failure to comply with the citizen suit notice requirement. Their MMPA claims, based on the Navy’s incidental take permit application, were not ripe. Their NEPA claims were not yet actionable because the Navy’s commitments of resources were not “final agency actions” under the APA and the EIS was not finalized. The groups lacked standing to challenge the Navy’s use of SURTASS LFAS elsewhere in the world.

<table>
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<tr>
<th><strong>Natural Res. Def. Council v. U.S. Dep’t of the Navy</strong></th>
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<tr>
<td>NEPA, ESA, MMPA, MSA</td>
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<tr>
<td>While the district court denied the Navy’s motion for summary judgment arguing that neither NEPA nor the ESA applies extraterritorially, it agreed with the Navy that LWAD is not a “program” requiring either a programmatic EIS under NEPA or programmatic consultation and review under the ESA.</td>
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<tr>
<td>The Navy’s Littoral Warfare Advanced Development (LWAD) program, which had supported or overseen at least 17 sea tests of advanced anti-submarine technology since 1996, including active SONAR.</td>
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<th><strong>Natural Res. Def. Council v. Evans</strong></th>
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<td>232 F. Supp. 2d 1003 (N.D. Cal. 2002)</td>
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<tr>
<td>MMPA, ESA, NEPA</td>
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<tr>
<td>Plaintiffs were entitled to a “carefully tailored” preliminary injunction because they were likely to succeed in showing that: (1) authorization of harassment of up to 12% of marine mammals violates the MMPA’s “small numbers” limitation;</td>
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<tr>
<td>The Navy’s peacetime use of SURTASS LFAS for training, testing, and routine operations in the world’s oceans under the 2002 Final Rule.</td>
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<td>Case</td>
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<tr>
<td>279 F. Supp. 2d 1129 (N.D. Cal. 2003)</td>
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<tr>
<td><strong>Cetacean Cmty. v. Bush</strong></td>
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<td>Case Details</td>
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<tr>
<td>386 F.3d 1169 (9th Cir. 2004)</td>
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<tr>
<td><em>Haw. County Green Party v. Evans</em> No. C-03-0078 SC, 2003 WL 21033523 (N.D. Cal. May 2, 2003)</td>
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<td><em>Australians for Animals v. Evans</em> 301 F. Supp. 2d 1114 (N.D. Cal. 2004)</td>
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<td>Second Amended Complaint, (C.D. Cal. Apr. 2008)</td>
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<td>June 28, 2006</td>
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<td>July 7, 2006</td>
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<tr>
<td>March 22, 2007</td>
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</table>
 District court issued a blanket preliminary injunction because it was likely that: (1) the Navy violated NEPA by failing to prepare an EIS; (2) the Navy violated NEPA by using inadequate mitigation; (3) the Navy violated NEPA by not considering adequate alternatives or cumulative impacts in its EA; (4) the Navy violated the CZMA by not adopting the mitigation measures that the California Coastal Commission deemed necessary to render the MFAS exercises consistent with California’s Coastal Zone Management Plan; and (5) irreparable harm would occur. However, NMFS had likely

Fourteen large-scale MFAS training exercises—both Composite Training Unit Exercises (COMPTUEx) and Joint Task Force Exercises (JTFEx)—collectively referred to as RIMPAC or the SOCAL exercises, occurring off the coast of southern California between February 2007 and January 2009.
<table>
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<tr>
<th>Case Reference</th>
<th>Text</th>
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<tr>
<td>502 F.3d 859 (9th Cir. 2007)</td>
<td>Navy is entitled to a stay of the injunction pending appeal because the district court did not consider the public interest in having a trained and effective Navy when it issued the injunction.</td>
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<tr>
<td>508 F.3d 885 (9th Cir. 2007)</td>
<td>Court of Appeals vacated its own stay of the injunction on a showing that a more narrowly tailored injunction was warranted and that the district court could effectively issue it.</td>
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<tr>
<td>530 F. Supp. 2d 1110 (C.D. Cal. 2008)</td>
<td>The district court issued a narrowly tailored injunction that required the Navy to use specific mitigation measures in its MFAS operations off the California coast.</td>
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<tr>
<td>513 F.3d 920 (9th Cir. 2008)</td>
<td>The Court of Appeals remanded so the district court could consider two January 15, 2008, legal events: (1) President Bush exempted the Navy’s MFAS training in southern California from the CZMA’s consistency requirement; and (2) the CEQ found “emergency circumstances” existed and provided the Navy with “alternative arrangements” for complying with NEPA.</td>
</tr>
<tr>
<td>527 F. Supp. 2d 1216 (C.D. Cal. 2008)</td>
<td>No “emergency circumstances” existed to justify the CEQ’s alternative arrangements</td>
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under NEPA. As a result, despite the presidential exemption from the CZMA, no stay of the injunction was warranted, because the injunction rested firmly on NEPA grounds.

Stay of injunction pending appeal was not necessary in light of Court of Appeals' sua sponte order expediting appeal.

The Court of Appeals affirmed the district court in finding that the Navy's need for long-planned training exercises without mitigation did not constitute "emergency circumstances" under NEPA, and that the plaintiffs had demonstrated probable success on the merits. The district court also had properly balanced the public interest factors, and hence the preliminary injunction was upheld.

The Court of Appeals partially stayed two of the mitigation measures required in the preliminary injunction for 30 days, unless the Navy petitioned the Supreme Court for review, at which point the partial stay would remain in effect until final resolution by that Court.

Petition for a Writ of Certiorari filed.

Petition for writ of certiorari granted (as
defined by petitioner Winter): (1) “Whether CEQ permissibly construed its own regulation in finding ‘emergency circumstances’”; and (2) “[w]hether, in any event, the preliminary injunction, based on a preliminary finding that the Navy had not satisfied NEPA’s procedural requirements, is inconsistent with established equitable principles limiting discretionary injunctive relief.”

District court’s award of $437,584.24 in attorneys’ fees vacated for reconsideration because fee enhancement was not justified under the Equal Access to Justice Act.

Oral Argument

Supreme Court reverses lower courts, finding that the public interest in national security and the Navy’s need to train clearly outweigh the potential harm to marine mammals, vacating the challenged mitigation measures.

| Cal. Coastal Comm’n v. U.S. Dep’t of the Navy | CZMA Stayed pending resolution of NRDC v. Winter II. | SOCAL exercises |
|-----------------------------------------------|----------------------------------|
| MMPA, NEPA, ESA  
The district court ordered the continuation of the carefully tailored injunction issued under the 2002 Final Rule, requiring additional mitigation measures, on the grounds that the plaintiffs had shown likely violations of all three statutes. | NEPA, CZMA, NMSA, [ESA]  
The district court issued a narrowly tailored preliminary injunction requiring additional mitigation because plaintiffs were likely to  
<p>| The U.S. Navy settled this litigation. “Terms of the settlement mirror those” in the Northern District of California’s February 2008 preliminary injunction. Like the injunction, the settlement allows the Navy to test its sonar in the western and eastern Pacific Ocean but limits those operations to defined areas not likely to harm marine mammals. Testing must be conducted more than fifty nautical miles away from the main islands and is prohibited in both the Hawaii Humpback Whale Marine Sanctuary and Papahanaumokuakea Marine National Monument. In addition, the Navy must reduce decibel levels when near coastlines in the western Pacific. | Navy’s peacetime use of SURTASS LFAS throughout the world pursuant to the 2007 Final Rule. |</p>
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<th>Date</th>
<th>Description</th>
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<tr>
<td>2008 WL 2020406 (D. Haw. May 9, 2008)</td>
<td>The district court modified the original preliminary injunction in part in light of the Navy’s experiences with its March 2008 USWEX.</td>
</tr>
<tr>
<td>2008 WL 2185180 (D. Haw. May 27, 2008)</td>
<td>The district court partially granted the plaintiffs’ motion that NMFS and the Navy be compelled to complete their administrative records.</td>
</tr>
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</table>

show that: (1) the Navy violated NEPA by failing to provide for public comment; (2) the Navy arbitrarily relied on NMFS’s scientifically unsupported noise thresholds in the EAs; (3) the Navy’s alternatives analysis violated NEPA; (4) the Navy acted arbitrarily in failing to prepare an EIS; (5) the Navy violated the CZMA by submitting its negative determinations after the statutory deadline; (6) the Navy arbitrarily relied on its flawed NEPA analysis in issuing its negative determinations under the CZMA; and (7) irreparable harm would occur. However, the court held that the plaintiffs were unlikely to succeed in their NMSA claim because the Navy’s use of MFAS was fully disclosed and considered during the consultation process.
POLICY CONSIDERATIONS AND MEASURES TO REDUCE THE LIKELIHOOD OF VESSEL COLLISIONS WITH GREAT WHALES

JEREMY FIRESTONE*

Abstract: Both globally and along the North American east coast of the Atlantic Ocean, reported ship strikes of great whales have been at historic highs during the past fifteen years. Ship strikes present a particularly grave threat to the North Atlantic right whale, given its severely depleted population status and the fact that right whales live, breed, and raise their young in areas that are heavily used by massive commercial vessels that travel at lethal speeds. Fortunately, decreasing the possibility of lethal strikes is not complicated—seasonally slow down vessels to ten knots and/or re-route them around those areas where right whales are known to aggregate. Here I describe the plight of the right whale and a series of scientific studies that can, and in some instances have, been used to facilitate legally defensible and common sense government measures to protect great whales.

INTRODUCTION

The National Marine Fisheries Service (NMFS), a unit of the National Oceanic and Atmospheric Administration (NOAA) is charged with managing great whale populations. For those species that also are listed under the Endangered Species Act (ESA), NMFS takes on added obligations, including designating critical habitat, developing recovery plans, and reducing incidental take from commercial fishery operations.1 One such species of great whales, the North Atlantic right whale

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(Eubalaena glacialis), which ranges from Florida to the Bay of Fundy in Canada, is endangered throughout its entire range. Historically, their numbers were reduced by whaling, which was once the fifth largest industry in the United States. However, despite the international legal protection from whaling since the 1930s, right whale population remains small, with the population currently estimated at around 350.

Scientific research identifies two prime factors for the inability of the right whale to recover despite its protection from whaling—being struck by commercial vessels and becoming entangled in fishing gear, with vessel collisions alone accounting for more than half of deaths based on necropsies. This is a problem of particular concern given present trends that suggest the species will likely be extinct within two centuries.

In this Paper, I consider the nature of commercial vessel collisions with great whales and actions that regulators are taking and might take
to reduce the incidence and severity of such collisions. Although vessel strikes of great whales is an issue of international concern, in thinking further about this question, I focus on ship strikes of North Atlantic right whales, and more particularly on work that either my colleagues or I have conducted on mitigating encounter probabilities in right whale habitat areas, modeling right whale migration in areas for which data is sparse, and examining the effects of ship speed and mass on the potential collision severity. I am indebted to my colleagues and would direct anyone interested in this topic to search out the primary source material from which this paper is drawn.

I. BACKGROUND ON COLLISIONS

The extent to which ship collisions contribute to mortality presents a challenge to scientists because ship collisions are rarely reported. Instead, scientists must attempt to decipher clues regarding the cause of death during whale necropsies—essentially akin to “whale CSI.” Despite their best efforts, in some instances, the cause of death cannot be determined. Examinations by scientists nevertheless led them to attribute approximately thirty-five percent of all documented right whale deaths from 1970 to 1999 to ship strikes, with the percentage increasing to forty-seven percent during the last ten years of that thirty year period.

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13 Amy R. Knowlton & Scott D. Kraus, Mortality and Serious Injury of Northern Right Whales (Eubalaena glacialis) in the Western North Atlantic Ocean, 2 J. CETACEAN RES. & MGMT. 193, 195 (Special Issue 2001); see David W. Laist et al., Collisions Between Ships and Whales, 17 MARINE MAMMAL SCI. 35, 52–53 (2001). It is worth noting that these threats are not unique to the right whale; fin (Balaenoptera physalus), humpback (Megaptera novaeangliae), and minke
The increased percentage of all right whale deaths attributed to ship strikes over time might be attributed to the fact that the number of commercial vessels has increased three-fold over the past fifty years, with ship size (mass) and speed increasing as well. In fact, the trend of increasing whale deaths from ship strikes over the period 1972 to 2002 appears to follow a several-year lag of increasing numbers of commercial vessels.

Government officials who are tasked with responsibility for right whale protection must be mindful that ship-whale collisions have both geospatial and biophysical components. They must consider not only where interactions are most likely to occur in time and in space, but, in addition, the magnitude of the force of an impact on a whale. In other words, successful management of vessel strikes depends on the ability to understand the risk of an interaction between a vessel and a whale at a given point and time as well as the effects of that interaction. Government officials are essentially left with two possible options to reduce collision fatality risk to right whales—re-route vessels and thereby decrease the probability of a collision and/or impose speed restrictions on vessels to decrease the impact-force should any collision occur.

There are benefits and costs to both re-routing and speed restrictions. From a whale conservation perspective, re-routing is preferred because it decreases the probability of a collision, thus hopefully eliminating collisions that would otherwise occur. If we assume that commercial vessels presently take the shortest path (accounting for depth limitations) from one point to another given additional fuel, labor, and other time costs associated with taking any other path, re-routing would

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(Balaenoptera acutorostrata) whales also are victims of vessel strikes. See Aleria S. Jensen & Gregory K. Silber, U.S. Dep’t of Commerce, NOAA Technical Memorandum NMFS-OPR-25, Large Whale Ship Strike Database 2 (2004), available at http://www.nmfs.noaa.gov/pr/pdfs/shipstrike/lwssdata.pdf; Marine Mammal Stock Assessments, supra note 7, at 140 app. II; Laist et al., supra, at 63 app. I. However, per capita, right whales are most likely to be struck. Vanderlaan & Taggart, supra note 12, at 144–45.

14 See Vanderlaan et al., Probability and Mitigation of Vessel Encounters, supra note 10, at 274.

15 See id. at 282.

result in increased distance and time to reach the same destination. Not only does re-routing have fiscal consequences for vessel owners, it has environmental and human health consequences as the result of the concomitant emission of additional conventional pollutants like particulate matter and SO$_2$ and long-term consequences for the climate, including warming temperatures, sea-level rise, and ocean acidification as a result of greenhouse gas (GHG) emissions. Good policy analysis would consider all of these consequences in any risk tradeoff.

Ship speed restrictions to protect a species likely have particular merit where diversions of commercial vessels are infeasible due to bathymetric constraints such as when a species congregates in close proximity to a port. In those instances, the only other option may be a politically charged ship diversion and port closure. Speed restrictions also have merit when shifting vessel traffic would result in an unacceptable increased risk to another species. Like vessel re-routing, speed restrictions increase costs to commercial vessel operators in terms of labor and other time costs; however, because vessels would travel slower than they would otherwise, they would consume less fuel, thereby saving the ship owner money and decreasing air pollution.

II. BACKGROUND ON RIGHT WHALE HABITAT AREAS AND MIGRATION

Right whales are known to aggregate in five areas—which I refer to as habitat areas. The five areas are Cape Cod Bay, the Great South Channel off of Massachusetts, the winter calving grounds adjacent to the port of Jacksonville, Florida, and two areas in Canadian waters—the Bay of Fundy and Roseway Basin. Surveys have been conducted of right whale populations—right whales are counted by individuals stationed on planes (or ships) that fly aerial transects and the counts are then adjusted for the level of effort (the amount of time employed counting

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18 See Vanderlaan et al., Probability and Mitigation of Vessel Encounters, supra note 10, at 283.
on a given transect). A photographic catalogue of individual right whales, which is feasible given the less than 400 members of the species, and which is based on distinctive markings, features, and unfortunate wounds from fishing gear and ship collisions, is also maintained. Because the foraging and reproductive behaviors of right whales provide scientists with predictable spatial and temporal periods in which to conduct surveys, those surveys in conjunction with the photographic catalogue provide a good understanding of right whale behavior at the species level (aggregations by time of year, pod size, sex, age, and location, etc.) in the five habitat areas.

For example, we know that the southern calving grounds are primarily populated by females, calves, and juveniles—the most important members of an endangered population—during the months of December through March. Unfortunately, much less is known about right whale migration because of the dearth of survey data in migratory zones. This is due in part to budgetary constraints and in part to the difficulties posed in observing migrating whales, as they spend much less time at the surface and cover large distances. Right whales in particular present difficulties because they have no dorsal fin. A lack of knowledge about migration unfortunately has consequences because, for example, more than a quarter of all documented right whale vessel strike mortalities since 1970 have occurred in the mid-Atlantic migratory corridor. That figure, however, vastly understates the risk posed to the population during migration because the population subset that migrates twice yearly through the corridor is comprised disproportion-

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21 See Scott D. Kraus et al., Migration and Calving of Right Whales (Eubalaena glacialis) in the Western North Atlantic, in RIGHT WHALES: PAST AND PRESENT STATUS 139, 141–43 (Robert L. Brownell et al. eds., 1986).


III. Right Whale Migration, Vessel Encounters, and Lethality of Ship Strikes

A. Right Whale Migration

Intuitively, ships and whales are more likely to interact frequently in those areas and times where the density of each is high. The mid-Atlantic is home to many important ports and port complexes (for example, Savannah, Charlestown, Norfolk, Baltimore, the Delaware Bay Port complex, and New York/New Jersey) and coastwise vessel traffic in the mid-Atlantic is uniformly heavy throughout the year. As a result, the relative probability of a vessel collision at a given time and location in the mid-Atlantic is primarily being driven by right whale behavior. Understanding migration thus would be useful in identifying those areas and times in which the probability of a vessel collision may be high. Given the dearth of survey data in the mid-Atlantic corridor (for example, of the 25,259 right whale observations in the dataset, only 126 observations were made during the first half of the year between 32\degree N and 40\degree N latitude, which is the heart of the mid-Atlantic migratory corridor), we attempted to model right whale occurrence temporally and spatially in that corridor.\footnote{Firestone et al., supra note 11, at 223.} Indeed, if statistical models are predictive of actual migration behavior, they can then be used to create appropriate mitigation measures and to guide survey efforts in migratory corridors.

Our modeling indicates that right whales depart the southern calving grounds adjacent to Jacksonville, Florida in early to mid-March.\footnote{Id. at 225, 230.} Right whales in pods containing one or more calves were found to begin their northerly migration several days after right whales in pods without calves.\footnote{See id. at 225, 228.} Given the paucity of data on which the model is built, not surprisingly, the range of departure dates is fairly large—plus or minus fifteen days from the mean departure date.\footnote{Id. at 228.} We also were able to calcu-
late the average travel time from the Florida-Georgia border to the tip of Long Island and found it to be slightly more than twenty days, corresponding to a mean migration/displacement rate of about 1.6 knots (3 km/hr).  

In sum, because the model predicts times of year during which right whales can be expected to be adjacent to mid-Atlantic port entrances, these results provide the basis for port-specific, narrowly tailored, date-range specific speed reductions in the vicinity of those ports.

B. Vessel-Right Whale Encounter Probabilities and Mitigation Measures

As noted above, right whales use five habitat areas. In each area, we obtained effort-correct right whale survey data which reflects relative right whale occurrence and absence. To determine the relative probability of ship occurrence we used ship location data reported by the Voluntary Observing Ships (VOS) as part of the International Comprehensive Ocean-Atmosphere Data Set (ICOADS). ICOADS, which is maintained by NOAA, consists in pertinent part of voluntary reporting by ships of oceanographic and climatic data; however, here, we used the database solely to identify ship type and location. Although participation in the VOS is voluntary and reporting at any given time and location by participating ships is likewise voluntary, the resulting dataset generates reliable estimates of the relative probability of occurrence at any given point and time.

Using advanced geographic information system (GIS) techniques, we examined the encounter probabilities in each of the five habitat areas and the benefits of diverting vessel traffic around the heaviest aggregations of right whales at three of those areas. Although the greatest relative encounter probabilities are found in the Bay of Fundy and the southern calving grounds, the proximity of the southern calving grounds to the entrance to the port of Jacksonville makes it impracticable to reroute vessels around the aggregation of right whales, short of closing

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28 Id. at 230. One knot equals one nautical mile per hour. One nautical mile equals 1.15 miles.

29 Vanderlaan et al., Probability and Mitigation of Vessel Encounters, supra note 10, at 275–76; see also Firestone et al., supra note 11, at 223 (describing method of obtaining effort-corrected survey data from the North Atlantic Consortium’s Sightings Database).


31 See Wang et al., supra note 17, at 194, 198.
that port during the winter months.\footnote{32 See Vanderlaan et al., Probability and Mitigation of Vessel Encounters, supra note 10, at 281, 283.} Thus, speed reductions appear to be the most feasible option for that area. For similar reasons, the same holds true in Cape Cod Bay.\footnote{33 \textit{Id.}} As for the Bay of Fundy,\footnote{34 In late 2002, the International Maritime Organization (IMO) adopted an amended traffic-separation scheme for vessel traffic in the Bay of Fundy for the purpose of decreasing the likelihood of vessel encounters with right whales. See Int’l Maritime Org.[IMO], New and Amended Traffic Separation Schemes, at Annex 5, IMO Doc. COLREG.2/Circ.52 (Jan. 6, 2003), available at http://www.imo.org/includes/blastDataOnly.asp/data_id%3D6679/52.pdf; Canadian Whale Institute, Bay of Fundy Shipping Lanes, http://rightwhale.ca/shippinglanes-routesnavigation_e.php (last visited Mar. 24, 2009). Our work, which is based on pre-amendment traffic data, supports the decision to change the traffic routes, which was based on our collaborator Christopher Taggart’s earlier work using different ship data. See Vanderlaan et al., Reducing the Risk of Lethal Encounters, supra note 10, at 288, 290; see also Canadian Whale Institute, \textit{supra} (citing Dr. Christopher Taggart’s probability analyses as an impetus for changing the traffic routes).} Roseway Basin,\footnote{35 In 2007, the IMO designated the Roseway Basin as a recommended “Area to be Avoided” from June 1 until December 31 of each year. IMO, Routeing Measures Other Than Traffic Separation Schemes, 9–10, IMO Doc. SN.1/Circ.263 (Oct. 23, 2007), available at http://www.imo.org/includes/blastDataOnly.asp/data_id%3D20339/263.pdf. This decision was implemented by Transport Canada on June 1, 2008. Press Release, Transport Canada, Roseway Basin (June 18, 2008), available at http://www.tc.gc.ca/mediaroom/releases/atl/2008/08-a004e.htm.} and the Great South Channel,\footnote{36 In December 2008, the IMO designated the Great South Channel as a recommended seasonal Area to be Avoided. IMO, Routeing Measures other than Traffic Separation Schemes, Ref. T2-OSS/2.7.1, SN.1/Circ.272 (10 Dec. 2008), available at http://www.nero.noaa.gov/shipstrike/doc/GSC_ATBA_IMO_circular.pdf.} shifting vessels decreases the absolute probability of a vessel encounter—defined as a vessel in the same five-minute\footnote{37 Each degree of latitude and longitude is divided into sixty minutes.} latitude-longitude box—by eighty-two percent, eighty-five percent, and thirty-six percent, respectively.\footnote{38 Vanderlaan et al., Probability and Mitigation of Vessel Encounters, supra note 10, at 282; James J. Corbett et al., Presentation at the 2007 North Atlantic Right Whale Consortium Meeting, Estimating Encounter Probabilities: Comparative Quantitative Estimates of Decreased Encounter Probabilities in the Right Whale Habitat Through Shifting of Vessel Traffic (Oct. 25, 2007) (unpublished presentation, on file with author). These percentages are contingent both on the ship data set employed and on the domain over which vessels are shifted. See Vanderlaan et al., Reducing the Risk of Lethal Encounters, supra note 10, at 290. For example, while we found an 85% decrease in the Bay of Fundy, our collaborators found a similar 90%±4.2% decrease in the relative probability of a vessel collision in the “whale conservation area” in the Bay of Fundy from shifting the lanes, but only a 40% decrease when they considered the movement of vessels over a larger domain, accounting for the entire shift of the traffic separation scheme. See \textit{id}.} Although it might appear that shifting vessels in the Great South Channel would result in substantially smaller benefits than in the Roseway Basin, the Great South Channel covers a much larger area and importantly has approximately twenty
times the number of ship-whale encounters than occur in the Roseway Basin. On the other hand, being a relatively confined area, the entire commercial fleet could divert around Roseway Basin with only minor inconvenience (an additional eight to thirty kilometers depending on the initial route of the ship). In contrast, the route we proposed for the Great South Channel, at approximately 259 nautical miles (about 480 km) is considerably longer than the existing route of approximately 188 nautical miles (about 348 km). For a container ship traveling at a speed of twenty knots that Great South Channel diversion would translate into slightly more than three and a half hours. For tankers, general cargo ships, or bulk carriers, which travel at a speed closer to thirteen knots, re-routing would add five and a half hours.

C. The Effects of Ship Speed and Mass on Collision Severity

Lastly, we examined how ship speed and mass affect collision severity using historical worldwide data on ship strikes of large whales. The data include the mass and speed of vessels that have collided with whales and the outcome of the collision—no injury, minor injury, severe injury, or death. Using equations from basic physics on the momentum forces that prevail when two moving bodies collide, we were able to plot the collision impact-force against the probability of death. From that, we were able to determine that a whale struck by a large commercial vessel (greater than 5000 dead weight tons) that is traveling at speeds of eighteen knots or greater is likely to have lethal injuries, while a collision with a vessel traveling at ten knots is likely to be non-lethal.

We also were able to determine that for a smaller ship—one with a mass of approximately 500 metric tons or less—its mass is as or more important than its speed in determining its potential impact-force. On the other hand, when a ship is greater than 500 metric tons, the speed it is travelling dominates the impact-force equation.

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39 Corbett et al., supra note 38. The Bay of Fundy has thirty-five percent more encounters than the Great South Channel. Id.
40 Vanderlaan et al., Probability and Mitigation of Vessel Encounters, supra note 10, at 282, 284. We chose the Great South Channel route based on bathymetric constraints, a desire to minimize right whale encounters, and because it followed to the extent possible existing vessel traffic patterns. Id.
41 See generally Wang et al., supra note 12.
42 Id. at 14.
43 Id. at 11.
44 Id.
speed represents the most important variable to control if policymakers seek to reduce the potential impact-force of commercial vessels—and in any event, it is not realistic to change ship mass—and hence the lethality of those vessels to large whales.

**Discussion and Conclusion**

Both globally and along the North American east coast of the Atlantic Ocean, reported strikes of great whales have been at historic highs over the past fifteen years. Ship strikes present a particularly grave threat to the North Atlantic right whale, given its severely depleted population status and the fact that right whales live, breed, and raise their young in areas that are heavily used by massive commercial vessels that move at lethal speeds. Fortunately, decreasing the possibility of lethal strikes is not complicated—slow vessels down to ten knots and/or re-route them around those areas where right whales are known to aggregate. As I have described above, scientific methods based on probability theory, spatial analysis, physics, and statistics can, and in some instances have, been used to facilitate legally defensible and common sense government measures to protect great whales.

At least in those instances where policy measures—such as the route adjustments in the Bay of Fundy and Roseway Basin—result in little additional cost and inconvenience to the shipping industry, it has enthusiastically supported approaches that will unquestionably lead to the decrease in the probability of ship strikes. The Bush administration moved much more slowly than Canadian officials to implement binding measures in U.S. waters. Although the Bush administration first considered promulgating a speed-reduction rule in 2004, it was not until the waning days of the administration in late 2008 that speed restrictions were imposed. One might surmise that the Bush administration’s “go slow” approach to rulemaking was influenced by concerns raised by the commercial vessel industry because “go slow” restrictions would have a much greater effect on vessel operators. Notably, when the rule was finally promulgated, the industry did not stand in its way, although it did receive a number of concessions. In principal part, the rule has established seasonal speed restrictions in four areas

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defined by latitude and longitude: the southern calving grounds, Cape Cod Bay, the Great South Channel, and off of Race Point, which is to the north and east of Cape Cod.\textsuperscript{47} In addition, speed restrictions will apply in the mid-Atlantic, but unlike the proposed rule, will only extend twenty nautical miles from the coast.\textsuperscript{48} The rule also calls for voluntary speed restrictions in other areas when right whale aggregations are found; this voluntary call also was a step back from what had been mandatory in the proposed rule.\textsuperscript{49} Perhaps the most important change over that which was proposed was the inclusion of a sunset provision, with the rule now expiring after five years.\textsuperscript{50} That leaves it to future administrations to see whether they too can demonstrate the courage to protect the right whale.

\textsuperscript{47} Id. at 60,187–88.
\textsuperscript{48} Id. at 60,178–79, 60,187–88.
\textsuperscript{49} See id. at 60,180, 60,186.
\textsuperscript{50} Id. at 60,188.
WHALES, WHALING, AND THE WARMING OCEANS

ALISON RIESER*

Abstract: In its first campaign of ocean diplomacy for the twenty-first century, the United States is trying to save the international whaling regime from breaking apart over the issue of commercial whaling. On the assumption that a reformed whaling regime could address the challenges whales face due to global warming, negotiators have come closer to a compromise than any previous attempt. But any effort to maintain a role for the International Whaling Commission (IWC) must not undermine the application by other regimes of new international norms, which include protecting the integrity and resilience of marine ecosystems. A compromise that does not repudiate the “whales-eat-our-fish” notion underlying the IWC’s current view of the ecosystem approach will hinder progress in other ocean governance institutions whose need for reform greatly surpasses that of the IWC.

Introduction

The great whales have long been a symbol of humanity’s relationship to the oceans. In the nineteenth century, whales were the object of the first industrial fishery, and were hunted nearly to extinction. After World War II, two decades of unrestrained factory-ship whaling in the Antarctic decimated the few populations the Yankee whaling ships had been unable to reach. The whales’ survival then became a symbol of the early environmental movement of the late twentieth century. The slogan “save the whales” was a call to arms to save the planet from humanity’s folly. Now, in the twenty-first century, whales are sentinels for the large-scale changes that global warming and ocean industrialization are bringing to the seas. They have also become a symbol of human-

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1 See generally Andrew Darby, Harpoon into the Heart of Whaling (2008).

kind’s inability to find common ground and cooperate to protect the
global environment.³

When nations agreed to a worldwide moratorium on the hunting
of whales in the early 1980s, they fulfilled a central goal of the 1972
U.N. Conference on the Environment in Stockholm.⁴ But the conser-
vation movement behind the moratorium was never able to resolve a
basic question: should whaling be banned permanently or, if and when
whale populations recover, should they again be hunted for “sustain-
able use”? As the climate crisis brings unprecedented changes to spe-
cies, ecosystems, and the access of different peoples to the Earth’s re-
sources, this unresolved question overshadows and undermines
institutions we have with which to address these changes.

In its first major undertaking in ocean diplomacy of the twenty-first
century, the United States began a campaign to save one of the oldest
elements of the public order of the oceans, the international regime
for the regulation of whaling. The deliberations of the International
Whaling Commission (IWC), the management body created by treaty
in 1946, have deteriorated into an annual confrontation between the
proponents of conflicting values: biodiversity preservation versus con-
sumptive use of marine wildlife. The whaling regime has been verging
on dissolution over the issue of commercial whaling for almost two
decades. While this existential struggle has been waged, some state par-
ties to the regime have sought quietly to turn its attention to the chal-
lenges cetaceans face from climate change, to position the IWC to en-
gage with other international regimes to ensure whales survive the
coming changes.⁵

U.S. whaling diplomacy appears to assume that the international
regime for whale conservation is worth saving; an accommodation that
removes the commercial whaling issue from the IWC’s agenda will free


⁴ Carlarne, supra note 3, at 7.

that body to address the numerous environmental challenges that cetaceans face today, from climate change and marine pollution to collisions with vessels and fishing gear.\(^6\) In this optimistic view, the IWC could become the keystone species in the “ecosystem” of international ocean institutions.\(^7\) However, the norms that underlie ocean governance in the twenty-first century have been forged in an era of resource scarcity, declining ocean health, and recognition of the interdependence of governance institutions across temporal and spatial scales. Collectively referred to as the precautionary and ecosystem approaches, these principles and norms are almost diametrically opposed to those that underlie the 1946 International Convention on the Regulation of Whaling (ICRW), the IWC’s constitutive document.\(^8\)

For the last decade, one contracting government to the IWC—Japan—has presented legal and scientific arguments for lifting the moratorium on commercial whaling. Stressing the need for adherence to international law, this State relies upon the text of the ICRW to reinforce its view that ecosystem-based management of oceans prioritizes human needs.\(^9\) As long as the ICRW remains in force, Japan is likely to continue to rely upon that treaty’s approval of consumptive use of whales to support its view that whaling must be allowed as “sustainable

\(^6\) In 2007, a coalition of non-governmental organizations (NGOs) mounted a campaign to convince President George W. Bush to direct his administration to do everything it could to continue the global moratorium on the hunting of whales. By the time the campaign was launched, however, the chief U.S. official responsible for international whaling policy had already begun a campaign to broker a compromise to preserve the IWC and to keep the pro-whaling countries from abrogating the International Convention for the Regulation of Whaling. The NGO coalition feared that U.S. delegates were so intent on reaching a compromise with pro-whaling nations that they may be tempted to agree to a new type of whaling, that of “small type coastal whaling” by vessels in Japan and Norway. See International Whaling Commission: Hearing Before the Subcomm. on Fisheries, Wildlife and Oceans of the H. Comm. on Natural Resources, 110th Congress (2008) (statement of Patrick R. Ramage, Global Whale Program Director, International Fund for Animal Welfare). U.S. diplomats believe the global whaling regime, based upon the ICRW, although dysfunctional for the past two decades, should be preserved, and that over time the treaty can be amended or finessed to allow the IWC to contribute to the conservation and management of cetaceans and other marine mammals. See International Whaling Commission: Hearing Before the Subcomm. on Fisheries, Wildlife and Oceans of the H. Comm. on Natural Resources, 110th Congress (2008) [hereinafter Hogarth Statement] (statement of William T. Hogarth, U.S. Comm’r, International Whaling Commission).

\(^7\) IWC 60th Annual Meeting, supra note 3, at 6 (explaining that uncertainties about the state of marine ecosystems represent an opportunity to position the IWC as a “flagship organization in ocean diplomacy and science-based conservation and management”).


use.” But as long as a majority of other parties to the treaty reject this view, Japan is likely to continue to misuse the treaty’s special permit provisions to support a growing consumptive take of whales and to characterize that unilateral “harvest” as science- and ecosystem-based management. It is not clear that a diplomatic agreement to put aside debates over commercial or “scientific” whaling—or anything short of international adjudication—will be sufficient to prevent these legal and scientific claims from detracting from the ability of other ocean regimes to apply a truly precautionary and ecosystem approach to governance.

Over the course of the last two decades, during which the collapse of the international whaling regime has been imminent, our understanding of marine ecosystems and how human activities affect them has advanced. Ocean governance institutions have been slow to incorporate this knowledge, choosing instead to focus on maximizing the extraction of marine wildlife for human consumption and appropriating ocean space and minerals for human use. The need for reform of these institutions greatly surpasses the need for reform of the whaling regime, especially in light of climate change and its impacts on ecosystems. Any effort to maintain a role for the IWC in ocean governance must be part of the overall transformation of ocean institutions to precaution- and ecosystem-based management that emphasizes resource protection over exploitation. Otherwise, such effort risks being judged as the diplomatic equivalent of fiddling while Rome is burning.

This Article begins with a brief review of the long-range challenges facing whales in light of ocean warming and what whales require from international governance. It then considers the recent efforts to reform the IWC and the premise that it could, if the moratorium stalemate

10 Id. at 804.
12 See, e.g., Carl Safina & Dane H. Klinger, Collapse of Bluefin Tuna in the Western Atlantic, 22 Conservation Biology 243, 243–44 (2008). The collapse of the bluefin tuna is only one of many examples of management failure, where scientific advice is ignored due to industrial lobbying, inability of parties to agree on common goals for shared resources, and interference with management by elected officials on behalf of their industrial constituencies. See id. at 245.
13 The whaling industry was the first industrial fishery in the world, and its history should inform all policies on what the role of industrial fisheries should be in the new realities of altered marine ecosystems, global warming, and decreasing food and health security of coastal communities affected by global warming. If whaling were still being carried out by several nations, the IWC would be the most notoriously ineffective regional fishery management body. Instead, in view of the moratorium and the impending collapse of the Atlantic bluefin tuna, that honor would likely be bestowed upon the International Commission for the Conservation of Atlantic Tunas. See id. at 243.
were resolved, contribute to the protection of marine ecosystems that whales depend on as they face the unprecedented challenge of global climate change. A particularly troubling aspect of the current reform discussions is the assertion that “normalization” of the regime is in fact consistent with an ecosystem approach, the emerging norm of international environmental governance. This rationale happens to coincide with the latest rationale the pro-whaling nations give for restarting commercial whaling, that culling top predators is needed in order to secure human food supplies. A brief look at the management regime for the burgeoning Antarctic krill fishery tests the premise that the IWC can function as an advocate for the whales to ensure other ocean regimes protect their ecosystems on a precautionary basis.

I. Long-Term Threats to Cetaceans

A 2008 study published in the journal *Science* reveals the magnitude of the human footprint on the oceans.\(^{14}\) Few, if any, areas of the oceans are free from human impacts.\(^{15}\) These impacts reduce the amount of habitat suitable for whales to live in, challenging their ability to recover from the factory-whaling era. For example, shipping noise in the ocean increases exponentially with each decade, degrading the underwater acoustic environment whales depend on for communicating and locating prey.\(^{16}\) Noise pollution may force whales out of the habitat where they are most likely to find prey, even as those prey fields are changing in response to ocean warming, further reducing the likelihood of population recovery.\(^{17}\)

Ship strikes, entanglement in fishing gear, and ecological interactions with fisheries pose additional challenges to whales. The number of cetaceans that die or are weakened by these forms of habitat degradation vastly outnumber the number of whales deliberately killed by whaling.\(^{18}\) The North Atlantic right whale (*Eubalaena glacialis*), for ex-

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\(^{15}\) See id. at 950 fig.2.

\(^{16}\) See O’Shea & Odell, supra note 2, at 531.

\(^{17}\) See Peter L. Tyack, *Implications for Marine Mammals of Large-Scale Changes in the Marine Acoustic Environment*, 89 J. Mammalogy 549, 554–55 (2008). Tyack estimates that certain noises, like military and commercial sonar and seismic exploration, are especially damaging and could have a population-level effect equivalent to an increase in predation, that is, to a commercial whaling quota. See id. at 555.

ample, occupies a greatly contracted range along the eastern seaboard of North America, and its population numbers in the few hundreds.  

Right whales use their baleen to strain large quantities of the copepod *Calanus finmarchicus* from the water.  

Mother whales and their calves migrate along the coast from the calving grounds off Georgia and Florida to find the dense swarms near Cape Cod and the Bay of Fundy in the spring and summer.  

These migrations, however, take them through some of the world’s busiest shipping lanes and densest fields of stationary fishing gear, including millions of lobster traps and their associated lines and buoys.  

At least eighteen right whales from a population of about 350 have been lost to the slow death from gear-entanglement injuries since 1986.  

Since 1970, another twenty-four right whales have been killed by ship strikes.  

As shipping intensifies with global trade, the percentage of unnatural mortality of great whales that is due to shipping is likely to grow.  

The human race’s competition with whales for ocean space may soon be joined by its competition with whales for prey. Although there is currently no commercial fishery for *Calanus finmarchicus*, Norwegian
companies are developing a *Calanus* fishery in the Barents Sea to produce fish meal for salmon farms. Given the common pattern of boom-and-bust fishing from one species to another down the marine food web, and the growing demand for sea-farmed salmon, it is not inconceivable that a similar fishery could develop in the Gulf of Maine. Furthermore, a *Calanus* fishery in the Eastern North Atlantic could affect the current-driven supply of copepods to U.S. waters. On the other side of the world, the fishery for Antarctic krill (*Euphausia superba*), the most important prey species in the Southern Ocean ecosystem, is on the verge of a major expansion, just as krill populations are decreasing, likely in response to climate change.

The greatest long-term threat to the North Atlantic right whale and all cetaceans, however, is the synergistic effect of climate change with these sources of habitat alteration. Warming oceans will alter the conditions that make life in the oceans possible for whales, through acidification, changing oceanographic conditions, reduction in habitat for prey species, and changes to processes upon which marine ecosystems depend. Migratory species like whales may be required to travel greater distances to find areas where large quantities of their prey species aggregate. Greater travel distances will affect the energetics of whales and could affect mating and reproductive success.


30 See generally Burns, supra note 5.

Acidification may make some species less abundant, especially the invertebrates that whales and other marine life consume. Like the reef-building corals—corals that use carbonate to build their colonies—these prey species may find fewer carbonate ions with which to build their shells as the oceans absorb more and more carbon dioxide from the atmosphere and ocean pH decreases. This reduced availability of carbonate will be especially pronounced in the cold Arctic and Antarctic waters where many cetaceans live. Beaked and sperm whales may find fewer squids as those species decline in acidified oceans.

Climate change is especially challenging for whale species that are already at greatly reduced population levels. Calanus, the right...
The ability of cetaceans to adapt to warming-induced changes in the ocean may depend on whether we can improve the quality of their environments and thus enhance their resilience. This requires that we use our governance institutions to reduce human-caused mortality from pollution, ship strikes, fishing-gear entanglement, and ocean noise, and the reduced health of individuals and populations that these conditions can lead to. Global, regional, and national institutions that govern fisheries must take seriously the emerging norms requiring precaution and an ecosystem approach. Merely paying them lip service through non-binding resolutions and action plans will not be enough.

Unfortunately, while many cetacean species face increasing urbanization of the coastal and offshore waters they utilize for migration and calving, the willingness of shipping, fishing and other marine industries, and the military to alter their practices to reduce these threats is

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from ship strikes and entanglement in fishing gear exceed the population growth rate and increase the likelihood of the species’ extinction. See id. at 30. If mortality from these sources stays at current levels or increases, mother whales will not be able to explore and find the new places and timing of blooms of their zooplankton prey and pass on the knowledge of new feeding areas to their young. See id. at 30–31.

37 Id. at 31 fig.2.


39 Eliminating mortality from these immediate anthropogenic threats will increase the number of mother-and-calf pairs that may stray into areas where they will encounter the new locations of Calanus and learn how to find them again. See Kenney, supra note 28, at 453.

40 Elliott, supra note 33, at 10.

41 See id. at 5.

42 See Currie, supra note 8, at 50.
not keeping pace, and institutions are not changing fast enough to re-
quire them to do so.\textsuperscript{43}

This institutional failure is particularly apparent with respect to
marine fisheries. While the oceans are being urbanized by a host of
other industries,\textsuperscript{44} fishing fleets have functioned as “roving bandits,”
responding to global markets and seafood demand with sequential de-
pletion of virtually all marine resources, starting with the large preda-
tory fish and moving down through the marine food web to successively
lower trophic levels.\textsuperscript{45} Because many nations and international man-
agement bodies have not managed industrial fisheries effectively, fish
populations around the world have been depleted.\textsuperscript{46} Collectively, we
have removed both large quantities of fish and entire trophic levels.\textsuperscript{47}

The great whales were the first species to fall victim to the “roving bandits” phenomenon, and the IWC was the first ineffective fishery
management body.\textsuperscript{48} Member states used the IWC as a whalers’ club

shipping to and from U.S. ports when right whales are present, first proposed in 2006,
were published in late 2008. Final Rule to Implement Speed Restrictions to Reduce the
Threat of Ship Collisions with North Atlantic Right Whales, 73 Fed. Reg. 60,173 (Oct. 10,
restrictions on the use of sonar in military exercises to prevent damage to whales was vin-
365, 381 (2008) (invalidating lower court injunction imposing mitigation measures on
Navy sonar exercises to protect whales for giving inadequate weight to military readiness
needs).

\textsuperscript{44} See, e.g., Rachael E. Salcido, \textit{Offshore Federalism and Ocean Industrialization}, 82 Tul. L.
REV. 1355, 1356 (2008).

\textsuperscript{45} F. Berkes et al., \textit{Globalization, Roving Bandits, and Marine Resources}, 311 SCIENCE 1557,

available at ftp://ftp.fao.org/docrep/fao/009/a0699e/a0699e.pdf. The United Nations’ Food and Agriculture Organization (FAO) estimates that
in 2005, twenty-five percent of the world’s marine fisheries (the ones that rely on capturing
wild stocks) were overexploited, depleted, or recovering from depletion; fifty-two percent
were fully exploited; twenty percent were moderately exploited; and three percent were
underexploited. \textit{Id}.

\textsuperscript{47} See Ransom A. Myers & Boris Worm, \textit{Rapid Worldwide Depletion of Predatory Fish Com-
munities}, 423 NATURE 280, 282 (2003) (noting that in a fifteen-year period following World
War II, industrialized fisheries removed eighty percent of large predatory fish communities
across a wide range of ecosystems). Many marine ecosystems have experienced a decline in
the average trophic level of fish catches over the past fifty years, a sign that “fishing down
marine food webs” is occurring. Pauly et al., supra note 27, at 860.

\textsuperscript{48} The history of the IWC’s management of the whaling industry has been recounted
and analyzed from various perspectives. See, e.g., Patricia Birnie, \textit{International Regu-
lation of Whaling: From Conservation of Whaling to Conservation of Whales
and Regulation of Whale-Watching} 1–12 (1985); Phillip J. Clapham & C. Scott Baker,
rather than a mechanism to constrain their factory whaling fleets and protect whale populations as called for in the whaling treaty. Acting together through the IWC, these fishing states set a precedent for international neglect in managing industrial fisheries that continues to this day at virtually all international fisheries bodies, a pattern of disregarding scientific evidence that catch rates are unsustainable and affording the industrial fishing sector a degree of political access and success disproportionate to its economic and social value.\textsuperscript{49}

Even if commercial whaling does not recommence, whales will continue to be affected by roving-bandit fishing fleets through their serial depletion of marine wildlife and the resulting ecological impacts of fishing that are making ecosystems less resilient in the face of ocean warming.\textsuperscript{50} To protect whales and other marine life from this fate, ocean governance institutions must begin to focus on the impact of ocean warming on whales’ habitat and prey, to ratchet down fishing pressure on ecosystems, and to prevent new fisheries from developing that will compound the ecological challenges.

New fisheries for prey species that are critical to the functioning of marine food webs and ecosystems should be subject to the most precautionary and ecosystem-based approach. Krill and copepod harvesting, for example, are already increasing with the development of new technologies and new products.\textsuperscript{51} These methods allow for the continuous extraction and near-simultaneous processing by very large fishing trawlers built by companies that manufacture feeds for salmon and other finfish aquaculture, and products for the burgeoning consumer health products market.\textsuperscript{52} As these new industries grow, the demands

\textit{Modern Whaling, in Encyclopedia of Marine Mammals, supra note 19, at 1328, 1328–32; Michael Heazle, Scientific Uncertainty and the International Whaling Commission: An Alternative Perspective on the Use of Science in Policy Making, 28 Marine Pol’y 361, 361–74 (2004); see also Carlarne, supra note 3, at 7 (noting that the IWC has undergone a normative transition from a “whaling club” to an agent of conservation).}


\textsuperscript{52} See Gascon & Werner, supra note 29, at 16; see also infra text accompanying notes 122–29. Aker BioMarine, the company operating the new vessel technology in Atlantic sector of the Southern Ocean has applied for eco-labeling certification from the Marine Stewardship Council. Press Release, Marine Stewardship Council (MSC), Antarctic Krill
placed upon the oceans will grow even greater, just as whales need to adapt to the reduced abundance and changing spatial distribution brought about by ocean warming.\footnote{See supra text accompanying notes 29–32.} Fisheries for species that are prey for whales and other marine predators—for example, seabirds, sharks, and polar bears—are especially in need of a new norm for management, one based on estimates of the health of the entire ecosystem and not just the size of the exploitable biomass of the prey species.

II. New Ocean Governance Norms and the International Whaling Regime

Given the realities of a warming ocean and its projected ecological impacts, how likely are ocean governance bodies to break with past practice and begin to apply precaution- and ecosystem-based approaches to their mandates? More specifically, would resolution of the commercial whaling stalemate free the International Whaling Commission (IWC) to promote ecosystem-based management of fisheries and other ocean industries to improve the prospects for cetaceans? To consider this question we must take a closer look at the ecological arguments that have been made in the context of the whaling stalemate, including the rationale that pro-whaling member states give for seeking a resumption of whaling.\footnote{See discussion infra notes 93–96.} This shows, unfortunately, that the IWC’s current characterization of the “ecosystem approach” is widely divergent from the emerging norm in international environmental law. It is therefore difficult to envision the IWC regime as an effective ambassador for cetaceans and their ecological requirements in other international governance bodies, especially those involving fisheries. In management decisions for the growing Antarctic krill fishery, for example, if the IWC’s contribution reflects the whaling regime’s view of the ecosystem approach, this will lay a very poor foundation for governing fisheries and other activities in the Southern Ocean.

A. The Law of the Sea and the Emerging Norms of Precaution and Ecosystem-Based Management

The Law of the Sea Convention created a new framework for ocean governance that sought to balance the interests of coastal states
with broader community interests in the utilization of ocean space and resources.\textsuperscript{55} Although it was negotiated before there was widespread recognition of climate change and the need for a precautionary, ecosystem approach, instruments negotiated since the Convention’s entry into force adapt the Convention’s framework principles to the current realities. The United Nations Fish Stocks Agreement of 1995, for example, acknowledges the limitations of the Convention’s “optimum use” paradigm for living marine resources. It codifies a precautionary approach in setting allowable catches and recognizes the impact of fishing on the health of the marine ecosystem.\textsuperscript{56} Other instruments go even farther in making ecosystem health the central goal of international cooperation.\textsuperscript{57}

Characterized as an “implementing agreement,” the 1995 Agreement directs nations that fish on the high seas to join and cooperate with regional ocean governance bodies.\textsuperscript{58} These bodies in turn must set fish conservation measures that take into account the needs of ecologically associated and dependent species and protect the marine environment from adverse fishing impacts.\textsuperscript{59} The Agreement was the first international fisheries treaty to recognize the need to protect marine biological diversity.\textsuperscript{60} It also borrowed some of the elements of the ecosystem approach to fisheries that was written into the fisheries treaty for the Southern Ocean under the Antarctic treaty system known as


\textsuperscript{56} Agreement for the Implementation of the Provisions of the United Nations Convention on the Law of the Sea of 10 December 1982 Relating to the Conservation and Management of Straddling Fish Stocks and Highly Migratory Fish Stocks, pmbl., \emph{opened for signature} Dec. 4, 1995, 34 I.L.M. 1542 [hereinafter U.N. Fish Stocks Agreement]. The Agreement fleshed out the obligations of fishing states with respect to certain high seas fish stocks. See Alison Rieser, \emph{International Fisheries Law, Overfishing and Marine Biodiversity}, 9 Geo. Int’l. Envtl. L. Rev. 251, 268–74 (1997). The U.N. Convention on the Law of the Sea guarantees the right of all nations to fish on the high seas as long as they cooperate in the conservation of fish. See UNCLOS, supra note 55, art. 116, at 441. Furthermore, articles 61 and 62 encourage coastal nations to make the fish stocks in their 200-mile EEZs available to foreign fishing fleets if the local population does not have the capacity to harvest the entire surplus of fish, determined in the process of setting total allowable catch levels. Id. at 420–22. The coastal nation has a duty to ensure “optimum utilization” of the fish stocks in its EEZ. Id. art. 62, at 421. States that fish on the high seas have a duty to cooperate in taking measures to ensure the conservation of high seas fish stocks that are highly migratory or that straddle the high seas and the EEZ pursuant to articles 63 and 64, respectively. Id. at 422–23.

\textsuperscript{57} See Currie, supra note 8, at 45–47.

\textsuperscript{58} U.N. Fish Stocks Agreement, supra note 56, art. 8, at 1553–54.

\textsuperscript{59} Id. art. 9, at 1554–55.

\textsuperscript{60} Rieser, supra note 56, at 268.
Most notably, the 1995 Agreement broke with the standard risk-prone approach of single-species management to require a precautionary approach in setting target and limit fisheries rates and biomass levels.

While generally-agreed-upon guidelines for implementing an ecosystem-based management of marine systems are lacking, there is consensus that the approach contains a number of elements that are not common in conventional fisheries management. Under an ecosystem approach, management is based on the properties of the relevant ecosystem rather than on the population dynamics of a single target species. Rather than “maximum sustainable yield,” the goal of the ecosystem approach is to maintain the structure and function of ecosystems, including their biodiversity and value as habitat.

In exploiting a fish species, measures are adopted to prevent fishing from adversely affecting populations of multiple species and their trophic interactions, including predator-prey relationships. In addition to CCAMLR, the ecosystem approach is reflected in a number of multilateral environmental agreements, including the 1992 Convention on Biological Diversity, the Rio Declaration and Agenda 21, the Madrid Protocol, and the Convention on Migratory Species.

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61 Gascon & Werner, supra note 29, at 14; see Convention on the Conservation of Antarctic Marine Living Resources art. II, ¶ 3(c), art. IX, ¶ 2(i), May 20, 1980, 19 I.L.M. 841 [hereinafter CCAMLR]. Its members include Argentina, Australia, Belgium, Brazil, Chile, European Community, France, Germany, India, Italy, Japan, Republic of Korea, New Zealand, Norway, Poland, Russia, South Africa, Spain, Sweden, Ukraine, United Kingdom, United States, and Uruguay.

62 See Rieser, supra note 56, at 274. With respect to marine mammals, however, the Law of the Sea Convention does more than require international cooperation and precautionary management. It states that marine mammals are not subject to the principle of “optimum utilization” and coastal nations, which have sovereign rights over marine mammals within their waters, are free to fully protect the whales in their EEZs and territorial waters. UNCLOS, supra note 55, art. 65, at 423. On the high seas, nations are obliged to cooperate through international bodies for the study, conservation and management of marine mammals. Again, they are free not to use the optimum utilization norm but to adopt a regime of total protection. Id. arts. 64, 120, at 423, 442. These last two provisions do not necessarily require that nations act through the International Whaling Commission; they could cooperate through another body, either existing or one that they bring into being through another instrument. See William T. Burke, A New Whaling Agreement and International Law, in Toward a Sustainable Whaling Regime 51, 55 (Robert L. Friedheim ed., 2001).


Despite the normative advances of the 1995 U.N. Fish Stocks Agreement, the regional fisheries bodies have been very slow to adopt the new approaches, and fisheries managers have not yet developed widely agreed-upon guidelines.\(^6^5\) Even CCAMLR, with its explicit ecosystem objective and management boundary (based on the Antarctic Convergence), is making very limited progress, especially in the ecologically significant krill fishery.\(^6^6\)

B. The Impact of the Whaling Regime Stalemate on the Ecosystem Approach

As many commentators have noted, the mission and majority changed at the IWC in the early 1980s.\(^6^7\) Long considered a whalers’ club, it had seemingly presided over the demise of one whale stock after another. After the Stockholm conference on the environment (UNCED) in 1972 at which a nearly unanimous vote supported a global moratorium on whaling, the IWC began to entertain resolutions reducing the catch limits to zero. Several zero quotas were adopted as whale stocks fell to levels approaching extinction. The United States delegation, spurred on by environmental groups and the congressional policies of the Marine Mammal Protection Act of 1972, began introducing resolutions and campaigning for a total cessation of all whaling.\(^6^8\) In 1974, the United States reluctantly accepted the Australian government’s proposal that instead of a global moratorium, the IWC adopt a New Management Procedure, under which quotas would be set on a species-specific basis and would be driven by science rather than by the demands of the whaling industries of member states.\(^6^9\)

After several years in which new members were encouraged to join the IWC in order to support the moratorium, enough votes were present to achieve the three-fourths majority needed. In 1982, the IWC member states adopted a moratorium on all commercial whaling—in the form of a zero-catch quota for all whale species—effective in the 1986–87 season.\(^7^0\) Although several countries immediately announced

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\(^{66}\) See Gascon & Werner, supra note 29, at 15.

\(^{67}\) For an extended examination of the changing role of the IWC, see generally Burke, supra note 62.

\(^{68}\) Hogarth Statement, supra note 6.

\(^{69}\) Id.; see also Carlarne, supra note 3, at 7.

\(^{70}\) Id.
an objection to the resolution, all but Norway were persuaded to with- 
draw their objections.\textsuperscript{71}

Japan was persuaded by the United States to withdraw its objection 
to the moratorium through an agreement with the U.S. Department of 
Commerce.\textsuperscript{72} That same year, however, Japan announced that it was 
beginning a program of scientific research that would require lethal takes 
of whales in the North Pacific and in the Antarctic.\textsuperscript{73} This program pro-
vided a means of getting around the moratorium, using the chief ra-
tionale for the moratorium as justification: uncertainty surrounding esti-
mates of whale population levels makes it difficult to regulate their 
hunting effectively.\textsuperscript{74} Japan asserted that its research would improve the 
understanding of certain cetacean species’ population dynamics so that 
sustainable catch limits could be defined.\textsuperscript{75} The improved information 
could be used by the IWC in the Revised Management Procedure, which 
its Scientific Committee developed in order to set precautionary catch 
limits, and which the IWC formally adopted in 1994.\textsuperscript{76}

Rejecting this carefully crafted rationale, the United States and 
other IWC member states have consistently opposed the scientific whal-


\textsuperscript{72} Murphy, supra note 71, at 150 & n.10. In exchange for its withdrawal, the executive 
branch agreed to abstain from certifying Japan as a country whose actions undermined the 
decisions of international conservation bodies, potentially triggering an embargo on im-
ports from Japan and the revocation of Japan’s access to fishing in U.S. waters. Id. at 150 
n.10. After the U.S. Supreme Court upheld the agreement in \textit{Japan Whaling Ass’n v. American Cetacean Society}, Japan withdrew the objection, thereby relinquishing the right of its 
nationals to engage in commercial whaling. 478 U.S. 221 (1986); Murphy, supra note 71, at 
150 n.10.

\textsuperscript{73} Murphy, supra note 71, at 150–51. Article VIII of the ICRW allows state parties to is-
sue special permits to their nationals to take whales for research purposes regardless of 
whether the cetacean species to be taken are subject to a zero commercial catch quota. 
ICRW, supra note 5, 62 Stat. at 1719–20, 161 U.N.T.S. at 82; see William de la Mare, \textit{Problems of “Scientific” Whaling}, 345 Nature 771, 771 (1990); Dennis Normile, \textit{Japan’s Whaling Pro-
gram Carries Heavy Baggage}, 289 SCIENCE 2264, 2264 (2000). Descriptions of Japan’s plans 
for whaling under article VIII, and the response of various national delegations, are con-
tained in the reports of the IWC Standing Working Group on Scientific Permits, available 
online at http://www.iwcoffice.org/_documents/sci_com/.

\textsuperscript{74} This rationale has been criticized by a number of scientists who work with the IWC’s 
Scientific Committee. Clapham et al., supra note 11, at 314; see also Phillip J. Clapham et 
al., \textit{Whaling as Science}, 53 BIOSCIENCE 210, 210 (2003) [hereinafter Clapham et al., \textit{Whaling as Science}]. Nevertheless, Japan has conducted continuous programs of “scientific whaling” 
since shortly after the zero-quota moratorium went into effect in 1986. At almost every 
anual meeting of the IWC, Japan introduces a resolution to lift the moratorium and to set 
one or more commercial catch quotas. See Carlarne, supra note 3, at 3–4.

\textsuperscript{75} See Morishita, supra note 9, at 804.

\textsuperscript{76} See Carlarne, supra note 3, at 14–16; Currie, supra note 8, at 49.
ing programs but have had little recourse under the terms of the ICRW. The United States threatened to levy trade sanctions during the Clinton Administration, but these measures were never invoked. As Japan has grown increasingly frustrated by the IWC’s failure to adopt the Revised Management Procedure and lift the commercial whaling moratorium, it has expanded the scope of its research whaling program in both the number and species of whales permitted to be killed.

The reluctance of some anti-whaling states to sanction Japan for its scientific whaling program is likely due at least in part to the fear that Japan will withdraw from the IWC and abrogate the treaty, creating its own management body to set quotas for whaling. Other observers take the view that Japan has more to lose than to gain by withdrawing from the Commission. Nevertheless, the commitment of the government of Japan to bringing about the resumption of commercial whaling is impressive in the face of such consistent opposition and disapproval. This is especially so given that Japan’s whaling industry has never been and is unlikely to become a major contributor to the Japanese economy.

ICRW article VIII allows a contracting party to issue itself a special permit to take whales for scientific purposes. The Japanese government authorizes Japan-flagged whaling vessels under arrangements with the Institute for Cetacean Research to hunt for whales and to sell the whale meat once the samples are taken for analysis. Other features of the ICRW that contribute to the current stalemate include the requirement of a three-quarters majority for Schedule amendments, the opting-out provision, the absence of a dispute settlement procedure, the absence of an independent scientific advisory body (members of the Scientific Committee represent member states rather than independent scientific institutions), the open membership, and the absence of a mechanism for amending the Convention. Currie, supra note 8, at 48–52. Together these provisions result in a “governance gap.”

Murphy, supra note 71, at 151–52.


See Mike Iliff, The International Whaling Regime Post 2007, 32 Marine Pol’y 522, 524 (2008). Under article XI of the ICRW, for Japan to withdraw from the IWC, it would have to formally notify the United States, as the depository government for the ICRW, of its intentions by January 1 of the year of its withdrawal and that by June 30 it no longer intends to be bound by the Convention. Id. The Government of Iceland withdrew from the IWC in 1992 after the IWC voted not to lift the moratorium after its first ten years. Id. at 524 n.12. It then entered into an agreement creating the North Atlantic Marine Mammal Commission with Norway, the Faroe Islands, and Greenland. See id. 524 & n.13. Iceland “rejoined” in 2002 after a special meeting and vote allowing Iceland to “re-adhere” to the ICRW with a reservation on the moratorium after 2006. Id. at 524 n.12.

See Amy L. Catalinac & Gerald Chan, Japan, the West, and the Whaling Issue: Understanding the Japanese Side, 17 Japan F. 133, 158 n.20 (2005) (indicating sales of whale meat from Japan’s research program only cover eighty percent of its costs). For various perspec-
The determination of Japan to overturn the whaling moratorium and restore commercial whaling under the international regime can be understood better when considered in the larger context of global fisheries and the emerging norms for their management. The government of Japan views the whaling moratorium as a bad precedent that, if emulated by other regional fisheries organizations or governance bodies, would threaten Japan’s access to marine resources around the world.\(^{82}\) Japan was one of the larger fishing states forced to stop large-scale high seas drift net fishing under United Nations General Assembly resolution and pressure from the United States and other countries.\(^{83}\) Supporters of the drift net-fishing moratorium justified it on the basis of the precautionary principle.\(^{84}\) Adverse ecological impacts were also used to support the ban despite the limited data on the ecological or species-population level impacts of the practice.\(^{85}\) Experience with this manifestation of the precautionary approach to fisheries has likely left Japan’s fishery officials with a dim view of the benefits Japan would derive from broader application of the principle especially in the management of the lucrative international tuna fisheries.\(^{86}\)

To hold the line on what it views as overly restrictive ocean governance norms that compete for legitimacy with the sustainable use principle, the government of Japan is committed to restoring its commercial whaling industry. Some long-time observers of the whaling regime...
are convinced that Japan’s long-range plan is to work with other member states to build the three-fourths majority necessary to lift the zero-catch quota provision that effectuates the moratorium and put in place the Revised Management Scheme that will be the basis for setting catch quotas.\footnote{Holt, Propaganda and Pretext, supra note 81, at 364–65.} Japan’s goal is to keep the IWC focused on setting quotas for whaling. This narrow focus on the IWC as a bulwark against excessively conservation-oriented fisheries governance also helps explain why Japan’s delegation has opposed efforts to expand the agenda of the IWC to include conservation issues and the effects of climate change.\footnote{See generally Iliff, supra note 18.}

Most assessments of the state of fisheries take a very different view of current ocean governance regimes and attribute declining fish catches to overfishing and inadequate management of fisheries under the sustainable use paradigm.\footnote{Holt, Propaganda and Pretext, supra note 81, at 365.} Ocean diplomacy has begun to focus on reforming the regional management bodies through which member states coordinate their conservation and management of high seas fisheries. With increasing frequency, parties to multilateral agreements are expressing the view that fisheries can adversely affect marine biological diversity, including via resolutions by parties to the Convention on Biological Diversity.\footnote{See Currie, supra note 64, at 40–42.} International trade is threatening some fish species with extinction, either through directed fisheries or from incidental catch in industrial fisheries.\footnote{See id. at 45–46.} The consensus appears to be that ocean governance needs to be more, not less, precautionary and ecosystem-based.\footnote{See generally Willock & Lack, supra note 65.}

In contrast, Japanese delegates at the IWC and Japan’s representatives on the IWC’s Scientific Committee have suggested that depressed fish stocks may be a sign that recovering whale populations are taking the fish.\footnote{Clapham et al., supra note 11, at 315.} Japan and other pro-whaling states argue that it may be necessary to cull top predators to reduce their take of fish species that are needed for human consumption and food security, citing the drastic declines in world fisheries to advance a new rationale for commercial whaling.\footnote{See id.} According to this view, whales eat fish from coastal waters where people would otherwise fish, leading to an imbalance in some marine ecosystems. In order to restore fish populations and ensure the
food security of coastal nations, cetaceans should be hunted to reduce their numbers and thus make whales’ prey species available to fish which can then be available for human consumption.\textsuperscript{95}

Proponents of this view assert it as the scientific rationale for the pro-whaling resolutions at the IWC. They argue that the opposition’s insistence on maintaining the moratorium is a case of emotional attachment to whales blinding one’s ecological and scientific judgment. This argument is disturbing to some fishery scientists, as it seems to attribute the overexploitation of the world’s fishery resources to marine mammals instead of to human fisheries.\textsuperscript{96} This theory has emerged from scientific papers resulting from the Japanese program of article VIII whaling.

More than just a variation on the sustainable-use argument used in the past, this view has a more sinister aspect, conveying as it does an over-simplification of our understanding of marine ecosystems and a likely deliberate distortion of the scientific evidence in order to advance the “sustainable whaling” agenda.\textsuperscript{97} Some of the new members of the IWC recruited from the ranks of developing nations to support this view include small-island and coastal states from the Caribbean, West Africa, and the Pacific. These states have concerns for the viability of their tuna and coastal fish stocks, the economic prospects of their domestic fishing industries, and the food security of their citizens.\textsuperscript{98} Misunderstanding the reasons behind these stocks’ conditions makes them even more vulnerable to changes brought by warming oceans.

The “whales are eating our fish” argument fails to explain why historically there were both higher fish biomass and marine mammal populations.\textsuperscript{99} Moreover, there is often very little overlap between the


\textsuperscript{96} See id.

\textsuperscript{97} See id. at 9–10.

\textsuperscript{98} Id. at 10–11. In an essay reprinted in the report’s appendix, Daniel Pauly describes the chagrin expressed by members of the parliament of Senegal, when at a workshop on the issue, national fishery officials expressed the whales-eat-our-fish rationale. \textit{Id.} at 29–30. Pauly reports that the members said those views were contrary to the information they received from fishers in their communities on the causes of the decline of coastal fisheries and was also contrary to the nation’s cultural admiration for cetaceans. \textit{Id.} at 30.

\textsuperscript{99} See \textsc{Swartz & Pauly, supra} note 95, at 5–6. It is likely that the historically large whale populations were in part responsible for the massive fish populations. Baleen whales, if they eat fish at all, eat tiny, larval stages of fish, in addition to zooplankton and phytoplankton. \textit{Id.} at 5. This may have had the evolutionary effect of pushing fish populations to evolve into short-lived (high-fecundity) animals that could grow fast and avoid being eaten.
food preferences of cetaceans and of commercial fisheries, nor do they overlap spatially. Most great whales, for example, feed in high latitude places for species that are not accessible to fishing gear and are not desirable for human consumption.\footnote{Id. at 5–6. This effect has been reversed by fisheries, which by targeting larger fish, have been giving selective pressure for fish to grow slowly and mature later with lower productivity. \textit{Id.} at 6.}

This alternative view of the ecosystem approach reached its high water mark at the IWC in 2006. At the annual meeting that year, the Commission adopted a resolution acknowledging that ecosystem-based management is the new international standard and that whale stocks must be considered in a broader ecological context.\footnote{\textit{Id.} at 8.} But in a logic that appears to turn the ecosystem approach on its head, the resolution suggests that whales may need to be culled in order to ensure food security,\footnote{See, e.g., Peter Corkeron, Letter to the Editor, \textit{Fishery Management and Culling}, 306 \textit{Science} 1891, 1891 (2004); Peter Yodzis, \textit{Must Top Predators Be Culled for the Sake of Fisheries?}, \textit{16 Trends in Ecology & Evolution} 78, 79 (2001). This is despite the fact that several scientific studies dispute the value of culling to increase fish stocks. See Corkeron, \textit{supra}, at 1891; Yodzis, \textit{supra}, at 80–81. Corkeron reports that the Norwegian Parliament, in May 2004, endorsed a new national policy for marine resources that would establish an ecosystem-based management regime for marine mammals in Norway’s marine waters. Corkeron, \textit{supra}, at 1891. In order to increase fisheries production, this policy will presumably be translated into larger quotas for the hunting of minke whales, harp seals and coastal seals in the sub-Arctic and Arctic waters in Norway’s exclusive economic zone to reduce these populations’ “competition” with humans for fish. \textit{Id.}} or at the very least that nations should continue “scientific whaling” until such time as the ecological role of whales in fishery ecosystems is clarified.\footnote{See IWC, \textit{supra} note 101. A group of Caribbean nations introduced the Declaration in a resolution after Japan’s proposed resolutions to amend the Schedule to set quotas for its four coastal whaling communities for North Pacific minke, Bryde’s and sperm whales were voted down. IWC, 59th Annual Meeting of the IWC, St. Kitts and Nevis, June 16–20, 2006, \textit{Agenda Item 19: St. Kitts and Nevis Declaration}, at 1–2, Doc. IWC/58/16 (June 17, 2006), available at http://iwcoffice.org/_documents/commission/IWC58docs/58-16.pdf. The resolution included the following statement: \textquote{\textbf{ACCEPTING} that scientific research has shown that whales consume huge quantities of fish making the issue a matter of food security for coastal nations and requiring that the issue of management of whale stocks must be considered in a broader context of ecosystem management since eco-system management has now become an international standard.}}
This interpretation of the ecosystem approach makes no mention of the need for ocean governance bodies to reduce human fisheries to maintain predator diversity and the predator-prey relationships characterizing healthy marine ecosystems. Nor does it suggest it may be necessary to reserve portions of prey species’ biomass for whales as their populations recover and they adapt to climate change, rather than simply assuming that the maximum amount of exploitable biomass can be taken for human use. Moreover, the IWC’s ecosystem approach resolution in no way advances any of the ecosystem health needs of cetaceans by urging action to prevent habitat degradation from pollution, lost or active fishing gear, noise, ship strikes, and climate change.104 It merely asserts the ecosystem approach as justification for returning the IWC to the task of setting catch quotas for whaling.105

The culling hypothesis now serves as the scientific rationale for the extensive whaling carried out in the Southern Ocean under a special permit issued by the Government of Japan.106 Although the value of these investigations has been challenged publically by leading cetacean scientists,107 the international whaling regime has no mechanism to force it to be terminated.108 But, the longer the scientific whaling program continues, the harder anti-whaling proponents hang on to the

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104 IWC, supra note 64, at 55.
105 See id. at 57–58. Others have suggested that the declaration lays the groundwork for setting whale catch quotas in the Antarctic that are higher than would otherwise result from the Scientific Committee’s application of the highly precautionary Revised Management Procedure. See, e.g., DAVID M. LAVIGNE & SHERYL FINK, IFAW, WHALES & FISHERIES 4 (2001) available at http://www.ifaw.org/Publications/Program_Publications/Whales/asset_upload_file954_12140.pdf.
106 See Normile, supra note 73, at 2255. Japan’s Institute of Cetacean Research operates a factory-whaling fleet in the Antarctic and each year kills hundreds of whales so that their stomach contents can be analyzed to determine if they compete with humans for marine resources. See id. Under this rationale, Japan’s researchers added Bryde’s and sperm whales to the scientific whaling program. See id.
107 Id.; see also Clapham et al., Whaling as Science, supra note 74.
108 See Normile, supra note 73, at 2264. Because the whaling is carried out under the special permit provision of article VIII, Japan believes that the activities of its fleet are not subject to the regulations contained in the IWC’s Schedule, including the Southern Ocean Sanctuary and the ban on factory whale ships. See ICRW, supra note 5, sched. ¶ 7(b) n.**, available at http://www.iwcoffice.org/_documents/commission/schedule.pdf.
moratorium. The longer the moratorium stays in place, the bigger and more audacious the scientific whaling program becomes, despite the weaknesses in its ecosystem-based rationale. Meanwhile, the ability of the IWC to address ecological and environmental challenges to whales is stymied by the impasse.

The IWC’s whales and ecosystems resolution may ultimately have little impact on the whaling moratorium at the IWC or, if the moratorium is ever lifted, on the setting of sustainable catch quotas under the Revised Management Procedure. But the possibility that some member states may actually accept the premise of the ecosystem resolution does not bode well for progress by other regional fishery management bodies. To keep their fleets fishing, fishing states frequently look for ecological reasons to explain declining fish stocks, such as a reduction in the environment’s carrying capacity. As in the case of western Atlantic bluefin tuna, whenever a marginally plausible ecological explanation is found, states can rationalize putting off decisions to reduce the size and capacity of the industrial fishing fleets or maintaining high catch rates of top predators.109 States with large distant-water fishing fleets need only find one scientist who is willing to express the view that recovering whales or some other ecological phenomenon may be responsible for the poor conditions of certain fish stocks.110 Scientific uncertainty, presented at the time when precautionary action is most needed, has often given cover to management officials who give greater weight to short-term economics than long-term ecosystem health and sustainability.111

III. THE IWC AND PRECAUTIONARY MANAGEMENT OF THE ANTARCTIC MARINE ECOSYSTEM

The best rationale for retaining the whaling regime is its potential to influence other governance regimes on behalf of whales.112 The question is whether in order to reach the agreement needed to permit the whaling regime to perform this function, it will be necessary to com-

109 See Safina & Klinger, supra note 12, at 244–45.
110 See id.
111 See generally Andrew A. Rosenberg, Managing to the Margins: The Overexploitation of Fisheries, 1 FRONTIERS IN ECOLOGY & ENV’T 102 (2003).
112 See Burns, supra note 5, at 354. As a regime that failed to achieve its basic objective of ensuring a sustainable fishery, the IWC can serve as a cautionary tale for other governance regimes, providing testament to the need for setting catch limits that are truly precautionary; for not disregarding scientific advice; for requiring verifiable and timely reporting of all catch and other data, supported by an effective compliance and infractions program; and for a mechanism for resolving disagreements over treaty interpretation that does not rely on an objection or opt-out clause.
promise on principles in a manner that would make the whaling regime ineffective or, worse, counterproductive. For example, the pro-whaling member states’ interpretation of the ecosystem approach may continue to be based on the premise that “whales are eating our fish.” If so, the International Whaling Commission’s (IWC’s) contribution to management of fisheries targeting prey species will undermine rather than enhance efforts to ensure that dependent and ecologically associated species are not adversely affected, as required by the 1995 U.N. Fish Stocks Agreement. Instead of ensuring that catch quotas are set low enough to protect foraging grounds for whales, the participation of whaling states holding this interpretation of the ecosystem approach could lead to higher quotas for prey, to “cull” whales indirectly by reducing their food sources.

Developments in the management of Antarctic krill suggest that these concerns are not merely academic. Japan and Norway, fishing states that promote the culling hypothesis at the IWC and elsewhere, are also major participants in the developing Antarctic krill fishery. Krill is managed by the Commission for the Conservation of Antarctic Marine Living Resources (CCAMLR), a regional body that has a reputation for being the most ecosystem-based and precautionary of all international fisheries regimes.

CCAMLR is well regarded because its treaty was the first international agreement to build ecosystem and precautionary principles into its management regime, serving as the model for the innovative provisions of the 1995 U.N. Fish Stocks Agreement. CCAMLR incorporates these principles because it was founded for the purpose of managing fishing for krill in the Southern Ocean. With such an ecologically

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113 See discussion supra notes 97–103.
114 U.N. Fish Stocks Agreement, supra note 56, art. 5.
117 Gascon & Werner, supra note 29, at 14. Living resources management in the Southern Ocean, however, has a somewhat checkered history. See A.J. Constable, Sustainable Fisheries in a High Latitude, Nov. 2001 (unpublished paper presented at symposium of the Australian Academy of Technological Sciences and Engineering), available at http://www.atse.org.au/index.php/sectionid=324. Both cetaceans and seals were hunted heavily and the result was extirpation and near extinction for many species despite the adoption of international conservation agreements. The Agreement for the Conservation of Antarctic Seals was adopted as part of the Antarctic Treaty System, as is CCAMLR, supra note 61, and was negotiated by the Antarctic Treaty Consultative Parties after entry into force of the Antarctic Treaty in 1959. Constable, supra.
significant species as the target for the fisheries, the CCAMLR treaty adopted an ecological boundary for its management area and standards requiring fisheries to be controlled in order to maintain the ecological relationships between harvested, dependent, and related populations of Antarctic marine resources.\(^\text{118}\)

Despite CCAMLR’s advantages, in the face of pressure to expand fishing opportunities, states with fisheries operating in the Southern Ocean have resisted precautionary management, preventing the regime from fulfilling the promise reflected in its treaty provisions.\(^\text{119}\) Fishing pressure in the Southern Ocean is on the rise as declining fish stocks in the Northern Hemisphere have sent vessels south in search of unexploited species to replace them. The Patagonian toothfish (\textit{Dissostichus eleginoides}) is the most well-known of these quarries, becoming the target of rampant illegal fishing by vessels registered by CCAMLR member states and by open-registry states that may or may not be cooperating with CCAMLR.\(^\text{120}\)

Fishing companies are also searching for abundant marine species that can be converted into fish feed. The international fish-farming industry has grown tremendously as catches in capture fisheries have declined due to overfishing.\(^\text{121}\) This had led to intense interest in the Antarctic krill (\textit{Euphausia superba}), the species at the center of the marine food web in the Antarctic, and a key prey species for baleen whales and for the fishes that are preyed on by toothed whales.\(^\text{122}\)

\(^{118}\) CCAMLR, supra note 61, arts. I, II(3)(b), at 842–43. The boundary of the Convention area reflects the ecological boundary formed by the Antarctic Convergence (a frontal zone where currents carrying cold Antarctic waters and the warmer sub-Antarctic waters meet). These farsighted provisions are likely due to the low level of fishing pressure at the time it was negotiated and the significant role played by the international scientific research community in creating the Antarctic Treaty System. Growth in the krill fishery was anticipated, however, and the potential for a massive krill fishery was viewed as a threat to the entire Antarctic marine ecosystem. See Constable, supra note 117. It is somewhat ironic that the precautionary management procedures and methods for assessing the potential yield of exploited whale populations developed by the IWC’s Scientific Committee in the late 1970s and 1980s inspired CCAMLR’s approach. See id.

\(^{119}\) See generally Gascon & Werner, supra note 29.


\(^{121}\) The United Nations Food and Agriculture Organization predicts that world aquaculture production will increase significantly and is already responsible for over seventy percent of the increase in fish production, with China and southeast Asian countries becoming the largest producers. See Rebecca Goldburg & Rosamond Naylor, Future Seascapes, Fishing, and Fish Farming, 3 Frontiers in Ecology & Env’t 21, 21 (2005).

\(^{122}\) See Bender, supra note 116, at 230, 234.
Under its mandate to manage fisheries with precaution and on an ecosystem basis, CCAMLR has adopted several well-conceived provisions for the krill fishery. These include a more conservative total catch quota than the conventional maximum sustainable yield model produces, subdivided into smaller areas.\footnote{Id. at 233–34.} For example, the quota for the area around the Antarctic Peninsula and the islands of South Orkney and South Georgia is capped at four million metric tons per season.\footnote{CCAMLR, Precautionary Catch Limitations on Euphausia Superba in Statistical Area 48, Conservation Measure 32/XIX (2001–2002), http://www.ccamlr.org/pu/e/e_pubs/cm/01-02/cm32-XIX.pdf; see Bender, supra note 116, at 234.} Because krill fishing vessels tend to concentrate in areas where land-based predators such as penguins and seals need to forage, CCAMLR also created fifteen smaller units, allowing quotas to be fined-tuned to prevent localized depletion of krill during the nesting season.\footnote{Gascon & Werner, supra note 29, at 15. CCAMLR agreed to subdivide the Southwest Atlantic area (Area 48) into fifteen small-scale management units around the Antarctic Peninsula and the islands of South Orkney and South Georgia in 2002. See id. If the fishery in a given season ever reaches a 620,000-ton level, under CCAMLR’s measures this will trigger further subdividing the quota among the smaller areas in order to protect penguin and seal rookeries that depend on the availability of abundant krill. See CCAMLR, supra note 124. However, while CCAMLR has not be able to reach consensus on how to allocate the krill catch limit among these areas, the krill fishery continues to grow, with new vessels being identified for participation every year. Gascon & Werner, supra note 29, at 15. The idea behind precautionary measures is to have them in place before the industrial fishery develops and sets expectations for future seasons. Until these precautionary measures to protect dependent species can be agreed to, the Antarctic and Southern Ocean Coalition (ASOC), the leading NGO participating in CCAMLR scientific and plenary meetings, has urged CCAMLR to freeze the expansion of the krill fishery in these critical areas while models are being built to help determine the level of krill exploitation the system can tolerate and appropriate compliance measures are put in place. Bender, supra note 116, at 234. The ASOC papers submitted to CCAMLR are available online at http://www.asoc.org/.} To meet the growing interest in krill-based products, a diversified maritime company based in Norway, Aker BioMarine, has now developed a technology that allows one krill fishing vessel to take nearly as many tons per season as has been taken by all krill-fishing vessels in an entire season in the polar fishery using the old methods.\footnote{See Gascon & Werner, supra note 29, at 14, 16; Darby, supra note 115; see also MSC Press Release, supra note 52.} New vessels are being constructed to replace the older, less efficient ones. As this happens, CCAMLR parties seem less willing to apply the ecosystem and precautionary approaches to the krill fishery. Krill is the only CCAMLR-managed fishery that is exempt from the requirement to board scientific observers on the vessels, contrary to the advice from CCAMLR’s
scientific committee that such information is crucial.\textsuperscript{127} The krill-
fishing states have also blocked adoption of recommendations to ex-
pand the monitoring program, which is designed to detect whether ecologically related species are being adversely affected by exploitation of the krill.\textsuperscript{128} Krill-fishing states like Japan blocked consensus approval of the observer requirement at the 2008 meeting of CCAMLR, despite a commitment in 2007 to adopt the program in 2008.\textsuperscript{129} Likewise, fishing states have blocked a management procedure that would adjust control measures in response to the ecosystem-monitoring program.\textsuperscript{130}

Shortly after the IWC adopted a standing committee to address conservation issues, it also directed its Scientific Committee to work with the CCAMLR on its ecosystem approach. This work includes providing CCAMLR with the scientific information it needs to construct a model of the Antarctic marine ecosystem and to better manage the krill fishery.\textsuperscript{131} The best mathematical models in the world, however, cannot compensate for a lack of data, especially if the goal is to model the effects of exploiting one population on other species. The joint IWC-CCAMLR modeling effort is hindered by the krill-fishing states’ unwillingness to submit catch and other data to CCAMLR and to require that scientific observers be placed on krill vessels. By depriving the modelers of the information they need, these states are acting more to protect their companies’ competitive advantage than to protect the Antarctic marine ecosystem.

\textsuperscript{127} See Gascon & Werner, supra note 29, at 15–16.
\textsuperscript{128} See 27th Annual Meeting of CCAMLR, Hobart, Austl., Oct 27–Nov. 7, 2008, Report of the Twenty-Seventh Meeting of the Commission, at 11–14 [hereinafter CCAMLR, Report of the Twenty-Seventh Meeting], available at http://www.ccamlr.org/pu/E/e_pubs/cr/08/all.pdf. The monitoring program is one of the measures upon which CCAMLR’s reputation for strong ecosystem-based management is based. Previously, Commission members agreed to research on the status of ecologically related species and to make changes in conservation and management measures for fisheries if the evidence showed they were being adversely affected. See Gascon & Werner, supra note 29, at 15.
CONCLUSION

Despite the apparent willingness of IWC member states to cooperate with CCAMLR’s ecosystem-based management, some member states are at the same time using CCAMLR to block measures aimed at minimizing the indirect effects of fishing on cetaceans and other krill predators.132 Considering this contradiction, it is not immediately apparent how reform of the IWC could help. It is conceivable the whaling negotiators could use Japan’s desire to restore commercial whaling in non-Antarctic waters as leverage for reform of CCAMLR’s krill management. This kind of cross-regime horse-trading is probably not uncommon, but if it does exist, there is little evidence that it results in anything other than more extractions from ecosystems. But if the reform compromise allows the pro-whaling states who represent a small minority among IWC member states to prevail in exchange for progress in krill regulation, the whole enterprise of international cooperation in marine ecosystem management would suffer a huge setback. This seems an unnecessarily high price, especially given that Japan’s claims of right under the ICRW to its scientific whaling program have such a shaky legal foundation.133 It seems that international adjudication would be better suited to clarifying what the legal obligations are of parties to the whaling regime. If diplomacy to resolve the whaling regime stalemate can only succeed by compromising norms that were earned the hard way, diplomacy in that case is really not working. Indeed it may be better to litigate than accommodate.134

132 See ASOC Press Release, supra note 129.
133 The International Fund for Animal Welfare asked a committee of independent legal experts to prepare a legal analysis of the scientific whaling issue, including its legality under the ICRW and other international law. The panel concluded that a legal challenge to the scientific whaling program would likely succeed at the International Court of Justice or the International Tribunal for the Law of the Sea (ITLOS) under the international law theory of abuse of rights and several international treaties, including the ICRW, UNCLOS and CCAMLR. Laurence Boisson de Chazournes et al., Report of the International Panel of Independent Legal Experts On: Special Permit (“Scientific”) Whaling Under International Law, (2006), http://www.marde cetaceos.net/media_files/download/ CompleteParisReport001.pdf. The panel members were Laurence Boisson de Chazournes, Pierre-Marie Dupuy, Donald R. Rothwell, Philippe Sands, Alberto Székely, William H. Taft IV, and Kate Cook. The Australian Government has been under pressure by NGOs to pursue such litigation. See, e.g., Donald R. Rothwell, Time to End Loophole “Scientific” Whaling, Cosmos Online, July 31, 2007, http://www.cosmosmagazine.com/node/1510.
134 After Australia and New Zealand challenged Japan’s experimental fishing for southern bluefin tuna under the UNCLOS dispute resolution provisions, ITLOS concluded that the dispute concerned legal as well as scientific questions and that all parties should take measures to avert further deterioration of the stock. Southern Bluefin Tuna Cases (New Zealand v. Japan; Australia v. Japan), ¶¶ 79, 80, 38 I.L.M. 1624 (Int’l Trib. L. of
Obviously, the best way that U.S. ocean diplomacy can serve the long-range interests of cetaceans is to adopt a serious program to combat global warming by rapidly transitioning to a non-carbon based economy. In addition, the United States can redouble its efforts to ensure that standards for international shipping require the construction of quieter vessels that burn cleaner fuels and can slow down—especially where shipping lanes cross whale migration routes—and avoid whale foraging grounds altogether. It should set a global example by scaling down commercial fisheries that deploy and leave fishing gear in whale habitat and insist that international regimes require the same. If, in the meantime, the Obama Administration wants to resolve the impasse over commercial whaling, it must be cognizant of the normative impact of such action. Any reform must advance and not set back the progress of the last fifteen years. The need for reform is much greater in other regimes; a regime for whaling that is very costly to reform is not worth the price. Greater effort at other international bodies to advance precautionary and ecosystem approaches will in the long run do more for whales in a warming ocean than a less acrimonious IWC.


135 See generally Burns, supra note 5.

136 Just before the IWC’s annual meeting in 2007, three NGOs hosted a workshop in Dakar, Senegal to discuss the claim that whales are responsible for declining fish catches. The workshop inspired one participant to later conclude:

The most crucial reform would be moving from a situation where West African waters are seen as larder from which an endless supply of fish can be extracted to supply foreign markets . . . to one where West African countries could build on export and processing of fish to strengthen their own economy, and benefit their own people . . . . [But] such reforms are not being contemplated. [T]op fisheries officials of West African countries appear to have thrown their lot with their Japanese advisors, and their ‘whales-eat-our-fish’ mantra, for reasons that are either obscure, or too obvious to mention.

Swartz & Pauly, supra note 95, at 29–30.
A NEW PARADIGM FOR CONSERVATION OF GREAT WHALES IN THE URBAN SEA OF THE UNITED STATES—SPECIES IN NEED OF A “GREEN KNIGHT”

Richard Max Strahan*

Abstract: The great whales of the North Atlantic live, breed, and are now being injured and killed in the “Urban Sea”—a growing feature of the United States coastline resulting from coastal development. The primary threats to great whales are anthropogenic: vessel strikes and entanglement in commercial fishing gear. Despite their popularity as cultural icons, and federal and state protective regulations on the books, endangered whales increasingly suffer collateral damage from coastal commerce. Ample law and technology exist to eliminate these problems. Rather than advancing the protection of whales, however, government agencies and some nonprofit organizations have aggravated the problem through their lack of meaningful action. This essay examines systemic reasons why harmful entanglements in commercial fishing gear continue to occur and are likely to go on unabated into the future. The essay then proposes a paradigm shift for approaching these problems that will protect whales and will also benefit other wildlife in the ocean and its coastal Urban Sea.

INTRODUCTION

The status of the great whales\(^1\) in law and biology makes it fitting to describe them as “Twenty-Ton Canaries.” Like the small, sensitive birds that warned miners of lethal odorless gases in the coal mines of the 19th century, the great whales in effect serve a utilitarian function, warning the public of imminent environmental dangers in the coastal environment. Today, most deaths and injuries of great whales are caused by humans, and occur in two settings—the diminishing killing of whales by a very few nations’ whaling fleets,\(^2\) and the dramatically increasing harms collateral to the growing development and industrialization of the coastal marine environment of the United States and other nations.\(^3\)

Today the number of great whales killed by Japan’s small hunting fleet is dwarfed by the collateral killing of these whales along the coastline of the United States from commercial and industrial activity. Coastal marine fisheries in the United States and Canada routinely kill and injure great whales by entangling them in commercial fishing gear—the

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\(^1\) The term “great whales” typically refers to the baleen whales and the sperm whale. John Bannister, Great Whales 3 (2008). The North Atlantic right whale (\textit{Eubalaena glacialis}), the southern right whale (\textit{Eubalaena australis}), the North Pacific right whale (\textit{Eubalaena japonica}), the humpback whale (\textit{Megaptera novaeangliae}), the fin whale (\textit{Balaenoptera physalus}), the sei whale (\textit{Balaenoptera borealis}), the sperm whale (\textit{Physeter catodon}), and the blue whale (\textit{Balaenoptera musculus}) are listed as protected species under the federal Endangered Species Act. See Endangered and Threatened Wildlife, 50 C.F.R. § 17.11 (2008). In 2008 the National Marine Fisheries Service divided the previously listed single species known as the northern right whale (\textit{Eubalaena glacialis}) into two separate species, the North Atlantic right whale (\textit{Eubalaena glacialis}) and the North Pacific right whale (\textit{Eubalaena japonica}). Endangered Status for North Pacific and North Atlantic Right Whales, 73 Fed. Reg. 12,024 (March 6, 2008). The author has disputed the validity of this division in a pending notice of intent to sue. This essay, however, employs the currently official nomenclature.


primary focus of this essay. Additionally, ships traversing the coastal seas regularly strike great whales. These impacts on great whales from coastal industrialization violate state and federal laws meant to protect them from these direct and collateral threats. This essay asserts that these killings and injuries continue—and are on the increase—because of a systemic failure of the prevailing paradigm of current law that manages and nominally offers protection to the great whales and their coastal marine habitat. It is the opinion of the author that these harms are to a large extent preventable and that the fact that they continue offers an opportunity to evaluate the effectiveness of the fundamental social and legal paradigm currently employed to protect the environment and great whales from the adverse affects of human activity.

The waters off the northeast coast of the United States have been referred to as part of the Urban Sea. The development impacts of the great coastal cities do not stop at the docks of their ports but continue out into the ocean. The Urban Sea reflects the commerce of the East Coast and the huge volume of shipping flowing through the great ports of New York, Philadelphia, and Boston. It is impacted by pollution and detritus flowing from inland and port cities and cast off by ships at sea. Its waters receive air pollution from inland industry and the smokestack emissions of ships. It is infused with noise reverberating out from vessels and Navy sonar. The coastal sea is also laced with thousands of installations of fishing gear from fishing fleets, all of which can kill great whales, and some of which are never retrieved by fishermen but remain as derelict “ghost gear” drifting with the currents, continuing to kill without purpose. Conditions in the Urban Sea have deteriorated to the

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7 See generally Lee E. Koppelman et al., The Urban Sea: Long Island Sound (1976) (discussing the commercial development of Long Island Sound as “a microcosm of national—even global—situations”). The Urban Sea is the area of the ocean starting at the coastline and spanning outwards to about 100–200 miles off the coast. It is an artificial entity manufactured by the industrialization of the coastal seas of the United States.

point that great whales can no longer survive in these urbanized coastal waters without active protection.

The great whales breed, feed, migrate, and live in the coastal waters of the Urban Sea for a majority of their life spans.\(^9\) Several coastal states—like Massachusetts—list them as native resident species of their states and protect them under state endangered species acts.\(^10\) The federal government has designated Cape Cod Bay and other coastal areas as essential protected habitat for the North Atlantic right whale.\(^11\) Humpback whales breed and feed just twenty miles from downtown Boston on Stellwagen Bank.\(^12\) The proximity of great whale habitat to major metropolitan areas makes the commercial whale-watching industry possible.\(^13\) It also subjects these wild animals to the adverse impacts of the urban environment.

Great whale populations in the North Atlantic are still seriously endangered despite the fact that they have not been hunted for decades; have few natural predators;\(^14\) and do not seem susceptible to lethal pandemic diseases like measles or distemper,\(^15\) although toxins produced from algal blooms have been linked to incidents of mass killings of great whales.\(^16\) It is the collateral destruction of individual whales and their marine habitat caused by the consequences of human commercial and industrial development that must now be seen as the likely cause of future whale extinctions.\(^17\) The whales are frequently injured and killed by human activity in the Urban Sea and these casualties occur in numbers and rates that threaten the whales’ continued

\(^9\) Like birds need trees, the great whales require coastal habitat in the Urban Sea for their survival as species.
\(^10\) 321 MASS. CODE REGS. 10.90 (2009) (Listing the great whales as protected species).
\(^15\) There are, however, reports that raise these concerns as well. See V.S. Hinshaw et al., Characterization of Two Influenza A Viruses from a Pilot Whale, 58 J. VIROL. 655, 655 (1986).
survival by frustrating the capacity of species populations to regain and maintain stable, sustainable, healthy population levels.\textsuperscript{18}

The continued killings may critically deplete their small current numbers and precipitate extinction of species long after commercial whale hunting has ended.\textsuperscript{19} Great whales possess problematic biological parameters for survival compounded by their depleted numbers—specifically, great whales are long-lived, slow to reproduce, and incapable of quick population recoveries.\textsuperscript{20} This is why the historical cessation of hunting right and humpback whales has not resulted in a rapid recovery of species populations.\textsuperscript{21} As this “small-population” problem demonstrates, so long as their numbers remain low, whales remain vulnerable to extinction.\textsuperscript{22}

The ruthless hunting of great whales caused the extinction of at least one population.\textsuperscript{23} Right whales were recognized as being so close to extinction that an international treaty has totally banned their hunting since 1931.\textsuperscript{24} Whaling in general became a regulated activity in 1945 under an international treaty signed by all nations then whaling.\textsuperscript{25} However, that treaty’s intent was essentially commercial, designed to prevent over-hunting to ensure that the whale-hunting industry could survive over time.\textsuperscript{26} American and Canadian commercial whaling died out primarily due to public sentiment and a lack of commercial interest, not due to law or a lack of whales.\textsuperscript{27} In the early 1970s, Congress


\textsuperscript{20} Id.

\textsuperscript{21} Id.

\textsuperscript{22} See Anthony Ronald Sinclair et al., Wildlife Ecology, Conservation, and Management 312 (2d ed. 2006). When wildlife populations go below a certain size they lose their ability to adapt to environmental stress and face an enhanced risk of extinction from this fact alone. See id.

\textsuperscript{23} See James David Darling & Jim Darling, Gray Whales 24 (1999). The Atlantic gray whale was possibly hunted to extinction by the end of the 17th century. Id.


passed two relatively stringent statutes that protect whales: the Marine Mammal Protection Act and the Endangered Species Act.28

That great whales are being killed in the United States and Canadian Urban Sea may seem odd, because they enjoy such strong public support as well as full protection as endangered species under the law. Since the time of Moby Dick, whale conservation in the United States and Europe has enjoyed both political and emotional public support.29 In part because of their massive size, they are among the most charismatic of wildlife, celebrity species that the public will never again allow to be hunted in the United States or Canada.30 Despite the charismatic status of great whales, the threats against them posed by the Urban Sea have resulted in little public outcry—in great measure because, in this author’s opinion, insufficient information about these threats has reached the public.

This is of interest because sympathetic public pressure is a necessary factor to prompt government agencies to manage marine commerce in order to protect the great whales’ use of coastal marine habitat. This author believes that lack of public awareness prevents criticism of commercial fishermen’s role in whale entanglements.31 This lack of public alarm facilitates commercial interests’ ability to avoid substantial restraints on their activities by government agencies or from private lawsuits. Government agencies also do not face enough political pressure from non-profit groups or the scientific community to change the status quo. As a result, state and federal governments have little interest in stopping the collateral killing and injuring of great whales and tend to avoid significant regulation of commercial fishing designed to eliminate whale entanglements.32 For example, neither federal nor state wildlife agencies, as a matter of policy, prosecute individuals who en-

29 See, e.g., Dolin, supra note 27, at 231–32 (describing the letter from “a Polar Whale” in the Honolulu Friend newspaper letters section).
31 There is literature available that documents the hazards to whales but it is mostly found in scientific publications rather than major media outlets. See, e.g., Scott D. Kraus et al., North Atlantic Right Whales in Crisis, 309 Science 561, 561 (2005) (describing the effects of fishing gear entanglement on right whales).
32 Outside of the North Atlantic right whales, the author is aware of no extensive ongo ing state or federal recovery efforts for whales.
tangle whales in fishing gear or strike whales with a ship. This state of affairs deserves analysis and explanation.

Functioning as the coal miner’s canary, the great whales in the North Atlantic Urban Sea warn not only of the escalating destruction of the coastal seas, but of the inability of the current environmental protection regime of the United States to meaningfully mitigate or prevent the killing—if not the extinction—of these celebrity species of wildlife. As a focal case in point, Part I of this essay addresses one of the major threats to the survival and welfare of North Atlantic great whales—the distressing and illuminating problem of injuries and death attributable to entanglement in commercial fishing gear. Part II then undertakes a detailed review of legal protections for great whales under United States statutes and regulations, and international treaties in which this nation participates. Part III sets out the author’s observations of delinquencies of omission and commission by government agencies, non-profit organizations, and researchers, with regard to threats facing great whales and also offers some possible explanations. Part IV offers potential solutions in light of this essay’s analysis.

I. HAZARDS TO GREAT WHALES: ENTANGLEMENT BY COMMERCIAL FISHING GEAR IN THE URBAN SEA

A. Entanglement Basics: Threats Posed by Current Commercial Fishing Practices

One of the two main anthropogenic threats to great whales in the Urban Sea is their injurious entanglement in commercial fishing gear. In large part because of the practices of its commercial fishing industry over the last forty years, the United States contributes significantly to this threat to great whales—despite theoretically stringent statutory protection.


34 Kraus et al., supra note 31, at 561; Andrew J. Read, The Looming Crisis: Interactions Between Marine Mammals and Fisheries, 89 J. Mammalogy 541, 541, 543 (2008). The other threat is ship strikes. See Smith et al., supra note 4, at 2–3; Laist et al., supra note 5, at 35–37.

Great whales are routinely caught and entangled by commercial fishing gear. A significant number of the known anthropogenic mortalities and injuries of great whales in the Urban Sea come from entanglement in such gear. Great whales get caught up in ropes (lines) and nets used in the coastal fishing industry. Ropes suspended in the water column have a surprising ability to ensnare, wrap around, and form cinch knots (that is, entangle) upon just about any large moving object that comes in contact with them. The actual mechanics of a whale’s entanglement in fishing ropes—particularly involving commercial pot gear and gill nets—is, in the author’s opinion, relatively simple to appreciate and to prevent. The defining task in managing commercial fisheries so as to prevent whale entanglement is eliminating the possibility of a whale making physical contact with fishing gear.

Figure 1: Typical lobster pot gear deployment in U.S. coastal waters. Chart courtesy of Boston College Environmental Law Society, 2008.

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36 See id. at 167. Ten to thirty percent of North Atlantic right whales and Gulf of Maine humpback whales become entangled each year. Id.; see also Amanda Johnson et al., Fishing Gear Involved in Entanglements of Right and Humpback Whales, 21 Marine Mammal Sci. 635, 635–36 (2005); Kraus et al., supra note 31, at 561.
37 See Johnson et al., supra note 36, at 636.
38 Id. at 640–41.
39 The lines used in the coastal fixed gear fishery are generally made of plastic polymers—polypropylene, polyester and the like. See Johnson et al., supra note 36, at 638.
40 See Read, supra note 34, at 543.
Fixed fishing gear is the type of fishing equipment that causes the greatest number of recorded marine mammal entanglements in the Urban Sea.\textsuperscript{41} Fixed gear is anchored in position and tended to by fisherman every few days.\textsuperscript{42} Fixed gear consists of two kinds of fishing gear: (1) gear using traps (also called pots) tied together in a string (a trawl) that is attached to vertically suspended ropes (vertical buoy lines or VBL) from floating buoys on the sea surface; and (2) sink gill nets that resemble volleyball nets anchored to the sea floor (gill nets).\textsuperscript{43}

The fishery for American lobster (\textit{Homarus americanus}) is the most familiar fishery which uses pot gear. Its rectangular box-like wire traps are baited and have entrance holes, but only a small exit for undersized crustaceans.\textsuperscript{44} Intensively deployed on the coastal ocean floor, these and similar forms of traps catch fish and crustaceans.\textsuperscript{45} The rope that runs horizontally between the adjacent linked pots in a trawl is called a ground-line; if buoyant, it sometimes floats in an upward curve between the traps.\textsuperscript{46} The ropes that extend downward from the buoys to the end pots in the trawls are the vertical buoy lines, and are subsequently used to retrieve the trawls of pots.\textsuperscript{47} The fishery for American lobsters extends along the Atlantic coast of the United States and Canada from the Bay of Fundy to the Carolinas.

The scale of the threat posed by lobster-set vertical buoy lines is illustrated by the placement of fixed gear at the top of Cape Cod Bay in relation to sightings of North Atlantic Right Whales. To enter Cape Cod Bay, one of their major historical habitats, right whales must pass through a gauntlet of vertical buoy lines anchored to thousands of lobster pot trawls. Evidence suggests that great whales primarily become entangled in the vertical rope lines that stretch from gear on the ocean floor to surface-floating buoys.\textsuperscript{48} When an area becomes known as a hot

\textsuperscript{41} See Johnson et al., \textit{supra} note 36, at 636.
\textsuperscript{42} Each season, a typical lobster pot fisherman may deploy as many as 800 traps configured as trawls, each consisting of twenty or fewer traps. There are two vertical buoy lines per trawl. The fishing gear remains in the water continuously for the duration of the season, which can last up to eight months or more.
\textsuperscript{43} See Johnson et al., \textit{supra} note 36, at 636–37.
\textsuperscript{44} See Pots, FAO Fisheries Glossary, \textit{available at http://www.fao.org/fi/glossary/default.asp} (click “Search for Term” hyperlink; then search “Pots”).
\textsuperscript{45} See id.
\textsuperscript{46} Johnson et al., \textit{supra} note 36, at 638 & fig.1.
\textsuperscript{47} Id.
\textsuperscript{48} See id. at 643 (“Fifty-six percent of the entanglements for [North Atlantic right whales and humpback whales] involved buoy line . . . .”). The author goes on to argue, however, that “[w]hether buoy and surface system lines represent more of an entanglement risk than groundline is currently difficult to determine.” Id.
spot for lobsters or prey fish, fishermen deploy thousands of traps—with attendant buoys and vertical lines—into a limited expanse of coastal waters, creating a rope forest.

![Figure 2. Lobster trap sets and right whale sightings, Cape Cod Bay.](image)

In this chart, each dot represents a sighting of a North Atlantic right whale in Cape Cod Bay since 1988 (the solid dark area is the land area of Cape Cod and adjacent mainland). The lined quadrilateral zones indicate the locations of just three lobster pot fields where thousands of lobster gear trawls are annually deployed, each set typically with one vertical buoy line attached at either end. Chart created by Jonathan Sege, Boston College Geophysics GIS Lab, 2008.

Great whales can get entangled just from running into this gear as they swim along. As a whale makes physical contact with a vertical buoy line by running into it, the line may wrap itself around a whale’s flippers, its tail, its body, and/or even through its mouth, and then set on itself and knot up. Repeated exposures to potentially fatal entanglement are a routine event for a majority of individual great whales in the North Atlantic Urban Sea.\(^{49}\) It appears that, once entangled, some

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\(^{49}\) See Read et al., supra note 35, at 167 (“50% to more than 70% of animals in some populations (Gulf of Maine humpbacks and North Atlantic right whales, respectively) have been entangled at least once in their lives . . . ”).
whales are able to shed the gear. In other entanglement episodes, owing to the whales’ large size, they can break away from some of the fishing gear with only the vertical lines wrapped around them. At other times they carry larger amounts of fishing gear when they break away from an entanglement site. Severe entanglement proceeds over time to constrict, cut, scar, or otherwise injure them, or worse.

Fixed sink gill nets also entangle whales. Gill nets are widely used by the commercial fishing industry for harvesting ground fish, the species of commercial fish that customarily live on or near the ocean floor—principally haddock, flounder, cod, skate, and fluke. Such nets also have vertical buoy lines that can entangle whales. Gill nets unfortunately do not discriminate in what they kill. They catch and kill many species of fish and wildlife that are not targets of the licensed fishery—so-called bycatch—including seals, dolphins, turtles, and other marine mammals besides whales. Gill nets can be aptly described as a “wall of death.” Nets can become transient killers when they break loose and drift randomly around bays and oceans as derelict “ghost nets,” holding entrapped and decomposing sea creatures, sometimes for years, until the nets finally disintegrate.

Eyewitness accounts of entanglements are rare, despite years of researchers observing these whales. This does not mean that entanglement is a rare event, however. Further compelling evidence for a high rate of entanglement comes from reports assessing rope-scarring on whales, the origin of which is overwhelmingly likely to have been caused by entanglement in fishing gear. Over seventy-five percent of

50 See Johnson et al., supra note 36, at 642.
52 See Johnson et al., supra note 36, at 636.
53 The gill net is intended to be a simple killing machine, catching any fish swimming through the water. When the head of a fish pushes through any of the individual openings in the invisible monofilament net, a nylon loop cinches around the gills behind the head. The caught fish is held in place with impaired gill breathing until it literally drowns.
54 See Read, supra note 34, at 542.
55 A ghost net can drift aimlessly for more than a dozen years before it starts to disintegrate or becomes so balled-up that it can no longer kill. See, e.g., Derelict Net Entangled, Killed 3,500 Animals in 15 Years, SANJUANJOURNAL.COM, June 11, 2008, http://www.pnwlocalnews.com/sanjuans/jsj/news/19785739.html.
North Atlantic right whales evidence scarring from such entanglement in fishing gear, as do approximately half of humpback whales. An assessment of the problem from field reports leaves no doubt that entanglement is a routine and dangerous phenomenon. As a recent report noted: “Entanglement in fishing gear is a significant cause of injury and mortality to many marine mammal populations throughout the world. Large whale populations along the U.S. east coast remain susceptible to entanglement, despite management efforts to reduce overfishing of lobster and groundfish species.” Entanglement in fixed fishing gear inflicts significant mortality and serious injury on humpback whales and North Atlantic right whales, threatening the survival of these endangered species.

As noted above, vertical buoy lines are involved in the majority of recorded fixed-gear entanglements of whales. There are an abundance of reports from the field of injured, dead, or disabled great whales entangled only in vertical buoy lines and attached buoys, often just a single line. On the other hand, the author is not aware of any great whale that has ever been sighted entangled solely in ground-line. When whales are observed dragging pots and other parts of pot gear, including ground-lines in these entanglements, the ground-lines are tied to vertical lines. Right whales in particular spend much of their lives swimming at or near the surface. Ground-lines hug or hover very near the seafloor. Great whales seldom dive to the seafloor and, when they do, appear to make vertical descents and ascents, not the traversing lateral movement that would increase exposure to ground-line. In addition, the ground-lines’ lateral orientation with two ends weighted down by attached traps creates a geometry that tends to limit entan-
glement opportunity, and therefore risk. For a number of reasons based on physics and behavior, therefore, ground-line participation in entanglements thus appears to the author to be at most marginal compared to the initial and continuing entanglement of whales caused by vertical buoy lines. When the National Marine Fisheries Service (NMFS) was asked via subpoena to produce any extant records of great whales becoming initially entangled in ground-lines rather than in vertical lines, the agency responded to the court in writing that they “ha[d] no such records.”

Fishing gear, and particularly vertical buoy lines, constantly pose a significant risk to entangle great whales whenever the two meet in close encounters. Regulations that are reasonable—and enforced—could almost entirely eliminate this threat. Otherwise the consequences will be to continue to expose endangered great whales to risk of extinction because reproducing numbers and the gene pool are already so limited.

This author believes NMFS resists regulating, banning, or requiring alternatives to conventional vertical buoy lines. As noted infra, the author has observed a distinct aversion to requiring re-engineering of vertical lines to make them “whale-safe.” Instead, NMFS chooses to issue a simple mandate for sinking ground-lines as a symbolic act to address entanglement. Given the questionable magnitude of the entanglement risk posed by ground-lines, this token regulatory act can be characterized as a political feint in deference to the industry that side-

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64 Subpoena issued in Strahan v. Holmes, 595 F. Supp. 2d 161 (D. Mass. 2009). When NMFS initially failed to comply, a contempt proceeding was brought by the plaintiff against it. After the court ordered its compliance, NMFS’s attorney informed the court on the record that NMFS had no records of ground-line ever on its own initiating the entanglement of a great whale. It is also possible that most ground-line found entangled on whales comes from gill nets, not lobster gear.

65 Johnson et al., supra note 36, at 644. “This analysis confirms that any line rising into the water column poses a significant entanglement risk for these two species.” The author does also note, however, that groundline can also float up into the water column. Id. at 643.

66 See Kraus et al., supra note 31, at 562.

67 See Lippsett, supra note 19. The results are also horribly cruel in terms of animal welfare as these great mammals suffer serious injuries and long lingering painful deaths. See Moore et al., supra note 51.

68 See Taking of Marine Mammals Incidental to Commercial Fishing Operations; Atlantic Large Whale Take Reduction Plan Regulations, 72 Fed. Reg. 57,104, 57,104 (Oct. 5, 2007) (covering only weak link or breakaway buoys, not vertical buoy lines) (to be codified at 50 C.F.R. §§ 229.2, 229.3, 635.69(a) (3), 648.264(a) (6) (i)).

69 See id.
steps enforcement of the substantial commands of the Endangered Species Act (ESA).

B. Alternative Technologies and Commercial Fishing Practices That Reduce Risk of Entanglement

Because feasible technology and methodology exist to substantially reduce—if not largely eliminate—the hazards of whale entanglement in vertical buoy lines, the official regulatory focus on ground-lines by NMFS appears to be politically driven. Effective regulation strategies would focus on whale-safe buoy lines and redesigning fishing seasons and zones to limit the time and placement of entangling gear. A recent study comparing lobster fishing in the Canadian and American portions of the Gulf of Maine shows that a large reduction of fishing effort would greatly reduce the entanglement risk posed by the fishery while reducing the total lobster catch only trivially. This also results in a substantial lessening of actual net cost per pound of catch. The straightforward regulatory logic and simplicity of requiring whale-safe vertical lines, moreover, is obvious. Making vertical buoy lines significantly more whale-safe does not require sophisticated electronic trap-retrieval devices or remote-triggered buoy systems that pop up from the ocean floor. Stiffened, less-entangling ropes and other simple substantial improvements could be readily developed. The failure of NMFS to require whale-safe ropes for commercial fishing gear is not based on a failure of available technology.

70 Kraus et al., supra note 31, at 562.
71 See Ransom A. Myers et al., Saving Endangered Whales at No Cost, 17 CURRENT BIOLOGY R10, R11 (2007). “If Maine restricted its fishing season to 6 months and reduced the number of traps by a factor of 10, the same amount of lobster could be landed, with greatly reduced risk to right whales and other species.” Id.
72 Id.
73 Nonknottable rope designs have been developed by researchers at the Massachusetts Institute of Technology and could be quickly brought to commercial production if a regulatory mandate existed to create a market.
II. The Current Government and Private Regulatory Paradigm for Protection and Conservation of Great Whales

A. The Federal and State Regulatory Scheme for Fixed Gear Fisheries

1. Regulation of Marine Commercial Fisheries in General

The marine fisheries regulatory systems adopted by both the federal government and coastal states share basic key features. State and local marine fisheries agencies (as opposed to inland fisheries agencies, which focus upon conservation and noncommercial utilization) are designed and established to regulate and promote the commercial marine fishing industry. These agencies are mandated by statute to assist the private commercial fishing industry, and in practice seem demonstrably to have far less concern for serving public interests like animal welfare and conservation. The fishing agencies usually are directed by a commission whose membership, by explicit statutory mandate, is dominated by members who are either commercial fishermen or are otherwise associated with the commercial fishing industry. The result of the private commercial orientation of these agencies is that the fishing industry essentially regulates itself. At the federal level, moreover, state marine fishing agencies play a major role on the commissions governing the federal fisheries regulatory scheme and the National Marine Fisheries Service (NMFS). Environmental impact review laws have a tendency to limit the autonomy of these agencies as well as the fishing industry. In the case of state agencies, as a matter of political realities rather than by statutory exemption, regulation of marine fisheries is

75 See 16 U. S. C. § 1801(a) (6): “A national program for the conservation and management of the fishery resources of the United States is necessary to prevent overfishing, to rebuild overfished stocks, to insure conservation, to facilitate long-term protection of essential fish habitats, and to realize the full potential of the Nation's fishery resources.” These statutes show little concern for any adverse impact of fishing on the environment or any need to make fishing environmentally safe.
historically not subjected to the mandates of state environmental review laws.\footnote{A case in point is the historical refusal of the Massachusetts Executive Office of Energy and Environmental Affairs (EOEEA) to review the licensing of commercial fishing for its impact on the environment under the Massachusetts Environmental Protection Act (MEPA).}

2. Federal Fishing Industry

NMFS is the federal fishing agency.\footnote{Reorganization Plan No. 4 of 1970, 3 C.F.R. 1075 (1970), \textit{reprinted as amended in} 5 U.S.C. app. at 648–50 (2006), \textit{and in} 84 Stat. 2090–93 (1970). NMFS was established by Reorganization Plan No. 4 of 1970 which transferred the responsibilities of the former Department of Interior’s Bureau of Commercial Fisheries to it. \textit{Id.}} NMFS issues regulations to implement fisheries management plans and has enforcement authority in regard to fisheries regulations. It manages marine commercial fisheries principally under the terms of three federal statutes: (1) the Magnuson-Stevens Fisheries Management Conservation Act; (2) the Sustainable Fisheries Act; and (3) the Atlantic Coastal Fisheries Management Act.

In 1995 Congress passed the Sustainable Fisheries Act (SFA) establishing a mandate that marine fisheries be managed to ensure that they are sustainable and to assist in the recovery of depleted fisheries. This Act is considered a part of the FMCA.

The Atlantic Coastal Fisheries Cooperative Management Act (ACFCMA) establishes an Atlantic States Marine Fisheries Commission (ASMFC) in which each member state is represented by three commissioners along with a representative from NMFS. The American lobster fishery is currently managed under the terms of a voluntary compact of fifteen Atlantic coastal states (from Maine to Florida) organized under NMFS federal oversight pursuant to the ACFCMA. Currently, NMFS has agreed to let the ASMFC and its member coastal states develop a uniform fisheries management plan for the American lobster fishery for these coastal state waters and for federal waters as well. NMFS then implements this plan under its federal management authority after a simple review. Individual states also may issue complementary public laws beyond the agreed upon base regulations. Gill nets, too, are a focus of the cooperative regulatory management by coastal states and NMFS pursuant to the ACFCMA, along with regulation of moving purse-seine techniques in modern otter trawl fishing.

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87 See id.


92 16 U.S.C. § 5103(a); State-Federal Fisheries: The Atlantic Coastal Fisheries Cooperative Management Act, supra note 89.

93 50 C.F.R. § 697.3(c) (2008).
3. Coastal States Fishing Industry

Typical of state marine fisheries is the Massachusetts Division of Marine Fisheries (MDMF) that is overseen by the independent Massachusetts Marine Fisheries Advisory Commission (MMFAC). The members of the MMFAC are appointed by the governor and must be commercial fishermen, sport fishermen, or members of the marine fisheries industry. Interestingly, Massachusetts statutes include whales within the definition of “fish.” The MMFAC is vested with the sole authority to approve regulations proposed by the MDMF concerning the “manner of taking fish” and fishing gear itself. This is thus a typical state arrangement by which the commercial fishing industry in effect regulates itself. The MMFAC is usually chaired by leaders of commercial fishing lobby groups.

The failure of state fishing agencies to adequately protect the public interest has on occasion caused various ocean user groups to seek protection for marine wildlife from the impact of commercial fishing. In 1994, Florida sports fishermen successfully promoted a measure to ban gill nets in Florida through a ballot referendum initiative approved by the voters. This led to a constitutional provision banning gill nets and other entangling nets from being used in Florida coastal waters, and was joined by similar bans in other states. The Florida law was challenged in court and was eventually upheld by the Florida District Court of Appeal for the First District.

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95 See Mass. Div. of Marine Fisheries, supra note 94.
96 Mass. Gen. Laws ch. 130, § 1 (2006) (defining “[f]ish” as “any animal life inhabiting the ocean or its connecting waters including any crustacean or marine fish, whether free swimming or free moving, and any shellfish or sea worms, whether or not imbedded in the soil”).
98 The current MFAC Vice-Chairman is Bill Adler, Executive Director of the Massachusetts Lobstermen’s Association. See Marine Fisheries Commission, supra note 94.
100 Fla. Const. art. X, § 16(b)(1) (stating “[n]o gill nets or other entangling nets shall be used in any Florida waters”); Renard, supra note 99, at 275 & n.7.
4. Effects and Causes of the Current Regulatory Framework

The standard regulatory provisions affecting coastal fisheries focus in one form or other upon catch limitations. Limitations of catch have long been criticized as so permissive that they have allowed the destruction of many commercial species. Even where excessive catch rates clearly threaten the reproduction of future harvestable populations, short-term pressures from the commercial industry regularly override scientific warnings.

The political forces behind commercial fishing come from a combination of an appealing public image and highly focused financial and lobbying efforts from the large commercial players. The characteristic political image typically is the small family fishing boat, and the need to save fishing families from economic disaster and harsh government regulation. The substantive political force comes from, and benefit accrues to, the large fishing companies that dominate the market. The result of the erosion of agency authority to conserve fisheries is that maximum sustainable yield has not been a possibility for decades. In this author’s opinion, if fishing agencies find it impracticable to enforce statutory mandates and adopt regulations directed at achieving maximum sustainable long-term harvests—which support the true long-term interests of the industry and society—it is understandable that they have low motivation to enforce federal and state regulatory structures for protecting great whales from adverse industry-caused impacts.

B. Whale Conservation Laws: Federal and State

Starting with the Whaling Convention Act (WCA) of 1949, whales have been subject to conservation and management laws in the United States. But it is important to note that these laws generally construed whales to be a “living marine resource” in terms applied to harvestable fish, and their conservation was intended at least originally to serve the

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103 See Christopher Costello et al., Can Catch Shares Prevent Fisheries Collapse?, 321 SCIENCE 1678, 1678 (2008).
104 See id.
105 Maximum sustainable yield (MSY) is a management ideal and norm that on its terms defines a laudable sustainability objective: maintaining the maximum level of catch of a fish population in a year that can then be fully replaced by simple reproduction and growth each year. See 50 C.F.R. § 600.310(c)(1) (2008). Under current conditions fish populations cannot support anything approaching MSY.
purpose of ensuring future supplies for commercial whale harvesting.\textsuperscript{107} Even today the great whales are for all intents and purposes legally lumped together with fish. As noted supra, whales are defined as fish by Massachusetts statute and, like fish, are protected under fisheries’ living resource rules.\textsuperscript{108} The protection of great whales is thus assigned to fisheries agencies internally committed to supporting and encouraging the commercial catch, a classic problem of foxes guarding the chicken coop.

1. Whaling Convention Act

Protection for great whales was first specifically legislated in modern times by the International Convention for the Regulation of Whaling (1946), signed by all the whaling nations, establishing the International Whaling Commission (IWC).\textsuperscript{109} The Whaling Convention Act (WCA) was adopted by Congress in 1949 to implement the treaty.\textsuperscript{110} The original motivation for the IWC was utilitarian: to preserve whales for future commercial harvesting: for whaling.\textsuperscript{111} The duality of intent—on one hand to “protect” the whales and on the other hand to ensure the opportunity for commercial harvest of whales—has often been cited as a problematic conflict in the managed exploitation of natural resources.\textsuperscript{112} This purpose of management was the unabated practice of the IWC for the three decades following the WCA adoption.\textsuperscript{113} Reflective of this, the Department of the Interior assigned management responsibilities under the WCA to the Bureau of Commercial Fisheries (BCF). As its name implied, the BCF was designed to encourage the commercial fishing industry, and did little or nothing to change its practices in order to meet mandates imposed on it to conserve threatened marine mammals.

\textsuperscript{107} Id. at 351–52 (discussing the International Convention for the Regulation of Whaling).
\textsuperscript{111} Andresen, supra note 26, at 109.
\textsuperscript{112} Id. “The duality of purposes reflected in the 1946 Convention, conservation of the living resource and the ‘development’ of the industry that exploits it, resulted in a long history of decisions sacrificing the former objective for the attainment of the latter.” Michael J. Bean, The Evolution of National Wildlife Law 263 (1983).
\textsuperscript{113} See Andresen, supra note 111, at 109–10.
Predictably, whale populations continued to crash from over-exploitation.\textsuperscript{114} In 1972, the United States signed on to the United Nations Conference on the Human Environment (the Stockholm Declaration) that called for a ten-year moratorium on hunting of great whales.\textsuperscript{115} The IWC voted a ten-year moratorium on whaling into effect in 1982 to begin in 1986.\textsuperscript{116} Japan refused to comply with the moratorium at first, but eventually brokered a deal with the United States to support the moratorium starting in 1988 in exchange for non-enforcement of potential sanctions imposed against its other fisheries.\textsuperscript{117}

2. The Endangered Species Conservation Act of 1969

The great whales were first listed as endangered species pursuant to the Endangered Species Conservation Act of 1969.\textsuperscript{118} This 1969 precursor to the ESA, however, had little or no enforceable federal protections for the species that were listed as endangered.\textsuperscript{119}

3. Reorganization Plan No. 4 of 1970 and the Formation of the National Oceanic and Atmospheric Administration

Reorganization Plan No. 4 of 1970 (RPN-4) created the National Oceanic and Atmospheric Administration (NOAA).\textsuperscript{120} It also transferred all duties and staff from the BCF—including whaling management responsibility—to the Commerce Department, which delegated it to NOAA.\textsuperscript{121} NMFS was created as the agency within NOAA into which

\textsuperscript{114} See id.


\textsuperscript{116} CURNUTT, supra note 106, at 352.


\textsuperscript{119} Sections 2 and 4 provide for listing of endangered species but do not provide for protective measures beyond habitat conservation. See Endangered Species Conservation Act of 1969 §§ 2, 4. Furthermore, the Act authorized penalties in the form of fines of up to $5000 or imprisonment for not more than one year. See id. § 4(b).


\textsuperscript{121} See id. at § 1(a), reprinted in 84 Stat. at 2090.
the former BCF was folded.\textsuperscript{122} The current core duty of NMFS is to promote, license, and regulate commercial fishing under the Fisheries Management and Conservation Act mandated by law to strive to obtain Maximum Sustainable Yields (MSY) of harvested fish.\textsuperscript{123}

There was no mandate under RPN-4 to assign management authority for whales to NMFS. RPN-4 only directed that BCF duties were to be placed with the broad umbrella agency, NOAA, and not specifically to the fishing agency, NMFS.\textsuperscript{124} NOAA was and remains free to assign the responsibility for conserving and protecting great whales to any of its sub-agencies. This author believes responsibility for whale conservation could have been assigned to far better alternate agencies, like NOAA’s National Ocean Service. The decision to place whales with NMFS reflects the concept by which whales are construed as “fish” and “living marine resources” under federal law. Even though this transfer was made before the adoption of the Marine Mammal Protection Act (MMPA)\textsuperscript{125} and the Endangered Species Act (ESA),\textsuperscript{126} it defined the subsequent core status of whales under federal law as that of exploit-able resources even under the MMPA and ESA.

4. The Marine Mammal Protection Act of 1972

The 1940s regulatory approach—justifying conservation measures for whales in order to enable a sustained future commercial harvest of whales—was similarly echoed in a subsequent major piece of statutory protection for whales, the Marine Mammal Protection Act of 1972 (MMPA).\textsuperscript{127} The MMPA declared a moratorium on the harvesting of marine mammals in order to build up their remaining depleted populations.\textsuperscript{128} This moratorium was to be enforced within the nation’s 200-mile EEZ.\textsuperscript{129} The text of the MMPA expresses concerns about the harming of marine mammals by the commercial fishing industry, but its provisions are quite lenient toward fishermen and explicitly limit the


\textsuperscript{124} See Reorganization Plan No. 4 of 1970, at § 1(d), reprinted in 84 Stat. at 2090.


\textsuperscript{127} See 16 U.S.C. § 1361.

\textsuperscript{128} See id. § 1371.

\textsuperscript{129} Id. § 1362(15)(B).
protection of whales from incidental takings from commercial fishing.\textsuperscript{130}

The MMPA designated NOAA as its defined oversight agency, and NOAA assigned this responsibility to NMFS, perpetuating the conflicted status of whales.\textsuperscript{131} American fishermen generally do not hunt whales or other marine mammals, but do recognize MMPA protections as a serious potential limitation upon commercial fishing.\textsuperscript{132} Minimizing the MMPA’s constraints on commercial fishing appears to have encouraged a de facto operating policy of NMFS to treat collateral entanglement of great whales as a problem, but not as an object of enforced prohibitions under the MMPA.\textsuperscript{133}

Sections 117 and 118 of the MMPA’s 1994 amendments adopted a detailed regime for dealing with the problem of marine mammal entanglement and entrapment by commercial fishing practices.\textsuperscript{134} They set as a goal that NMFS eliminate the entanglement problem by April 2001.\textsuperscript{135} Section 117 of the MMPA requires that NMFS annually assess and produce a stock assessment report (SAR) on known incidents of killings and serious injury to specific populations of marine mammals from entanglement.\textsuperscript{136} Section 118 requires that NMFS publish an annual list of fisheries (LOF) categorizing fisheries that cause entanglements into one of three named categories based on the incidents of killing and serious injury (IKSI) inflicted on a marine mammal popula-

\textsuperscript{130} See id. § 1371; see also Eugene H. Buck, CRS Report for Congress: Marine Mammal Protection Act Amendments of 1994, 94-751 ENR (1994), available at http://ncseonline.org/NLE/CRSrEports/Biodiversity/biodv-11.cfm (implying that the 1994 Amendments to the to the MMPA exempt commercial fishermen from the purview of the statute by implicitly characterizing fishing gear entanglements as incidental takings).


\textsuperscript{132} See id. § 1371(a)(2) (noting that permits can be obtained for incidental takings of marine mammals in the course of commercial fishing); see also Philippe Sands, Principles of International Environmental Law 954 (2d ed. 2003) (highlighting the impact that the MMPA has on the tuna fishing industry).

\textsuperscript{133} See 16 U.S.C. § 1371(a)(2) (indicating incidental takings can be permitted under section 1374 of the Act). But see George A. Feldhammer et al., Wild Mammals of North America: Biology, Management, and Conservation 442 (2d ed. 2003) (noting that the NMFS is under pressure to reduce takings of whales due to ship strikes and entanglements and thus has proposed regulations known as recovery plans to ensure the survival and success of whales).


\textsuperscript{135} See 16 U.S.C. § 1387(b)(1).

\textsuperscript{136} See id. § 1386.
tion by entanglements.\textsuperscript{137} This category scheme also incorporates Take Reduction Plans (TRP) that have the goal of reducing incidental killings and serious injuries below the potential biological removal (PBR) level set for the stock pursuant to Section 117.\textsuperscript{138} Fixed gear fisheries in the northeastern U.S. have been designated as Category I fisheries and thus the highest risk of IKSI to great whales.\textsuperscript{139} To assist NMFS, section 118 allows the Secretary of Commerce, acting through a relevant office, to designate a Take Reduction Team (TRT) as an advisory group assisting in the preparation of a TRP to specify how reduction in entanglements shall be achieved.\textsuperscript{140} Emergency regulations to implement the TRP were to be promulgated as soon as feasible.\textsuperscript{141}

This author believes the 1994 MMPA amendments eliminated incentives for the commercial fishing industry to come up with ways to eliminate bycatch of whales on its own, instead passing the political burden of the bycatch problem to NMFS. In place of the lost prohibitions, NMFS set out the detailed regime, described \textit{supra}, aimed at reducing serious entanglements to near zero by April 2001. Obviously, NMFS has failed to meet this mandate, as whale entanglements did not stop in 2001, and have at times exceeded 2001 levels.\textsuperscript{142} Unsurprisingly, there is a correlation between assigning sole responsibility to the NMFS for whale entanglements and a number of takes that exceeds the PBR.\textsuperscript{143}

\begin{itemize}
\item \textsuperscript{137} See \textit{id.}, § 1387(d)(4); see also \textit{Authorization for Commercial Fisheries Under the Marine Mammal Protection Act of 1972}, 50 C.F.R. § 229.2 (2008) (defining the categories of fisheries under the Act).
\item \textsuperscript{138} See § 1386(f); 50 C.F.R. § 229.2. The potential biological removal level is defined in the Code of Federal Regulations as "the maximum number of animals, not including natural mortalities, that may be removed from a marine mammal stock while allowing that stock to reach or maintain its optimum sustainable population." 50 C.F.R. § 229.2. Further, "[t]he potential biological removal level is the product of the following factors: (1) The minimum population estimate of the stock; (2) One-half the maximum theoretical or estimated net productivity rate of the stock at a small population size; and (3) A recovery factor of between 0.1 and 1.0." \textit{Id.}
\item \textsuperscript{139} See \textit{List of Fisheries for 2009}, 73 Fed. Reg. 73,032, 73,066 (Dec. 1, 2008) (to be codified at 50 C.F.R. pt. 229).
\item \textsuperscript{140} See 16 U.S.C. § 1387(f).
\item \textsuperscript{141} 50 C.F.R. § 229.9(a)(2).
\end{itemize}
5. The Pelly Amendment to the Fishermen’s Protective Act of 1967 and the 1979 Packwood Amendment to the Fisheries Management and Conservation Act

These acts, often referred to together as “Pelly-Packwood,” imposed a “restriction on importation of fishery or wildlife products from countries which violate international fishery or endangered or threatened species programs.”¹⁴⁴ The Supreme Court ruling in *Japanese Whaling Association v. American Cetacean Society*, however, allowed the executive branch broad discretion in deciding whether to trigger such trade restrictions, further undercutting citizen attempts to compel the imposition of authorized sanctions.¹⁴⁵

6. The Marine Mammal Commission

The Marine Mammal Commission (MMC) is an independent federal commission established by statute¹⁴⁶ to be the federal government’s main advisor on marine mammal issues, and in the author’s opinion is the agency that should be assigned the federal management role for great whales in any future redesign of whale conservation policy. The MMC’s enabling statute requires that its commissioners must be persons “who are not in a position to profit from the taking of marine mammals,” recognizing the inherent compromising influence of vested interests in the field.¹⁴⁷ The MMC has compiled an impressive record in assuming leadership for government action on the conservation of marine mammals, having recommended significant conservation actions for marine mammals, but it has been delegated no substantive regulatory powers.¹⁴⁸

7. The Endangered Species Act of 1973

The Endangered Species Act of 1973 (ESA) replaced and built significantly on Congress’s original endangered species legislation.¹⁴⁹ Two

¹⁴⁵ See 478 U.S. 221, 231–41 (1986) (noting that as long as the Secretary’s interpretation and application of the Pelly-Packwood Amendments were reasonable, they would receive deference from the courts).
¹⁴⁷ See id. § 1401(b)(1).
¹⁴⁸ See id. § 1402(a); see also Marine Mammal Commission, Annual Reports, http://www.mmc.gov/reports/annual/ (last visited Apr. 27, 2009).
improvements to the original 1966 legislation and the 1969 amendments were sections 7 and 9 of the ESA. \textsuperscript{150} Section 7 of the Act provides that, absent an exemption from the Secretary of the Interior, all “Federal agenc[y]s shall . . . insure that any [authorized] action . . . is not likely to jeopardize the continued existence of any endangered species or threatened species or result in the destruction or adverse modification of habitat of such species . . . “. \textsuperscript{151} Further, section 9 of the ESA “applied broad ‘take’ prohibitions to all endangered animal species and allowed the prohibitions to apply to threatened animal species by special regulation.” \textsuperscript{152}

There are serious problems with the functionality of the improved ESA, however, in that it does not effectively establish an agency to oversee implementation of section 7 reviews, to enforce section 9 prohibitions, and otherwise oversee compliance by other government agencies with mandatory and nondiscretionary ESA duties. These statutory functions are largely left to the vagaries of citizen enforcement. \textsuperscript{153}

Section 9 also suffers from not including an explicitly stated prohibition against individuals conducting “activities” that take endangered wildlife, as well as on such activities themselves. \textsuperscript{154} Based on the wording of the ESA text and existing case law, section 9 prohibitions clearly apply when a person engages in an activity that actually causes a prohibited taking. \textsuperscript{155} Unfortunately, section 9 does not prohibit a fisherman’s actual deployment of types of fishing gear known to entangle whales (for example, fixed gear) in the absence of a specific entanglement. \textsuperscript{156} The current need under section 9 jurisprudence to prove that each person out of thousands doing the same thing will “actually” on his own kill an animal—whether it be a lumberman cutting trees where endangered birds live or a fisherman using vertical buoy lines in Cape Cod Bay—in order to enforce section 9 prohibitions against him personally is enough to block the effective injunctive protection of great whales at the present time. \textsuperscript{157}

\textsuperscript{150} See id.
\textsuperscript{153} 16 U.S.C. § 1540(g).
\textsuperscript{154} See id. § 1538.
\textsuperscript{155} See id.
\textsuperscript{156} See id.; see also Am. Bald Eagle v. Bhatti, 9 F.3d 163, 165–67 (1st Cir. 1993) (indicating that takings must be intentional or cause actual harm); 50 C.F.R. § 17.3 (2007) (defining the term “taking” in the context of the ESA).
\textsuperscript{157} See 16 U.S.C. § 1538; Am. Bald Eagle, 9 F.3d at 163; 50 C.F.R. § 17.3.


9. State Conservation Programs for Whales

Currently, there is a lack of cooperation between states and the federal government regarding endangered species and state participation generally.\footnote{See Robert L. Fischman & Jaelith Hall-Rivera, A Lesson for Conservation from Pollution Control Law: Cooperative Federalism for Recovery Under the Endangered Species Act, 27 COLUM. J. ENVTL. L. 45, 78–81 (2002); James M. Taylor, Governors Call for Endangered Species Act Reform, ENV’T & CLIMATE NEWS, May 1, 2004, http://www.heartland.org/policybot/results/14867/Governors_Call_for_Endangered_Species_Act_Reform.html.} Some states have adopted their own endangered species acts.\footnote{See, e.g., The Massachusetts Endangered Species Act, MASS. GEN. LAWS ch. 131A (2006).} However, such state laws can be preempted by the federal ESA if they are determined to be more lax than the federal law.\footnote{See Fischman & Hall-Rivera, supra note 160, at 80.}

States, like the federal government, often divide wildlife agencies into land-based and marine-based agencies. State marine fisheries agencies historically focused only on commercial fishing, disregarding protections for whales, marine mammals, and sea birds as a job for the land-based wildlife state agencies assigned the role of protecting all state wildlife as protected species. However—perhaps because entanglements of endangered marine mammals now are recognized as posing an increasing potential for limitations upon commercial fishing—there is a current move for state marine fishing agencies to take over endangered species jurisdiction as applied to endangered marine wildlife, contradicting the terms of relevant state statutes.\footnote{In 1993 the MDMF forced the Massachusetts Division of Fish and Wildlife, the proper endangered species agency, to sign a memorandum of understanding ceding management and lead agency responsibility for whales in state waters to it. The MDFW and its Natural Heritage and Endangered Species Program (NHESP) are imbued by the Massachusetts Endangered Species Act (MESA) with responsibility for all state protected endangered species—including whales. Because of the 1993 MOU, great whales in Massachusetts...}
C. The Entanglement Problem—Regulatory Efforts by Fishing Agencies

Prior to the 1994 amendments to the MMPA, NMFS and state marine fishing agencies largely ignored the problem of the entanglement of great whales in fishing gear. To a substantial extent, NMFS also tended to ignore the ESA in regards to endangered great whales until lawsuits coerced it to do otherwise. At present, there is no currently active NMFS-appointed ESA recovery team for any endangered species—including the great whale species—and no significantly funded recovery program, except for the North Atlantic right whale recovery program. NMFS prefers to address protection for great whales under the more lenient terms of the MMPA, which treats marine mammals as a “living resource” to be managed like fish stocks, is industry-tolerant, does not directly prohibit entanglement of great whales, and does not allow citizen enforcement of its rules.

1. Federal Regulation of Fisheries to Reduce Entanglement

Federal and state regulatory attention to the great whale entanglement problem of can be attributed to two linked elements: (1) the passage of the 1994 amendments to the MMPA, which at least adverted to the problem; and (2) the commencement of two citizen lawsuits: one against the United States Coast Guard and NMFS—Strahan v. Linnon—and the other against the Massachusetts Division of Marine Fisheries (MDMF)—Strahan v. Coxe. The lawsuits were precipitated by the failure of NMFS to take appropriate actions to assemble the required MMPA Take Reduction Team (TRT) for the great whales or coastal waters were effectively removed from any protection by MESA. The author is aware of no provision of the MESA or law that supports the 1993 MOU. It remains in effect to the present day.


165 Unlike most environmental statutes, the MMPA does not include a citizen standing enforcement provision. 16 U.S.C. § 1377 (stating “[e]xcept as otherwise provided in this subchapter, the Secretary shall enforce the provisions of this subchapter”); Strahan v. Coxe, 127 F.3d 155, 160 (1st Cir. 1997).


make the necessary formal List of Fisheries (LOF) determinations required by the MMPA’s 1994 amendments.

Linnon addressed incidents of Coast Guard boats killing and injuring right whales, and prompted NMFS to establish a Large Whale TRT. The suit also prompted NMFS to agree to classify inshore and offshore lobster fisheries as Category I in its first published LOF. The Linnon suit also led NMFS to adopt a rule requiring a 500-yard distance separation between whales and boats.

In 1999, NMFS adopted its first version of its Atlantic Large Whale Take Reduction Plan (ALWTRP) for the great whales in the United States Urban Sea of the North Atlantic. The 1999 ALWTRP stated its long-term goal was to reduce entanglement-related injuries and mortalities to right, fin, humpback, sei, and minke whales. However, in practice, NMFS focused its efforts almost exclusively on the right whale, in effect creating, in this author’s opinion, a non-statutory requirement that a species be facing imminent extinction in order to be the beneficiary of any government efforts to stop their killing in fishing gear or by ship strikes.

Further entanglements after the publication of the 1999 ALWTRP prompted NMFS to mandate gear modifications, such as the use of weak-link buoy lines, as well as seasonal area restrictions. These measures subsequently proved to be ineffective. This author maintains that the required break-away link technology had never been tested in the field and the required seasonal area restrictions also offered no proven track record for anyone to expect it to work. Other vertical buoy line mitigation proposals calling for electronically re-

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168 967 F. Supp. at 589.
169 Id.
170 Id.
173 Id. at 7531.
174 For example, the 1999 ALWTRP only requires gear marking of lobster and gillnet gear in “right whale critical habitat, in the southeast observer area and on Stellwagen Bank and Jeffreys Ledge in the Gulf of Maine.” Id. at 7533.
leased buoy assemblies on the sea floor have yet to go beyond the wishful-thinking phase.177

In its 2007 amendment to its ALWTRP,178 NMFS did not explore other practical alternative approaches to resolving the vertical buoy line threat—stiffened vertical lines that cannot entangle, or substantial reduction in numbers or locations of deployment of fishing gear sets that would mitigate the threat.179 Instead, NMFS adopted a more lenient Massachusetts-type approach, directing that licensed fisheries use sinking ground-line as the sole means to reduce entanglement risk.180 NMFS also abandoned a useful previous requirement—the Dynamic Area Management (DAM) and Seasonal Area Management (SAM) policies181 that limited placement of fixed gear near some of the places where right whales are known to aggregate. The sole justification for the 2007 ALWTRP sinking ground-line requirement, beyond its simplicity of adoption, was a theory devoid of empirical evidence for its support—that nonsinking ground-line is the most significant source of right whale entanglement. NMFS asserted, despite a lack of evidence, that requiring widespread use of sinking ground-line would substantially reduce the threat to Right Whales of entanglement by lobster pot gear sufficiently to comply with the MMPA and ESA. The 2007 ALWTRP stated it would

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177 Pop-up buoys are not commercially available and exist only as unproven experimental technology.

178 Atlantic Large Whale Take Reduction Plan Regulations, 72 Fed. Reg. 57,104, 57,105–06 (Oct. 5, 2007) (to be codified at 50 C.F.R. pts. 229, 635, 648). The 2007 amendment to the ALWTRP was advanced because of the continuing killing and injuring of right whales under the regime of the 2005 ALWTRP in Fixed Gear. See id. at 57,104.

179 See id. at 57,106 (only requiring weak links on buoy lines).

180 See id.

181 Id. at 57,105–06. Dynamic Area Management (DAM) is a management strategy to declare an emergency zone around a recent aggregation of right whales and to impose for a stated temporary period of time in the declared DAM area further restrictions on fixed fishing gear. Atlantic Large Whale Take Reduction Plan Regulations, 67 Fed. Reg. 1133, 1134–35 (Jan. 9, 2002). See generally Phillip J. Clapham & Richard M. Pace, Northeast Fisheries Sci. Ctr. Reference Doc. 01-06, Defining Triggers for Temporary Area Closures to Protect Right Whales from Entanglements: Issues and Options (2001) (discussing triggers for DAM). Seasonal Area Management (SAM) is a management strategy to declare a seasonal zone around areas where aggregation of right whales are seasonally expected, and to impose for a stated period of time each year further restrictions on fixed fishing gear in the SAM area. Atlantic Large Whale Take Reduction Plan Regulations, 67 Fed. Reg. 1142, 1150 (Jan. 9, 2002); see Richard L. Merrick et al., Northeast Fisheries Sci. Ctr. Reference Doc. 01-14, Identification of Seasonal Area Management Zones for North Atlantic Right Whale Conservation, at v (2001).
postpone consideration of the proven threat posed by vertical buoy lines to an indefinite “future date.”\footnote{182}

NMFS’s current de facto policy of refusing to enforce ESA section 9 prohibitions to prevent entanglements of great whales practically discourages the innovation and adoption of whale-safe fishing technology. NMFS has also chosen to oppose private enforcement actions against the industry and to assist fishermen in winning these lawsuits.\footnote{183} Despite the large number of incidents where whales have been injured or killed by vertical buoy lines and the fact that in many entanglement events the removed gear had tags on it identifying the owner, NMFS has never prosecuted a fisherman for an entanglement of a great whale under the ESA or MMPA. In 1997, the First Circuit Court of Appeals held in \textit{Strahan v. Coxe} that entanglements are prohibited ESA takings.\footnote{184} In response, however, NMFS adopted a policy not to enforce the section 9 take prohibitions, instead treating whale entanglement as a regulatory problem to be handled under the agency’s commercial fishing regulatory program. In so doing, NMFS’s refusal to prosecute any fisherman whose fishing gear entangles endangered whales applies even when fishermen explicitly acknowledge that their gear entangled a specific whale.\footnote{185} The author concludes that by its avoidance of prose-

\footnote{182} Atlantic Large Whale Take Reduction Plan Regulations, 72 Fed. Reg. 57,104, 57,117 (Oct. 5, 2007) (to be codified at 50 C.F.R. pts. 229, 635, 648) (“[T]he DEIS includes a discussion of vertical lines. Specifically, the DEIS notes that further risk reduction to address risk associated with vertical line will occur through a future rulemaking action due to the need for additional information and discussions to develop comprehensive and effective management measures.”).

\footnote{183} NMFS refused to comply with—and sought to quash—all subpoenas that the author served on it to reveal the names of commercial fishermen whose fishing gear entangled a great whale. The Center for Coastal Studies—who is contracted to perform great whale disentanglement—also refuses to reveal the identity of the fishermen who own the fishing gear that it removes from entangled great whales.


Although the whale . . . was later disentangled from the gear stuck in its baleen, it was “taken captive” by Holmes’s gear for at least some period of time. . . . Therefore, the Court concludes that Holmes violated Section 9 of the ESA when the humpback whale became entangled, and hence “taken,” in his lobster gear. The fact that the taking was accidental is irrelevant.

\textit{Id.} See also Greenpeace Found. v. Mineta, 122 F. Supp. 2d 1123, 1136 (D. Haw. 2000) (finding accidental takes of monk seals to be takes, nonetheless).

\footnote{185} For example, attorney Deirdre Casey from the civil enforcement section of NOAA’s Office of General Counsel for Enforcement and Litigation (GCEL) in Gloucester, MA stated in 2008 that fishermen should not be prosecuted for entangling whales because they are under license by NMFS and a whale entanglement is incidental to NMFS’s licensing
cutions, NMFS has simply chosen to ignore the ESA statutory prohibitions and its statutory responsibilities to enforce them.

NMFS has a specialized ESA office distinct from its MMPA office.\(^{186}\) NMFS, however, removed great whales from the jurisdiction of its internal ESA enforcement division and placed them exclusively under the jurisdiction of the office vested with the more lenient requirements of the MMPA, which refuses to prosecute fisherman under ESA section 9 for entangling great whales, or to require ESA compliance by state licensing agencies. The court in *Coxe* required Massachusetts to apply to NMFS for an incidental take permit (ITP) for the right whale.\(^{187}\) NMFS, however, has refused to process the resultant application and has yet to ask any state marine fishing agency to apply for an ITP for whales under section 10 of the ESA to manage fisheries in compliance with section 9’s take prohibitions.

A recent example of such agency avoidance is NMFS’s refusal to prosecute a fisherman who admitted to NMFS employees that he owned and had placed the fishing gear removed from an entangled humpback whale in August, 2006.\(^{188}\) The removed gear had his name and permit number on it. NMFS investigators declined, however, to refer the fisherman and the entanglement incident to its civil or criminal enforcement offices for consideration of possible prosecution and regulating of their fishing. Telephone Interview with Deirdre Casey, Attorney in Office of General Counsel for Enforcement and Litigation, NOAA (Dec. 8, 2008).

\(^{186}\) See Office of Protected Fisheries, National Marine Fisheries Service, About the Office of Protected Fisheries, http://www.nmfs.noaa.gov/pr/about (last visited Apr. 27, 2009). Sea turtles, for example, are handled by its ESA office, which has actively applied section 9 against a state fishery agency regarding turtle entanglement in state-licensed fishing gear. NMFS has issued an ESA section 10 incidental take permit—NMFS ITP #1325—to the state of North Carolina Division of Marine Fisheries for the entanglement of endangered species of sea turtles in the fishing trawls it licenses and regulates. See Issuance of Permits #1325 and 1348, 66 Fed. Reg. 51,023 (Oct. 5, 2001). As this article was going to press, the office of the U.S. Attorney in Boston brought criminal indictments for violating the MMPA against commercial gillnetters for entangling humpback whales in two separate incidents. See Complaint at 4–6, United States v. Eldridge, No. 09-10059 (D. Mass., Mar. 9, 2009); Complaint at 3–5, United States v. Jacques, No. 09-10066 (D. Mass., Mar. 11, 2009). These are the first such governmental prosecutions of fishermen under either the ESA or the MMPA in the Northeast, and may be unprecedented nationally as well.

\(^{187}\) See Strahan v. Coxe, 127 F.3d 155, 158 (1st Cir. 1997).

\(^{188}\) The author is the citizen advocate bringing the suit in question. See Strahan v. Holmes, 595 F. Supp. 2d 161 (D. Mass. 2009). On August 2, 2006, the entangled humpback whale was sighted in Cape Cod Bay off the Massachusetts coast. A disentanglement effort was commenced by an NGO—the Center for Coastal Studies—contracted by NMFS and the state fishing agency to do this work. Vertical buoy line and a single attached lobster pot were removed from the whale. *Id.* at 162–63.
assessment of a civil fine.\textsuperscript{189} NMFS also attempted to keep the name of the fisherman secret, which would effectively prevent citizen enforcement under the ESA citizen suit provision. When NMFS was subpoenaed to produce the records of this entanglement,\textsuperscript{190} it refused to produce any document with the name or permit number of the fisherman on it. On photographs of the entangling fishing gear supplied pursuant to subpoena, NMFS redacted the permit number to prevent identification. Eventually, a federal judge ordered NMFS under threat of contempt to supply nonredacted photos and the missing documents, and the withheld information was released.\textsuperscript{191} While this entanglement was the subject of an ESA citizen enforcement suit, the federal court acknowledged that the entanglement violated the law, but refused to issue an order to prevent future such entanglements of whales.\textsuperscript{192}

NMFS has also failed to initiate any specific program to eliminate the risk of whale entanglements. Over the years, NMFS has undertaken only limited efforts to assess or encourage scientific development of nonentangling fishing gear, and funding has generally been awarded to research unlikely to lead to substantial changes in established industry practices. NMFS has in practice declined to impose restraints upon commercial fishing to meet the MMPA’s 1994 amendments’ 2001 goal of zero risk of death or serious injury to great whales from fishing gear. It has declined to state when it may actually issue a zero-risk standard.

Great whale entanglement is in effect treated by NMFS as a problem of bycatch—the incidental catch of under-sized fish or species of fish neither intended nor licensed to be caught.\textsuperscript{193} NMFS applies its


\textsuperscript{190} The subpoena was issued pursuant to an ongoing ESA enforcement action in the U.S. District Court in Boston, MA against the Massachusetts state marine fishing agency. See Strahan v. Pritchard, 473 F. Supp. 2d 230, 237 (D. Mass. 2007).

\textsuperscript{191} The fisherman subsequently maintained that the fishing gear was not placed within the 3-mile boundary of Massachusetts’s state jurisdiction, despite the disentanglement occurring within its jurisdictional boundary. See id. The “not in state waters” claim was then used by the court to find that the August 2006 entanglement could not be used by the plaintiff to prove that Massachusetts’s licensing of lobster pot fishing causes whale entanglements in violation of the ESA. See id. at 237–38.


\textsuperscript{193} See NOAA Fisheries Feature: What is Bycatch?, http://www.nmfs.noaa.gov/bycatch/bycatch_whatis.htm (last visited Apr. 27, 2009). There are significant efforts underway to reduce bycatch of all types. See id.
bycatch policy—in general, a “sustainable” bycatch is tolerated\textsuperscript{194}—to great whales as it would to fish.\textsuperscript{195}

The federal courts for their part have held that NMFS’s FMCA regulations cannot be directly challenged under the Administrative Procedure Act for violations of MMPA and ESA mandatory duties, only under the citizen suit provision of the FMCA. Violations of MMPA and ESA duties thus at best result in collateral review. Federal courts to date will not enjoin federal fisheries regulations for failure to comply with the MMPA or ESA.\textsuperscript{196}

NMFS has no internal research and engineering program to develop whale-safe fishing gear. It has funded several research projects by grants from the National Fish and Wildlife Fund, but this money has primarily gone to amateur inventors for attenuated ideas.\textsuperscript{197} Grant money is directed to proposals recommended for approval by commercial fishermen.\textsuperscript{198} The MDMF Right Whale Conservation Program is funded by NMFS through the ESA section 6 cooperative agreement program with state governments.\textsuperscript{199} NMFS does not engage in formal and directed engineering initiatives to produce whale-safe fishing gear. It does not fund dedicated university or corporate engineering projects to make fishing gear whale-safe. Absent enforcement of ESA section 9 prohibitions against fishermen whose gear entangles great whales, and absent significant state or federal funding of engineering solutions to


\textsuperscript{195} See 16 U.S.C. § 1387 (2006) (outlining the bycatch policy as it pertains to marine mammals); 16 U.S.C. § 1802(2) (defining “bycatch” to pertain to “fish”); 16 U.S.C. § 1802(12) (defining “fish” to be “all . . . forms of marine animal and plant life other than marine mammals”).

\textsuperscript{196} See, e.g., Turtle Island Restoration Network v. U.S. Dep’t of Commerce, 438 F.3d 937, 946 (9th Cir. 2006) (citing Blue Water Fishermen’s Ass’n v. Nat’l Marine Fisheries Serv., 158 F. Supp. 2d 118, 121–22 (D. Mass. 2001)). “[T]he NMFS implemented the rule pursuant to its authority over FMPs under the Magnuson-Stevens Act, not the Endangered Species Act . . . . [C]ouching the action in different statutory language ‘is not a hook which can remove the prohibitions of the Magnuson-Stevens Act.’” Blue Water Fishermen’s Ass’n, 158 F. Supp. 2d at 122 (quoting A.M.L. Int’l, Inc., v. Daley, No. 00-10241-EFH (D. Mass. May 18, 2000)). This means that ESA section 7 claims against fisheries management under the FMCA must be brought pursuant to the FMCA citizen-suit provision.

\textsuperscript{197} See Nat’l Marine Fisheries Serv., Strategic Plan for Fisheries Research 41 (1998) (stating that most of the “recent gear research . . . has been accomplished through grants . . . [that] have gone to fishers, or to organizations such as states and universities, which carry out the research with the help and cooperation of the fishing industry”).

\textsuperscript{198} See id.

\textsuperscript{199} See 16 U.S.C. § 1535(d) (2006); Mass. Div. of Marine Fisheries, Budgets, http://www.mass.gov/dfwle/dmf/information/budgets.htm (last visited Apr. 27, 2009). The funds from Congress are funneled directly through the National Fish and Wildlife Foundation—an entity established by Congress to distribute funds for wildlife management.
whale entanglement by fishing gear, there is, at best, limited private entre-preneurial motivation to develop whale-safe technology.

In 2007, the Marine Mammal Commission (MMC) sponsored a review of NMFS’s program to reduce the risk of entanglement of great whales in fixed gear.\textsuperscript{200} The study was highly critical of NMFS’s methods, and doubted their ability to reduce risk for whale entanglement. The report stated:

Complicating efforts to resolve the entanglement issue is the fact that NMFS has a dual charge—on one hand to promote and manage fisheries and on the other to protect right whales and encourage their recovery. These often-conflicting mandates are administered by separate programs within the agency. The role of the federal regional fishery management councils and the various state fishery management agencies in developing management plans complicates matters further. To overcome these complications, the entanglement problem needs to be recognized as a fishery management crisis that requires decisive action at the highest levels of government. The extinction of the North Atlantic right whales would represent a fundamental failure in both fishery management and the conservation of protected resources in the United States.\textsuperscript{201}

In 2007, the Government Accounting Office (GAO) did a study on NMFS’s proposed 2007 ALWTRP and found it critically lacking in offering any reasonable expectation of possible success.\textsuperscript{202} Further, “its scientific stock assessments and entanglement reports . . . showed that—despite current regulatory measures—right and humpback whales are being seriously injured or killed by entanglements in commercial fishing gear at a rate that limits the species’ ability to recover.”\textsuperscript{203}

\textsuperscript{201} Id. at 41.
\textsuperscript{203} Id. at 5. The report also found that “NMFS developed the specific proposed gear modifications [i.e., ground-line rules] based, in part, on a study of gear found on entangled right and humpback whales that indicated that \textit{all} parts of commercial fishing gear
2. State Regulation of Fisheries to Reduce Entanglement

In 1998 the Massachusetts Division of Marine Fisheries (MDMF) was forced to take measures to reduce the risk of right whale entanglement in state-licensed fishing gear as a result of an order issued in the *Strahan v. Coxe* decision. The court found that state fishing regulatory agencies—in that case the MDMF—are liable for violating the ESA section 9 take prohibitions as a result of great whales being entangled in the fishing gear they license and regulate. The court held that any entanglement is a violation of the ESA section 9 prohibitions.\(^{204}\) The *Coxe* decision resulted in an order for the MDMF to form a “working group” to come up with a plan to reduce the risk of entanglement in licensed fishing gear. In order to “get out from under the order,”\(^{205}\) the agency decided to impose entanglement prevention measures, and in so doing established a right whale conservation program (MDMF Right Whale Program) that continues to the present day.\(^{206}\) The MDMF added on to its codified regulations a section that is dedicated to right whale conservation—titled “Northern Right Whales”\(^{207}\)—containing special rules to reduce the risk of entanglement of right whales in the fishing gear it licensed.\(^{208}\) The MDMF also has produced an annual report on the activities of its MDMF Right Whale Program.\(^{209}\)

The MDMF Right Whale Program in practice, however, has not operated to make state-licensed fishing gear whale-safe. It has adopted no requirement that fishing gear be whale-safe. Its whale conservation program is centered upon an agreement executed with a fishing indus-

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\(^{204}\) See *Strahan v. Coxe*, 127 F.3d 155, 168 (1st Cir. 1997).

\(^{205}\) Interview with David Hoover, Legal Counsel, Massachusetts Division of Marine Fisheries, in Boston, Mass. (Apr. 1999).


\(^{208}\) See *id.*, § 12.01.

\(^{209}\) Erin Burke & Dan McKiernan, *Div. of Marine Fisheries, Massachusetts Division of Marine Fisheries Right Whale Conservation Program: 2005 Projects and Accomplishments* (2005). Because the *Strahan v. Coxe* injunction only required actions to benefit the right whale and no other great whale species, the state agency, like NMFS, targeted its rules to reduce entanglement risks for right whales alone, without direct regard for the migration patterns and locations of other species of great whale. See 322 Mass. Code Regs. §§ 12.01–11; *Strahan v. Coxe*, 127 F.3d 155, 158 (1st Cir. 1997).
try association and an NGO intervening in the *Strahan v. Coxe* lawsuit,\(^{210}\) calling for use of sinking ground lines with no meaningful restraints on vertical buoy lines, and funding for another NGO to seek out entangled right whales and attempt disentanglement.\(^{211}\) In practice, the MDMF Right Whale Program serves to shield the agency from being subjected to further court orders requiring it to actually end the entanglement of whales in state-licensed fishing gear.

Since no other state has been subjected to a lawsuit, no Atlantic coastal state other than Massachusetts has initiated its own state-based conservation effort for great whales to reduce the risk of entanglement. The initiative for whale conservation is deemed primarily to be a federal problem—a “top down” government problem. By contrast, marine fisheries regulation is deemed a “bottom up” regulatory scheme where states have the major role in coastal fisheries—in direct terms by licensing fishing in state waters, and on the federal level by state dominance of federal regional fisheries management councils. Since the fishing industry has dominating influence in the state fishing agencies, it effectively controls NMFS. To close this circle, it can be observed that some of the most progressive politicians in coastal states are ironically among the most ardent supporters of the fishing industry’s “self-regulation.”\(^{212}\) Coupled with consistent support in Congress,\(^{213}\) the industry has been aided by state fisheries agencies in resisting efforts to force fisheries to comply with ESA prohibitions on whale entanglement and state environmental review laws.

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\(^{210}\) The Massachusetts Lobstermen’s Association (MLA) and the Conservation Law Foundation (CLF) brokered the deal with the state. See *Strahan v. Coxe*, 939 F. Supp. 963, 963 (D. Mass. 1996) (showing that CLF did intervene in the suit).


\(^{213}\) In Massachusetts, Senators Kennedy and Kerry consistently support the fishing industry’s self-regulation, as do Senators Collins and Snowe in Maine. Like the late Representative Gerry Studds, federal legislators who are otherwise among the most progressive have regularly championed the commercial fishing industry’s interests. See id.
III. THE GREEN KNIGHT HAS LEFT THE BUILDING: FAILURE OF THE CURRENT SOCIETAL PARADIGM FOR PROTECTION OF GREAT WHALES

Over the past century, our national policies and strategies for environmental protection have been fundamentally based on the ideas and efforts of individual altruistic citizens who organized others in citizen-based political movements for environmental protection.214 These are the “Green Knights” whose efforts are almost wholly responsible for current state and federal regulatory schemes for protecting environmental quality for the general benefit of the public. First with the late 19th century “conservation” movement and then the later 1970s “environmental” movements, more than two dozen federal statutes were drafted and regulatory systems designed and pushed by these private entities—not by legislatures, business, or by the normal established players in our system of government.215 Individual Green Knights have been the primary driving forces for enforcement of most of the breakthrough and precedent-setting lawsuits enforcing environmental laws.216 Statutes are written, agencies are created to implement the statutory policies, and—faced with the traditional ability of regulated industries to constrain regulatory agencies—citizen groups have to fight a chronic battle to push agencies and courts to enforce the laws as written.217

Individual Green Knights have generally been driven by idealism, philosophy, and science, not by prospects for personal financial enrichment. Green Knights like Aldo Leopold,218 Rachel Carson,219 Jane Goodall,220 Ralph Nader,221 and Dian Fossey,222 are some of the exam-

214 ZYGMUNT J.B. PLATER ET AL., ENVIRONMENTAL LAW AND POLICY: NATURE, LAW, AND SOCIETY 73 (3d ed. 2004). The first Earth Day in 1970 was the idea of such an individual.

215 For an excellent history of the creation and evolution of environmental law, specifically as it pertains to national parks, see JOSEPH L. SAX, MOUNTAINS WITHOUT HANDRAILS: REFLECTIONS ON THE NATIONAL PARKS (1980).

216 The National Environmental Policy Act, for example, has never been actively enforced by the federal government against the federal agencies that were its primary addressees. PLATER ET AL., supra note 214, at 477. Many other statutes have had their primary enforcement from voluntary citizen efforts rather than official enforcement. See James R. May, Now More Than Ever: Trends in Environmental Citizen Suits at 30, 10 WIDENER L. REV. 1, 2 (2003).


218 See generally ALDO LEOPOLD, A SAND COUNTY ALMANAC (1949).

219 See generally RACHEL CARSON, SILENT SPRING (1962).


221 See generally RALPH NADER, UNSAFE AT ANY SPEED (1965).
amples of the tradition, inspiring pioneering laws protecting the environment, beginning with the very American idea of national parks. The National Forest system, laws protecting migratory birds and raptors, the Clean Water Act, the Clean Air Act, the Endangered Species Act, and the ban on DDT are just a small part of their accomplishments.

Sadly, however, no individual Green Knight has come forward to protect great whales in the Urban Sea. There indeed are a number of whale interest organizations among the community of “Ocean NGOs” — the amalgam of NMFS-licensed whale researchers, non-profit corporations, commercial fishermen associations, and other miscellaneous entities that evince an interest in whales and other marine mammals. However, despite the horrific harm and threat of extinction for great whales that result from commercial fisheries’ practices, in the author’s observation, most of these organizations have been markedly hesitant to confront the commercial interests that cause whale entanglement, and sometimes take positions disfavoring common sense protections afforded whales by law.

The refusal of Ocean NGOs to demand that NMFS and state fishing agencies license only whale-safe fishing gear, including non-entangling vertical lines, is a prime example of how professional actors

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222 See generally Dian Fossey, Gorillas in the Mist (1983). According to many sources, the last words in Fossey’s journal were, “When you realize the value of all life, you dwell less on what is past and concentrate more on the preservation of the future.” See, e.g., Diane Toroian Keaggy, Who Would You Invite?, ST. LOUIS DISPATCH, Apr. 7, 2007, at 4.

223 George Catlin, a Western artist in the 1830s, is generally credited with first expressing the idea that there should be “a nation’s Park containing man and beast” which ultimately led to the creation of the National Park system. Isaac Kantor, Ethnic Cleansing and America’s Creation of National Parks, 28 PUB. LAND & RESOURCES L. REV. 41, 45 (2007). See generally Linda Lear, Rachel Carson: Witness for Nature (1997) (explaining how the publication of Carson’s Silent Spring lead to the U.S. ban on DDT).

224 An incomplete list of environmental laws that allow for citizen enforcement would number more than a dozen; the author believes that citizen action may have spurred the creation of many of these. See Plater et al., supra note 214, at 407 & n.38.


226 This includes their opposition to the enforcement of the ESA and MMPA prohibitions against individual commercial fishermen for entanglements. The author had to subpoena NGO employees to testify as expert witnesses at a federal trial where the Massachusetts fishing agency was being sued as responsible for unlawful whale entanglements. See generally Strahan v. Pritchard, 473 F. Supp. 2d 230 (D. Mass. 2007). These witnesses claimed that sinking ground-line would save whales from entanglement although no one could provide any example of a whale ever being entangled directly in floating ground-line. See id. at 238–39.
in marine issues align their positions with commercial interests. Off the record, informed members of these organizations identify vertical buoy lines on lobster pots and fixed gill nets as the critical element in whale entanglement, and the optimal object for stringent regulation to end the cruelty, injuries, and death caused by entanglement. Publicly, however, they shrink from efforts to enforce strict industry compliance with the ESA.

As noted in this essay, vertical buoy lines pose the prime entanglement threat to whales, but NGOs have deferred to industry and NMFS preference for the questionable theory that requiring sinking horizontal ground-lines should be the focus of regulatory efforts to protect the whales, avoiding the obvious measure of vertical line regulation. In ongoing citizen litigation seeking to enforce ESA section 9 prohibitions against placement of vertical buoy lines, moreover, it has not been possible to get NGO testimony in support of those facts.\(^{227}\)

The question is raised why NMFS would require lobster pot fisherman each to spend a good deal of money substituting sinking ground-line for existing ground-line without compelling proof that it works.\(^{228}\) Why too does industry accept an NMFS directive making it spend hundreds of thousands of dollars for a red herring, an unproven fix, in the absence of a lawsuit?\(^{229}\) In part it may be an instance of

\(^{227}\) Representatives of the Provincetown Center for Coastal Studies, the New England Aquarium, and the Humane Society of the United States were subpoenaed to testify at trial in both *Strahan v. Pritchard* and *Strahan v. Holmes*. They were asked repeatedly to speculate on whether or not whales are currently being entangled either in Massachusetts or other state coastal waters. Each testified that they did not know and refused to even speculate on the possibility. See *Strahan v. Holmes*, 595 F. Supp. 2d 161, 163–64 (D. Mass. 2009); *Pritchard*, 473 F. Supp. 2d, at 236–38.

\(^{228}\) Congress was lobbied by NMFS and the Ocean NGOs to buy sinking ground-line for the commercial fishing industry. See Memorandum from Laura Ludwig, Bottom Line Project Director, Gulf of Maine Lobster Foundation, to all Maine state and federal lobstermen (Dec. 14, 2007), available at http://www.gomlf.org/docs/Survey_Letter_and_FAQ_12_07_final.pdf. It appropriated millions of dollars for the buyout. The International Federation of Animal Welfare (IFAW) (known for its campaign against Newfoundland seal hunts) partnered with the MDMF to administer the distribution of the money to commercial fishermen. The IFAW has zealously maintained the need for sinking ground-lines and has opposed NMFS focusing on vertical buoy lines. In January 2008, it also hosted a conference for commercial fishermen in Boston, Massachusetts to discuss the cost, problems, and alleged benefits associated with converting to sinking ground-line. See Press Release, Int’l Fed’n of Animal Welfare [IFAW], IFAW and Atlantic Offshore Lobstermen’s Association to Host Whale Friendlier Lobster Gear Summit (Jan. 3, 2008), available at http://www.ifaw.org/ifaw_asia_pacific/media_center/press_releases/01_03_2008_17390.php.

\(^{229}\) In the written comments submitted to NMFS’s draft Environmental Impact Statement and, and during the comment period for the draft 2007 ALWTRP, there is not a single letter from a licensed commercial fisherman or any established NGO complaining that
NMFS selecting the most easily accommodated adjustment—a simple substitution of one line type that works in effectively the same manner as existing lines—for which, moreover, the federal government could be expected to subsidize the cost. In addition, the industry and NMFS may not want to set a precedent where commercial fisheries are aggressively targeted to comply with environmental laws.

The sinking ground-line theory originated from a negotiated process between commercial fisherman and the Massachusetts Division of Marine Fisheries (MDMF), with the active collaboration of several Ocean NGOs, in the working group ordered by the court in Strahan v. Coxe. The MDMF chose employees of the New England Aquarium (NEA), the Provincetown Center for Coastal Studies (CCS), and two fishermen to be its representatives on this working group. The judge’s order in Coxe required the working group to produce a recommendation to the court on how fixed gear could be made safer for right whales—with no reference to other endangered whales. A one-vote majority—an alliance between the state parties (NEA, CCS, MDMF), commercial fishermen, and the Conservation Law Foundation (CLF), a major NGO—recommended the use of sinking ground-lines, with continuation of disentangling attempts for entangled right whales, and data collection in right whale aerial sighting surveys that would be done by the CCS and NEA under contract to the MDMF. Dissents came from the author, the Sierra Club, the HSUS, and an independent scientist.

The Strahan v. Coxe lawsuit then ended in 2001 after the judge accepted a joint 2001 intervention motion from CLF and the Massachu-

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231 Id.

232 Id.


234 Every meeting of the working group was audio taped by the MDMF and copies of those tapes were supplied to the author. The author also attended most of the meetings.
settts Lobstermen’s Association (MLA).235 The court then accepted a five-year settlement agreement—signed by CLF, MDMF, and the MLA, but not the author, who maintained the litigation—adopting the working group’s one-vote majority proposal for sinking ground-line regulations, plus surveys and disentanglement efforts, and dismissed the case. CLF initially requested more than $300,000 in attorneys’ fees but later withdrew the demand. The outcome was that the judge, who earlier had found that state licensing of entangling gear violated ESA section 9’s prohibition, simply dismissed the case with prejudice. Massachusetts then instituted a remedy that lacked in scientific evidence of effectiveness, ignored the primary role of vertical line entanglement, and only nominally attempted to reduce the entanglement of endangered right whales in state-licensed fishing gear. Other states’ fixed gear fisheries thereafter also agreed to a NMFS mandate for sinking ground-lines, which was included prospectively in the 2007 ALWTRP.236

After the Coxe order was signed, the MDMF issued a contract to CCS to do aerial survey and disentanglement work,237 and provided grants to the NEA for further research.238 The commercial industry then successfully lobbied Congress to fund lobstermen’s conversion to sinking ground-lines, in the program managed by the International Federation of Animal Welfare.239

In 2008, two Ocean NGOs—the Whale and Dolphin Conservation Society and the Ocean Conservancy—engaged in a campaign with the

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235 The CLF and the MLA intervened in a joint effort to terminate the action after the author insisted on going to trial. In the author’s opinion, the CLF was a “Trojan Horse” plaintiff—an intervening plaintiff who seeks to serve the interests of the current defendant—entering the case to help the state get a resolution in its favor by posing as the required plaintiff for a settlement deal. See Strahan v. Coxe, 127 F.3d 155, 157, 161, 171–72 (1st Cir. 1997); see also Strahan v. Pritchard, 473 F. Supp. 2d 230, 233 (D. Mass. 2007) (discussing the outcome of Strahan v. Coxe).


239 See Memorandum from Laura Ludwig, supra note 228. At an informal press event, Senator Edward Kennedy handed a symbolic check to the IFAW president and an industry representative from the MLA. McKiernan, supra note 230.
Massachusetts Lobstermen’s Association to promote the Massachusetts lobster industry as environmentally safe because of its use of sinking ground-lines. The parties to the campaign hope to convince the public to buy Massachusetts lobsters as a “green alternative” to lobsters caught by Canadian and Maine fisheries, which are not required to use sinking ground-lines.

Some of the reasons for the political passivity and avoidance of scientific data by the agencies and some—though not all—NGOs are readily apparent. The commercial fishing industry enjoys well-organized political representation in Congress and in coastal states. The industry and its coalitions exercise substantial influence upon state marine fishing agencies and NMFS itself. The industry’s political heft is discernible in financial “greenmail” grants to certain NGOs from oil companies and developers in exchange for nonconfrontation on issuance of potentially threatening development permits. Because most financial support for marine research comes from entities responsive to exploitative uses of the ocean—primarily NMFS, the U.S. Navy, and the federal Min-

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240 Press Release, Whale and Dolphin Conservation Society, Ocean Conservancy, Whale and Dolphin Conservation Society and Massachusetts Lobstermen Launch “Massachusetts Lobster Fishing: The Right Way” (July 3, 2008), available at www.wdcs-na.org/downloads/MassLobsterJuly08.pdf. The press release states that they—along with the Massachusetts Lobstermen’s Association and Massachusetts Division of Marine Fisheries—are “working with local restaurants, fish markets and seafood dealers to ensure that residents and visitors know to buy locally caught lobster.” Id.


243 See Acheson, supra note 242, at 240, 249; Fondren, supra note 242.

244 See Patrick Anderson, LNG Port Operator’s Donations Go Beyond Minimums, GLOUCESTER DAILY TIMES ONLINE, June 9, 2008, available at http://www.massenergy.com/news/GlousterDailyTimes-2008-06-09-LNG_port_operators_donations_go_beyond%20_minimums.pdf. In 2008, two international liquid natural gas (LNG) companies (Neptune LNG LLC and Excelerate Energy LLC) seeking to develop LNG port facilities in Massachusetts each agreed to pay $23.5 million to a consortium of commercial fishermen and NGOs in exchange for the issuing of required permits by state and federal review agencies. This arrangement was a stated requirement for the state to approve its permit for the project. See id.
eral Management Service—successful research grant applicants reflect a strong incentive toward research paths that do not conflict with commercial interests.

A number of the NGOs involved in ocean issues—soliciting millions of dollars annually from well-intentioned contributors to their appeals for ocean conservation—have chosen to develop and maintain acquiescent “partnership” relationships with the commercial fishing industry. Some Ocean NGOs supported the 1994 MMPA Amendment scheme of granting blanket immunity to fishermen who entangle whales. The linkage has been explained as a battle between which of the two becomes endangered: whales or fishermen.

The issue is not that such relationships are inappropriate per se, but rather that they are inappropriate if they derogate efforts for conserving threatened marine life. That NGOs have avoided eliminating, reducing, or redesigning vertical buoy lines is only one primary indication that such relationships are inappropriate. In response, a justification voiced by these NGOs is that no regulation at all would be possible if politically opposed by the industry, so that NGOs must take whatever they can get as better than nothing. NGOs that conduct whale research, in particular, are understandably sensitive to the commercial fishing industry. Researchers rely on receiving ESA and MMPA permits issued by NMFS, and need to be attuned to the agency’s political position and orientation. Many professional field researchers rely on commercial whale-watch operations, which typically have originated from or been linked to commercial fishing operations, as “platforms of opportunity” for their observations and research and as a source of supplementary funding. As with the fisheries regulatory agencies and many Ocean NGOs, the resulting professional conflict-avoiding alignment of researchers with the fishing industry reflects a symbiosis.

245 See Conservation Alliance for Seafood Solutions, supra note 225; Massachusetts Ocean Partnership, Current Partners, supra note 225.
247 See IFAW, supra note 228 (noting that collaboration between conservationists and industry is necessary).
248 See id.
IV. A New Paradigm for Whale Survival in the Urban Sea: Whales as Protected Features of the Urban Sea, Like Mountains or Rivers

A. What Is to Be Done Generally?

Great whales should no longer be conceived merely as wildlife. Their legal status should be as protected essential features of the environment, like notable mountains or river valleys that are preserved solely for their aesthetic value.\(^{250}\) They should formally be treated as “Twenty-Ton Canaries” by federal and state governments, protected not just for their own welfare, but also to ensure the generic welfare of the whole ocean ecosystem. Whales’ current status as a “living resource” managed by agencies designed to support commercial fisheries must be changed if great whales are to be adequately protected or expected to survive in the long term.

B. Remedial Propositions

1. Transfer Management Authority for Great Whales Away from NMFS and Re-Task the Marine Mammal Commission to Oversee Actions for Protection of Great Whales.

Implementing a rationally based and effective conservation effort for great whales requires legal responsibility to be transferred to an agency whose employees see getting the job done as their core task. At a minimum, the conservation responsibilities for great whales should be transferred to NOAA’s National Ocean Service (NOS) or NOS’s Office of Ocean and Coastal Resource Management (OCRM)—established by the Coastal Zone Management Act (CZMA).\(^{251}\) Either would be a far better platform for overseeing the protection and recovery of endangered whale populations.\(^{252}\) The ESA and MMPA state that direct re-


\(^{252}\) Both of these agencies’ missions are—in their statutory charges—focused on holistic protection of the marine ecosystem, and neither of them license or regulate any commercial
responsibility for great whales is assigned to NOAA under these acts, but this need does not require subdelegation to NMFS; NOAA has full statutory discretion to transfer these duties to NOS from NMFS.  

Additionally, Congress should transfer responsibilities from NMFS to the Marine Mammal Commission to oversee and approve issuance of research licenses on great whales; the adoption of MMPA take reductions plans (TRPs) and other tasks to be performed under MMPA section 118; the issuance of ESA section 10 incidental take permits (ITPs) and ESA section 7 biological opinions involving great whales; and the appointment and administration of ESA recovery teams for the great whales.

2. Transfer State Management Authority for Great Whales to a State’s Coastal Zone Management Office or at a Minimum to Its Endangered Species Agency

States should adopt a whale-safe standard for management of coastal industrial projects and state commercial fishing. Management responsibilities for great whales in a state’s coastal waters should be established within that state’s Coastal Zone Management office. A whale-safe environmental standard to be enforced pursuant to state environmental review laws could indeed utilize great whales as “Twenty-Ton Canaries” where the status of their population’s health would be used to generally indicate the health of the local marine environment. The safety of the great whales and the overall health of the marine envi-

253 See 16 U.S.C. § 1536(a)(2) (2006). It could be argued that NOAA from the start should have assigned its MMPA and ESA duties to a subagency other than NMFS. ESA requires that NOAA take no action that would jeopardize the survival of listed species, and in weighing that choice it could have been expected that NMFS would dilute regulatory protections conflicting with the commercial fishing industry. See id.
reronment would be reinforced if every proposed marine activity was assessed for its impact on great whales during any environmental review process. Alternatively, state jurisdiction over great whales should be transferred away from state agencies linked to the commercial fishing industry and assigned to the state agencies committed to endangered species protection.

3. Vigorously Enforce the Prohibitions of the ESA, MMPA, and Applicable State Laws Against Commercial Fishermen Whose Gear Entangles Whales

The NMFS’s de facto offering of safe harbor to fishermen from ESA or MMPA enforcement must end. There is no market incentive for private enterprise to develop further whale-safe fishing technologies if commercial interests are not required to utilize them. The current blanket refusal by NMFS and state law enforcement agencies—and the Coast Guard, which has concurrent enforcement authority under ESA—\(^{254}\) to prosecute fishermen whose gear entangles whales is a primary factor responsible for the continuing entanglement-related killing and injuring of great whales.

4. Radically Redesign Federal and State Regulation of the Commercial Fishing Industries

No single programmatic change would better benefit the conservation of the ocean’s wildlife than a radically conceived redesign and redirected regulation of the fishing industry, ending the jurisdiction of industry-oriented “private” government fishing agencies. A modern redesign would charge protection-focused agencies to serve the purposes of ensuring that fisheries resources are not depleted by the industry, that the industry will be conducted in an environmentally whale-safe manner, and that industry will experience full review under state and federal environmental laws. Elements of this agenda include: (1) ending industry-dominated commissions that oversee fisheries agencies, and changing the fisheries agencies’ core operating duty to the task of assuring that commercial fishing permits comply with environmental protection goals; (2) retasking the function of the revised fisheries regulatory agencies from promoting commercial fisheries to an oversight duty of protecting a public resource from industry exploitation; (3) ensuring, in the issuing of fishing leases to private parties, that

\(^{254}\) *Id.* § 1540(e)(1) (2006).
whale-safe and environmentally sound fishing practices are required on the lease-holders’ part, and that fees for fishing lease holders assist in offsetting the cost of environmental law compliance, including the cost of developing whale-safe fishing technology; (4) installing a system of market-based access to fisheries resources for specified areas, thereby ending the process of issuing annual permits for the right to fish for a minimal, fixed processing fee; and (5) giving “green fishermen” preference in access to state and federal fisheries resources.

5. Impose Professional Ethical Standards on Licensed Whale Researchers and on NGOs Who Accept Funds to Lobby for Whale Conservation

Ethical standards of professional conduct should be enforced on all who are licensed under the ESA or the MMPA to conduct research on endangered whales. The need for professional ethical standards is especially strong for publicly funded researchers and those directly licensed by government agencies to do research on great whales under those statutes. Ethical standards for researchers need to provide public

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255 Five-year leases could be issued for fishing in specific designated blocks of 100 square miles, under competitive bidding processes without perennial renewals of individual fishing licenses. Leases would not be issued to individual fishermen but to collective groups or business interests with the financial resources to pay for environmental mitigation. The substantial revenue from such lease sales could fund scientific research to establish effective quotas. Restraints on commercial fishing practices would be spelled out in the individual lease agreements, rather than being imposed as government regulations.

256 As part of any bid for a lease, bidders would include a conservation plan to insure that commercial fishing under the lease would not have an unacceptable impact on the marine environment. An offer to use innovative whale-safe technology could be part of that plan. The cost of conservation programs would be borne by the bidders, and they would be allowed to compete as to the most aggressive conservation measures. Bidders that make a significant commitment to “green fishing” in excess of other bidders would be given “green credits” to offset higher bids from “non-green” bidders. As a result, “green fishing” would be promoted based on individual motivation. Non-green bidders would over time be driven out of the market, unlikely to wait five years without fishing after a losing bid, to return and offer a non-green bid. If anything, the most realistic way for a new bidder to seize control of a leased area would be to offer an even “greener” bid than the current lease holder.

disclosure of field data about whales obtained in the course of licensed research (for example, accessibility of photographs and databases of whale sightings and locations). Licensed species conservation research should not be based on funding from commercial interests or agencies that promote commercial activity.

Ethical conduct requires that transparency standards be imposed on agency scientists doing research and assisting in environmental reviews. Agency employees should not consult with commercial interests until reviews have been completed, and discussions with reviewing agency staff should be recorded and conducted under protocols that preserve the independence of the reviewing staff. NGOs that publicly advertise a commitment to protect wildlife should open themselves to public review and comment to insure that these purposes are served with objectivity and accuracy.

The failure to protect great whales is in no small part due to such failures on the part of whale researchers and advocacy NGOs. Only researchers who become certified under professional ethical standards should be allowed to obtain research permits under the ESA or the MMPA. Even NGOs that professionally involve themselves with wildlife conservation should be subject to an ethics oversight certification.

6. Amend the ESA and MMPA to Correct the Defects that Prevent These Acts from Fulfilling Their Intent to Protect Great Whales

The ESA and MMPA are substantively deficient in their abilities to protect whales.258 ESA section 9 prohibitions should be amended to explicitly prohibit activities in a specific habitat (for example, lobster pot fishing in Cape Cod Bay) that are operating in a manner as a whole that has resulted in numbers of killed or injured members of a listed species in that habitat in the past. Injunctive relief against individual fishermen could be issued upon a simple showing that a party was attempting to conduct the prohibited activity, without any need to prove that a member of a listed species might be taken in the future by parties conducting the activity. This would compel regulated parties to apply for and receive ESA section 10 incidental take permits and bear the burden of proving the stringent requirements for avoiding killing or injuring listed species.

This change would also assist citizen suit plaintiffs in protecting great whales from commercial fishing as regulated by state agencies.

Perhaps due to the Eleventh Amendment of the United States Constitution and comity considerations, and despite the liability holding in *Strahan v. Coxe*, federal courts appear unwilling to enjoin state agencies’ licensing activities that incidentally take ESA-listed species. The proposed change would support successful enforcement suits by expressly rejecting the plaintiffs’ unprovable burden of demonstrating by the preponderance of evidence that a specific piece of gear will more likely than not entangle a great whale in the future.

7. Rethink Participation in the International Whaling Commission

The International Whaling Commission (IWC) is an old-school whaling entity, not a modern resource conservation agency. It needs to be replaced by a new kind of treaty organization. Until then, the United States should simply pull out of participation in the IWC and rigorously impose sanctions on whaling nations so long as the IWC maintains its role as a harvest-regulating agency. This current role is inconsistent with modern standards of treating whales as essential attributes of the marine environment. The IWC should be replaced with a new protocol forever banning hunting of whales, establishing them under international law as “Twenty-Ton Canaries,” with their health and welfare serving as an international environmental standard for ensuring ocean conservation.

**Conclusion**

The “Twenty-Ton Canary” is trying to tell us something. Our nation’s current operating paradigm for protecting the environment and preventing the irreparable loss of biodiversity and ecosystems appears to be insufficient as applied to great whales living in the Urban Sea of the United States and Canada. Great whales continue to be killed and injured by a number of avoidable human causes, including entanglement by fixed commercial fishing gear in the Urban Sea of the United States and other nations where they live and breed. The avoidable harm continues despite the passage of the MMPA and the ESA and the broad support of the public for the welfare of whales. The destruction of the great whales is occurring as collateral damage to the exponentially increasing industrial exploitation of the ocean by a nation that in principle reveres them and has extensively protected them under law.

The essential elements of the Green Knight paradigm are: (1) focused and uncompromising advocacy for the environment; (2) an alerted public and press who demand action; (3) willingness on the part of a democratic government to pass effective and comprehensive
environmental protection laws; (4) willingness on the part of agencies to incorporate the normative mandate to protect wildlife; and (5) the willingness of courts to force agencies and industry to protect the environment. For the great whales, some aspect of each of these essential elements has simply failed to crystallize.

It is proposed that things must fundamentally change. The great whales should be legally treated as protected attributes of the environment like mountains and rivers, and no longer regulated in the category of a harvestable living resource. NOAA should reassign great whales from NMFS to an agency solely interested in protecting biodiversity in the ocean, such as the National Ocean Service. NGOs should change their modus operandi to that of a Green Knight, taking responsibility to develop whale-safe fishing gear and working to assure that the fishing industry is legally bound to use it. The great whales still await a Green Knight to come to their rescue.
A MULTI-FACETED APPROACH IS NECESSARY TO PROTECT ENDANGERED SPECIES: A CASE STUDY OF THE CRITICALLY IMPERILED NORTH ATLANTIC RIGHT WHALE

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Abstract: While protection of endangered species in the United States is mandated for listed species under the Endangered Species Act and the Marine Mammal Protection Act, both require ancillary efforts to ensure their intents are enforced. Science, negotiation, litigation, and lobbying for political solutions are all tools that can be brought to bear to ensure compliance with protective laws. However, there is a right and wrong time for the use of each of these tools. This paper provides a short discussion of the available tools, the likelihood of success or failure of each depending on when and how they are used, and it makes the case for a multi-faceted approach to protection of endangered species, using critically endangered right whales as a case study.

INTRODUCTION

North Atlantic right whales (Eubalaena glacialis) are an endangered species.1 Originally brought to the brink of extinction as a result of whaling, the species continues to teeter on the edge of extinction in spite of years of legislative protection.2 Beginning in 1935 under the Convention for the Regulation of Whaling and later in 1949 under the International Convention for the Regulation of Whaling, the species was protected from commercial hunting.3 In 1969 the Endangered


2 See generally The Urban Whale: North Atlantic Right Whales at the Crossroads (Scott D. Kraus & Rosalind M. Rolland eds., 2007) (describing threats to the survival of the right whale both past and present).

Species Conservation Act\(^4\) was passed in the United States, followed by the Marine Mammal Protection Act of 1972 (MMPA).\(^5\) The following year saw passage of the Endangered Species Act of 1973 (ESA).\(^6\) Right whales were considered as a species in need of protection in each of these instances. Yet the population continues to remain precariously close to extinction—fewer than 400 of the animals remain today.\(^7\)

While no longer threatened by hunting, unintentional—or “incidental”—death and serious injury resulting from vessel strikes and fishing gear entanglements occur at a rate that impacts the continued survival of the North Atlantic right whale.\(^8\) Although the means to protect this species exist in U.S. legislation, these vehicles are often in need of service to function appropriately. Deaths have continued and ensuring compliance with protective laws requires vigilance and often enforcing action. There are numerous tools available to protect right whales, each serving a specific function. Using the wrong tool at the wrong time can be detrimental. Here we provide a short discussion of the available tools, the likelihood of success or failure of each depending on when and how they are used, and make the case for a multi-faceted approach to protection of the North Atlantic right whale.

I. The Tools

The Endangered Species Act (ESA) defines “take” to mean “to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct.”\(^9\) According to the Marine Mammal Protection Act (MMPA), a “take” means “to harass, hunt, capture, or kill, or attempt to harass, hunt, capture, or kill any marine mammal.”\(^10\) Yet, in spite of the legal prohibitions on “taking” North Atlantic right whales (NA right whales), they continue to occur at an unsustainable rate for this species.\(^11\) Of greatest concern are “takes” that result in serious injury or death of individual whales. As a result, one must consider available tools to secure the protection of this spe-

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\(^8\) Id. at 3308.
\(^10\) Id. § 1362(13).
\(^11\) Caswell et al., supra note 7, at 3308.
cies through these Acts. That is, what is needed is to first demonstrate that the current mechanisms of protection are inadequate.

We believe the tools to address the current inadequate protection are as follows: science, negotiation, litigation, and lobbying for political intervention. The order in which they are presented does not suggest priority. Each serves a purpose and, in combination, their use can lead to increased protection for the species. However, like tools in a toolbox, they do not work interchangeably and each should be well considered to determine which is most appropriate for a specific task before being used.

A. Science

Both the MMPA and ESA require scientific evidence to support their listing criteria. Once listed, however, ongoing scientific research is an important tool for demonstrating the need for additional protection and to help identify measures that may be effective to reduce risk. As previously stated, both the MMPA and ESA prohibit takes of NA right whales. Yet takes are not as easily documented in this marine species as they might be in terrestrial species, and research is a necessary tool to continue to document impacts. For example, depending on how a right whale is struck, mortality resulting from a vessel strike may not be readily apparent. In cases where blunt trauma is implicated, external injuries are often absent and only through a thorough necropsy can cause of death be accurately determined.

On January 30, 1996 NA right whale # 1623 (aka “Lindsay”) was found floating dead off the coast of Georgia. Initial observations indicated the animal appeared robust, and no external signs of injury were apparent. However, upon internal examination, the necropsy results indicated “the animal had suffered massive blunt trauma from a moving vessel and died approximately five days prior to examination.”

Research has also been an important tool in documenting habitat use and thus areas in need of additional protection. When critical habi-

13 See supra notes 9–10.
15 Id.
16 Id.
tat for NA right whales was initially designated in 1994, two areas off Massachusetts and one extended area off Florida and Georgia were included. A petition to revise and increase critical habitat for the species was put forward by the Ocean Conservancy in 2002. This petition was rejected by the National Marine Fisheries Service (NMFS) on the grounds that the “information presented in the petition does not adequately support the petitioned new boundaries for critical habitat.” However, recent data from the NMFS indicates that areas not previously considered as important habitat for NA right whales may represent a breeding ground for this endangered species. These areas are of specific concern as they were not included in the Vessel Operational Measures to Reduce Ship Strikes to the NA right whale, nor were these areas given specialized consideration during the development of the Take Reduction Plans (TRP) to reduce fishery impacts.

Between 2004 and March 2009, at least twenty-four dead right whales were documented. Of the nineteen carcasses that were examined, 58% (eleven) were determined to have died as a result of either vessel strike or entanglement. While these data indicate current measures of protection are inadequate, additional research will not enhance protection and alternative tools must be considered at this time. Funding research is important but it is not enough.

In the previously mentioned cases, scientific research is the tool most critical to defining the risk reduction measures most likely to be successful for particular areas or sources of risk. Yet science is not a tool that can solve issues of protection; it can merely inform management

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23 See infra Table 1. This table was compiled using data obtained from by the NMFS Office of Protected Resources’ Marine Mammal Health and Stranding Response Program, Northeast Regional Office and Southeast Regional Office with assistance from the Provincetown Center for Coastal Studies, New England Aquarium, and Woods Hole Oceanographic Institution.
24 Id.
actions. Once data are available, and it can be demonstrated that the species is adversely impacted, management action is necessary.

B. Negotiation

It is important to remember that the ESA does not blindly protect species over economics and, in fact, specifically considers economic impacts prior to designating critical habitat. In respect of takes from fishery interactions, the MMPA specifically considers “the economic and technological feasibility of implementation.” Therefore, while science may provide data to demonstrate where, when, or how many takes have occurred, or to document habitat usage of NA right whales, the ESA and MMPA mandate consideration of economic impacts; data alone will not necessarily result in enhanced protection.

Section 118(f) of the MMPA triggers the development of a Take Reduction Team (TRT) for species whose anthropogenic death rate exceeds their Potential Biological Removal (PBR) level. The MMPA specifies that Teams are made up of representatives of Federal agencies, each coastal State which has fisheries which interact with the species or stock, appropriate Regional Fishery Management Councils, interstate fisheries commissions, academic and scientific organizations, environmental groups, all commercial and recreational fisheries groups and gear types which incidentally take the species or stock, Alaska Native organizations or Indian tribal organizations, and others as the Secretary deems appropriate.

The TRTs are tasked with developing a Take Reduction Plan (TRP) to mitigate takes in implicated fisheries, reducing the “takes” to below PBR within six months of the implementation of the Plan, and a timeline is specified for publication of TRPs.

The death of right whale #3107 resulted from fishing gear that was determined to be compliant with the mandates of the TRP that was in effect at that time. Because the TRP measures served as the “reason-

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27 See id. § 1373(b)(5); 16 U.S.C. § 1533(b)(2).
29 Id. § 1387(f)(6)(C).
30 Id. § 1387(f)(4)–(5), (7)(D).
31 See Atlantic Large Whale Take Reduction Plan Regulations, 64 Fed. Reg. 7529 (Feb. 16, 1999); Moore et al., supra note 14, at 209.
able and prudent alternatives” (RPA) to jeopardy under the ESA, the
death of this whale in compliant gear triggered the need for a new plan
to be developed under the MMPA and thus the imposition of new
RPA.\footnote{Taking of Marine Mammals Incidental to Commercial Fishing Operations; Atlantic
Large Whale Take Reduction Plan Regulations; Proposed Rule 70 Fed. Reg. 35,896 (June
21, 2005).}

The TRT that was convened under the MMPA to address entan-
glement risk to large endangered whales from gillnet and trap/pot
gear has been meeting since 1996.\footnote{Atlantic Large Whale Take Reduction Team Meeting, 61 Fed. Reg. 40,819, 40,819–
20 (Aug. 6, 1996).} This team has failed to generate consensus recommendations, as envisioned in the MMPA,\footnote{16 U.S.C. § 1387 (f) (7) (A)(2).} however
other TRTs for species such as harbor porpoise have been successful in
reaching consensus and their recommendations have resulted in the
(last visited Apr. 21, 2009).}

C. Lobbying

Parallel to the process of negotiation, lobbying can be an effective
tool to either increase or limit protection. In some cases, the fishing
industry has effectively used lobbying to limit the NMFS’s ability to im-
Association Representatives to Discuss Unfair Fishing Regulation (Aug. 1, 2007), http://
oswe.senate.gov/public/index.cfm?FuseAction=PressRoom.Press Releases&ContentReco-
ord_id=21cdd13b-802a-23ad-49c4-d2614d124265&Region_id=&Issue_id=. In one case, the
Maine Lobstermen’s Association claimed that risk reduction rules should not apply in
Maine, as they were burdensome. A former staffer of Senator Susan Collins who worked at
the OMB had held up the rule and Senator Olympia Snowe ultimately intervened to as-
sure her fishermen were not adversely affected. See id. The final regulations exempted 71%
of Maine state waters. Letter from Tom Allen, Rep., Maine, to Mary Colligan, Assistant
Reg’l Adm’r for Protected Res., NMFS, (Sept. 17, 2007), available at http://www.mainelob-
stermen.org/pdf/Allen%20FEIS%20Comments.pdf.} In other cases, such as in-
creasing budgets for right whale research, lobbying has been effective
and dissatisfaction with allocations to date).}

Public outreach can also be an effective means of lobbying by har-
nessing consumer choices to influence policy. This was clearly demon-
strated in the campaign that made consumers aware that large num-
bers of dolphins in the eastern tropical Pacific were dying in nets set to catch tuna. The so-called “dolphin-safe” campaign led to labeling reform and legislation that resulted in better protection. In the case of right whales, a recent example can be found in the nascent program, “Massachusetts Lobster Fishing—The Right Way,” which provides a mechanism for consumers to choose products that have a direct conservation benefit to whales.

Lobbying, however, is generally not a stand-alone tool and is most often used to support or intervene in some process which is underway (for example proposed regulations, federal budget development, ongoing or proposed scientific research), or as a means of encouraging future legislation.

D. Litigation

Litigation is often a tool of last resort because it is costly, time consuming, and carries no assurance that a court ruling will result in the desired outcome. Further, it is only relevant in specific instances. We believe that litigation is most effective when a violation can be proven to have taken place, such as a legislatively mandated timeline being missed (for example, a TRP not issued in the required time frame), or when there has been a substantive violation of a legislative mandate (for example when a TRT has not been convened).

In 1997, the Commonwealth of Massachusetts was sued under the premise that its lobster fishery was a state-permitted action that could

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40 Massachusetts Lobster Fishing—The Right Way, http://www.masslobster.org/pdf/Masslobsterleaflet.pdf (last visited Apr. 21, 2009). The Massachusetts Lobstermen’s Association, Massachusetts Division of Marine Fisheries, the Ocean Conservancy, and Whale and Dolphin Conservation Society developed this program in 2008. *Id.* “Second only to Maine, Massachusetts’ lobster harvest is among the nations largest fishery [sic]. However, while Massachusetts regulations require the use of sinking groundline as a means to reduce the risk of entanglement to large whales, more than 70% of Maine State waters are exempted from a similar rule.” Posting of RedFoxFire118 to http://www.dosomething.org/project/massachusetts-lobster-fishing-the-right-way (Jan. 30, 2009, 19:15). The “Massachusetts Lobster Fishing—The Right Way” campaign provides Massachusetts lobstermen with green-labeled bands to put on claws of lobsters fished from Massachusetts state waters, promoting the fishery’s more proactive entanglement risk reduction measures. Massachusetts Lobster Fishing—The Right Way, *supra*; Posting of RedFoxFire118, *supra*.
result in harm to endangered species. The federal court found that the Massachusetts Executive Office of Environmental Affairs was liable for “taking” a NA right whale in state-permitted fishing gear and ordered the establishment of the Massachusetts Marine Fisheries Conservation Program.

In 2007, the Humane Society of the United States and the Ocean Conservancy filed suit against the NMFS charging that the agency missed a mandated deadline for revising and publishing a TRP for large endangered whales, as defined in section 118 of the Marine Mammal Protection Act. In that case, Maine lobsters men gained intervenor status in an attempt to defend delays. The NMFS settled the case and, as part of the stipulated settlement agreement, acquiesced to a deadline by which it had to release the rule. The groups returned to court in 2008 when the NMFS announced a further delay in implementing a requirement for the use of sinking groundline in trap and pot gear, and simultaneously terminated the risk reduction measures that had served as RPAs in the extant plan (Dynamic and Seasonal Area Management). The court nonetheless ruled in the plaintiffs’ favor and enjoined NMFS from terminating the programs in the interim of the delay, while reinforcing a date certain for implementation of sinking groundline requirements.

Litigation has been less successful in cases where legal interpretation is needed, and in some cases can result in findings that may be detrimental to conservation efforts. In an example of the limits of litigation to further conservation, in 2002 the Center for Biological Diversity (CBD) filed suit against the NMFS over the agency’s failure to meet zero mortality rate (ZMRG) mandates in section 118 of the MMPA.
this case, CBD charged that the NMFS had failed to comply with reporting requirements on fishery mortality rates and, further, that many fisheries had not attained the required reductions in mortality. A favorable outcome in that case has not led to the hoped-for impetus to institute dramatic measures to attain that goal, but has instead resulted in concerted efforts by the fishing industry to remove ZMRG from the Act and use the much higher PBR level in its place as the lowest level to which mortality and serious injury must be reduced.

With regard to right whales, a suit was filed in 2007 against an individual Massachusetts lobsterman for entangling an endangered humpback whale. While the court did find that a “take” occurred, it also concluded that the whale was not “harmed” and found that economic hardship of the defendant outweighed risk to the species. This attempt to use the law in a novel way was clearly less than successful. Such a finding may be deemed detrimental if courts only consider the impact of an individual whale becoming entangled in a specific piece of gear as opposed to the overall risk of any NA right whale becoming entangled in fishing gear in general, where the risk is actually quite high. Without a clear “hook” to a violation, litigation may be unsuccessful and may result in a ruling that could even be harmful to conservation efforts. Even when there is a clear statutory violation, a ruling that is adverse to a powerful interest group may simply result in attempts by those interests to change the statute in question, requiring significant effort to defeat changes that would weaken protective measures in the statute.

Litigation is an important tool to protect endangered whales by allowing enforcement of statutory mandates. But litigation must be undertaken with an understanding of possible favorable or adverse outcomes.
II. Discussion and Conclusion

Each tool listed above may be more or less appropriate for use to further conservation action depending on the situation at hand. There are times when each has distinct advantages or disadvantages that should be weighed carefully in determining which is most likely to result in the desired conservation end. In most cases, a multi-faceted approach involving more than one of these tools is the most productive. This is demonstrated by the attempts to protect the NA right whale from vessel strikes.

For more than ten years, a growing body of scientific data indicated that lethal right whale takes resulting from vessel strikes were a substantial threat to the species. These data were used as the basis for developing a strategy to reduce the risk of strikes to NA right whales. Scientific research enabled the substantiation of times and areas of greatest risk based on co-occurrence of whales and vessels, and speeds most likely to be fatal. But research had to be coupled with the development of management measures and the promulgation of protective regulations to be useful in conservation. The convening of the Ship Strike Subcommittee of the Northeast Implementation Team provided a platform for discussion of risk among stakeholders and led to recommendations for reducing the risk of vessel strikes. Yet, as years passed, the recommendations were not implemented. The shipping industry tried to slow or prevent the development of a rule. Scientists and conservationists argued in both public and in scientific fora for the implementation of protective regulations. Both lobbied Congress and

the administration to make a decision. In 2006, a group of NGOs filed suit against NMFS for its delay in promulgating rules, after having a petition for emergency regulations denied by the agency. The litigation was aimed at requiring the NMFS to publish measures to reduce the likelihood of ship strikes. The groups also charged the U.S. Coast Guard with failing to meet its obligations under the Endangered Species Act to consult with NMFS on the effects of designating shipping lanes within right whale habitat. Finally, in December of 2008, and in the wake of attempts both to litigate and legislate protection, the Final Rule to Implement Speed Restrictions to Reduce the Threat of Ship Collisions with North Atlantic Right Whales went into effect. It is important to note, however, that as a result of industry lobbying, the final rule has a five-year sundown clause; that is, at the end of five years the requirement for a speed limit of ten knots in high risk areas will be terminated. As a result, there will be a continued need for collection of scientific data and ongoing negotiations with members of the shipping industry. Lobbying will continue and there is the possibility of future litigation.

Abraham Maslow once said, “If the only tool you have is a hammer, you tend to see every problem as a nail.” When it comes to finding solutions to vexing conservation problems, agencies prefer to rely on stakeholders reaching agreement, and sometimes that is an effective tool. Advocates who are experienced in litigation tend to see the solution to problems in a lawsuit, and sometimes that is an effective tool. Advocates who are skilled lobbyists see every problem with a legislative solution, and sometimes that is an effective tool. Not every tool is right for every situation, but all have their uses and all must be used in the service of recovering endangered species.

In spite of more than seventy years of protection, North Atlantic right whales continue to teeter on the brink of extinction. While the Endangered Species Act and the Marine Mammal Protection Act provide an umbrella for protection, the mandates of these Acts, and the regulations that enact them must be maintained and enforced in order

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62 Id.
64 Id. at 60,183.
for them to be effective. Among the tools available to ensure that the intent and mandates of the Acts are carried out are scientific research, negotiation, lobbying, and litigation, and we must be ready and willing to use them all as appropriate.

The best hope for conservation of large whales in the waters of the United States is for advocates to work together to use their individual strengths in a focused and strategic manner to solve problems. Each of us has tools that we are particularly adept at using, but an insistence on a single-tool approach is myopic and doomed to failure, as is damning the use of any particular tool. Saving a species requires the willingness of advocates to work together and a commitment by all to the common goal of saving vulnerable species. It requires respect for the skills and talents of all those who have tools that can be brought to bear on the protection of the species whose very survival depends on the success of our collaborative efforts.

When saving the life of an individual animal can tip the balance toward or away from extinction, the stakes are too high for all of us to give anything less than everything we have.

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<table>
<thead>
<tr>
<th>Sex (Age)</th>
<th>Date</th>
<th>Location</th>
<th>Alive or Dead</th>
<th>Cause of Death</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 M (calf)</td>
<td>2/3/04</td>
<td>FL</td>
<td>Dead</td>
<td>Unknown</td>
</tr>
<tr>
<td>2 F (adult; pregnant)</td>
<td>2/7/04</td>
<td>NC</td>
<td>Dead</td>
<td>Ship strike</td>
</tr>
<tr>
<td>3 F (adult; pregnant)</td>
<td>11/24/04</td>
<td>NC</td>
<td>Dead</td>
<td>Ship strike</td>
</tr>
<tr>
<td>4 Unknown</td>
<td>12/9/04</td>
<td>MA</td>
<td>Dead</td>
<td>Carcass not retrieved</td>
</tr>
<tr>
<td>5 F (adult)</td>
<td>1/9/05</td>
<td>MA</td>
<td>Dead</td>
<td>Carcass not retrieved</td>
</tr>
<tr>
<td>6 F (adult; pregnant)</td>
<td>1/12/05</td>
<td>GA</td>
<td>Dead</td>
<td>Infection from previous vessel strike</td>
</tr>
<tr>
<td>7 F (adult)</td>
<td>3/3/05</td>
<td>VA</td>
<td>Dead</td>
<td>Entanglement</td>
</tr>
<tr>
<td>8 F (adult)</td>
<td>3/10/05</td>
<td>GA</td>
<td>Injured; likely dead</td>
<td>Vessel strike</td>
</tr>
<tr>
<td>9 F (nine years old)</td>
<td>4/28/05</td>
<td>MA</td>
<td>Dead</td>
<td>Vessel strike</td>
</tr>
<tr>
<td>10 Unknown</td>
<td>7/13/05</td>
<td>MA</td>
<td>Alive—Strike</td>
<td>Vessel strike</td>
</tr>
<tr>
<td>11 M (calf)</td>
<td>1/10/06</td>
<td>FL</td>
<td>Dead</td>
<td>Ship strike</td>
</tr>
<tr>
<td>12 F (calf)</td>
<td>1/16/06</td>
<td>TX</td>
<td>Alive—Scared</td>
<td>Scarring source unclear</td>
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<tr>
<td>13 F (calf)</td>
<td>1/22/06</td>
<td>FL</td>
<td>Dead</td>
<td>Fishing gear entanglement</td>
</tr>
<tr>
<td>14 M (one year old)</td>
<td>3/11/06</td>
<td>GA</td>
<td>Alive—Strike</td>
<td>Vessel strike—not resighted</td>
</tr>
<tr>
<td>15 F (sub adult)</td>
<td>5/18/06</td>
<td>NY</td>
<td>Dead</td>
<td>Carcass not retrieved</td>
</tr>
<tr>
<td>16 F (calf of year)</td>
<td>7/24/06</td>
<td>CAN</td>
<td>Dead</td>
<td>Ship strike</td>
</tr>
<tr>
<td>17 F</td>
<td>9/05/06</td>
<td>CAN</td>
<td>Dead</td>
<td>Ship strike</td>
</tr>
<tr>
<td>18 M (2005 calf)</td>
<td>12/30/06</td>
<td>GA</td>
<td>Dead</td>
<td>Ship strike</td>
</tr>
<tr>
<td>19 M (neonate)</td>
<td>1/25/07</td>
<td>FL</td>
<td>Dead</td>
<td>Birth trauma</td>
</tr>
<tr>
<td>20 Unknown (2 years old)</td>
<td>2/12/07</td>
<td>MA</td>
<td>Alive—Strike</td>
<td>Vessel strike</td>
</tr>
<tr>
<td>21 M (adult)</td>
<td>3/25/07</td>
<td>CAN</td>
<td>Dead</td>
<td>Carcass not retrieved; entangled since 2002</td>
</tr>
<tr>
<td>22 M (calf)</td>
<td>3/31/07</td>
<td>NC</td>
<td>Dead</td>
<td>Not determined; signs of entanglement</td>
</tr>
<tr>
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<td>1/25/08</td>
<td>FL</td>
<td>Dead</td>
<td>Birth trauma</td>
</tr>
<tr>
<td>24 Unknown (neonate)</td>
<td>2/15/08</td>
<td>FL</td>
<td>Dead</td>
<td>Birth trauma</td>
</tr>
<tr>
<td>25 Unknown (perinate)</td>
<td>12/16/08</td>
<td>NC</td>
<td>Euthanized</td>
<td>Birth trauma</td>
</tr>
<tr>
<td>26 Unknown (2007 calf)</td>
<td>1/26/09</td>
<td>NC</td>
<td>Euthanized</td>
<td>Likely entanglement</td>
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<tr>
<td>27 Unknown (calf)</td>
<td>2/17/09</td>
<td>FL</td>
<td>Dead</td>
<td>Birth defect</td>
</tr>
<tr>
<td>28 F (8 year old)</td>
<td>2/25/09</td>
<td>MA</td>
<td>Dead</td>
<td>Carcass not retrieved</td>
</tr>
<tr>
<td>29 Unknown</td>
<td>4/7/09</td>
<td>SC</td>
<td>Alive—Strike</td>
<td>Blood in water; damage to vessel; not resighted</td>
</tr>
<tr>
<td>30 Female</td>
<td>4/19/09</td>
<td>MA</td>
<td>Alive—Strike</td>
<td>Propeller cuts to ventral fluke</td>
</tr>
</tbody>
</table>

*Carcass not retrieved, but ship strike cannot be ruled out.
THE TIMING OF CHALLENGES TO COMPEL CRITICAL HABITAT DESIGNATION UNDER THE ENDANGERED SPECIES ACT: SHOULD COURTS TOLL THE GENERAL FEDERAL STATUTE OF LIMITATIONS?

MATTHEW D. CRAWFORD*

Abstract: The Secretary of the Interior, acting through the Fish and Wildlife Service, is directed by the Endangered Species Act to designate critical habitat concurrently with the listing of a species as endangered or threatened. However, the ESA allows FWS to delay critical habitat designation upon a finding that designation is not prudent or that it is not determinable. FWS has liberally exercised these exceptions to avoid designating critical habitat for the majority of listed species. In response, citizen groups regularly file suit to compel designation. Difficulties arise when the failure to designate occurred more than six years before the filed action. Some federal courts hold the general civil statute of limitations, 28 U.S.C. § 2401(a), bars actions to compel designation. Others have relied on principles of equitable tolling to allow actions to go forward. This Note argues that courts should toll the statute of limitations in actions to compel designation where FWS made a “not determinable” finding because it constitutes a failure to act despite a non-discretionary, mandatory duty, but that “not prudent” findings constitute final agency action and should start the clock running for statute of limitations purposes.

Introduction

When the Secretary of the Interior (the “Secretary”) lists a plant or animal species as threatened or endangered, the Secretary is directed by statute to concurrently designate any habitat of such species which is considered essential to its conservation.1 In spite of this statutory com-

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1 Endangered Species Act, 16 U.S.C. §§ 1532(5) (A) (i) (I), 1532(16), 1533(a) (3) (A) (i) (2000). The responsibility for administering the Endangered Species Act (ESA) falls pri-
mand, the majority of listed species have never been designated critical habitat.\textsuperscript{2} For many of these species, more than six years have passed since the Secretary chose not to designate their critical habitat.\textsuperscript{3} Under the general federal statute of limitations for civil actions against the United States, plaintiffs are time-barred from filing claims against the Secretary to compel designation of these species.\textsuperscript{4}

This Note discusses whether the statute of limitations should be tolled in challenges to the Secretary’s failure to designate critical habitat more than six years after the right of action accrued. Part I provides a brief overview of the history and evolution of critical habitat designation and the controversy surrounding it.\textsuperscript{5} Part II discusses citizen suits to compel critical habitat designation under the Administrative Procedure Act (APA) and the Endangered Species Act (ESA), as well as the standard of review applied by courts.\textsuperscript{6} Part III discusses the statute of limitations and the continuing-violations doctrine as a device for equitable tolling of the statute of limitations.\textsuperscript{7} Finally, Part IV proposes that

\begin{itemize}
  \item primarily to the Department of Interior (DOI), which passes its responsibilities on to the Fish and Wildlife Service (FWS). 50 C.F.R. § 402.01(b) (2008); Patrick Parenteau, \textit{An Empirical Assessment of the Impact of Critical Habitat Litigation on the Administration of the Endangered Species Act} 1 (Vt. Law Sch. Faculty Papers, Paper No. 1, 2005), \textit{available at} http://lsr.nellco.org/vermontlaw/vlsp/Faculty/1 (follow “Download the Paper” hyperlink); U.S. Department of the Interior, http://www.doi.gov (last visited Mar. 19, 2009). The Department of Commerce also carries out responsibilities under the ESA through the National Marine Fisheries Service (NMFS). 50 C.F.R. § 402.01(b); U.S. Department of Commerce, http://www.commerce.gov (last visited Mar. 19, 2009). However, this Note will focus exclusively on FWS’s administration of the ESA. The ESA defines “Secretary” as either the Secretary of the Interior or Secretary of Commerce. 16 U.S.C. § 1532(15). For the purposes of this Note, “the Secretary” refers to the Secretary of the Interior. When a habitat is designated as critical, the ESA requires that any federal agency consult with the Secretary when planning to take any action that could result in the destruction or adverse modification of that habitat. 16 U.S.C. § 1536(a)(2); Jack McDonald, \textit{Critical Habitat Designation Under the Endangered Species Act: A Road to Recovery?}, 28 ENVT. L. 671, 681 (1998).


3 Parenteau, \textit{supra} note 1, at 6. At the date of study, Parenteau identified 833 species without critical habitat. \textit{Id.} He found 695 of these species were “either pre-1978 species, which are not subject to the ESA’s citizen suit provision, or [were] beyond the six year federal statute of limitations . . . .” \textit{Id.}

4 28 U.S.C. § 2401(a) (2000). “[E]very civil action commenced against the United States shall be barred unless the complaint is filed within six years after the right of action first accrues.” \textit{Id.}

5 \textit{See infra} Part I.

6 Administrative Procedure Act, 5 U.S.C. §§ 701–706 (2000); \textit{see infra} Part II.

7 \textit{See infra} Part III.
courts should toll the statute of limitations in cases of agency inaction, specifically where the Secretary failed to designate critical habitat after a “not determinable” finding.  

I. CRITICAL HABITAT AND ITS IMPORTANCE

A. The Evolution of Critical Habitat


Section 7 of the Endangered Species Act (ESA), as passed in 1973, required that each federal agency “insure that actions authorized, funded, or carried out by them do not . . . result in the destruction or modification of habitat of such species which is determined by the Secretary [of the Interior] . . . to be critical.”  

This reflected Congress’s recognition that habitat destruction was one of the two major causes of extinction.  

Despite this recognition, Congress chose not to provide any criteria, definitions, or procedures to guide determination of critical habitat, instead leaving these choices to the Department of the Interior and Department of Commerce and their respective subagencies, the Fish and Wildlife Service (FWS) and the National Marine Fisheries Service.

FWS took time to announce the critical habitat determination standards. Although FWS published proposed rulemaking regarding critical habitat as early as 1975, these guidelines were not codified until 1978. However, once promulgated, the rules set forth were broadly protective of critical habitat. Critical habitat was defined as “any air, land, or water area . . . and constituent elements thereof, the loss of which would appreciably decrease the likelihood of the survival and

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8 See infra Part IV.
14 See McDonald, supra note 1, at 681 (“This was the high-water mark for critical habitat, including not only habitat necessary for survival and recovery, but also habitat necessary for expansion.”).
recovery of a listed species . . . and may include additional areas for reasonable population expansion.”

FWS concluded that only ecological and biological factors would be considered in the critical habitat determination, expressly concluding that socioeconomic factors were irrelevant to the determination. Finally, critical habitat was to be designated whenever the Director of FWS deemed it “necessary and appropriate.”

These rules proved short-lived in the wake of Tennessee Valley Authority v. Hill, a case concerning the snail darter, an endangered species with designated critical habitat in an area of the Little Tennessee River threatened by the completion of the Tellico Dam. Although the dam construction was almost eighty percent complete at a cost of tens of millions of dollars, the Supreme Court concluded that the plain language of section 7 of the ESA barred any federal action which resulted in destruction or modification of the species’s critical habitat. In his dissenting opinion, Justice Powell predicted that Congress would amend the ESA as a result of the decision. This prediction was quickly proven accurate when Congress amended the ESA that very year.

2. The 1978 Amendments and the Creation of the “Not Prudent” Exception to Critical Habitat Designation

The 1978 Amendments to the ESA reflected Congress’s newfound recognition that critical habitat had “developed into one of the most significant portions of the entire statute.” Consequently, the 1978 Amendments made substantial changes to the criteria, definitions, and procedures regarding critical habitat designation. One alteration was the provision of a new definition of critical habitat out of concern that the meaning promulgated by FWS was too expansive. Congress speci-
fied that “critical habitat shall not include the entire geographical area which can be occupied by” a listed species.25 Thus, the 1978 Amendments narrowed the definition of critical habitat “to clarify that it does not include all of a listed species’s potential habitat nor include, by default, expansion of habitat from the present range of a species.”26

Additionally, the 1978 Amendments altered the timing of critical habitat designation, amending section 4 of the ESA to direct the Secretary to concurrently designate critical habitat “to the maximum extent prudent” at the time of a species’s listing as endangered or threatened.27 In part, this alteration addressed complaints about lengthy delays in designation decisions.28 Prior to 1978, less than half of critical habitat designations were made concurrently with publication of the listing, and the average delay for the others was two years between listing and designation.29 However, Congress understood that concurrent designation posed logistical difficulties and included the “to the maximum extent prudent” language to give the Secretary discretion not to designate critical habitat concurrently “where it would not be in the best interests of the species to do so.”30 This exception was meant to be used sparingly, as Congress felt “[i]t is only in rare circumstances where the specification of critical habitat concurrently with the listing would not be beneficial to the species.”31

Finally, in direct response to the fallout from Tennessee Valley Authority v. Hill, Congress also amended the ESA to include consideration of specific areas within the geographical area occupied by the species, at the time it is listed . . . on which are found those physical or biological features (I) essential to the conservation of the species and (II) which may require special management considerations or protection.”


29 Id.


31 Id. at 17. “The committee intends that in most situations the Secretary will, in fact, designate critical habitat at the same time that a species is listed as either endangered or threatened.” Id.
economic factors in the critical habitat designation analysis.\textsuperscript{32} This was a marked departure from FWS’s standard, which had expressly rejected consideration of economic factors.\textsuperscript{33} Congress required that the Secretary perform a balancing of factors which took into consideration the economic impact of designation.\textsuperscript{34} The Secretary may exclude an area if “the benefits of such exclusion outweigh the benefits of specifying the area as part of the critical habitat.”\textsuperscript{35} However, the Secretary must designate such an area if failure to do so would result in a species’s extinction.\textsuperscript{36} As described by one commentator, this “changed the designation process from a purely biological assessment to a social policy decision.”\textsuperscript{37}

3. The 1982 Amendments and the Creation of the “Not Determinable” Exception to Critical Habitat Designation

The alterations to critical habitat wrought by the 1978 Amendments effectively shut down the listing process.\textsuperscript{38} Requiring designation of critical habitat concurrently with a species’s listing freighted the listing process with the “burdensome economic analysis” imposed upon critical habitat designation.\textsuperscript{39} Congress sought to remedy this gridlock by passing the 1982 Amendments to the ESA.\textsuperscript{40} In the legislative history, Congress acknowledged that the chief impediment to a speedier listing process was requiring critical habitat designation (which re-


\textsuperscript{34} Endangered Species Act Amendments of 1978 § 11.

\textsuperscript{35} \textit{Id.}

\textsuperscript{36} \textit{Id.} In such circumstances, a cabinet-level committee created by the 1978 Amendments known as “the God Squad” could choose to exempt a federal agency from section 7 and allow for a species’s extinction. \textit{Id.} § 3; \textit{see} Robert J. Scarpello, \textit{Note, Statutory Redundancy: Why Congress Should Overhaul the Endangered Species Act to Exclude Critical Habitat Designation}, 30 B.C. Envtl. Aff. L. Rev. 399, 408 (2003). “The Committee’s power to extirpate a species gave it its holy nickname.” Salzman, \textit{supra} note 23, at 321 n.50.

\textsuperscript{37} \textit{See} Salzman, \textit{supra} note 23, at 320.

\textsuperscript{38} \textit{See} McDonald, \textit{supra} note 1, at 682–83; Salzman, \textit{supra} note 23, at 321–22. Between 1978 and 1982, DOI listed less than five percent of the more than 2000 species proposed for listing and designated critical habitat for less than one percent of the proposed species during the same time period. Salzman, \textit{supra} note 23, at 322.

\textsuperscript{39} \textit{See} Salzman, \textit{supra} note 23, at 322.

required analysis of economic factors) with the listing decision (which only considered biological criteria).  

The 1982 Amendments addressed this by providing greater discretion to the Secretary to make the listing decision and critical habitat designation separately. The new statutory language required the Secretary to designate critical habitat concurrently with the listing decision “to the maximum extent prudent and determinable.” The addition of the word “determinable” provided the FWS with another method of delaying critical habitat designation in recognition of the difficulties of determining critical habitat within the same time frame allotted for the listing decision. While Congress required that critical habitat designation and the listing decision be made within one year of a proposed regulation’s publication, Congress further provided discretion to the Secretary to issue a “not determinable” finding, which would allow the Secretary to list a species without concurrently designating its critical habitat for an additional year. Once this time had elapsed, the Secretary was required to designate critical habitat based on available data “to the maximum extent prudent.”

4. Current Standards for Critical Habitat Designation

As codified at 16 U.S.C. § 1533, the ESA directs the Secretary to designate critical habitat for an endangered or threatened species concurrently with the species’s listing as endangered or threatened “to the maximum extent prudent and determinable.” The statute directs the Secretary to make the listing decision and critical habitat determination within one year of the proposed rule’s publication. If the Secretary concludes that a species’s critical habitat is “not . . . determinable”

43 Id.
46 Id.
47 16 U.S.C. § 1533(a)(3) (2000). In order to list a species as endangered and designate its critical habitat, the Secretary first proposes a regulation by publishing general notice and the complete text of the proposed regulation in the Federal Register. Id. § 1533(b)(5).
48 Id. § 1533(b)(6)(A).
at the conclusion of the one-year period, the statute provides that the period can be extended “by not more than one additional year.”\textsuperscript{49} At the end of this extension period, the Secretary must designate critical habitat “based on such data as may be available at that time . . . to the maximum extent prudent.”\textsuperscript{50}

Absent statutory definitions, FWS has published rules to define the “not prudent” and “not determinable” exceptions.\textsuperscript{51} FWS defines designation as “not prudent” in the following situations: “(i) \textsuperscript{52}the species is threatened by taking or other human activity, and identification of critical habitat can be expected to increase the degree of such threat to the species, or (ii) \textsuperscript{52}such designation of critical habitat would not be beneficial to the species.”\textsuperscript{52} FWS recognizes the power of this exception, noting in its proposed rule that critical habitat designation “may be foregone completely” upon a finding by the Secretary that “such designation would not be prudent.”\textsuperscript{53} Congress had long acknowledged the power of the “not prudent” finding and intended that it be used rarely.\textsuperscript{54} Nevertheless, FWS employs it far more regularly than Congress anticipated.\textsuperscript{55}

FWS defines “not determinable” as covering one or both of the following situations: “(i) \textsuperscript{56}information sufficient to perform required analyses of the impacts of the designation is lacking, or (ii) \textsuperscript{56}the biological needs of the species are not sufficiently well known to permit identification of an area as critical habitat.”\textsuperscript{56} As noted above, 16 U.S.C. § 1533(b)(6)(C)(ii) requires critical habitat designation within one year of a “not determinable” finding.\textsuperscript{57} Reflective of this deadline, FWS observes that while “a finding that Critical Habitat is not determinable may delay its designation, [it] does not permanently relieve the Secre-

\textsuperscript{49} Id. § 1533(b)(6)(C)(ii).
\textsuperscript{50} Id.
\textsuperscript{52} 50 C.F.R. § 424.12(a)(1) (2008). “In some instances, a critical habitat map provides the equivalent of a treasure map for a collector or vandal . . . .” See Salzman, supra note 23, at 333.
\textsuperscript{53} Amended Procedures to Comply with the 1982 Amendments to the Endangered Species Act, 48 Fed. Reg. at 36,063.
\textsuperscript{55} See Darin, supra note 12, at 224.
\textsuperscript{56} 50 C.F.R. § 424.12(a)(2).
tary from making such a designation.” However, despite this statement, the years following promulgation of this rule saw the Secretary use the “not determinable” finding to justify postponing designation indefinitely.

**B. The Ongoing Debate over the Necessity of Critical Habitat**

The 1982 Amendments ended the listing logjam, but the subsequent years have seen an ongoing disparity between the number of listed species that have been granted critical habitat and those that have not. In the decade following the 1982 Amendments, the Secretary frequently exercised the “not prudent” exception to list species without concurrently designating their critical habitat. Between 1980 and 1988, FWS declined to designate critical habitat for 320 species, concluding that designation would not have been prudent in 317 cases. A review of listings from 1988 through 1992 revealed a similar trend, with FWS declining to designate critical habitat for 174 out of nearly 200 species, 159 of them due to a “not prudent” finding.

This trend was exacerbated in 1995 when Congress withdrew $1.5 million of FWS’s budget for listing activities and “prohibited the expenditure of remaining appropriated funds for final determinations to list species or to designate critical habitat.” This virtual “moratorium” on listing and critical habitat designation lasted until April 26, 1996 and resulted in “a backlog of proposed listings for 243 species.” In a 1999 Notice, FWS reported that only 113 of the 1179 listed species in the U.S. had been designated critical habitat.

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58 Amended Procedures To Comply With the 1982 Amendments To the Endangered Species Act, 48 Fed. Reg. at 36,063.

59 See Darin, supra note 12, at 229. “Even a cursory review of the Federal Register illustrates that FWS delays critical habitat designation far beyond the one-year extension when it is ‘not determinable’ at the time of listing.” Id.

60 See id. at 224; McDonald, supra note 1, at 683; Salzman, supra note 23, at 332–33.


62 Salzman, supra note 23, at 332.

63 Houck, supra note 61, at 303.

64 See Darin, supra note 12, at 231.


since then; as of August 15, 2007, FWS reported that critical habitat had been designated for 492 of the 1351 U.S. species then listed as threatened or endangered.\textsuperscript{67} Accordingly, the number of listed species to be designated critical habitat has climbed from roughly nine percent in 1999 to thirty-six percent in 2007.\textsuperscript{68} FWS acknowledges that this increase is due, in large part, to litigation.\textsuperscript{69}

1. FWS’s Open Disregard for Critical Habitat Designation

According to one commentator, FWS’s public statements about critical habitat and the extent to which designation has become litigation-driven reflect an unstated agency policy of avoiding critical habitat designation.\textsuperscript{70} FWS has openly questioned the utility of critical habitat designation and expressed its long-held belief that “in most circumstances, the designation of ‘official’ critical habitat is of little additional value for most listed species, yet it consumes large amounts of conservation resources.”\textsuperscript{71} In a more recent report, FWS admitted that it “assigned a relatively low priority to designating critical habitat.”\textsuperscript{72} FWS maintains that critical habitat designation provides little extra protection to most species, and in some cases it can result in harm to the species. This harm may be due to negative public sentiment to the designation, to inaccuracies in the initial area designated, and to the fact that there is often a misconception among other Federal agencies that if an area is outside the designated critical habitat area, then it is of no value to the species.\textsuperscript{73}

\textsuperscript{67} Critical Habitat: What Is It?, supra note 2, at 2.
\textsuperscript{68} Id.; Notice of Intent to Clarify the Role of Habitat in Endangered Species Conservation, 64 Fed. Reg. at 31,872.
\textsuperscript{70} See Parenteau, supra note 1, at 1–2, & n.6. “[FWS has] taken a hard line position against designating critical habitat, not just at the time of listing, but ever.” Id. at 1–2.
\textsuperscript{71} Notice of Intent to Clarify the Role of Habitat in Endangered Species Conservation, 64 Fed. Reg. at 31,872; Kieran F. Suckling & Martin Taylor, Critical Habitat and Recovery, in 1 The Endangered Species Act At Thirty: Renewing the Conservation Promise 75, 76 (Dale D. Goble et al. eds., 2006).
\textsuperscript{72} Critical Habitat: What Is It?, supra note 2, at 2.
\textsuperscript{73} Id.
FWS further argues that its limited resources are more effectively used to list more species as endangered or threatened.\textsuperscript{74} In testimony before the House Committee on Resources in 2005, Craig Manson, Assistant Secretary of the Interior for Fish and Wildlife and Parks, complained that court orders and settlement agreements related to critical habitat designations had left the Service with “little ability to prioritize its activities to direct resources to listing program actions.”\textsuperscript{75} Manson had previously likened this situation to “an emergency room where lawsuits force the doctors to treat sprained ankles while patients with heart attacks expire in the waiting room.”\textsuperscript{76} FWS’s critical habitat designation is almost exclusively a creature of litigation: between 1990 to 2005, 350 out of 357 critical habitats designated by FWS were the result of litigation.\textsuperscript{77}

2. Criticism of FWS’s Stance Against Critical Habitat Designation

FWS is not the only agency implementing the ESA; the National Marine Fisheries Service (NMFS) also lists species and designates critical habitat under the authority of the ESA.\textsuperscript{78} However, unlike FWS, NMFS has expressed ongoing support for critical habitat designation, stating in 2000 that “[a]ny policy that NMFS agrees to jointly with FWS must clearly state that the Services believe that designation of critical habitat can provide a significant benefit to listed species if used as intended in


\textsuperscript{75} Manson Testimony, supra note 69, at 29. “The Service has stated that because listing activities have been driven by court orders and settlements, staff have been unable to focus on listing species at the greatest risk of extinction or to undertake a more balanced listing program.” U.S. GEN. ACCOUNTING OFFICE, ENDANGERED SPECIES PROGRAM: INFORMATION ON HOW FUNDS ARE ALLOCATED AND WHAT ACTIVITIES ARE EMPHASIZED 23 (2002), available at http://www.gao.gov/new.items/d02581.pdf.

\textsuperscript{76} 2003 DOI Press Release, supra note 74.


\textsuperscript{78} 16 U.S.C. § 1532(15) (2000); 50 C.F.R. § 402.01(b) (2008).
the Act.”\textsuperscript{79} Only seven of the thirty critical habitat designations made by NMFS between 1990 and 2005 were “forced by litigation.”\textsuperscript{80}

Some critics argue that FWS has provided no scientific studies to support its claims that critical habitat designation is redundant and adds little protection.\textsuperscript{81} One survey reviewed multiple studies and concluded that “[t]he consistent correlation between critical habitat and positive recovery trends across differing datasets and methodologies is a strong indication that species with critical habitat are in fact recovering faster than those without it.”\textsuperscript{82} These commentators contend that DOI’s position is a legal theory rather than a factual conclusion, and one that has been “rejected by numerous federal courts.”\textsuperscript{83}

II. CITIZEN SUITS UNDER THE ESA AND ADMINISTRATIVE PROCEDURE ACT TO COMPEL AGENCY ACTION

The citizen suit provision of the ESA authorizes any person or private entity to bring suit to enjoin violations of the ESA.\textsuperscript{84} One part of this provision provides a right of action against the Secretary for failure to perform any act or duty which is non-discretionary under section 4 of the ESA.\textsuperscript{85} Challenges of agency failure to designate critical habitat are often brought under this portion of the ESA citizen suit provision, but it is not the only remedy available.\textsuperscript{86} Although the existence of a citizen suit provision in a statutory scheme may sometimes preclude application of the Administrative Procedure Act (APA), “[n]othing in the ESA’s citizen-suit provision expressly precludes review under the APA, nor do we detect anything in the statutory scheme suggesting a purpose to do so.”\textsuperscript{87}

\textsuperscript{79} See Parenteau, \textit{supra} note 1, at 2 n.7.
\textsuperscript{80} Id.
\textsuperscript{81} Suckling & Taylor, \textit{supra} note 71, at 76. “In response to a Freedom of Information Act request, [DOI] acknowledged possessing no evidence.” \textit{Id}.
\textsuperscript{82} \textit{Id}. at 86.
\textsuperscript{83} \textit{Id}. at 77.
\textsuperscript{87} Bennett, 520 U.S. at 175.
A. Standard of Review for Challenges of Agency Action and Inaction

While the ESA provides a right of review, it does not provide a standard of review.88 Where a statute provides for review but sets forth no standards for review, the Supreme Court has held “consideration is to be confined to the administrative record and that no de novo proceeding may be held.”89 In the absence of internal standards, courts generally apply the APA standard of review when evaluating challenges to agency action under the ESA.90 In circumstances where an agency fails to act, section 706(1) of the APA provides that a reviewing court must “compel agency action unlawfully withheld or unreasonably delayed.”91 Where an agency has acted, section 706(2) of the APA provides a reviewing court with the authority to “hold unlawful and set aside agency action” found to be arbitrary and capricious.92

1. What Constitutes Reviewable Agency Action

The APA defines agency action as “the whole or a part of an agency rule, order, license, sanction, relief, or the equivalent or denial thereof, or failure to act.”93 Section 701 of the APA provides that agency action is subject to judicial review except where there is a statutory prohibition on review or where “agency action is committed to agency discretion by law.”94 Both of these exceptions have been construed narrowly, rendering most agency actions susceptible to judicial review.95 Moreover, a challenge of agency action is only cognizable under the APA if it is made reviewable by statute or constitutes “final agency action for which there is no

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88 Or. Nat’l Res. Council v. Allen, 476 F.3d 1031, 1036 (9th Cir. 2007); see 16 U.S.C. § 1540(g).
90 Allen, 476 F.3d at 1036; Sierra Club v. U.S. Army Corps of Eng’rs, 295 F.3d 1209, 1216 (11th Cir. 2002); Biodiversity Legal Found. v. Babbitt 146 F.3d 1249, 1252 (10th Cir. 1998); Sierra Club v. Glickman, 67 F.3d 90, 95 (5th Cir. 1995); Cabinet Mountains Wilderness/Scotchman’s Peak Grizzly Bears v. Peterson, 685 F.2d 678, 685 (D.C. Cir. 1982).
92 Id. § 706(2).
93 Id. § 551(13).
94 Id. § 701(a); see Citizens to Pres. Overton Park, Inc. v. Volpe, 401 U.S. 402, 410 (1971).
95 Overton Park, 401 U.S. at 410. To meet the first exception, there must be clear and convincing evidence of a legislative intent to restrict access to judicial review. Id. The second exception is “very narrow” and applicable only “in those rare instances where ‘statutes are drawn in such broad terms that in a given case there is no law to apply.’” Id. (citation omitted).
other adequate remedy in a court.”96 Two conditions must be met for agency action to be considered “final.”97 First, the action must constitute the “consummation” of the agency’s decision-making process rather than a “merely tentative or interlocutory” step in such a process.98 Second, the action must determine rights or obligations, or result in legal consequences.99

2. What Constitutes Reviewable Agency Inaction

As noted above, a “failure to act” is among the categories of “agency action” listed by the APA.100 In Norton v. Southern Utah Wilderness Alliance (SUWA), the Supreme Court established the “limits the APA places upon judicial review of agency inaction.”101 The Court held that in order to qualify as agency inaction reviewable under the APA, the “failure to act” must be “a failure to take an agency action . . . defined in § 551(13).”102 Moreover, the act the agency failed to take must be a “circumscribed, discrete agency action[].”103 Finally, the Court established that only action which is “legally required” is subject to review under section 706(1) of the APA.104 To wit, the Court held that a challenge of agency inaction “can proceed only where a plaintiff asserts that an agency failed to take a discrete agency action that it is required to take.”105

Yet despite being a category of “agency action,” the Supreme Court in Heckler v. Chaney held that agency inaction is presumptively unreviewable, stating that “an agency’s decision not to prosecute or enforce, whether through civil or criminal process, is a decision generally committed to an agency’s absolute discretion.”106 This conclusion interprets

98 Id. (citation omitted).
99 Id. at 178.
100 5 U.S.C. § 551(13).
101 542 U.S. at 61.
102 Id. at 62.
103 Id. The Court described “discrete” actions as those categories enumerated in 5 U.S.C. § 551(13). Id. The “limitation to discrete agency action precludes the kind of broad programmatic attack[s]” that “seek wholesale improvement [of agency programs] by court decree.” Id. at 64 (quotation omitted).
104 Id. at 63. The Court held this requirement applied to actions “unreasonably delayed” because “a delay cannot be unreasonable with respect to action that is not required.” See id. at 63 n.1 (quotation omitted).
105 Id. at 64.
106 470 U.S. 821, 831 (1985). The court enunciated several justifications for creating this rebuttable presumption of unreviewability. See id. An agency is “far better equipped
section 701(a)(2) of the APA to preclude judicial review where an agency chooses not to act because this decision is “committed to agency discretion.” However, this presumption is rebuttable where the substantive statute provides guidelines for agency action. The Court stated that Congress could limit agency discretion not to act by “setting substantive priorities, or by otherwise circumscribing an agency’s power to discriminate among issues or cases it will pursue.”

One commentator concluded that the Chaney Court recognized that statutory deadlines constitute such a limit by providing “law to apply” in circumstances where an agency refuses to act. This observation was born out in dicta in SUWA, which stated that agency action unlawfully withheld included circumstances where “an agency is compelled by law to act within a certain time period.” Indeed, the Court’s definition of “failure to act” under the APA as “the omission of an action without formally rejecting a request” included as an example “the failure to promulgate a rule or take some decision by a statutory deadline.”

3. Deference to the Agency’s Interpretation of the Law

In Chevron U.S.A. Inc. v. Natural Resources Defense Council, Inc., the Supreme Court established a two-part test for reviewing an agency’s interpretation of a statute that it administers. First, the reviewing court determines “whether Congress has directly spoken to the precise question at issue.” If Congress’s intent is clear, this ends the inquiry and the “court, as well as the agency, must give effect to the unambiguously expressed intent of Congress.” If Congress was silent or ambiguous, then the court must determine “whether the agency’s answer

than the courts to deal with the many variables involved in the proper ordering of its priorities.” Id. at 831–32. An agency does not exercise coercive power when it refuses to act and thus does not trench upon individual liberties or property rights that a court is normally called upon to protect. Id. at 832. An agency’s refusal to prosecute or enforce resembles prosecutorial discretion, and thus should receive similar deference, given that agencies typically rest in the executive branch. Id.

108 Chaney, 470 U.S. at 832–33.
109 Id. at 893.
112 Id. at 842–43.
is based on a permissible construction of the statute.”\textsuperscript{116} Moreover, the \textit{Chevron} decision stands for the principle that a reviewing court “may not substitute its own construction” of a statute if the agency’s interpretation is permissible or reasonable.\textsuperscript{117} With regard to agency interpretation of the law, the Court held that “[t]he judiciary is the final authority on issues of statutory construction and must reject administrative constructions which are contrary to clear congressional intent.”\textsuperscript{118}

\section*{B. Courts Regularly Overturn FWS’s “Not Prudent” and “Not Determinable” Findings}

Between 1990 and 2005, federal courts overwhelmingly ruled against FWS and ordered the agency to designate critical habitat.\textsuperscript{119} A small sampling of this substantial body of case law indicates courts have been unreceptive to FWS’s arguments for not designating critical habitat.\textsuperscript{120} The willingness of federal courts to overturn FWS’s determinations reflects a significant departure from the deference normally accorded to agency actions.\textsuperscript{121}

\subsection*{1. Courts Set Aside “Not Prudent” Findings as “Arbitrary and Capricious” Agency Action}

Courts have reviewed FWS’s “not prudent” findings as agency action and applied the “arbitrary and capricious” standard set forth by section 706(2)(A) of the APA to set them aside.\textsuperscript{122} In \textit{Sierra Club v. U.S. Fish and Wildlife Service}, the Fifth Circuit set aside a “not prudent” finding as

\begin{footnotesize}
\begin{enumerate}
\item Id. at 843.
\item Id. at 844.
\item Id. at 843 n.9.
\item Manson Testimony, \textit{supra} note 69, at 29. “We have been inundated with lawsuits for our failure to designate critical habitat . . . . Almost universally, the courts have declined to grant relief.” \textit{Id}. One statistical study covering the period between 1999 and 2005 indicates that FWS lost or settled cases which led to habitat designation for 373 species. \textit{See} Parenteau, \textit{supra} note 1, at 4 n.16 (spreadsheets on file with author).
\item \textit{See} Citizens to Pres. Overton Park, Inc. v. Volpe, 401 U.S. 402, 415–16 (1984) (stating that agency actions are entitled to a presumption of regularity and courts cannot substitute their judgment for that of an agency); \textit{see also} Scarpello, \textit{supra} note 36, at 427 (arguing courts do not rely on congressional intent that the “not prudent” exception be used rarely when they criticize FWS’s factual findings and evidence).
\item Sierra Club, 245 F.3d at 445; \textit{NRDC v. DOI}, 113 F.3d at 1127; \textit{Conservation Council for Haw.}, 2 F. Supp. 2d at 1288.
\end{enumerate}
\end{footnotesize}
arbitrary and capricious because it relied on a facially invalid regulation promulgated by FWS. The regulation was invalidated, in part, because it increased the frequency with which FWS would find critical habitat designation “not prudent,” a “result . . . in tension with the avowed intent of Congress that a ‘not prudent’ finding regarding critical habitat would only occur under ‘rare’ or ‘limited’ circumstances.”

The Ninth Circuit set aside a “not prudent” determination in Natural Resources Defense Council v. U.S. Department of the Interior (NRDC v. DOI) on the grounds it was arbitrary and capricious because the FWS failed to “articulate a rational basis for invoking the rare imprudence exception.” The court also found FWS’s reasoning that critical habitat designation would not be beneficial to most of the species reflected an “expansive construction of the ‘no benefit’ prong to the imprudence exception . . . inconsistent with clear congressional intent.” The Ninth Circuit emphasized that Congress had intended the “not prudent” exception to be exercised rarely and only in extraordinary circumstances.

In Conservation Council for Hawai‘i v. Babbitt, the District of Hawaii set aside “not prudent” findings for 245 listed plant species as arbitrary and capricious. The district court held that FWS’s proffered rationales

123 245 F.3d at 447. The regulation defined “destruction or adverse modification” as “a direct or indirect alteration that appreciably diminishes the value of critical habitat for both the survival and recovery of a listed species.” Id. at 439. The court held this conflicted with the ESA, which defined critical habitat as including areas essential for the “conservation” of a species—“a much broader concept than mere survival.” Id. at 441–42.

124 Id. at 443. “In practice, the Services have inverted this intent, rendering critical habitat designation the exception and not the rule. The rarity of designation is attributable, in part, to the manner in which the Services have defined the jeopardy and destruction/adverse modification standards.” Id. (footnotes omitted).

125 113 F.3d at 1127. At issue was FWS’s determination that critical habitat designation for the coastal California gnatcatcher was “not prudent” because identification posed an increased threat of deliberate destruction of gnatcatcher habitat by landowners and would not appreciably benefit the gnatcatcher. Id. at 1123.

126 Id. at 1126. The court held that the Service provided inadequate explanation and evidence for its “increased threat” rationale, concluding this reflected a “fail[ure] to balance the pros and cons of designation” as expressly required by section 4 of the ESA. Id. at 1125.

127 Id. at 1126. One commentator has suggested that NRDC v. DOI could stand for the proposition that FWS’s stated policy that critical habitat provides little benefit conflicts with the law of the Ninth Circuit. McDonald, supra note 1, at 679.

128 2 F. Supp. 2d 1280, 1288 (D. Haw. 1998). FWS supported its “not prudent” finding with one or more of the following reasons: designation would increase the likelihood of illegal taking and vandalism, provide little benefit to most species primarily located on private land, and not increase government precautions for those species on federal land. Id. at 1283. The district court rejected all three rationales on reasoning similar to that of
ales for issuing “not prudent” determinations, particularly those which discounted the benefits of critical habitat designation, contravened congressional intent that the “not prudent” exception be used rarely.\textsuperscript{129} The court concluded that in the case of all 245 listed plant species, FWS had failed to heed \textit{NRDC v. DOI}’s command to make “a rational connection between the facts found and the choice made.”\textsuperscript{130} The sheer number of “not prudent” findings set aside by \textit{Conservation Council for Hawai‘i} is an extreme example of the willingness of courts to reject FWS’s reasoning where perceived as inconsistent with Congress’s intent that the “not prudent” finding be issued rarely.\textsuperscript{131}

2. Courts Compel Designation of Critical Habitat Where FWS Failed to Act Within the Statutory Deadline After a “Not Determinable” Finding

Courts have compelled agency action under section 706(1) of the APA where FWS failed to designate critical habitat within the statutory deadline set by section 1533(b) (6)(C)(ii) of the ESA after an initial finding of “not determinable.”\textsuperscript{132} The Tenth Circuit in \textit{Forest Guardians v. Babbitt} held that by failing to designate critical habitat by the statutory deadline required by the ESA, the Secretary had unlawfully withheld agency action in violation of section 706(1) of the APA.\textsuperscript{133} The court concluded that where “Congress by organic statute sets a specific deadline for agency action, neither the agency nor any court has discretion . . . . [A] reviewing court must compel the action unlawfully withheld.”\textsuperscript{134} The case was remanded to the district court with instructions that the Secretary be ordered to issue a final critical habitat designation “without regard to the Secretary’s other priorities under the ESA.”\textsuperscript{135}

\textsuperscript{129} See \textit{id.} at 1285.
\textsuperscript{130} \textit{Id.} at 1286 (quoting Natural Res. Def. Council v. U.S. Dep’t of the Interior, 113 F.3d 1121, 1126 (9th Cir. 1997)).
\textsuperscript{131} \textit{Id.} at 1285.
\textsuperscript{132} Forest Guardians v. Babbitt, 174 F.3d 1178, 1193 (10th Cir. 1999).
\textsuperscript{133} \textit{Id.}
\textsuperscript{134} \textit{Id.} at 1190. The Secretary argued that resource limitations should justify failure to comply with the mandatory duties imposed by the ESA, but the court rejected this argument. \textit{Id.} at 1188–89.
\textsuperscript{135} \textit{Id.} at 1193.
III. The Statute of Limitations and the Continuing Violations Doctrine

As previously noted, citizen suits against FWS for failure to designate critical habitat within the statutory deadline disproportionately succeed and are almost exclusively responsible for FWS’s designation. However, several of these lawsuits have involved species listed many years ago and in these cases FWS argues that the statute of limitations bars claims where the final agency action—generally considered to be FWS’s conclusion that critical habitat is “not determinable” or “not prudent”—occurred more than six years prior to the filing of the case. In response, citizen groups regularly argue that courts should apply the continuing violations doctrine to toll the statute of limitations.

A. Statute of Limitations as a Term of Waiver of Sovereign Immunity

As a sovereign, the United States is immune from suit unless Congress consents to a cause of action. The citizen suit provision of the ESA reflects just such consent, allowing “any person” to bring a civil suit against the Secretary for failure to perform any non-discretionary act or duty. Additionally, Congress has consented to suit for any agency action via section 702 of the APA, which provides that “[a] person suffering legal wrong because of agency action, or adversely affected or aggrieved by agency action within the meaning of a relevant statute, is entitled to judicial review thereof.” However, the Supreme Court has held that Congress may set the terms of consent to be sued that define any court’s jurisdiction to hear the case.

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136 Parenteau, supra note 1, at 4 n.16 (spreadsheets on file with author); see Manson Testimony, supra note 69, at 29 (noting that “[a]ll of the FY 2004 and FY 2005 proposed and final designations were the result of court orders or settlement agreements”).


142 Sherwood, 312 U.S. at 586.
According to 28 U.S.C. § 2401(a), “every civil action commenced against the United States shall be barred unless the complaint is filed within six years after the right of action first accrues.” The Supreme Court has ruled that the principal purpose of statutes of limitations is to “protect defendants and the courts from having to deal with cases in which the search for truth may be seriously impaired by the loss of evidence, whether by death or disappearance of witnesses, fading memories, disappearance of documents, or otherwise.” Where a statute creates a right for civil action against the federal government, the United States has waived its sovereign immunity, but this waiver is conditioned on the applicability of a statute of limitations and courts “should not . . . extend the waiver beyond that which Congress intended.” The Supreme Court has commanded that statutes of limitations be strictly observed and not easily implied or overridden with exceptions.

However, in Irwin v. Department of Veterans Affairs, the Supreme Court held that the “rebuttable presumption of equitable tolling applicable to suits against private defendants should also apply to suits against the United States.” The Supreme Court concluded this general rule was a “realistic assessment of legislative intent” that did not substantially broaden the congressional waiver in a federal statute of limitations. One situation provided as exemplary of when a court should allow equitable tolling was “where the complainant has been induced or tricked by his adversary’s misconduct into allowing the filing deadline to pass.” Irwin’s rebuttable presumption of equitable tolling of statutes of limitations generally supplants the Supreme Court’s prior ad hoc approach to determine when a statute of limitations was subject to equitable tolling.

Significantly though, the Court recently held in John R. Sand & Gravel Co. v. United States that the rebuttable presumption in Irwin does not apply to statutes of limitations for which the Court “previously provided a definitive interpretation.” The Court identified two types of

145 Id. at 117–18.
148 Id. at 95.
149 Id. at 96.
151 Id.
Most constitute an affirmative defense against stale or unduly delayed claims which are “subject to rules of forfeiture and waiver” and typically permit tolling “in light of special equitable considerations.” However, some are so-called “jurisdictional” statutes that seek to promote broader goals of administrability, limiting the scope of governmental waiver of sovereign immunity and promoting judicial efficiency. The Court opined that the time limits imposed by these “jurisdictional” statutes are construed “as more absolute” and less prone to equitable tolling.

The Supreme Court did not rule on the applicability of equitable tolling to 28 U.S.C. § 2401 prior to Irwin. Justice Ginsberg’s dissent in John R. Sand & Gravel noted that courts of appeals are divided on the “jurisdictional” nature of 28 U.S.C. § 2401(a) and that the majority’s decision “implies that Irwin governs the interpretation of all statutes we have not yet construed—including, presumably, the identically worded § 2401.” Thus, it remains an open question whether the Irwin rebuttable presumption would be applicable to § 2401. Justice Ginsburg’s dissent noted that “Courts of Appeals have divided on the question [of] whether § 2401(a)’s [sic] limit is ‘jurisdictional.’”

While the Supreme Court has never expressly stated that the general federal statute of limitations applies to federal agency actions, sev-

152 Id. at 753.
153 Id.
154 Id.
155 Id.
156 John R. Sand & Gravel Co., 128 S. Ct. at 760-61 (Ginsburg, J., dissenting). The Court held that because it had previously defined the Court of Claims statute of limitations as “jurisdictional” in nature, the decision in Irwin did not alter this long standing interpretation. Id. at 755 (majority opinion). Essentially, the “definitive earlier interpretation of the [Court of Claims] statute” rebutted the presumption of tolling Irwin set forth. Id. at 756. The Court concluded that “[b]asic principles of stare decisis” required it to recognize different interpretations of “different, but similarly worded, statutes,” rather than overrule its precedent. Id.
157 Id. at 760–61. (Ginsburg, J., dissenting).
158 See id.
eral circuit courts have concluded that it does.\textsuperscript{160} The Ninth Circuit has held 28 U.S.C. § 2401(a) applies to challenges of agency action under the APA and the District of Oregon relied on this for the purposes of a critical habitat designation challenge.\textsuperscript{161} The Eleventh Circuit has also concluded that that the general statute of limitations applies to the challenges brought under the ESA.\textsuperscript{162} The Western District of Missouri cited the Ninth Circuit when concluding the general statute of limitations applies to the challenges of federal agency action.\textsuperscript{163} Finally, the Western District of Louisiana and Eastern District of Tennessee decided the general statute of limitations applies to agency failure to designate critical habitat.\textsuperscript{164}

B. Continuing Violations Doctrine

The continuing violations doctrine tolls a statute of limitations where a claim in isolation would be time-barred, but subsequent violations restart the clock and prevent accrual.\textsuperscript{165} As noted by the Western District of Louisiana, “[t]he scope of the doctrine is unclear, and the United States Supreme Court has not ruled on the issue.”\textsuperscript{166} Courts have applied the continuing violations doctrine in the context of employment and civil-rights litigation.\textsuperscript{167} Several federal courts have also extended the continuing violations doctrine to apply in cases where plaintiffs allege agency noncompliance with statutory deadlines.\textsuperscript{168}

The Southern District of New York has held that where an agency fails to perform a non-discretionary duty under the Clean Water Act

\textsuperscript{160} See Sierra Club v. Slater, 120 F.3d 623, 631 (6th Cir. 1997); Wind River Mining Corp. v. United States, 946 F.2d 710, 713 (9th Cir. 1991); Geyen v. Marsh, 775 F.2d 1303, 1307 (5th Cir. 1985).


\textsuperscript{162} See Hamilton, 453 F.3d at 1334.


\textsuperscript{165} Schoeffler, 493 F. Supp. 2d at 817.

\textsuperscript{166} Id.


(CWA), a claim to compel action “is not subject to any statute of limitations.” The Fox court held that a state’s ongoing failure to adhere to a provision of the CWA “creates a continuing duty of the Administrator [of the Environmental Protection Agency (EPA)] to disapprove of the state’s actions.” Thus, although the initial act triggering the Administrator’s duty occurred outside of the statute of limitations, the continued failure to act constituted a continuing violation. In another case concerning the CWA, the Eastern District of Virginia applied the continuing violations doctrine to toll the statute of limitations and allow a claim against the EPA for unreasonable delay under section 706(1) of the APA. Similar to Fox, the Eastern District of Virginia concluded that EPA’s delay despite “clear and specific time limits for agency action” constituted a continuing violation which could be challenged at any time so long as the delay continued.

The D.C. Circuit has “repeatedly refused to hold that actions seeking relief under [section 706(1) of the APA] to ‘compel agency action unlawfully withheld or unreasonably delayed’ are time-barred if initiated more than six years after an agency fails to meet a statutory deadline.” Challenges of agency inaction are not barred because they do “not complain about what the agency has done but rather about what the agency has yet to do.”

C. Some Courts Apply the Statute of Limitations to Bar Challenges to Compel Critical Habitat Designation

The Eleventh Circuit and Western District of Missouri have held that 28 U.S.C. § 2401(a) bars challenges to FWS’s failure to designate critical habitat filed after the six-year statutory deadline.

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169 Fox, 909 F. Supp. at 159. The claim concerned a statutory duty under the Clean Water Act requiring the Environmental Protection Agency to approve state water-quality standards and, upon disapproval, establish standards for the state. Id. at 157.

170 Id. at 160.

171 See id.

172 Am. Canoe Ass’n, 30 F. Supp. 2d at 925.

173 Id. at 925 & n.25.


175 Id. at 589 (citation omitted).

1. One Court Has Held a “Not Prudent” or “Not Determinable” Finding Constitutes Final Agency Action That Starts the Clock for Statute of Limitations Purposes

In *Missouri ex rel. Nixon v. Secretary of the Interior*, the Western District of Missouri concluded that the statute of limitations barred a challenge to compel critical habitat designation more than six years after FWS had issued “not prudent” findings for two species.\(^{177}\) The court construed 28 U.S.C. § 2401(a) “not [as] a waivable defense, but a jurisdictional one” and stated it was “to be strictly observed and not easily implied or over-ridden with exceptions.”\(^{178}\) The court held that FWS’s publication of the “not prudent” determinations constituted final agency action subject to challenge.\(^{179}\) The court concluded that the statute of limitations began to run at the time of a regulation’s publication and plaintiff’s complaint was filed well beyond the six year period prescribed by 28 U.S.C. § 2401(a), and was therefore barred.\(^{180}\)

The *Nixon* court rejected the State of Missouri’s argument that section 706(1) of the APA applied in the instant case because the “not prudent” determination constituted affirmative agency action and could be challenged once made.\(^{181}\) The *Nixon* court distinguished *American Canoe*, explaining that the statute of limitations was tolled in that case because the unreasonable agency delay constituted a continuing violation of the relevant statute.\(^{182}\) The *Nixon* court further distinguished *Forest Guardians v. Babbitt* on the grounds that FWS had not made a critical habitat determination and that the statute of limitations issue was not raised in that case.\(^{183}\) The court found that in each case,

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\(^{177}\) 158 F. Supp. 2d at 986, 990. The two species at issue were the least tern and the pallid sturgeon. *Id.* at 986.

\(^{178}\) *Id.* at 988.

\(^{179}\) *Id.* at 989. Notably, the FWS also issued a “not determinable” finding for the pallid sturgeon. *Id.* at 986.

\(^{180}\) *Id.* at 988–89.

\(^{181}\) *Id.* at 989.

\(^{182}\) *Id.* (citing Am. Canoe Ass’n v. U.S. Envtl. Prot. Agency, 30 F. Supp. 2d 908, 925 (E.D. Va. 1998)). It appears that the Western District of Missouri misconstrued the facts of *Forest Guardians*, stating no decision concerning critical habitat designation was made in that case when, in fact, the Service in *Forest Guardians* had issued a “not determinable” finding. *See id. Contra Forest Guardians*, 174 F.3d at 1182. The “not determinable” finding is a preliminary agency decision which “allows the Secretary a grace period in which to designate a critical habitat.” Steven J. Blair, Casenote, *Forcing the Issue: Applying a Statute of Limitations to Challenges of Agency Inaction Under the Endangered Species Act*, 6 Mo. Envtl. L & Pol’y Rev. 53, 63 (2002). Under section 704 of the APA, preliminary, procedural, or in-
the agency concerned had not made a decision, whereas FWS’s “not prudent” determination constituted a final decision that triggered the statute of limitations.\textsuperscript{184}

The court considered it significant that the plaintiff’s complaint did not allege the Service unreasonably delayed action in violation of section 706(1) of the APA.\textsuperscript{185} The court stated that the “bifurcated structure” of section 706 indicated Congress’s understanding that “there is a distinction between a failure to act and acting in an arbitrary and capricious manner.”\textsuperscript{186} Accordingly, FWS’s decision to issue “not prudent” findings constituted affirmative action challengeable as arbitrary and capricious under section 706(2)(A), not a failure to act under section 706(1).\textsuperscript{187} The Western District of Missouri concluded that “a finding of ‘not determinable’ or ‘not prudent’ starts the statute of limitation to run at the time the decision is made” because either finding constitutes final agency action.\textsuperscript{188}

2. One Court Has Held FWS’s Failure to Act Within the Statutory Deadline Set by 16 U.S.C. § 1533(b)(6)(C) Starts the Clock for Statute of Limitations Purposes

In \textit{Center for Biological Diversity v. Hamilton}, the Eleventh Circuit held that the continuing violations doctrine does not toll the statute of limitations in challenges of agency failure to designate critical habitat within the statutory deadline set by 16 U.S.C. § 1533(b)(6)(C).\textsuperscript{189} In this case, concerning “not determinable” findings for two species, the Secretary failed to designate critical habitat within the statutory deadline.\textsuperscript{190} The only issue before the Eleventh Circuit was whether the Secretary’s failure to designate critical habitat was a “continuing violation.”\textsuperscript{191} The court reasoned that “nothing in the language of the [ESA]” supported a
finding that the agency’s failure to designate critical habitat within the statutory deadline constituted a continuing violation.192

The Eleventh Circuit interpreted 16 U.S.C. § 1533(b)(6)(C) as “creat[ing] not an ongoing duty, but a fixed point in time at which violation for the failure of the Secretary to act [arose].”193 As such, the Secretary’s failure to designate critical habitat was a single violation that accrued on the day after the deadline passed.194 The court also interpreted language in 16 U.S.C. § 1533(b)(6)(C) requiring the Secretary to rely on “such data as may be available at the [sic] time” when designating critical habitat as indicative of Congress’s intent that the duty was not ongoing.195 The court concluded that finding an ongoing duty would make this provision “anomalous” because it would effectively bar the Secretary from considering new information after the deadline.196

The Eleventh Circuit found that such an interpretation was a proper limitation on the scope of applicability of the continuing violations doctrine.197 The court distinguished between the continuing effects of a discrete violation and continuing violations, categorizing the failure to designate critical habitat within the deadline as the former.198 Moreover, the court stated that application of the continuing violations doctrine is limited to situations where “a reasonably prudent plaintiff would have been unable to determine that a violation had occurred.”199 The court held that the Secretary’s failure to act by the statutory deadline would have made the reasonably prudent person aware that a violation had occurred, and therefore, “the continuing violation doctrine does not apply.”200

The Hamilton court further concluded that 28 U.S.C. § 2401(a) is a “jurisdictional condition attached to the government’s waiver of sover-

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192 Id. at 1335.
193 Id.
194 Id.
196 Hamilton, 453 F.3d at 1335.
197 Id. at 1334–35.
198 Id. at 1335. “The Center complains of the continuing effects of the failure of the Secretary to determine the critical habitat by the statutory deadline, a one-time violation under the Act.” Id.
199 Id.
200 Id. One commentator states that “[t]he Eleventh Circuit’s holding places the burden on citizen groups and private plaintiffs . . . to monitor and enforce the [ESA]. While governmental oversight by watchdog groups should be encouraged, the responsibility to enforce the law lies with the government, not the advocacy groups.” Stephen Butler, Center for Biological Diversity v. Hamilton: Eviscerating the Citizen Suit Provision of the Endangered Species Act?, 34 Ecology L.Q. 1137, 1143 (2007).
eign immunity, and as such must be strictly construed.”201 The court cited Supreme Court and courts of appeals precedent for the proposition that 28 U.S.C. § 2401(a) is a waiver of sovereign immunity which must be “strictly observed [with] exceptions thereto . . . not to be implied.”202 Since 28 U.S.C. § 2401(a) “unambiguously imposes a six-year statute of limitations,” the court concluded that barring the application of the continuing violations doctrine was consistent “with principles of sovereign immunity.”203 Notably, Hamilton was cited in Justice Ginsberg’s dissent in John R. Sand & Gravel Co. as reflective of the “theoretical incoherence and practical confusion” which surrounds the question of whether 28 U.S.C. § 2401(a) is “jurisdictional” or whether Irwin’s rebuttable presumption of equitable tolling applies.204

The Hamilton court also noted that the existence of an alternative remedy further indicated Congress did not intend for the continuing violations doctrine to apply.205 The alternative remedy available to plaintiffs was to petition the Secretary to designate critical habitat under 50 C.F.R. § 424.14(d).206 The court made clear that even the absence of an alternative remedy would not prompt them to create an exception to the statute of limitations.207

D. Cases That Toll the Statute of Limitations to Allow Challenges to Compel Critical Habitat Designation

Three federal district courts have tolled the statute of limitations to allow challenges against FWS for failure to designate critical habitat within the statutory deadline set by 16 U.S.C. § 1533(b)(6)(C).208 Several courts have held that FWS’s failure constitutes a continuing viola-

202 Hamilton, 453 F.3d at 1335 (citations omitted).
203 Id. at 1335–36.
204 John R. Sand & Gravel Co., 128 S. Ct. 750, 760 (Ginsburg, J., dissenting).
205 453 F.3d at 1336.
206 Id.
207 Id.
tion of its statutory duty that resets the statute of limitations clock.\textsuperscript{209} One court also held that FWS’s failure to act does not provide concerned parties “actual or constructive knowledge” of a right of action and thus does not start the clock for statute of limitations purposes.\textsuperscript{210} Additionally, one court has held 28 U.S.C. § 2401(a) does not apply to challenges of FWS’s inaction because the agency exceeds its statutory authority under the \textit{ultra vires} doctrine.\textsuperscript{211}

1. Several Courts Have Held Failure to Designate Critical Habitat Before the Statutory Deadline After a “Not Determinable” Finding Is a Continuing Violation That Tolls the Statute of Limitations

The Eastern District of Tennessee tolled 28 U.S.C. § 2401(a) and compelled the FWS to designate critical habitat for nine species because the agency’s failure to designate critical habitat within the statutory deadline after an initial finding of “not determinable” constituted a continuing violation.\textsuperscript{212} Every day that FWS failed to fulfill its statutory duty constituted a new violation of that duty and caused the statute of limitations to run anew.\textsuperscript{213} The court acknowledged that Congress had failed to adequately fund FWS to carry out its statutory duty to designate critical habitat. As a result, the Service “finds itself confronted with a plethora of suits and injunctions” which require it to “devote its limited resources to comply with judicial orders at the expense of curtailing or even abandoning its search for as-yet-unidentified endangered species.”\textsuperscript{214} However, the court stated that “non-repeal of 16 U.S.C. § 1533(b)(6)(C) . . . must be presumed to be an indication of Congress’s wishes.”\textsuperscript{215} Effectively, the continuing violations doctrine was applied to prevent the statute of limitations from ever commencing to run.\textsuperscript{216}

Similarly, in \textit{Schoeffler v. Kempthorne}, the Western District of Louisiana held FWS’s failure to designate critical habitat within the statutory

\textsuperscript{210} \textit{Schoeffler}, 493 F. Supp. 2d at 816.
\textsuperscript{211} \textit{Inst. for Wildlife Prot.}, 2007 WL 4117978 at *5.
\textsuperscript{212} \textit{See S. Appalachian Biodiversity Project}, 181 F. Supp. 2d at 885, 887. The case concerned sixteen species total, seven of which had been issued “not prudent” findings. However, FWS admitted that the appropriate criteria had not been used to make the “not prudent” determinations and requested voluntary remand to reconsider them. \textit{Id}. at 885.
\textsuperscript{213} \textit{Id}. at 887.
\textsuperscript{214} \textit{Id}. at 886.
\textsuperscript{215} \textit{Id}. at 887.
\textsuperscript{216} \textit{Id}.
deadline after an initial finding of “not determinable” constituted a continuing violation that prevented accrual of the statute of limitations. The Schoeffler court held that the statute of limitations did not bar the plaintiffs’ challenge on other grounds described below, but nonetheless addressed the applicability of the continuing violations doctrine. The court explained that “[o]nly continuous unlawful acts or a series of separate wrongful actions can form the basis of a continuing violation,” as distinguished from “a discrete one-time violation with lingering effects or consequences.”

The court opined that “the Secretary’s ongoing and continuous failure to perform his non-discretionary duty . . . constituted an actionable violation of the ESA” and that the duty continued “until the final regulation is published.” Thus, the court held “the Secretary’s violation is ongoing and does not constitute a discrete one-time violation with lingering effects or consequences.” Moreover, the court noted that “[t]he Secretary’s representations and attempted proposals effectively link[ed] conduct” during the initial violation and limitation period with conduct leading up to the filing of the litigation.

The Schoeffler court further announced that “[n]othing in the language of the ESA indicates that Congress intended that the Secretary’s mandatory duty to designate critical habitat be discharged when the Secretary first fails to abide by a deadline.” The court opined that “to hold that the Secretary is only responsible for timely performance,” and that his failure to designate within the statutory deadline only violated the law “for an instant of time at the passing of the deadline and no more once the deadline passed,” would contradict Congress’s intent and the goals of the ESA. Therefore, the court reasoned, where the

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217 See 493 F. Supp. 2d 805, 821 (2007). FWS listed the Louisiana black bear as a threatened species on January 7, 1992, and stated its critical habitat was “not . . . determinable,” invoking 16 U.S.C. § 1533(b)(6)(C) to extend the deadline for determination by one year. *Id.* at 810. Over the next two years, the Secretary made proposals to designate critical habitat on several occasions, culminating in a September 27, 1995 publication of a recovery plan that stated designation of the bear’s critical habitat was in progress and under review. *Id.* at 810–11. No further action was taken by FWS to designate and publish the bear’s critical habitat. *Id.* at 811.

218 *Id.* at 817.

219 *Id.* at 818–19.

220 Schoeffler, 493 F. Supp. 2d at 820.

221 *Id.*

222 *Id.*

223 *Id.* at 823.

224 *Id.* “It is nonsensical that Congress intended that endangered animals be left unprotected simply because the time by which the protection should have been provided passed.” *Id.* at 823–24.
Secretary has a mandatory, non-discretionary duty to act, “it is logical and equitable that the citizen suit provision should also still be available to compel the required performance.”

In *Institute for Wildlife Protection*, the District of Oregon held that “each day that FWS does not act” within the statutory deadline after a “not determinable” finding “is a discrete, single violation of the ESA.” The *Institute for Wildlife Protection* court found the reasoning of the D.C. Circuit persuasive concerning challenges to agency inaction, namely that the statute of limitations was inapplicable where plaintiffs were not complaining about “what the agency has done but rather about what the agency has yet to do.” The court advised that any statute of limitations is “grounded in equity and based on the principles of avoiding stale claims, achieving finality, and protecting those who rely on the law.” The District of Oregon concluded that these principles “are not advanced by and do not support barring claims that seek to hold an agency accountable for actions it is required by statute to perform.”

Thus, the court held that 16 U.S.C. § 1533(b)(6)(C)(ii) creates an “ongoing, binding statutory duty to designate critical habitat” and that “there is nothing in the ESA to indicate that FWS’s duty . . . is finite or expires at a certain point.” The court cited other language in the relevant statute that supported a conclusion that FWS’s duty was an ongoing one.

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225 Schoeffler, 493 F. Supp. 2d at 824.
226 Id.
227 Inst. for Wildlife Prot. v. U.S. Fish & Wildlife Serv., No. 07-CV-358-PK, 2007 WL 4117978, at *6 (D. Or. Nov. 16, 2007). FWS listed the Oregon Chub on October 18, 1993, at which time the Service deferred designation for an additional year pursuant to 16 U.S.C. § 1533(b)(6) (C)(ii). Id. at *2. FWS did not make a critical habitat designation and admitted its failure to comply with the statute. Id. at *1.
228 Id. at *5 (internal citations omitted).
229 Id.
231 Id.
232 Id. 16 U.S.C. § 1533(c)(2) “requires FWS to perform periodic status reviews of [listed] species to monitor [their] improvement or decline” and 16 U.S.C. § 1533(a)(3)(A)(ii) provides that the agency may intermittently revise existing critical habitat designations. Id. Additionally, the District of Oregon found that the broad waiver of sovereign immunity that Sec-
“nullify, in effect, FWS’s ongoing duty . . . and to insulate the agency from challenges to any continued inaction.”

2. One Court Has Held that FWS’s Failure to Act Does Not Provide “Actual or Constructive Notice” of a Cause of Action and Does Not Start the Accrual of the Statute of Limitations

The Schoeffler court tolled 28 U.S.C. § 2401(a) and compelled FWS to designate critical habitat on the grounds that the Secretary’s failure to designate critical habitat by the deadline neither “carr[ied] the weight of a definitive statement of the agency’s position,” nor gave “actual or constructive notice of a right of action.” Hence, the plaintiff’s cause of action did not accrue upon the initial violation of the deadline. In the Fifth Circuit, a cause of action accrues when a party has either actual or constructive knowledge of the violation and a right to enforce his claim. The Schoeffler court concluded that if FWS issued a “not prudent” decision or designated critical habitat, either would have constituted final agency action “concretely and definitively affecting the plaintiffs’ interest, thus triggering the statute of limitations.” Instead, the Secretary “maintained the interim ‘not yet determinable’ finding and by all appearances and representations, has further extended the course of investigation into the matter.” Thus, the FWS’s obligation to make a determination “remained open pending a final determination.” The court held “[p]laintiffs could not have inferred . . . that the defendant’s ongoing failure to finalize a habitat determination should be perceived as a situation of adverse action, rather than bureaucratic bungling or foot dragging.”

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1540 of the ESA grants “counsels against a mechanical application of the statute of limitations.”

235 Id.
236 Id. at 815 (construing Vigman v. Cmty. Nat’l Bank & Trust Co., 635 F.2d 455, 459 (5th Cir. 1981)).
237 Id. at 816.
238 Id. at 815. The court found that the Secretary’s actions subsequent to listing the bear— “proposing rules, accepting public comments, holding public hearings, and even promising designation would be forthcoming”— “confirmed plaintiffs’ reasonable, good faith belief that the Secretary would ultimately comply with the law, even if at a time after the statutory deadline.”
239 Schoeffler, 493 F. Supp. 2d at 815.
240 Id. at 816.
3. One Court Has Held that FWS’s Failure to Act Constitutes *Ultra Vires* Action

In *Institute for Wildlife Protection*, the District of Oregon also concluded that the statute of limitations is inapplicable to challenges of FWS’s failure to designate critical habitat within the statutory deadline after a “not determinable” finding because it constitutes agency action “*ultra vires*, i.e., in excess of its statutory authority.”\(^{241}\) The District of Oregon stated that the Ninth Circuit had recognized an exception to the application of the statute of limitations where an agency acted in excess of its statutory authority.\(^{242}\) The District of Oregon concluded that FWS lacked the discretion to ignore its mandatory, statutory duty and that its continuing “noncompliance with the ESA exceeds its statutory authority.”\(^{243}\) As such, the court held 28 U.S.C. § 2401(a) did not apply to plaintiff’s challenge to compel critical habitat designation.\(^{244}\)

**IV. Should the Statute of Limitations Be Tolled?**

There are significant policy justifications for subjecting alleged abuse of the “not prudent” or “not determinable” exception by FWS to judicial review despite accrual of the statute of limitations—namely to prevent the agency from ignoring its statutory duties, thereby undermining clear congressional intent.\(^{245}\) Moreover, 28 U.S.C. § 2401(a) should be construed as subject to the rebuttable presumption of equitable tolling the Supreme Court announced in *Irwin v. Department of Veterans Affairs*.\(^{246}\) However, procedural differences between the two exceptions dictate that the statute of limitations bars challenges of a “not prudent” finding, but it should not bar challenges of agency failure to designate within the statutory deadline after a “not determinable” finding.\(^{247}\)


\(^{242}\) *Inst. for Wildlife Prot.*, 2007 WL 4117978, at *6 (citing *Wind River Mining Corp. v. United States*, 946 F.2d 710, 715 (9th Cir. 1991)).

\(^{243}\) *Id.*

\(^{244}\) *Id.*


\(^{246}\) *See* 498 U.S. 89, 95–96 (1990); *Clymore v. United States*, 217 F.3d 370, 374 (5th Cir. 2000); *Cedars-Sinai Med. Ctr. v. Shalala*, 125 F.3d 765, 770 (9th Cir. 1997).

A. Significant Policy Considerations Are Implicated by Application of the Statute of Limitations to Bar Challenges of FWS’s “Not Prudent” and “Not Determinable” Exceptions

FWS has employed the “not prudent” and “not determinable” exceptions with such frequency that it has, for all intents and purposes, adopted a policy against critical habitat designation.\(^{248}\) This reflects its stated belief that “designation of ‘official’ critical habitat is of little additional value for most listed species.”\(^{249}\) This is in direct derogation of Congress’s intent that “in most situations the Secretary will, in fact, designate critical habitat at the same time that a species is listed as either endangered or threatened.”\(^{250}\) As observed by the Fifth Circuit, “[i]n practice, the Services have inverted [Congress’s] intent, rendering critical habitat designation the exception and not the rule.”\(^{251}\)

The extent to which courts have set aside FWS’s findings and compelled the agency to designate critical habitat indicates a rejection of FWS’s devaluation of designation.\(^{252}\) Moreover, FWS has acknowledged it has no scientific evidence to support its conclusions about the utility of critical habitat designation.\(^{253}\) However, one recent survey of scientific studies indicates that “species with critical habitat are in fact recovering faster than those without it.”\(^{254}\) Strict application of the statute of limitations could bar hundreds of species from ever receiving a critical habitat designation.\(^{255}\) As stated by the Southern District of New York in *Natural Resources Defense Council v. Fox*, where an agency “charged with a duty by Congress . . . cannot be forced by the Court to carry out its duty because of a statute of limitations, the practical result is a repeal of the mandatory duty itself.”\(^{256}\)

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\(^{248}\) See Parenteau, *supra* note 1, at 1–2, & n.6. “[FWS has] taken a hard line position against designating critical habitat, not just at the time of listing, but ever.” *Id.* at 1–2.

\(^{249}\) Endangered and Threatened Wildlife and Plants; Notice of Intent To Clarify the Role of Habitat in Endangered Species Conservation, 64 Fed. Reg. 31,871, 31,872 (June 14, 1999).


\(^{251}\) Sierra Club v. U.S. Fish & Wildlife Serv., 245 F.3d 434, 443 (5th Cir. 2001).


\(^{253}\) Suckling & Taylor, *supra* note 71, at 76.

\(^{254}\) *Id.* at 85–86.

\(^{255}\) See Parenteau, *supra* note 1, at 4 n.16, 6 (spreadsheets on file with author).

B. 28 U.S.C. § 2401(a) Should Be Subject to Irwin’s Rebuttable Presumption of Equitable Tolling

The rebuttable presumption of equitable tolling of statutes of limitations in suits against the government established by Irwin should apply to 28 U.S.C. § 2401(a).

The Court’s recent decision in John R. Sand & Gravel Co. v. United States—which held that a “definitive earlier interpretation of the statute [of limitations]” as “jurisdictional” in nature rebuts this presumption of equitable tolling—bolsters this conclusion.

As Justice Ginsburg stated, the Court’s holding in John R. Sand & Gravel Co. “implies that Irwin governs the interpretation of all statutes we have not yet construed—including, presumably . . . [28 U.S.C.] § 2401.”

Indeed, the Ninth and Fifth Circuits have held that 28 U.S.C. § 2401(a) is subject to the rebuttable presumption of equitable tolling. The Eleventh Circuit’s conclusion in Center for Biological Diversity v. Hamilton that 28 U.S.C. § 2401(a) is “jurisdictional” failed to even mention Irwin and relied on a D.C. Circuit decision recently called into doubt by the D.C. Circuit itself.

Applying Irwin’s rebuttable presumption of equitable tolling to 28 U.S.C. § 2401(a) would allow application of the continuing violations doctrine to toll the statutes of limitations.

C. Despite Policy Concerns, a “Not Prudent” Determination Should Start the Clock for Statute of Limitations Purposes.

Although FWS’s overuse of the “not prudent” exception undermines clear congressional intent that it be exercised rarely, publication does properly start the clock for statute of limitations purposes.

A “not prudent” finding constitutes final agency action challengeable as arbitrary and capricious under section 706(2) of the APA upon final

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259 Id. at 760–61 (Ginsburg, J., dissenting).
260 Cedars-Sinai Med. Ctr. v. Shalala, 125 F.3d 765, 770 (9th Cir. 1997). The Fifth Circuit holds that § 2401(a) is susceptible to the doctrine of equitable tolling. Clymore v. United States, 217 F.3d 370, 374 (5th Cir. 2000).
262 See Irwin, 498 U.S. at 96.
The ESA sets forth no deadline requiring designation of critical habitat after a “not prudent” finding and the decision can stand indefinitely absent challenge. In issuing a “not prudent” finding, the agency takes an affirmative action that can be challenged immediately upon its issuance. As such, because the “not prudent” determination “concretely and definitively affect[s]” the interests of a would-be plaintiff, it starts the clock for the purposes of the statute of limitations.

This comports with the Fifth Circuit’s understanding that a cause of action accrues for the purposes of 28 U.S.C. § 2401(a) when “a party has either actual or constructive knowledge of the violation and a right to enforce his claim.” The publication of a final rule by the Secretary containing a “not prudent” finding is an event which signals to concerned observers that a listed species has not received the protections of critical habitat. Moreover, a “not prudent” determination may serve as the Secretary’s ultimate decision regarding a species’s critical habitat and constitutes a fulfillment of his statutory duty. This makes the Secretary’s “not prudent” determination more like a single, discrete violation of the ESA with lingering effects, as compared to a continuing violation of his ongoing duty. Thus, the clock starts with such a determination for statute of limitations purposes.

D. Failure to Act Within the Statutory Deadline After a “Not Determinable” Finding Should Not Start the Clock for Statute of Limitations Purposes

By contrast, the Secretary’s failure to designate critical habitat within the statutory timeline created by 16 U.S.C. § 1533(b)(6)(C) after a “not determinable” finding is a “failure to act” challengeable under both section 706(1) of the APA and section 1540(g)(1)(C) of the citi-

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266 See Nixon, 158 F. Supp. 2d at 989.

267 Schoeffler, 493 F. Supp. 2d at 816.

268 Id. at 815 (citing Vigman v. Community Nat’l Bank & Trust Co., 635 F.2d 455, 459 (5th Cir. 1981).

269 See id. at 816.


272 Id. at 816.
zen suit provision of the ESA. The ESA establishes a mandatory deadline after the Secretary exercises the “not determinable” exception; at deadline’s end, the Secretary must either make a “not prudent” finding or designate critical habitat. FWS acknowledges that the “not determinable” exception is an interim decision that only temporarily delays its duty to designate critical habitat.

The fact that 16 U.S.C. § 1533(b)(6)(C) has not been repealed or augmented and “unequivocally directs the Service to designate critical habitat . . . must be presumed to be an indication of Congress’s wishes.” The ESA establishes a nondiscretionary, mandatory duty which requires FWS to designate critical habitat to the maximum extent prudent within one year of issuing a “not determinable” finding. In Norton v. Southern Utah Wilderness Society, the Supreme Court stated that section 706(1) of the APA permits review where “an agency failed to take a discrete agency action that it is required to take.” Here, where “Congress by organic statute sets a specific deadline for agency action . . . [t]he agency must act by the deadline.”

Challenges of FWS’s failure to designate critical habitat within the statutory deadline should not be time-barred because the plaintiff “does not complain about what the agency has done but rather about what the agency has yet to do.” “[T]he principles that underlie the purpose of a statute of limitations are not advanced by and do not support barring claims that seek to hold an agency accountable for actions it is required by statute to perform.” Moreover, the statute of limitations should be tolled because the Secretary’s ongoing failure to per-

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275 Amended Procedures to Comply with the 1982 Amendments to the Endangered Species Act, 48 Fed. Reg. at 36,065. “[A] finding that Critical Habitat is not determinable may delay its designation, but does not permanently relieve the Secretary from making such a designation.” Id.

276 See S. Appalachian Biodiversity Project, 181 F. Supp. 2d at 887.


279 Forest Guardians v. Babbitt, 174 F.3d 1178, 1190 (10th Cir. 1999).


form his statutory duty to designate critical habitat within the deadline prescribed by section 1533(b)(6)(C)(ii) of the ESA constitutes a continuing violation.\(^282\) The agency’s failure to act does not resemble final agency action, particularly where the Secretary often takes subsequent steps which suggest to concerned citizens that the agency may eventually take the appropriate action.\(^283\) Indeed, because it prevents concerned parties from having “actual or constructive knowledge” of the violation and a right to enforce their claim, the continuing violations doctrine is appropriately applied.\(^284\)

_Schoeffler_ is exemplary of this scenario, where FWS engaged in ongoing proposals and made gestures which the plaintiffs believed indicated that a critical habitat designation would be forthcoming.\(^285\) As such, strict application of the statute of limitations unfairly punishes citizen groups for relying upon FWS’s assertions.\(^286\) As argued by one commentator, strict application of the statute of limitations places undue responsibility for enforcement of the ESA on private citizens and advocacy groups.\(^287\) The Eleventh Circuit’s conclusion that a “reasonably prudent plaintiff would have been aware of the failure of the Secretary to act on the day following the deadline” ignores the troubled history of critical habitat designation and inaccurately construes the agency’s inaction to constitute final agency action.\(^288\) Moreover, such an argument also punishes the agency by discouraging cooperation with citizen groups that may yield designation of critical habitat without litigation.\(^289\)

**CONCLUSION**

FWS’s unofficial policy against designation of critical habitat has left the majority of endangered and threatened species without the additional protections Congress intended for them to have. Only legal action by concerned citizens groups has been effective in forcing the agency to fulfill its statutory mandate under the ESA. Unfortunately for

\(^{282}\) See id. at *6; _Schoeffler v. Kempthorne_, 493 F. Supp. 2d, 805, 821 (W.D. La. 2007).

\(^{283}\) See _Schoeffler_, 493 F. Supp. 2d at 815.

\(^{284}\) _Id._ at 816, 820–21.

\(^{285}\) See _id._ at 816.

\(^{286}\) _See id._

\(^{287}\) _Butler, supra_ note 200, at 1143.

\(^{288}\) See _Ctr. for Biological Diversity v. Hamilton_, 453 F.3d 1331, 1335 (11th Cir 2006); _Schoeffler_, 493 F. Supp. 2d at 816 (noting that plaintiffs could not infer that FWS’s “ongoing failure to finalize a habitat determination should be perceived as a situation of adverse action, rather than bureaucratic bungling or foot dragging”).

\(^{289}\) See _Hamilton_, 453 F.3d at 1335; _Schoeffler_, 493 F. Supp. 2d at 816; _Butler, supra_ note 200, at 1143.
those who believe in the added protections critical habitat designation affords, it appears that the general federal statute of limitations effectively shields FWS from suit where it has abused the “not prudent” finding.

However, FWS’s failure to designate critical habitat after the statutory deadline set by section 1533(b)(6)(C)(ii) of the ESA justifies equitable tolling. The Supreme Court has arguably established a rebuttable presumption that equitable tolling applies in suits against the United States. Moreover, courts have stated FWS’s failure to designate critical habitat violates clear congressional intent. Where, after a “not determinable” finding, FWS subsequently fails to designate critical habitat within the deadline prescribed by section 1533(b)(6)(C)(ii) of the ESA, courts should toll the statute of limitations by application of the continuing violations doctrine. This conclusion furthers the purposes of the ESA by ensuring FWS does not avoid its statutory responsibility to designate critical habitat.
TRANS-ATLANTIC REACH: THE POTENTIAL IMPACT OF THE EUROPEAN UNION’S NEW CHEMICAL REGULATIONS ON PROOF OF CAUSATION IN U.S. FEDERAL COURTS

Leslie E. Kersey*

Abstract: On June 1, 2007, a new set of regulations governing nearly all chemical substances took effect throughout the EU’s twenty-seven member states. The primary goal of the legislation, called REACH, is to improve the protection of human health and the environment from risks posed by toxic chemical exposure. No equivalent federal legislation exists in the United States. As a result, chemicals that the EU will soon ban or restrict under REACH will continue to enter American homes and workplaces. This Note explores how private law—particularly in the form of toxic tort litigation—may fill the gap in U.S. chemicals regulation, and induce manufacturers to produce safer products for U.S. consumption. Focusing on the potential of REACH to influence the establishment of general causation in toxic tort litigation, it analyzes whether and to what extent REACH data is likely to assist toxic tort plaintiffs in U.S. federal courts. The Note concludes that, although REACH is likely to provide plaintiffs with additional evidentiary support of general causation in some instances, it seems unlikely that REACH data alone will be sufficient to support causation claims at the federal level.

INTRODUCTION

We live in a world of chemicals. From household cleaners to children’s toys, to shower curtains, lipstick, and nail polish, chemicals comprise tens of thousands of consumer and commercial products—they are the ingredients in the conveniences of modern society.¹

* Clinical Program Director, Boston College Environmental Affairs Law Review, 2008–09. The author wishes to thank Professors Mark S. Brodin, Jane Kent Gionfriddo, Dean M. Hashimoto, Vlad Perju, Zygmunt J.B. Plater, and David A. Wirth for their guidance and feedback, and her family for their encouragement and support.

Despite the widespread use of chemical substances, for more than fifty years government policies have allowed the production and importation of an overwhelming majority of chemicals without questioning their safety, even though governments, consumers, and chemical manufacturers have known little to nothing about the health and environmental risks that everyday chemicals might pose.\(^2\) In recent years, however, scientific studies have provided evidence that our presumptions of chemical safety were often wrong.\(^3\)

As science has focused increasingly on the effects of long-term exposure to everyday chemical-containing products, it has become clear that our world of chemicals and convenience comes with serious health and environmental consequences.\(^4\) “We now know that some of these chemicals have accumulated in the bodies of virtually all people, and in wildlife and the ecosystems of the remotest regions on Earth.”\(^5\) Results from a 2005 cross-generational study by the U.S. Center for Disease Control revealed the accumulation of nearly 150 toxic chemicals “in the bodies of Americans of all ages.”\(^6\) Supported by wildlife, animal,
and human studies, moreover, scientists suggest that exposure to even low-level contaminants is causally linked to increasing rates of cancers, reproductive disorders, and neurological diseases, which affect millions of people worldwide.7 Alarmingly, a recent World Health Organization estimate partly attributes the deaths of at least five million people per year to exposure to toxic chemicals.8

For nearly a decade, as more scientific studies have observed the carcinogenic, mutagenic, and neurotoxic effects of human exposure to chemicals, European Union (EU) legislators have worked towards the implementation of a new set of regulations to govern the EU-market presence of nearly all chemical substances.9 The resulting legislation—Registration, Evaluation, Authorization, and Restriction of Chemicals (REACH)—took effect throughout the EU’s twenty-seven member states on June 1, 2007.10 Now the world’s strictest chemical safety regime,11 REACH’s primary goal is to improve the protection of human health and the environment from risks posed by toxic chemical exposure.12 To achieve this objective, REACH will require generation of en-

7 See id. at 3–4. For example, based on extensive peer-reviewed scientific studies, many scientists now believe that early exposure to phthalates—a member of the polyvinylchloride plastic softener family—can cause reproductive deformations such as lower testosterone levels and sperm counts, incompletely descended testes, and hypospadias. See id. at 42, 44–45. Exposure to phthalates can come from a multitude of sources, including “dust in the air, . . . plasticized wall coverings or flooring, . . . [and] plastic toys and teething rings.” Id. at 43. Studies also have linked exposure to perfluorinated chemicals, like those used in Teflon pans, to liver damage and increased risk of bladder and possibly other cancers.” Id. at 128. These are just two of thousands of examples of the potentially serious health consequences of everyday exposure to chemical substances. See generally id. 8 Id. at 3–4.


10 Austin & Bowden, supra note 9, at 1; see European Parliament and Council Regulation 1907/2006, Concerning the Registration, Evaluation, Authorisation, and Restriction of Chemicals (REACH), Establishing a European Chemicals Agency, 2006 O.J. (L 396) 1 (EC), available at http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=oj:l:2006:396:0001:0849:en:pdf [hereinafter REACH]. It is important to note that, because REACH is only in its initial implementation phase, “many critical elements of REACH remain to be developed, and how all of its provisions will work in practice remains to be seen.” Denison, supra note 1, at I-6. For an account of the intense lobbying by chemicals manufacturers worldwide, and even by the U.S. government, that accompanied the REACH development process, see Schapiro, supra note 1, at 143–55.

11 David A. Wirth, The EU’s New Impact on U.S. Environmental Regulation, 31 Fletcher F. World Aff. 91, 100 (2007); see Schapiro, supra note 1, at 139.

environment- and health-toxicity data on the majority of chemicals used in modern society.\textsuperscript{13}

By substantially improving the chemical health and safety information available to manufacturers, regulators, and the public, REACH promises to confer significant health and environmental benefits on European consumers.\textsuperscript{14} As Stavros Dimas, the EU Commissioner for the Environment, has stated:

If REACH succeeds in reducing chemicals-related diseases by only 10 per cent, which is a conservative assumption, the health benefits are estimated at more than €50 billion ($64 billion) over 30 years. This means tens of thousands of avoided cases of infertility, cancer, skin diseases, neurological disorders and other illnesses.\textsuperscript{15}

Even in its early stages, REACH has impacted manufacturers throughout the world, including American producers of chemical substances.\textsuperscript{16} Because chemicals and chemical-containing products made in the United States for export to the EU must meet the same standards as their European-made counterparts, the EU’s new chemicals regulations confront U.S. companies with a choice: “either adapt to Europe’s more aggressive standards for protecting the health of its citizens, or risk losing what is now the biggest and most affluent market in the world.”\textsuperscript{17} While some companies are choosing to replace dangerous chemicals with safer alternatives in products for both U.S. and European consumption, many U.S. companies that have adapted their products to comply with the EU’s higher standards maintain that they are unable to make the same changes for American consumers—and continue to take advantage of less rigorous chemicals regulation in the United States.\textsuperscript{18} Whether REACH will eventually influence Congress to adopt legislation similar to the EU’s new chemicals rules remains to be seen.\textsuperscript{19}


\textsuperscript{14} See generally Schapiro, supra note 1.

\textsuperscript{15} Austin & Bowden, supra note 9, at 1 (quoting Stavros Dimas, EU Commissioner for the Environment, Speech at the American Chamber of Commerce in the EU: Climate Change and REACH (July 19, 2005)).

\textsuperscript{16} See Schapiro, supra note 1, at 157. “U.S. firms sell about $27 billion a year in chemicals to Europe . . . .” Id. at 139. For a discussion of the worldwide economic impact of REACH, see id.

\textsuperscript{17} See id. at 10.

\textsuperscript{18} Id. at 10–11.

\textsuperscript{19} See id. at 10–11, 157.
tably, while the EU marched forward, creating new protections for its citizens, the United States steadfastly regarded these changes with an icy glare: from the time REACH was just a proposal in Europe, the official policy of the U.S. executive branch has been to vociferously oppose the new regulations. Thus, for the time being, chemicals that soon will be banned or restricted in the EU under REACH will continue to enter the American market—as well as American homes and workplaces.

Fortunately for Americans,

[the United States has long had two legs to its structure of consumer protections: regulation on the one hand, and a receptive legal system on the other, giving citizens the right to pursue redress in the courts as a means of obtaining both compensation and punishment for damages to their . . . health and environment.

Therefore, while U.S. public law may leave Americans exposed to dangerous chemicals for the time being, private law, particularly in the form of toxic tort litigation, could prove a powerful inducement to manufacturers to produce safer products for U.S. consumption. Historically, the prospect of litigation has been a powerful deterrent, forcing manufacturers at the very least to assess, and sometimes to internalize, the costs associated with failures to adequately protect consumers.

Thus, “[b]y requiring the generation of massive amounts of new data

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20 See id. at 143–54.


22 See Schapiro, supra note 1, at 142. In response to REACH, the Bush administration launched “an unprecedented international lobbying effort . . . to block [the new European legislation] from being passed into law.” Id. at 145. While it appears that, for the foreseeable future, U.S. federal law will continue to deny Americans protections comparable to those that REACH will afford Europeans, a few U.S. states, including California, Massachusetts, and New York, “have begun implementing elements of REACH into their state regulations; other states, such as Maine and Washington, have cited Europe’s precedent in their efforts to ban particular chemicals.” Id. at 188.

23 Id. at 36.

24 See id. at 37.

25 Id. Some notable defendant-corporations include “Dow Corning (silicone breast implants), Merck (Vioxx pain reliever), the Ford Motor Company (the Pinto), AH Robins (the Dalkon Shield contraceptive), WR Grace (asbestos), and Philip Morris (tobacco).” Id.
on the health risks of chemicals,” REACH may equip plaintiffs with valuable evidence in support of toxic tort claims.

Focusing exclusively on the potential of REACH to influence the establishment of general causation in toxic tort litigation, this Note explores whether and to what extent REACH data is likely to assist toxic tort plaintiffs in U.S. federal courts. Part I provides a detailed explanation of REACH provisions pertinent to this inquiry. Part II discusses toxic tort litigation, as well as the types of evidence most commonly relied upon in both the scientific and legal realms to infer causal links between toxic agents and human disease. Part III describes the standards that U.S. federal courts apply in decisions on the admissibility of scientific evidence and expert testimony, while Part IV surveys how courts have applied admissibility standards in the context of toxic tort litigation. Part V analyzes the likelihood that REACH data will assist plaintiffs in proving general causation. This Part specifically considers the issues of inclusion, accessibility, reliability, and admissibility of REACH data. The Conclusion of this Note suggests that, while REACH is likely to provide plaintiffs with additional evidentiary support of general causation in some instances, it seems unlikely that REACH data alone will be sufficient to support causation claims in federal courts.

I. REACH: The EU’s Regulatory Response

REACH represents an overhaul of European chemicals regulations promulgated in the early 1980s. REACH’s predecessor regulations closely mirrored the United States’s Toxic Substance Control Act (TSCA) of 1976, which remains in effect today. The old European regulations failed to provide an adequate basis for understanding the potential risks posed by chemicals. Under the former EU chemicals regime, no data were available on the impact of ninety-nine percent of the 30,000 substances currently on the EU market because the old rules exempted from testing requirements chemical substances “existing” at

26 See Karmel, supra note 13.
27 The author recognizes the potential for REACH data in general, and European Chemicals Agency (ECHA) decisions in particular, to impact the establishment of more than one prima facie element of toxic tort suits involving chemicals regulated by REACH. It is beyond the scope of this Note, however, to address issues of breach and duty.
28 Schapiro, supra note 1, at 137; Austin & Bowden, supra note 9, at 1.
29 See Schapiro, supra note 1, at 132. For a detailed comparison of TSCA and REACH, see generally Denison, supra note 1.
30 REACH in Brief, supra note 12, at 3.
the time of regulation. Moreover, public authorities rarely acquired adequate safety data on new chemical substances because pre-REACH regulations required government to point to “information sufficient to document potential risk, or at the very least, extensive exposure” before it could require manufacturers to submit risk data on products for the assessment of actual risk. Because the former legislation only set out general guidelines for manufacturers in providing safety information to the government, chemical producers typically submitted little, if any, data on risk and toxicity and, as a result, public authorities rarely procured the evidence needed to mandate further testing. Thus, under the old system, not only governments but even manufacturers sometimes were unaware of the properties of chemicals used in products.

REACH aims to diminish the information deficit by acquiring specific environment- and health-toxicity data on most of the chemicals used in modern society. By conservative estimates, REACH will lead to the development of €10 billion in toxicity and exposure data in the next two decades. To accomplish its goals, REACH requires importers and manufacturers to supply “scientifically valid” health and safety data on the chemical substances they import and/or produce. Notably, industry, rather than government, is responsible for developing data that demonstrate that chemicals can be used safely.

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31 See Austin & Bowden, supra note 9, at 1.
32 See Denison, supra note 1, at iii. From 1993 to 2007, the EU ordered risk assessments on only 141 high-volume “new” chemicals. REACH in Brief, supra note 12, at 3.
33 See Denison, supra note 1, at v.
34 Id. at iii–iv; Schapiro, supra note 1, at 136.
35 Austin & Bowden, supra note 9, at 1; Karmel, supra note 13. “All substances are covered by [REACH] unless they are explicitly exempted from its scope.” REACH in Brief, supra note 12, at 5. Some REACH exemptions include medicinal products and cosmetics, which are already regulated under comprehensive EU directives. REACH, supra note 10, art. 2, ¶ 6(a)–(b). Also exempted are substances that “generally present such low risks as not to require registration, like water [and] oxygen.” REACH in Brief, supra note 12, at 6.
36 See Karmel, supra note 13.
37 REACH, supra note 10, pmbl. ¶ 64; see REACH in Brief, supra note 12, at 5.
38 REACH, supra note 11, pmbl. ¶¶ 18–19; Denison, supra note 1, at 1-7 to -8. Thus, the new regulations “[flip] the . . . [old] presumption of innocent until proven guilty on its head . . . .” Schapiro, supra note 1, at 138.
A. The REACH Process: Registration, Evaluation, Authorization, and Restriction of Chemicals

REACH substantially eliminates distinctions previously made between “new” and “existing” chemicals and requires all importers and manufacturers of chemicals produced or used in quantities exceeding one ton per year to register with the new European Chemicals Agency (ECHA, or, the Agency). Failure on the part of manufacturers to submit the appropriate registration materials to ECHA will result in a ban on the manufacture or import of unregistered or improperly registered substances.

To register, manufacturers must submit technical dossiers containing information on the identities, properties, and uses of substances they produce. Manufacturers must also disclose relevant hazard classifications and labeling requirements and must provide guidance on the safe use of substances. Further, technical dossiers should summarize any existing pertinent hazard information, as well as details and results from new studies and information on testing proposals. REACH mandates that “one or more competent person(s) who have appropriate experience and received appropriate training” shall prepare chemical safety assessments, which compare possible negative effects of sub-

39 Notably, while “new” chemicals—those for which production began after REACH took effect—must be registered immediately, registration requirements are to be phased in over time for those chemicals existing prior to the implementation of REACH. REACH in Brief, supra note 12, at 5. Registration deadlines differ based on tonnage and other factors for so-called “phase-in” substances. Id. at 5, 7. For example, substances manufactured at 1000 metric tons per year or more must be registered by December 1, 2010, while substances manufactured at one metric ton per year or more that are not considered carcinogens, mutagens, or reproductive toxins may delay registration until June 1, 2018. REACH, supra note 10, art. 23, ¶ 1(c); see also Denison, supra note 1, at IV-27.

40 REACH in Brief, supra note 12, at 7. REACH provides that ECHA shall handle the “technical, scientific, and administrative aspects of the REACH system” for the European Community, ensuring that the new regulations are taken seriously and implemented properly. Id. at 6. Manufacturers of chemical-containing products also must submit health and safety data on substances used where: (1) the manufacturer has yet to register the substance for that use; (2) the substance is present in the article in quantities totaling more than one metric ton per year per producer or importer; and (3) the substance is intended to be released from the article under normal or reasonably foreseeable conditions of use. REACH, supra note 10, art. 7, ¶ 1(a)–(b); Denison, supra note 1, at IV-26.

41 Schapiro, supra note 1, at 137; see REACH in Brief, supra note 12, at 6. This is sometimes referred to as the “no data, no market principle.” Denison, supra note 1, at I-6; Karmel, supra note 13.

42 Denison, supra note 1, at IV-26; REACH in Brief, supra note 12, at 7.

43 Denison, supra note 1, at IV-26; REACH in Brief, supra note 12, at 7.

44 Denison, supra note 1, at IV-26; REACH in Brief, supra note 12, at 7.
stances “with the known or reasonably foreseeable exposure of man . . . to [those] substance[s],” given a variety of exposure scenarios.\(^{45}\)

The scope of information REACH requires varies according to the tonnage of the manufactured or imported substance; an increase in the marketed quantity of a substance automatically triggers additional information requirements.\(^{46}\) For example, the dossiers of substances produced in quantities of ten metric tons or more per year must also contain chemical safety reports (CSRs). These reports detail information about the physiochemical, toxicological, and ecotoxicological properties of substances, the risks posed by their use, and whether and any risks may be adequately controlled.\(^{47}\) CSRs are intended to supply ECHA with adequate data to evaluate whether a particular substance should be classified as “persistent, bioaccumulative, and toxic” (PBT) or “very persistent and very bioaccumulative” (vPvB).\(^{48}\) PBTs can cause a wide range of serious health problems, including “cancer, endocrine disruption, reproductive dysfunction, behavioral abnormalities, birth defects, disturbance of the immune system, [and] damage to the liver and nervous system.”\(^ {49}\) REACH further requires data on human and animal exposure risks for substances identified as PBTs or vPvBs.\(^ {50}\)

Additionally, REACH requires applicants registering such substances of “high concern” to analyze whether safer, suitable alternatives or technologies exist.\(^{51}\) Substances determined to pose “potentially significant threat[s] to human health or the environment”—namely,

\(^{45}\) REACH, \textit{supra} note 10, Annex I, ¶¶ 0.2–0.3.

\(^{46}\) \textit{Id.} art. 12, ¶¶ 1–2; \textit{see also} DENISON, \textit{supra} note 1, at IV-26. Detailed information on the various data requirements associated with each tonnage tier can be found in the REACH annexes. DENISON, \textit{supra} note 1, at IV-4. Tonnages are calculated per manufacturer or importer. \textit{Id.} at IV-4 n.73.

\(^{47}\) REACH, \textit{supra} note 10, art. 14, ¶¶ 3–4, 6; \textit{see also} DENISON, \textit{supra} note 1, at IV-28. CSRs contain human health hazard assessments, which measure the absorption, metabolism, distribution, and elimination of substances, as well as acute effects, sensitization, repeated dose toxicity, and CMR—carcinogenicity, mutagenicity, and reproductive toxicity—effects. REACH, \textit{supra} note 10, Annex I, ¶ 1.02.

\(^{48}\) \textit{Id.} ¶ 0.6; \textit{see also} DENISON, \textit{supra} note 1, at IV-28. “PBT pollutants are chemicals that are toxic, persist in the environment and bioaccumulate in food chains and, thus, pose risks to human health and ecosystems. The biggest concerns about PBTs are that they transfer rather easily among air, water, and land, and span boundaries of programs, geography, and generations.” U.S. Envtl. Prot. Agency, Persistent Bioaccumulative and Toxic (PBT) Chemical Program, http://www.epa.gov/pbt/pubs/aboutpbt.htm (last visited Mar. 19, 2009).


\(^{50}\) REACH, \textit{supra} note 10, Annex I, ¶¶ 0.7, 1.02; \textit{see also} DENISON, \textit{supra} note 1, at IV-28.

\(^{51}\) REACH \textit{in Brief}, \textit{supra} note 12, at 5.
PBTs, vPvBs, substances with endocrine-disrupting properties, and carcinogenic, mutagenic, and reproductive toxins—require specific ECHA authorization before they can appear on the European market.52

Annexes to REACH specify the scientific methodologies upon which registrants are to rely in acquiring requisite data.53 Depending on the quantity and properties of the chemical in question, REACH requires that registration dossiers contain data based on scientific studies involving animal toxicology (in vivo testing), in vitro studies (Petri dish or test tube studies on cells, organs, and sometimes embryos), and/or structure-activity relationships (SARs) analysis.54

While REACH provides standard guidelines for developing data for the registration process, in many instances it allows manufacturers to deviate from these standard testing regimes in their studies, provided that they clearly explain how their analysis and methodologies differ from REACH guidelines and why such adaptations are justified.55 Specifically, REACH states that when certain conditions are met, manufacturers may omit data, replace it with other information, provide it at a different stage, or adapt it in a different way.56 Further, registrants can submit statements as to why they should be exempt from testing requirements altogether, citing a lack of necessity or feasibility.57 While registrants are expected to apply Good Laboratory Practice (GLP) standards for toxicological and eco-toxicological studies and assessments, in many other instances, registrants may satisfy data requirements using “nonstandard methods.”58 Finally, REACH encourages registrants to substitute direct testing methods, such as live animal studies, with in vitro data, SAR modeling, and weight-of-evidence approaches.59

52 Austin & Bowden, supra note 9, at 3.
53 See, e.g., REACH, supra note 10, Annex VIII.
54 See, e.g., id., Annexes VIII, XI; see also Denison, supra note 1, at IV-28.
55 See REACH, supra note 10, Annexes VII–X; see also Denison, supra note 1, at IV-28 to 29.
56 Denison, supra note 1, at IV-28 & n.145 (“This language appears in the introduction to each of the [REACH] Annexes VII-X.”).
57 REACH, supra note 10, Annex XI; Denison, supra note 1, at IV-28.
58 Denison, supra note 1, at IV-28; see REACH in Brief, supra note 12, at 7. GLP standards concern “the selection and handling of laboratory animals, the number of animals per cage, their diet, the statistical procedures to be used, etc. . . . . Adherence to GLP in routine safety assessment is the norm and is subject to examination in litigation.” David L. Faigman et al., Science in the Law: Standards, Statistics and Research Issues 387 (2002).
59 See REACH, supra note 10, Annexes VII–X; see also Denison, supra note 1, at IV-28 to 29.
REACH provisions which permit adaptations to testing methodologies reflect the legislation’s express purpose of replacing, reducing, or refining animal testing wherever possible and scientifically justifiable. These allowances are intended to address concerns about both animal protection and industry costs. Accordingly, REACH also encourages registrants to submit existing information in lieu of conducting new tests. REACH requires new tests only when alternative possibilities have been exhausted. For instance, “[f]or substances in quantities of 100 tonnes per year or more (i.e. cases where more expensive tests, many on vertebrate animals, may be necessary), the manufacturer or importer who does not already possess the required information only needs to submit proposals for testing.”

While REACH requires ECHA to examine all submitted testing proposals, the Agency is responsible for subjecting only “a percentage” of registrations to further evaluation. Evaluation is the process by which ECHA determines whether the data submitted are reliable and accurate. In conjunction with EU member states, ECHA is tasked with developing criteria for prioritizing substances for further evaluation which take into account hazard and exposure information, as well as tonnage.

Based upon evaluations of registered data, ECHA may request information beyond that required by the registration provisions of REACH. However, ECHA must first seek the approval of EU member states. Moreover, REACH grants registrants the opportunity to comment on and appeal requests for additional information.

Where the evaluation process raises Agency concerns that a substance possesses substantial environmental or human health risks, ECHA must grant explicit authorization before registrants may proceed to manufacture or import that substance into the EU. Upon further

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60 Denison, supra note 1, at IV-29.
61 Id.; see REACH in Brief, supra note 12, at 7.
62 See REACH, supra note 10, Annexes VII–X.
63 REACH in Brief, supra note 12, at 7.
65 REACH, supra note 10, pmbl. ¶ 65.
66 Id.; see REACH in Brief, supra note 12, at 11–12.
67 REACH, supra note 10, art. 44, ¶ 1.
68 Id., pmbl. ¶ 66.
69 Id., arts. 46, 50, 52; see also Denison, supra note 1, at IV-28.
70 REACH, supra note 10, art. 50; see also Denison, supra note 1, at IV-28.
71 REACH, supra note 10, art. 56.
analysis, the Agency may choose to restrict or altogether ban the production or importation of the substance to avoid exposures dangerous to humans and the environment. Substances most likely to be subject to ECHA bans or restrictions include those satisfying criteria for classification as carcinogens, mutagens, teratogens, endocrine disrupters, PBTs, and vPvBs.

B. Public Access to REACH Data

REACH substantially limits the data that companies can claim as proprietary. ECHA is responsible for making publicly available, via the internet, much of the health and environmental safety data prepared for it by chemical manufacturers. REACH will always make the following categories of information available, free of charge: (1) the name of the substance; (2) the classification and labeling of the substance; (3) physicochemical data concerning the substance, exposure pathways, and environmental fate; (4) the result of each toxicological and ecotoxicological study; and (5) analytical methods, if requested, which make it possible to detect a dangerous substance when discharged into the environment, as well as to determine the direct exposure risks for humans.

In some instances, however, REACH grants manufacturers an opportunity to submit justifications for why ECHA should not disclose registered information. If the Agency deems those reasons valid, study summaries or robust study summaries of toxicological data and the trade name of the substance may remain undisclosed. Further, ECHA will automatically classify certain REACH data, such as specific details on a preparation’s full composition, as “confidential business information” (CBI). Access to that information will be granted only “where

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72 See REACH in Brief, supra note 12, at 12–13.
73 REACH, supra note 10, art. 57.
74 Schapiro, supra note 1, at 138.
76 REACH, supra note 10, art. 119, ¶ 1; see also Denison, supra note 1, at VII-6.
77 REACH, supra note 10, art. 119, ¶ 2; see also Denison, supra note 1, at VII-6.
78 REACH, supra note 10, art. 119, ¶ 2(c); see also Denison, supra note 1, at VII-6 & n.281.
79 See REACH, supra note 10, art. 118, ¶ 2; see also Denison, supra note 1, at VII-5, VII-7.
urgent action is essential to protect human health, safety or the environment, such as emergency situations.”

II. TOXIC TORT LITIGATION AND SCIENTIFIC EVIDENCE

Toxic tort law addresses civil wrongs where an individual or the environment has suffered injury or harm due to exposure to a toxic product, substance, or process. Through toxic tort litigation, victims may recover compensatory damages to meet the costs of medical expenses, foregone wages, and pain and suffering. In addition, courts sometimes award punitive damages, which are designed to deter defendants and others from engaging in the same or similar harmful behavior in the future. In toxic tort cases, as in conventional tort suits, plaintiffs must establish each of the elements of a prima facie case in order to prevail in litigation. These elements are duty, breach, injury, and causation. Establishing causation is almost always the biggest hindrance to plaintiffs’ success.

A. Proving Causation in Toxic Tort Suits

In a toxic tort lawsuit, the plaintiff bears the burden of proving by a preponderance of the evidence that the defendant’s tortious conduct caused the plaintiff’s harm. Generally, in toxic tort bodily injury lawsuits, causation is established where the plaintiff proves that it is more likely than not that: (1) the plaintiff was exposed to the toxic substance; (2) the defendant was responsible for the exposure; and (3) the plaintiff’s exposure caused the claimed injury.

Proving causation typically involves establishing both specific and general causation. To prove specific causation, the plaintiff must demonstrate that the chemical in question did, in fact, cause plaintiff’s

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80 REACH, supra note 10, art. 118, ¶ 2.
83 Plater et al., supra note 82, at 105.
84 See id.
85 See Margaret A. Berger, Eliminating General Causation: Notes Towards a New Theory of Justice and Toxic Torts, 97 COLUM. L. REV. 2117, 2121 (1997); Rollé, supra note 81, at 140.
86 Plater et al., supra note 82, at 227.
87 Rollé, supra note 81, at 142.
88 Faigman et al., supra note 58, at 30.
particular harm. General causation, on the other hand, involves convincing the jury that the toxic substance in question is capable of causing the disease or injury that the plaintiff has suffered.

Establishing general causation is especially challenging in toxic tort litigation for a number of reasons. First, while scientists have made remarkable advances in understanding biological mechanisms as related to the onset of illnesses such as cancer, neurological disorders, and reproductive malformations, much remains unknown about the causes of disease. Further, the fact that many illnesses have more than one potential cause can make it very difficult to prove that exposure to defendant’s product necessarily caused the injury. In addition, the “probabilistic” evidence that scientists rely upon in developing hypotheses and theories may not translate well to the preponderance of the evidence standard used by courts and juries. Acquiring adequate scientific evidence, moreover, can be prohibitively expensive. For toxic tort plaintiffs, “the trick often has been to find probative evidence that can be obtained without great cost.”

B. Types of Causation Evidence

In both the scientific and the legal world, establishing general causation usually involves complex explanations of causal relationships. Given that straightforward cause-effect linkages are rare in the context of toxic tort litigation, scientists rely upon generalizations of their findings to support causal inferences. Scientists most commonly look to

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89 Id. at 286.
90 Id. Because it seems likely that REACH will have very little, if any, impact on the establishment of plaintiff-specific causation, this Note limits its analysis to proof of general causation. In any event, general causation is generally a threshold consideration for courts: it is normally the case that courts will exclude evidence on specific causation where plaintiff’s evidence is insufficient to establish general causation. Id. at 32.
91 See Berger, supra note 85, at 2120–21.
92 Id.
93 Id. at 2121–22.
94 See id. at 2122.
95 See Plater et al., supra note 82, at 212.
96 Id.
97 Berger, supra note 85, at 2120–21.
epidemiological and toxicological studies to provide evidence of a causal relationship.\textsuperscript{99}

1. Epidemiology

Epidemiology is the statistical study of disease and the factors that cause illness in human populations.\textsuperscript{100} It concerns itself with the incidence and distribution of illnesses in groups of people, rather than individual patients.\textsuperscript{101} In the context of toxic tort litigation, epidemiological research can provide evidence of a causal relationship between exposure to chemical agents and human injury by assessing how much incidence of a disease is linked to the substance in question.\textsuperscript{102} Epidemiologists define the strength of the association in terms of relative risk.\textsuperscript{103} A relative risk of 1.0 indicates that the incidence of disease in exposed and unexposed populations is the same and suggests the absence of a causal relationship.\textsuperscript{104} A relative risk of greater than 2.0 is necessary for the study to indicate that it is more likely than not that subjects exposed to the substance will exhibit a certain disease or illness.\textsuperscript{105} “The higher the relative risk, the stronger or more powerful . . . the association between the [chemical] and the disease.”\textsuperscript{106} Correlation does not imply causation, however.\textsuperscript{107} Associations that imply a causal relationship, therefore, are strengthened by similar results from further epidemiological or other scientific studies.\textsuperscript{108}

Although epidemiological studies focus on human populations and thus are more easily extrapolated to populations outside the researched group than are other research methods—including live animal studies—they require significant sums of money and lengthy periods of time to conduct.\textsuperscript{109} Furthermore, subjecting human populations to suspected agents of disease raises serious ethical concerns.\textsuperscript{110}


\textsuperscript{100} Marks, supra note 99, at 175.

\textsuperscript{101} See id.

\textsuperscript{102} Berger, supra note 85, at 2125–26.

\textsuperscript{103} Id. at 2126.

\textsuperscript{104} Id.; Green, supra note 98, at 647.

\textsuperscript{105} See Berger, supra note 85, at 2126.

\textsuperscript{106} Green, supra note 98, at 47.

\textsuperscript{107} Marks, supra note 99, at 175; see Faigman et al., supra note 58, at 325.

\textsuperscript{108} See Faigman et al., supra note 58, at 325; Marks, supra note 99, at 175.

\textsuperscript{109} Green, supra note 98, at 646.

\textsuperscript{110} See Faigman et al., supra note 58, at 356.
2. Toxicology

Toxicological studies frequently provide scientifically valid alternatives or supplements to epidemiological research.\textsuperscript{111} The most common and reliable types of toxicological studies are live animal (in vivo) studies, in vitro (cell, tissue, organ, or embryo) testing, and structure-activity relationships (SARs) analysis.\textsuperscript{112}

a. Animal Studies

Despite several obvious distinguishing characteristics, human beings have much in common with other animal species.\textsuperscript{113} “With respect to the toxicological effects of chemicals on biological organisms, the similarities between humans and other animals are far greater than the differences.”\textsuperscript{114} Thus, by exposing live laboratory animals to chemicals and observing the results, scientists can assess the probable effects of human exposure to the same substances, as well as the risk that such exposure can cause human disease.\textsuperscript{115} The advantages of animal studies are numerous.\textsuperscript{116} First, live animal testing is much cheaper than epidemiological research.\textsuperscript{117} Likewise, because “many animal species reproduce readily and have short life cycles,” in vivo studies typically demand less time than their epidemiological counterparts.\textsuperscript{118} Animal studies, moreover, “are experimental, rather than observational, enabling the researcher to better control the environment and reduce the likelihood of biases affecting the results.”\textsuperscript{119} In addition, animal testing arguably avoids some of the ethical considerations inherent in human studies, thereby allowing researchers to conduct “a wider range of . . . tests . . . to provide a more complete picture of toxic effects than is available from epidemiological studies.”\textsuperscript{120} For example, after exposing lab animals to chemical substances and observing the results, researchers can dissect test subjects and observe “implicated tissue . . . to pro-

\textsuperscript{111} See Green, supra note 98, at 654.  
\textsuperscript{112} See Faigman et al., supra note 58, at 349–54; Marks, supra note 99, at 176.  
\textsuperscript{113} See Faigman et al., supra note 58, at 374.  
\textsuperscript{114} Id. at 374–75.  
\textsuperscript{115} Id. at 375.  
\textsuperscript{116} Green, supra note 98, at 654.  
\textsuperscript{117} See Marks, supra note 99, at 188.  
\textsuperscript{118} Green, supra note 98, at 654 (noting that this is especially true of mice, rats, and hamsters).  
\textsuperscript{119} Id.  
\textsuperscript{120} Patricia E. Lin, Note, Opening the Gates to Scientific Evidence in Toxic Exposure Cases: Medical Monitoring and Daubert, 17 Rev. Litig. 551, 578 (1998).
vide additional information about the existence of disease and its biology.”

There are, however, drawbacks to animal studies. First, the fact that human beings and other animals differ in size, life span, metabolism, etc., means that causal inferences about the effects of human exposure to chemicals based upon observations in other species may be less reliable than results from epidemiological studies. Similarly, extrapolating results from animal studies to humans requires an assumption that “humans will suffer an adverse effect from a low dose of a substance, even though laboratory animals are given much higher and more constant dosages so as to induce a measurable reaction.” Further, scientists have yet to determine the extent to which in vivo studies “over- or underestimate” human toxicity. Despite these limitations, it is generally accepted in the toxicology field that animal studies play a critical role in predicting the incidence of disease in humans.

b. *In Vitro Testing*

In vitro testing is a common and inexpensive way to study the biochemical effects of agents on cells, organs, and even embryos. In vitro studies can provide important information on the toxicity of chemicals while limiting controversial testing on live animals. Because in vitro testing occurs in test tubes or Petri dishes, however, the problem of generalizing observed effects on cells or organs in isolation to live organisms must be considered. Specifically, in vitro research is sometimes criticized for failing to consider the “layers of metabolic activity” typically characteristic of live test subjects. Additionally, because scientists usually perform these tests on animal tissues, the difficulties with animal-to-human extrapolation characteristic of live animal studies are also present in in vitro analyses. Nonetheless, in vitro studies have contributed significantly to scientific understanding of the biological mechanisms of

121 Green, *supra* note 98, at 654.
122 Id.
123 Id. Thus, animal studies raise questions of external validity—“the ability to generalize the results of a study of a given population to a different group.” Id.
124 Berger, *supra* note 85, at 2124.
125 Id.
126 See Green, *supra* note 98, at 656.
127 See Berger, *supra* note 85, at 2123; Green, *supra* note 98, at 657.
130 Lin, *supra* note 120, at 580.
131 Green, *supra* note 98, at 657.
some toxic chemicals. Moreover, progress in the science of DNA and human stem-cell research promises to drastically reduce the problem of animal-to-human extrapolation in the in vitro setting.

c. Structure-Activity Relationships

Finally, scientists also use similarities in the molecular structures of chemical agents to assess toxicity. These tests are known as structure-activity relationships (SARs). SARs analysis is premised on the idea that similar molecules have similar effects. Because slight variations in the molecular structure of chemicals can create substantially distinct effects in humans, however, SARs are most useful for establishing the characteristics of certain molecular families, and thereby providing a basis for further analysis of chemical effects using other methodologies, such as epidemiology, animal, and in vitro studies, as discussed above.

III. STANDARDS FOR ADMISSIBILITY OF EVIDENCE IN U.S. FEDERAL COURTS

Given the highly technical nature of the evidence required to establish requisite causal links, proving general causation in toxic tort cases almost always requires the use of scientific experts to testify on the linkages between particular toxic substances and human injury. Because scientific evidence and expert testimony on that evidence are essential to nearly every toxic tort plaintiff’s case, the issue of whether a court should admit an expert’s testimony is a highly contentious one in many toxic tort suits. A court’s determination that a plaintiff’s evidence and testimony are inadmissible will often lead to dismissal of the case. Therefore, defendants often seek to exclude the testimony of causation experts as part of their defense strategy.
To avoid exclusion of expert testimony from trial in federal court, plaintiffs must demonstrate that proffered evidence meets the requirements of Federal Rule of Evidence 702. Rule 702, which governs the admissibility of expert testimony in federal court, states that “[i]f scientific, technical, or other specialized knowledge will assist the trier of fact to understand the evidence or to determine a fact in issue, a witness qualified as an expert by knowledge, skill, experience, training, or education, may testify thereto in the form of an opinion or otherwise.”

Prior to the implementation of Rule 702, federal courts applied the legal standard set forth in *Frye v. United States* to evaluate the admissibility of expert testimony. Under the *Frye* test, courts admitted evidence deemed “to have gained general acceptance in the particular field in which it belongs.” In 1993, the Supreme Court decided *Daubert v. Merrell Dow Pharmaceuticals, Inc.*, ruling that the Federal Rules of Evidence superseded the *Frye* test. In its unanimous deci
sion, the Daubert Court explained the new legal standard for admissibility of expert testimony and scientific evidence under Rule 702. ³⁴⁹

Whereas Frye had instructed judges to defer to the general consensus of scientific opinion, the Court in Daubert assigned judges the task of determining whether the science upon which expert witnesses base their testimony is reliable. ³⁵⁰ The Court found that Rule 702 obliges the trial judge to act as a “gatekeeper,” responsible for evaluating scientific evidence for relevance and reliability. ³⁵¹ The Court declared that, according to Rule 702, judges must determine at the outset of trials “whether the reasoning or methodology underlying the testimony is scientifically valid and . . . whether that reasoning or methodology properly can be applied to the facts in issue.” ³⁵² The relevance part of the inquiry—whether the expert testimony will “assist the trier of fact” in assessing a fact in issue—ultimately asks whether an expert’s testimony pertains to the facts of the case. ³⁵³ The Court held that, under Rule 702, an expert’s opinion must “relate to an issue that is actually in dispute and must provide a valid scientific connection to the pertinent inquiry” as a precondition to admissibility. ³⁵⁴

As to reliability, the Court suggested that trial courts consider the following non-exhaustive list of factors: (1) whether the theory or technique at issue can be tested; (2) whether the science has been subject to peer review and publication; (3) whether the technique at issue has a known rate of error; and (4) whether and to what extent the theory or technique has gained general acceptance in the relevant field. ³⁵⁵ In Daubert v. Merrell Dow Pharmaceuticals, Inc., (Daubert II), the Ninth Circuit described an additional factor for judges to consider—“whether the experts are proposing to testify about matters growing naturally and directly out of research they have conducted independent of the litigation, or whether they have developed their opinions expressly for purposes of testifying.” ³⁵⁶ Emphasizing that a judge’s ruling on admissibil-

³⁴⁹ 509 U.S. at 587–92.
³⁵⁰ Id. at 597.
³⁵¹ Id.
³⁵² Id. at 592–93.
³⁵⁴ Id. (citing Margaret A. Berger, Procedural Paradigms for Applying the Daubert Test, 78 MINN. L. REV. 1345, 1351 (1994)); see Daubert, 509 U.S. at 591.
³⁵⁵ Daubert, 509 U.S. at 593–94; see also Graham, 993 F. Supp. at 130.
³⁵⁶ 43 F.3d 1311, 1317 (9th Cir. 1995) [Daubert II]; see also Faigman et al., supra note 58, at 25 n.73.
ity should focus on principles and methodology—not on conclusions—*Daubert* instructed judges to apply such factors in determining whether an expert’s “methods and reasoning validly support [his/her] proffered . . . testimony.”

According to *Daubert*, the trial court should admit a plaintiff’s scientific evidence where it concludes that such evidence is both relevant and reliable. It then becomes the fact finder’s task to decide whether the evidence—either by itself or in conjunction with other testimony—supports a finding of general causation. As the Court recognized in *Daubert*, “[v]igorous cross-examination, presentation of contrary evidence, and careful instruction on the burden of proof are the traditional and appropriate means of attacking . . . admissible evidence.”

Since *Daubert*, the Court has issued three other notable opinions that have further shaped admissibility analysis in federal courts. In *General Electric Co. v. Joiner*, the Supreme Court instructed appellate courts to use the deferential “abuse of discretion” standard when determining whether to reverse or uphold district court rulings admitting or excluding scientific evidence. In practice, application of the abuse of discretion standard makes it unlikely that appellate courts will undertake de novo review of lower courts’ admissibility rulings.

The *Joiner* Court also retreated from *Daubert’s* emphasis on methodology, asserting that “conclusions and methodology are not entirely distinct from one another.” *Joiner* requires courts to determine the likelihood that an expert witness’s conclusions could reliably result

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157 Faigman et al., supra note 58, at 25; see Daubert, 509 U.S. at 592–93.


159 See Kennedy, 161 F.3d at 1230; see also Relkin, supra note 158, at 453.

160 Daubert, 509 U.S. at 596.


162 522 U.S. at 139; see also Ned Miltenberg, How to Prevail in Daubert Challenges, available in Westlaw, 2 ANN.2003 ATLA-CLE 2517 (2003). The plaintiff in *Joiner*, a cigarette smoker, alleged that his exposure to PCBs had caused him to develop lung cancer at a faster rate than he would have from his nicotine addiction alone. Joiner v. Gen. Elec. Co., 78 F.3d 524, 528 (11th Cir. 1996), rev’d, 522 U.S. 136. Applying the “abuse of discretion” standard, the Supreme Court upheld the district court’s finding that the plaintiff’s scientific evidence was inadmissible. *Joiner*, 522 U.S. at 139.

163 See Branch & Branch, supra note 138.

164 Joiner, 522 U.S. at 146; see also Faigman et al., supra note 58, at 30; Branch & Branch, supra note 138.
from the facts and methodologies upon which they were based.\textsuperscript{165} In \textit{Joiner}, the Court held that a trial court must exclude evidence which “is connected to existing data only by the \textit{ipse dixit} of the expert.”\textsuperscript{166} Under \textit{Joiner}, moreover, “[a] court may conclude that there is simply too great an analytical gap between the data and the opinion proffered.”\textsuperscript{167}

A year and a half later, \textit{Kumho Tire Co. v. Carmichael} reaffirmed the abuse of discretion standard established in \textit{Joiner} and extended this standard to courts’ decisions concerning which factors to consider when evaluating the dependability of expert testimony.\textsuperscript{168} \textit{Kumho Tire}, which expanded the \textit{Daubert} relevance and reliability tests to non-scientific expert testimony, also described the judge’s task in making a \textit{Daubert} ruling as ensuring that experts “employ[] in the courtroom the same level of intellectual rigor that characterizes the practice of an expert in the relevant field.”\textsuperscript{169}

Finally, in \textit{Weisgram v. Marley Co.}, the Court ruled that plaintiffs are entitled to only one opportunity to present admissible scientific evidence and testimony to support causation arguments.\textsuperscript{170} Specifically, the Court held that:

\[\text{[A]n appellate court reversing a trial court’s decision to admit expert’s testimony need not remand the case to allow the party a second chance to cure what the appellate court regarded as unreliable evidence (either by allowing the newly disqualified expert an opportunity to provide a better explanation of his or her methodologies, reasoning, and conclusions, or by permitting the expert’s sponsoring party the chance to find other experts who can either validate the first expert’s work and/or substitute for the first expert).}\textsuperscript{171}

Justice Ginsberg expressed the \textit{Weisgram} Court’s reasoning:

Since \textit{Daubert}, . . . parties relying on expert evidence have had notice of the exacting standards of reliability such evidence must meet . . . . It is implausible to suggest, post-\textit{Daubert}, that parties will initially present less than their best expert evi-

\begin{itemize}
\item \textsuperscript{165} See Faigman et al., supra note 58, at 30.
\item \textsuperscript{166} \textit{Joiner}, 522 U.S. at 146; see also Miltenberg, supra note 162.
\item \textsuperscript{167} \textit{Joiner}, 522 U.S. at 146.
\item \textsuperscript{168} \textit{Kumho Tire Co. v. Carmichael}, 526 U.S. 137, 142, 152 (1999); see also Berger, Expert Testimony Trends, supra note 140, at 553–54.
\item \textsuperscript{169} \textit{Kumho Tire Co.} 526 U.S. at 147–49, 152; see also Miltenberg, supra note 162.
\item \textsuperscript{170} See 528 U.S. 440, 457 (2000); see also Miltenberg, supra note 162.
\item \textsuperscript{171} Miltenberg, supra note 162.
\end{itemize}
dence in the expectation of a second chance should their first try fail.\textsuperscript{172}

Notably, the Committee Notes on the 2000 revisions to Rule 702 mention additional factors that other courts have considered when deciding whether scientific expert testimony should be admitted.\textsuperscript{173} These factors include whether the expert has adequately accounted for obvious alternative explanations, whether the expert “is being as careful as he would be in his regular professional work outside his paid litigation consulting,” and whether the field of expertise claimed by the expert is known to reach reliable results for the type of opinion the expert would give.\textsuperscript{174}

\textbf{IV. Application of \textit{Daubert} to Toxic Tort Cases}

An examination of relevant case law reveals that courts generally prefer, and commonly admit, evidence based on epidemiological studies.\textsuperscript{175} In \textit{Brock v. Merrell Dow Pharmaceuticals, Inc.}, the court stated that epidemiological proof was “the most useful and conclusive type of evidence.”\textsuperscript{176} Similarly, in \textit{Pick v. American Medical Systems, Inc.}, the Eastern District of Louisiana noted “that epidemiological data is very important” in determining the relative risk of a product.\textsuperscript{177} Courts have admitted testimony based on epidemiological studies in cases alleging injury caused by asbestos, electro-magnetic radiation, tobacco products, benzene, solvents, and PCBs, to name a few.\textsuperscript{178}

The admissibility of expert opinion on all forms of non-epidemiological studies has been more controversial, and defendants frequently attempt to convince courts that \textit{Daubert} and the Federal Rules require epidemiological evidence to establish general causation in toxic tort cases.\textsuperscript{179} Such attempts are usually in vain.\textsuperscript{180} While it is true that courts sometimes have dismissed cases lacking statistically sig-

\textsuperscript{172} \textit{Weisgram}, 528 U.S. at 455.
\textsuperscript{173} \textit{Fed. R. Evid.} 702 advisory committee’s note; see also \textit{Miltenberg}, supra note 162.
\textsuperscript{174} \textit{Fed. R. Evid.} 702 advisory committee’s note.
\textsuperscript{175} \textit{Plater et al.}, supra note 82, at 236.
\textsuperscript{176} 874 F.2d 307, 311 (5th Cir. 1989), modified on reh’g, 884 F.2d 166 (5th Cir. 1989).
\textsuperscript{177} 958 F. Supp. 1151, 1158 (E.D. La. 1997).
\textsuperscript{178} \textit{Faigman et al.}, supra note 58, at 285. According to Faigman et al., “[b]ecause the techniques of epidemiological analysis are now so well accepted, a body of statistically significant and substantively important epidemiological evidence would probably suffice to prove general causation even if the plaintiff were unable to provide a good scientific theory as to how the exposure caused a given injury.” \textit{Id.} at 292.
\textsuperscript{179} \textit{See Relkin}, supra note 158, at 441, 454.
\textsuperscript{180} \textit{See id.} at 454.
nificant epidemiological evidence, the same courts that have required epidemiological support in certain cases have also specifically declined to hold that epidemiological studies are required in all toxic tort litigation. For example, in *Brock*, a pre-*Daubert* decision which *Daubert* cited approvingly, the Second Circuit expressly stated that its holding should not be read to signify “that epidemiological proof is a necessary element in all toxic tort cases.”

One leading commentator in this area has suggested that courts are most likely to require epidemiological studies in mass tort litigation, whereas judges tend to admit toxicological and other support in cases involving just one or a few plaintiffs. Courts seem especially reluctant to require epidemiological studies of small numbers of plaintiffs where such data is unavailable. Often, a court’s determination of whether to admit non-epidemiological evidence has depended on the existence of contradictory epidemiological evidence. For example, in *Richardson v. Richardson-Merrell, Inc.*, the D.C. Circuit refused to admit evidence based on structure-activity, in vitro, and animal studies because a vast body of epidemiological data on the substance in question had failed to link exposure to that substance to the kind of reproductive problems suffered by the plaintiff. There, the court held that the law “[u]niquely . . . ha[d] the benefit of twenty years of scientific study, and the published [epidemiological] results [required] . . . their just due.” Similarly, the D.C. Circuit in *Raynor v. Merrell Pharmaceuticals, Inc.* found that the plaintiffs’ evidence of causation based on live-animal studies, animal-cell studies, and chemical-structure analyses was insufficient to reach the jury, given the extensive epidemiological data supporting the opposite conclusion.

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182 *Brock v. Merrell Dow Pharmaceuticals, Inc.*, 874 F.2d 307, 313 (5th Cir. 1989).


184 *Id.* at 289.

185 *Id.* at 347–48.

186 857 F.2d 823, 832 (D.C. Cir. 1988); see also *Faigman et al.*, supra note 58, at 347.

187 *Richardson*, 857 F.2d at 832.

188 104 F.3d 1371, 1374–75 (D.C. Cir. 1997) (granting summary judgment in favor of defendant and finding plaintiff’s expert’s methodology unsound in light of epidemiology
In the absence of epidemiological studies, plaintiffs are more likely to succeed at having expert testimony based on toxicology reach the jury. For instance, in *Benedi v. McNeil-P.P.C., Inc.*, a case in which neither plaintiff nor the defendant proposed epidemiological evidence of a causal connection between Tylenol and liver damage, the Fourth Circuit explained: “Under the *Daubert* standard, epidemiological studies are not necessarily required to prove causation, as long as the methodology employed by the expert in reaching his or her conclusion is sound.” Likewise, in *Ambrosini v. Labarraque*, the court noted that, “[e]ven where a party has admitted that no biochemical or epidemiological test has been done that can conclusively establish a link between a drug and an illness . . . expert evidence on the subject is not rendered inadmissible.” Quoting an EPA toxicologist, the Third Circuit in *In re Paoli R.R. Yard PCB Litigation* stated that, “[i]n the absence of epidemiologic proof in humans we must drop to our second tier in the understanding of human [disease] prediction: Animal testing.”

Courts have also admitted toxicological data where no epidemiological studies exist due to ethical considerations. For example, in *Dawsey v. Olin Corp.*, a federal court admitted toxicological evidence based on animal studies, where construction-worker plaintiffs suffered injuries after being exposed to a cloud of phosgene gas at work. There, conducting epidemiological studies would have required exposing humans to potentially toxic substances; such studies would have been unethical. The court concluded that the absence of epidemiological evidence was not grounds for dismissal because “[s]hort of intentionally exposing humans to phosgene, it would be difficult to learn any more about the effects of [the chemical].”

In such circumstances, courts repeatedly have observed that objections to the admissibility of non-epidemiological evidence are better

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190 66 F.3d at 1384; see also Relkin, *supra* note 158, at 457.
191 101 F.3d at 138; see also Relkin, *supra* note 158, at 457.
192 35 F.3d 717, 780 (3d Cir. 1994); see also Lin, *supra* note 120, at 580.
193 See Faigman et al., *supra* note 58, at 356; see also Relkin, *Motions In Limine*, *supra* note 181, at 388.
194 782 F.2d 1254, 1256, 1263 (5th Cir. 1986); see also Faigman et al., *supra* note 58, at 356.
195 See *Dawsey*, 782 F.2d at 1263.
196 *Id.;* see also Faigman et al., *supra* note 58, at 356.
suited to “‘the traditional and appropriate means of attacking shaky but admissible evidence,’ i.e., ‘[v]igorous cross-examination, presentation of contrary evidence, and careful instruction on the burden of proof . . . .’”197 It would seem, therefore, that toxicological evidence is rarely per se inadmissible.198 Courts often express concerns, however, about the questions of external validity that may be raised by using toxicological evidence to support causal inferences.199 Accordingly, courts look closely at the analytical leaps an expert may have taken to extrapilate toxicological data to human injury—the greater the gap, the less willing a court is likely to be to allow testimony to reach a jury.200

Courts generally find in vivo studies to be the most reliable type of non-epidemiological evidence.201 Still, many courts are hesitant to allow testimony based on animal studies to reach a jury, if the studied substance, injury, or dose rate differs from that at issue in the case.202 Testimony based on in vitro studies and SARs are least likely to be admitted.203 “For most courts, the admissibility of toxicological evidence turns on the quality of other types of admissible data—especially epidemiological data—and the degree to which toxicological findings address the specific causal questions . . . .”204

V. Will REACH Data Assist Plaintiffs with Establishing General Causation?

A. Will REACH Cover the Chemical in Question?

In analyzing the likelihood that REACH will assist U.S. plaintiffs in establishing general causation, the first step is to determine whether the new regulations will generate data on the chemical substance claimed to have caused the plaintiff’s injury. Because REACH requires the submission of data on the majority of chemicals in use today, in most instances REACH likely will cover the chemical in question.205

198 See Faigman et al., supra note 58, at 347–57.
199 Id. at 349.
200 See id.
201 Id.
202 Id. at 352 & n.48.
203 Id. at 349.
204 See Faigman et al., supra note 58, at 369.
205 See Karmel, supra note 13.
There are notable exceptions, however, that may limit REACH’s utility to some American plaintiffs.\textsuperscript{206}

For example, REACH exempts manufacturers and importers of substances in quantities of less than one ton per year from REACH registration.\textsuperscript{207} This exception to the “no data, no market” principle\textsuperscript{208} reflects a policy decision by EU member states that the limited risk of exposure in such instances fails to warrant regulatory action.\textsuperscript{209} The fact that EU regulators have determined that the costs of testing and compliance with the REACH process sufficiently outweigh the benefits of extending REACH requirements to these substances, however, does not mean that injuries from exposure to such chemicals are impossible or will not occur.\textsuperscript{210} Thus, in exempting such low-volume substances, REACH may fail to provide at least some plaintiffs with probative evidence on general causation.\textsuperscript{211}

REACH also provides registrants with the opportunity to appeal ECHA decisions that demand testing beyond that required for registration compliance.\textsuperscript{212} Notably, this appeals process provides manufacturers and importers with an additional means of attempting to avoid the submission of complete data on chemicals and may likewise result in an information gap for interested plaintiffs.\textsuperscript{213}

Moreover, for manufacturers and importers of certain substances, REACH only requires testing proposals—not actual safety and health data.\textsuperscript{214} The extent to which the “testing proposal” provisions of REACH will limit the chemicals actually studied under the legislation remains to be seen. While REACH instructs ECHA to evaluate all testing proposals to determine whether proposed studies are needed to adequately assess health risks of particular substances, it seems likely that ECHA will refrain from requiring actual testing of some chemicals.\textsuperscript{215} Further, at least some manufacturers and importers can be expected to submit testing proposals in lieu of actual data, so as to mini-

\textsuperscript{206} See REACH in Brief, supra note 12, at 6–7.
\textsuperscript{207} Id. at 6.
\textsuperscript{208} DENISON, supra note 1, at I-6; Karmel, supra note 13.
\textsuperscript{209} See REACH in Brief, supra note 12, at 6, 12.
\textsuperscript{210} See id. (noting that authorization “may be granted where socio-economic benefits outweigh the risks and there are no suitable alternative substances or processes”).
\textsuperscript{211} See id.
\textsuperscript{212} REACH, supra note 10, art. 50; see also DENISON, supra note 1, at IV-28.
\textsuperscript{213} See DENISON, supra note 1, at IV-28.
\textsuperscript{214} REACH in Brief, supra note 12, at 7; DEFRA, supra note 65.
\textsuperscript{215} See REACH, supra note 10, art. 40; DENISON, supra note 1, at V-3.
mize costs and limit REACH scrutiny. The more rigorously ECHA pursues actual testing, the more likely it will be that data concerning chemicals under scrutiny in American litigation will be available to plaintiffs.

Finally, REACH may not cover certain chemicals because manufacturers or importers may choose not to market them in the post-REACH EU. For example, registrants may decide to switch to safer, less toxic alternatives for EU consumers prior to REACH registration deadlines. Since REACH only applies to chemicals manufactured in or imported into the European Union, some substances that manufacturers continue to produce for American consumption may never be registered under REACH, thereby depriving U.S. plaintiffs of access to health-toxicity data that REACH otherwise would have provided.

B. Will Plaintiffs Have Sufficient Access to REACH Data?

Assuming that REACH will generate data on a substance alleged to have caused a plaintiff’s injury, the next step is to consider whether REACH will provide U.S. plaintiffs, attorneys, and experts adequate access to the relevant information. On the positive side, REACH represents a significant improvement over previous European chemicals legislation which typically neither mandated nor encouraged public disclosure of environmental and health safety information. On the negative side, however, because REACH attempts to balance industry concerns for keeping certain “proprietary” information secret against the public’s need to access safety data, the new chemicals legislation may not always provide plaintiffs with adequate information.

At a minimum, the data that REACH promises to make available to the public on the ECHA website should familiarize plaintiffs with the list of substances most scrutinized under REACH, including chemicals

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216 See Denison, supra note 1, at I-9.
217 See Austin & Bowden, supra note 9, at 7.
218 See Schapiro, supra note 1, at 10–11; Austin & Bowden, supra note 9, at 7 (noting that REACH may “oblige some consumer products companies doing business in Europe to change the formulations of their products . . . that they supply to [European] consumers”).
219 See REACH in Brief, supra note 12, at 5; Schapiro, supra note 1, at 10–11; Austin & Bowden, supra note 9, at 7.
220 See Denison, supra note 1, at VII-8 (also noting the stark contrast between REACH information disclosure provisions and those of TSCA); Schapiro, supra note 1, at 138.
221 See REACH, supra note 10, arts. 118, 119; see also Denison, supra note 1, at VII-5 to 8 (discussing categories of information to be disclosed or kept confidential under REACH); Schapiro, supra note 1, at 138.
that ECHA has determined pose the greatest and/or best understood risks to human health and the environment.\footnote{See REACH, supra note 10, art. 77, ¶ (2)(f), (n); see also Denison, supra note 1, at VII-7 to -8.} For example, Article 119 of REACH provides that ECHA shall post data on the substances that ECHA has chosen to evaluate, dossiers prepared on substances proposed for authorization and restriction, and final Agency committee opinions concerning restriction decisions.\footnote{See REACH, supra note 10, art. 77, ¶ (2)(f); see also Denison, supra note 1, at VII-7 to -8.} Similarly, the ECHA website will publish information on the classification and labeling of substances and analytical methods that make it possible to detect a dangerous substance when discharged into the environment, as well as to determine the direct exposure to humans.\footnote{See REACH, supra note 10, art. 119, ¶ 1(c), (h); see also Denison, supra note 1, at VII-6.} Where this information enables experts and courts to understand which theories and methodologies REACH registrants have used in developing technical data, it should likewise aid plaintiffs in establishing \textit{Daubert} relevance and reliability.\footnote{See Gen. Elec. Co. v. Joiner, 522 U.S. 136, 146 (1997); Daubert v. Merrell Dow Pharm., Inc., 509 U.S. 579, 592–93 (1993) (noting that trial judges must consider “whether the reasoning or methodology underlying the testimony is scientifically valid and . . . whether that reasoning or methodology properly can be applied to the facts in issue”); see also Branch & Branch, supra note 138.}

Article 119 also requires that ECHA publish online physicochemical data concerning registered substances, information on pathways and environmental fate, and results of each toxicological and ecotoxicological study.\footnote{See REACH, supra note 10, art. 119, ¶ 1(c), (h); see also Denison, supra note 1, at VII-6.} For plaintiffs, having this information in most cases should be better than having none at all.\footnote{See Plater \textit{et al.}, supra note 82, at 212 (noting that “[t]he trick often has been to find probative evidence that can be obtained without great cost”).} Nonetheless, plaintiffs will likely require more detailed information if they are to convince U.S. federal courts of the admissibility of such evidence.\footnote{See Daubert, 509 U.S. at 592–93; see also Branch & Branch, supra note 138.} Specifically, to make determinations about the admissibility of \textit{data} and \textit{results} under \textit{Daubert}, federal “gatekeeping” judges can be expected to inquire into the \textit{methodologies} used to achieve them.\footnote{Daubert, 509 U.S. at 592–93.}

Fortunately for plaintiffs, REACH will make methodology-specific information available unless the manufacturer or importer petitions
against its publication. It is reasonable to expect, however, that those registrants intent on protecting as much information about potentially harmful products as possible will petition early and often. ECHA has yet to develop criteria to evaluate the validity of nondisclosure requests. Therefore, it is presently unclear how severely plaintiffs’ access to methodological information will be limited under REACH. Seemingly, the more petitions that ECHA honors, the more difficult it will be for plaintiffs and their experts to access critical information.

C. Will Plaintiffs Want to Use REACH Data: Can Registrant Studies Be Trusted?

Further assuming that plaintiffs are able to access relevant data through REACH, the next step is to consider the likelihood that REACH data will point to a causal relationship between exposure to the substance in question and the applicable disease. Given that REACH makes manufacturers responsible for studying and managing the risks of the chemicals they produce, and that ECHA is responsible for evaluating only a “certain percentage” of the hundreds of thousands of registrations it will receive, it seems likely that some registrants will get away with submitting less-than-reliable data of little value to plaintiffs. There can be no question that industry has every incentive to interpret data they develop to their advantage, thereby avoiding possible restrictions on access to the EU market. As such, “it is difficult to imagine that many of the assessments submitted by industry will indicate significant risk [posed by] the chemicals in question.” Because under REACH, “government largely plays an oversight role, with authority—but only limited obligation—to evaluate industry’s assessments, require more information or testing, or impose controls,” it seems that the reliability of REACH data for plaintiffs often will hinge

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230 See REACH, supra note 10, art. 119, ¶ 2; see also DENISON, supra note 1, at VII-6.
231 See DENISON, supra note 1, at ¶ 2; see also DENISON, supra note 1, at VII-6 & n.281.
232 See DENISON, supra note 1, at VII-6 n.281.
233 See id. at VII-6 n.281.
234 REACH, supra note 11, pmbl. ¶¶ 18–19; DENISON, supra note 1, at I-7 to -9.
235 REACH, supra note 10, pmbl. ¶ 65.
236 See DENISON, supra note 1, at I-8 to -9.
237 See id.
238 Id. at I-9.
on the extent to which ECHA and EU Member States take seriously their evaluation, authorization, and restriction roles. On the other hand, it is possible that REACH-registered data itself may be reliable, while the registrant’s risk assessments based on that data are questionable. This set of circumstances may pose less of a problem for plaintiffs, and for expert witnesses who may be able to draw different conclusions from the data in support of the plaintiff’s claims. In either situation, increasing the frequency, thoroughness, and independence of ECHA evaluations of industry data will lead to a greater likelihood that REACH will produce reliable information that is useful to plaintiffs in establishing causation.

D. Will REACH-Based Evidence Pass Daubert Muster?

Where REACH provides reliable data that a plaintiff would like to use to establish general causation, the litigant finally must consider whether the relevant REACH data will satisfy criteria for admission to U.S. federal courts, as stipulated in Federal Rule of Evidence 702. To determine whether REACH data will meet Rule 702 requirements, it is necessary to assess the information under the Supreme Court’s analysis in Daubert v. Merrell Dow Pharmaceuticals, Inc., and subsequent cases. According to Daubert, success under Rule 702 requires that “the reasoning or methodology underlying the testimony [be] scientifically valid and . . . that [the] reasoning or methodology properly can be applied to the facts in issue.” The REACH data upon which an expert bases his or her testimony, therefore, must be both relevant and reliable.

The relevance inquiry is usually straightforward—a simple matter of whether the data upon which testimony is based provides evidence linking exposure to the substance in question to the disease suffered by the plaintiff. As long as the REACH data and the expert’s opinion on that data relate to the “issue that is actually in dispute [in the case] and

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239 See Denison, supra note 1, at I-8. It seems likely that adequate staffing and funding for ECHA will be crucial to completion of timely reviews and discovery of deficiencies in industry assessments and management of risk. Id.

240 See Schapiro, supra note 1, at 11–12 (noting that the same data reviewed by different scientists may yield "entirely different conclusions").

241 See Denison, supra note 1, at I-9; REACH in Brief, supra note 12, at 11–12.


243 509 U.S. at 587–95; see also Marks, supra note 99, at 170–71.

244 509 U.S. at 592–93.

245 See id.

... provide a valid scientific connection to the pertinent inquiry,” there should be little serious questioning of the data’s relevance.\textsuperscript{247}

The trial judge’s assessment of reliability, on the other hand, tends to be more complex.\textsuperscript{248} To determine whether “the subject of an expert’s testimony [is valid] scientific knowledge”—that is, an understanding of the information grounded “in the methods and procedures of science” and based upon “more than subjective belief or unsupported speculation”\textsuperscript{249}—trial courts are likely to consider the following non-exhaustive list of factors suggested in \textit{Daubert} (1) whether the theory or technique at issue can be tested; (2) whether the science has been subject to peer review and publication; (3) whether the technique at issue has a known rate of error; and (4) whether and to what extent the theory or technique has gained general acceptance in the relevant field.\textsuperscript{250} Courts may also consider “whether the experts are proposing to testify about matters growing naturally and directly out of research they have conducted independent of the litigation.”\textsuperscript{251} To predict whether courts will view REACH data as satisfying these factors, it is helpful to examine how courts since \textit{Daubert} have confronted the issue of which types of scientific evidence are valid and whether REACH will generate these kinds of evidence.\textsuperscript{252}

Courts generally have preferred and admitted testimony based on epidemiological studies.\textsuperscript{253} REACH, however, does not require manufacturers to develop and register epidemiological data.\textsuperscript{254} REACH does request that registrants submit pre-existing data, such as epidemiological studies, where available, during the registration process, but registrants are never required to include this information in technical dossiers or CSRs.\textsuperscript{255} Because epidemiological data often provides the strongest basis for inferences causally linking various chemicals to disease, it is unlikely that registrants would voluntarily submit epidemiological data demonstrating adverse effects.\textsuperscript{256} Nonetheless, where

\textsuperscript{247} See \textit{Daubert}, 509 U.S. at 591; \textit{Graham}, 993 F. Supp. at 130.
\textsuperscript{248} See \textit{Daubert}, 509 U.S. at 593–94.
\textsuperscript{249} Id. at 590.
\textsuperscript{250} See id. at 593–94; \textit{Faigman et al.}, \textit{supra} note 58, at 23–24.
\textsuperscript{251} \textit{Daubert II}, 43 F.3d 1311, 1317 (9th Cir. 1995); see also \textit{Faigman et al.}, \textit{supra} note 58, at 25 n.73.
\textsuperscript{252} See \textit{Faigman et al.}, \textit{supra} note 58, at 283, 343.
\textsuperscript{254} See, e.g., \textit{REACH}, \textit{supra} note 10, Annex XI; see also \textit{Denison}, \textit{supra} note 1, at IV-28.
\textsuperscript{255} See \textit{REACH}, \textit{supra} note 10, Annexes VII–X.
\textsuperscript{256} See \textit{Faigman et al.}, \textit{supra} note 58, at 283; \textit{Denison}, \textit{supra} note 1, at iv, I-9.
REACH data includes statistically significant epidemiological studies, federal courts are likely to deem them admissible.257

The fact that REACH will produce little if any epidemiological data—instead relying on non-epidemiological studies to evaluate the health and safety effects of chemical substances—should not, in and of itself, preclude plaintiffs from using REACH data as probative evidence of general causation in most cases.258 While it is true that courts sometimes have found a failure to present statistically significant epidemiological proof to be fatal to a case, the same courts that have required epidemiological evidence in some instances have also specifically declined to hold that epidemiological studies are required in all toxic tort litigation.259 Reliance on precedent indicates that if proffered, non-epidemiological REACH data contradicts extensive epidemiological data, its chances of survival are at their lowest ebb.260 In the absence of a vast body of epidemiological studies to the contrary, however, REACH data based on toxicological methods—such as animal studies, in vitro testing, and SARs—are likely to be admitted under Daubert.261

Courts are least likely to require epidemiological support from individual plaintiffs.262 Therefore, REACH toxicological data may be most beneficial to non-mass tort litigants.263 Further, according to the court in Dawsey v. Olin, sometimes the ethical and practical dilemmas associated with epidemiological studies are insurmountable, and in vivo, in vitro, and SARs studies can provide methodologically sound substitutes for epidemiology.264 Accordingly, in situations where, “[s]hort of intentionally exposing humans to [the substance in question], it would be difficult to learn any more about the effects of [the] chemical” and its relationship to a particular disease without toxico-

257 See Faigman et al., supra note 58, at 285.
258 See id. at 347–57.
259 See Relkin, Motions In Limine, supra note 181, at 385–86.
262 Faigman et al., supra note 58, at 288 (discussing Boston, supra note 183, at 303–05).
263 See id.
264 See 782 F.2d 1254, 1263 (5th Cir. 1986) (allowing toxicological evidence where requiring epidemiological data was unethical); see also Faigman et al., supra note 58, at 356.
logical studies, courts are likely to find it prudent to rely upon evidence based upon animal studies, in vitro testing, and SARs analyses.265

Thus, the good news for REACH plaintiffs is that federal court precedent seems to establish that Daubert allows for the admission of toxicological evidence—266—the type of data that REACH will provide.267 The downside, however, is that REACH simply is unlikely to provide plaintiffs with the most conclusive types of non-epidemiological evidence.268 While courts have generally found in vivo studies to be the most reliable form of toxicology,269 REACH expressly discourage animal testing out of concerns for animal welfare and a desire to minimize costs to industry.270 By providing for alternative methods to direct animal testing, REACH essentially invites industry to avoid the types of studies that are most likely—in a courtroom—to solidify causal links between substances and carcinogenic, teratogenic, and mutagenic effects.271 Courts may decide to admit REACH data based on in vitro studies and SARs analysis but are likely to do so only when other, weightier admissible evidence also supports the claimed causal connection.272

CONCLUSION

While REACH may from time to time provide plaintiffs with access to additional evidence useful for establishing general causation in toxic tort litigation, plaintiffs should keep in mind that REACH data, by itself, is unlikely to support claims linking a particular substance to a claimed injury. To ensure that proffered evidence of general causation reaches the jury, plaintiffs are advised to rely primarily—and extensively—on traditional supporting sources.

Looking forward, one may also be hopeful that various amendments to REACH, closing current loopholes advantageous to regi-

265 See Dauwey, 782 F.2d at 1263; see also Faigman et al., supra note 58, at 356.
266 See Faigman et al., supra note 58, at 347–57; Relkin, supra note 158, at 457.
267 See, e.g., REACH, supra note 10, Annex VIII; see also Denison, supra note 1, at IV-28 to -29.  
268 See, e.g., REACH, supra note 10, Annex VIII; see also Denison, supra note 1, at IV-28 to -29; Faigman et al., supra note 58, at 349.
269 Faigman et al., supra note 58, at 349 (noting that “[a]nimal studies are generally thought to be more probative than other types of toxicological data, and, therefore, courts are more likely to exclude testimony that is based solely on in vitro studies or on a structure-activity analysis”).
270 See Denison, supra note 1, at IV-28 to -29 (noting that REACH encourages the substitution of animal studies with in vitro and SARs data wherever possible).
271 See id.; see also Faigman et al., supra note 58, at 349.
272 See Faigman et al., supra note 58, at 350.
trants, could render REACH data more beneficial to toxic tort plaintiffs. Moreover, as REACH amasses its chemical data, the scientific understanding of biological mechanisms and causal relationships to be derived from such data likewise will continue to grow. For this reason, REACH may prove increasingly useful to plaintiffs over time, despite its current limitations, assuming that courtroom evaluations of methodological validity adapt accordingly.

Although REACH may provide additional data in support of some toxic tort plaintiffs’ claims, it seems clear that reliance on the new EU chemicals regime is insufficient to adequately protect American consumers from the potential dangers of everyday chemicals. In light of increasing awareness of the serious health and environmental consequences associated with exposure to everyday chemicals, Americans deserve more from their government. Accordingly, immediate steps towards overhauling federal chemicals regulation—on this side of the Atlantic—are imperative.
FIXING THE FARM BILL: USING THE “PERMANENT PROVISIONS” IN AGRICULTURAL LAW TO ACHIEVE WTO COMPLIANCE

CHARLENE C. KWAN*

Abstract: Agricultural policy in the United States over the past three-quarters of a century has involved supporting farmers in the unpredictable business of growing crops. Until 1973, such domestic supports took the form of a loan-based system that controlled crop prices. The current payment-based system, put into place after 1973, has encouraged overproduction and run afoul of WTO trade rules. Moving back to a loan-based system, or incorporating elements of such a system into U.S. agricultural legislation, could potentially cure problems of overproduction and other domestic ills. A loan-based system could also bring the United States back into alignment with WTO trade rules, protecting it from potentially expensive sanctions by other countries. Furthermore, it is important to understand the ramifications of such a loan-based system because all farm bills since 1949 are simply modifications to loan-based “permanent provisions,” and in the absence of new legislation, these provisions take effect.

Introduction

Regulation of the agricultural sector presents unique challenges to lawmakers because farmers face many problems specific to the business of growing crops. Traditional understandings of supply and demand lose their meaning in the agricultural context because changes in the demand for food are limited, but a variety of factors frequently lead to wide fluctuations in supply.¹ The U.S. Congress began to recognize

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¹ See Michael Pollan, The Omnivore’s Dilemma 54, 94 (2006). Supplies of agricultural products fluctuate because farmers face uncertainties presented by Mother Nature, including droughts, pests, and disease. Id. at 94. In contrast, demand stays relatively stable because people can only eat a fixed amount of food. See id. at 54. Both the government and commodities producers often attempt to alleviate this problem by creating new markets. See infra note 111 and accompanying text. Daniel Imhoff summed up the agricultural supply and demand problem in this way:
these difficulties in the 1930s and developed several programs to support farmers’ needs. In 1973, these policies underwent a fundamental transition, shifting the focus of legislation from a loan-based system of controlling prices to a payment-based system emphasizing production. This change has had far-reaching effects both at home and abroad, creating a wide range of domestic problems and violating trade rules set by the World Trade Organization (“WTO”). Though Congress recently passed new agricultural legislation in 2008, it follows the post-1973 model. Reexamining agricultural policies as they existed before 1973 may provide insights on how to remedy problems caused by current agricultural legislation. Moving back to a loan-based system may provide hints on how to curb overproduction, remedy domestic ills, and prevent future WTO trade violations.

This Note attempts to determine whether returning to a pre-1973 system makes sense from a policy standpoint and whether doing so would lead to compliance with WTO trade rules. Part I provides an

Rational farmers know that when the price of corn goes down, producing less corn to drive prices up is not a real option. They know that their individual decisions to reduce . . . acres in an effort to balance supply with demand will have little effect on supply or price. It will simply reduce their own income. When the price . . . drops, they will produce as much as possible as their only defense against economic disaster. Naturally, if the price of corn goes up, they will also produce as much as possible to make up for the income lost in leaner times.


2 See infra Part I.
3 See Econ. Research Serv., USDA, Agriculture Information Bulletin No. 485, History of Agricultural Price-Support and Adjustment Programs, 1933–84, at 29 (1984), available at http://www.ers.usda.gov/publications/aib485/aib485.pdf. The decision to emphasize production is logical because feeding its people is one of the most important things a government can do, both practically and psychologically. See Imhoff, supra note 1, at 10 (pointing out that food shortages may cause periods of social unrest).
4 See infra Parts II–III. This is an extremely important issue because agriculture is an especially important sector in virtually every country. Michael J. Shumaker, Tearing the Fabric of the World Trade Organization: United States—Subsidies on Upland Cotton, 32 N.C. J. Int’l L. & Com. Reg. 547, 549 (2007).
6 For the purposes of this Note, it is assumed that the United States would be willing to decrease its role as the unchallenged leader in crop exports.
overview of agricultural policy in the United States, outlining four important pieces of agricultural legislation—two pre-1973 Acts that make up the loan-based “permanent provisions” underlying all American farm policy, and two recent payment-based “farm bills” from 1996 and 2002. Part II compares the two basic types of domestic support systems used in U.S. agricultural legislation; it also considers the global and domestic effects of the transition from a loan-based system to one based on payments. Part III provides an overview of the WTO dispute resolution process, explains the WTO trade rules on agricultural subsidies, and briefly outlines United States—Upland Cotton, a WTO decision that carries important ramifications for American agricultural subsidies and trade. Part IV considers whether reverting to a pre-1973 loan-based agricultural support system provides a viable solution to domestic problems and promotes WTO compliance. This Note concludes that reverting to a pre-1973 system—or integrating features of such a system—can offer a solution to problems at home and abroad while encouraging compliance with WTO trade rules.

I. Agricultural Policy in the United States: A Historical Overview

Congress has implemented legislation regulating agricultural production in the United States for over three-quarters of a century. This “farm bill” legislation generally includes provisions covering a wide variety of programs, including food stamp and nutrition programs, research and education, conservation, food safety, trade and foreign food

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8 See infra Part II.

9 See infra Part III.

10 See infra Part IV.

11 See infra Part IV.

aid, and agricultural credit. Programs authorized in various farm bills generally last for set periods of time, but if no specific farm bill’s provisions are in effect, agricultural policy reverts to the “permanent provisions” of the Agricultural Adjustment Act of 1938 and the Agriculture Act of 1949.

One important feature of all farm bill legislation since the 1930s has been the use of price supports—in the form of subsidies, price guarantees, and loans—that cover the production of certain agricultural commodities. Legislators recognized that farmers faced many obstacles that affected crop production, such as unfavorable weather and fluctuations in demand. These factors often caused food shortages and jeopardized “national security, the family farm and [its] values . . . and America’s competitive position in the global market.” Providing domestic supports for the production of crops prevented these calamities and ensured a plentiful, inexpensive food supply.

As a consequence, farmers of certain commodities have continuously enjoyed price supports in one form or another since the Great Depression. Commodity crops differ from other crops in that commodity crops serve both as food and as market-friendly agricultural products that are “easy to transport and virtually indestructible.” Out of over 400 crops grown in the United States, the vast majority of all subsidies go to just five commodity crops: rice, cotton, soybeans, wheat, and corn. Although the United States paid $164.7 billion in farm sub-

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13 IMHOFF, supra note 1, at 22.
15 See IMHOFF, supra note 1, at 25; Poole, supra note 12, at 183–84.
16 Poole, supra note 12, at 186–87.
17 Id.
19 See IMHOFF, supra note 1, at 34; ECON. RESEARCH SERV., USDA, supra note 12, at 128–38 (summarizing the major legislation passed between 1933 and 1996 relating to trade and agriculture); Poole, supra note 12, at 184.
20 See POLLAN, supra note 1, at 26.
sidies from 1995 to 2005, over seventy percent—approximately $115.5 billion—was spent on just those five crops.\textsuperscript{22} Domestic price supports for commodity crops figured prominently in two recent farm bills, the Federal Agriculture Improvement and Reform (FAIR) Act of 1996 and the Farm Security and Rural Investment Act of 2002, and are also an important part of the most recently passed farm bill legislation.\textsuperscript{23}

A. Loan-Based Systems: Agricultural Policy Before 1973—The “Ever-Normal Granary” and the Commodity Credit Corporation

Federal farm policy as it exists today began in the 1930s with the passage of the Agricultural Adjustment Act of 1933.\textsuperscript{24} Implemented as a “cornerstone” of the New Deal, the Act attempted to create a “[c]entralized food policy” in order to protect the twenty-five percent of Americans living on farms.\textsuperscript{25} These farmers faced extreme hardship during the Great Depression as crop prices dropped drastically due to overproduction.\textsuperscript{26} In order to stabilize the agricultural sector, the Act created the nation’s “first major price support and acreage reduction program,” focusing on achieving “parity” for farmers.\textsuperscript{27} The govern-

\textsuperscript{22} Environmental Working Group, EWG Farm Subsidy Database, http://farm.ewg.org/farm/region.php?fips=00000 (last visited Apr. 9, 2009).


\textsuperscript{24} See Agricultural Adjustment Act of 1933, Pub. L. No. 73-10, §§ 1–46, 48 Stat. 31 (1933); IMHOFF, supra note 1, at 25.

\textsuperscript{25} IMHOFF, supra note 1, at 34. In getting a sense of what American farmers faced during this period, Daniel Imhoff writes:

During [the Great Depression], more than a third of the U.S. population was eking out a subsistence of grinding poverty. One in four Americans still lived on farms. Increasing numbers of tenant farmers and sharecroppers were forced from their land or pushed into desperate poverty. Farm foreclosures had become commonplace.

\textit{Id.} at 33.

\textsuperscript{26} See \textit{id.} at 33–34. During this period, “[t]otal farm income fell by two-thirds between 1929 and 1932, . . . [s]ix of every ten farms had been mortgaged to survive, and . . . [i]n the single year of 1932, five of every one hundred farms in Iowa were foreclosed and sold at auction.” \textit{Id.} at 34.

\textsuperscript{27} Agricultural Adjustment Act of 1933 § 2; USDA, supra note 3, at iv. The U.S. Department of Agriculture still calculates, but no longer uses, the parity index. Forrest Laws, \textit{Farm Programs May Revert to Permanent Law}, SOUTHEAST FARM PRESS, Jan. 23, 2008, available at http://www.southeastfarmpress.com/legislation/farm-legislation-0108/index.html. Critics of the parity index disagree with its premise and see it as being of limited usefulness. HENRY HAZLITT, ECONOMICS IN ONE LESSON 92 (1949) (arguing that “[t]here is no sound reason for taking the particular price relationships that prevailed in a particular year or period and
ment defined parity as the “exchange relationship between agriculture and industry or between persons living on farms and persons not on farms” and calculated it by comparing the base price for a commodity with the price of goods and services used to produce the commodity—in effect, a measurement of farmers’ buying power.28 In aiming to achieve parity, the Roosevelt Administration hoped to bring stability to the agricultural sector and the economy as a whole by increasing farmers’ income and encouraging spending, thus increasing demand in other sectors and ending the Depression.29 In the area of price supports, the Act sought to control the production of commodities in order to prevent depressed prices.30 The Secretary of Agriculture offered direct payments to farmers who agreed to acreage restrictions.31 The Act also regulated the marketing of certain agricultural products and attempted to eliminate crop surpluses and expand markets.32

To supplement these programs, in 1933 President Roosevelt established by executive order the Commodity Credit Corporation (“CCC”), a Delaware corporation created “to stabilize, support, and protect farm income and prices” by offering emergency loans to farmers who might otherwise dump their crops on already flooded markets.33 The idea of balancing the grain supply—preventing famine during crop shortages with the excess from bountiful harvests—dated back to biblical times.34 Used here, instead of directly preventing starvation by providing food to the hungry, the CCC prevented potentially disastrous variations in commodity prices by regulating available supplies.35 According to Virgil W. Dean, the CCC:

> attempted to raise farm prices on storable commodities by removing the surplus from the market when prices fell below

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28 USDA, supra note 3, at 3–4.


30 Clarke, supra note 29, at 143.

31 USDA, supra note 3, at 4.

32 Id.

33 USDA, About the Commodity Credit Corp., http://www.fsa.usda.gov/FSA/webapp?area=about&subject=landing&topic=sao-cc (last visited Apr. 10, 2009); see Pollan, supra note 1, at 49.

34 Imhoff, supra note 1, at 35; Pollan, supra note 1, at 49.

35 See Pollan, supra note 1, at 49.
certain levels. Producers who chose to take advantage of this program could receive nonrecourse loans from the corporation to permit them to hold crops off the market at times of low prices. The loans used the commodities as collateral, giving the farmer a certain percentage of the current market value. If the borrower chose not to reclaim the crop, presumably because prices did not increase to a level to make this profitable, the government’s corporation was obligated to keep the stored commodity in full satisfaction of the loan.  

The Secretary of Agriculture set loan rates for each commodity at his discretion “in light of current supplies and anticipated demand.” The loans were mandatory for corn, wheat, and cotton, and could also be used for other commodities if needed. Neither Congress nor the Roosevelt Administration envisioned the CCC to be a permanent entity—its original charter only ran for sixteen months from October 1933 to January 1935. The programs set out in the Act contributed to a fifty percent upswing in farm incomes in the two years between 1933 and 1935. In 1936, the Supreme Court struck down certain provisions of the Act as unconstitutional, making way for the first of two permanent pieces of farm bill legislation.


The first “permanent” piece of agricultural legislation, the Agricultural Adjustment Act of 1938, built on domestic support programs originally established during the preceding five-year period. The Act,
“[a] comprehensive farm bill, . . . included provisions for production control, payments of benefits, mandatory loans, crop insurance, and soil conservation.” Among other things, Congress adopted new acreage allotments for certain commodities, limited payments for those abiding by allotments, and sought to achieve parity by making supplemental payments for those raising cotton, corn, rice, tobacco, and wheat. The legislation provided for the use of marketing controls instead of direct production controls and created the “first comprehensive price support legislation with nonrecourse loans.”

As part of its comprehensive price support program, the Act provided for the use of marketing quotas. Established by the Secretary of Agriculture for producers of corn, cotton, rice, tobacco, and wheat:

Marketing quotas were used in conjunction with acreage allotments as a more stringent means of controlling output. When the expected supply for a year exceeded estimated use by a specified amount, marketing quotas had to be proclaimed. . . . When marketing quotas were approved, compliance with acreage allotments was compulsory; noncomplying producers not only lost price supports but were subject to penalties. If marketing quotas were disapproved, the level of price supports was lowered substantially for those who complied with acreage allotments.

Marketing quotas only came into effect if approved by two-thirds referendum of the voting producers of the commodity in question.

In addition to marketing quotas, the 1938 Act extended the life of the CCC. Some posit that Congress saw the CCC as increasingly important in keeping the market stable. Originally envisioned as a temporary means of enabling the Secretary of Agriculture to control commodity supplies during specific emergencies, Congress later mandated

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44 USDA, *supra* note 3, at 13. It should be noted that implementing acreage allotments did not always result in lowered production levels. *Id.* at 15.
45 *Id.* at iv, 13.
46 *Id.*
48 *Id.*
49 Clarke, *supra* note 29, at 159; see Agricultural Adjustment Act of 1938 § 302.
50 See Clarke, *supra* note 29, at 159.
that nonrecourse loans become available for corn, wheat, and cotton when prices fell below certain parity levels. In doing this, Congress began to co-opt the Secretary of Agriculture’s role in setting rates for CCC loans even though the Act gave the Secretary the discretion to authorize subsidies and set loan rates for other commodities between 1938 and 1940—including butter, figs, barley, wool, peanuts and tobacco.


The Agricultural Act of 1949 constitutes the other “major part of permanent agricultural legislation” that would take effect in conjunction with the Agricultural Adjustment Act of 1938. The 1949 Act built on the 1948 Act and reflected the view that high, fixed price supports would keep the agricultural sector most stable in the post-war years. The Act provided for flexible price supports at high levels—generally around seventy to ninety percent of parity—for both basic and non-basic commodities, with support levels mandatory for the former, and discretionary for the latter. The Act also expanded the list of commodities subject to mandatory support to include “wool and mohair, tung nuts, honey, Irish potatoes . . . milk, butterfat, and their products.”

The Act also adopted a new formula for calculating parity, modified from one initially introduced the previous year. The new formula added the ten-year period before the current year to the 1910–1914

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51 See USDA, supra note 3, at 6, 14; Econ. Research Serv., USDA, supra note 12, at 128.
52 Dean, supra note 36, at 12; USDA, supra note 3, at 14; see Agricultural Adjustment Act of 1938 § 302(a). In the following years, Congress not only mandated the provision of nonrecourse loans for certain commodities, but also set mandatory loan rates—a full eighty-five percent of parity in 1941, and extended those rates through the end of the war. Dean, supra note 36, at 12–13; USDA, supra note 3, at iv.
54 USDA, supra note 3, at 17–18; see Agricultural Act of 1949 § 101.
55 Dean, supra note 36, at 192–93; USDA, supra note 3, at 18–19; see Agricultural Act of 1949 § 201.
56 USDA, supra note 3, at 19; Econ. Research Serv., USDA, supra note 12, at 129; see Agricultural Act of 1949 §§ 101–302.
base period in making parity calculations.\textsuperscript{58} The 1949 revision also added two items to be taken into account when calculating the parity index: (1) labor costs for items purchased by farmers in calculations of their buying power; and (2) payments to commodity producers to commodity prices.\textsuperscript{59} The revised formula for calculating parity only took effect “where it would bring the producers of basic commodities higher prices,” but “generally meant higher parity prices.”\textsuperscript{60}

B. Payment-Based Systems: Agricultural Policy After 1973—From Fencerow to Fencerow: A Key Transition

Although Congress enacted several major pieces of agricultural legislation between 1949 and 1971, the nature of price supports did not change dramatically until the passage of the Agriculture and Consumer Protection Act of 1973.\textsuperscript{61} Between 1972 and 1973, several factors—strong global demand for crops due to shortages abroad, a bad domestic harvest, and the inflation of grocery prices—caused commodity prices to spike, drastically increasing the cost of food to the American consumer.\textsuperscript{62} In order to alleviate this problem, Earl Butz, the acting Secretary of Agriculture, “abolished the Ever-Normal Granary,” which was used to stabilize grain supplies.\textsuperscript{63} Secretary Butz opted to encourage the consolidation of farms in order to increase efficiency; he also made growing crops “from fencerow to fencerow” his top priority.\textsuperscript{64} Where earlier programs sought to control production levels through acreage allotments and marketing quotas, the 1973 Act placed “emphasis on maintaining or increasing output.”\textsuperscript{65}

\textsuperscript{58} Agriculture Act of 1948 § 201; see USDA, supra note 3, at 18; Econ. Research Serv., USDA, supra note 12, at 129. The 1910–14 period was originally used in parity calculations because it was seen as an ideal period where agricultural prices remained stable and there was balance “between the purchasing power of city and country.” USDA, supra note 3, at 3.

\textsuperscript{59} Agriculture Act of 1949 § 409; USDA, supra note 3, at 19.

\textsuperscript{60} Dean, supra note 36, at 193; USDA, supra note 3, at 19.


\textsuperscript{62} Pollan, supra note 1, at 51–52. At this time, “[t]he consumer price index for food (based on 1967=100) advanced from 114.9 in 1970 to 141.4 in 1973, outstripping most items in the overall CPI.” USDA, supra note 3, at 29.

\textsuperscript{63} Pollan, supra note 1, at 52.

\textsuperscript{64} Id.

\textsuperscript{65} Agriculture and Consumer Protection Act of 1973 pmbl.; USDA, supra note 3, at 29.
One fundamental change resulted from this shift—the 1973 Act replaced parity-based price supports with target prices and deficiency payments. Under this system, the Act ended use of the parity index. Instead, Congress set target prices; when market prices dropped below those targets, farmers received deficiency payments making up the difference. The most recent farm bills, including the Federal Agriculture Improvement and Reform (FAIR) Act, are variations of the payment-based arrangement first set out in the 1973 Act.

1. A Payment-Based System Variant: The Federal Agriculture Improvement and Reform Act of 1996

The Federal Agriculture Improvement and Reform (FAIR) Act’s major provisions, though payment-based, differ from the commodity subsidy system in its 1973 form. The FAIR Act provided predetermined direct payments to farmers for certain crops through the use of production flexibility contracts (PFCs) and eliminated the previous twenty year old system of using target prices and price-sensitive deficiency payments. Under the PFC program, Congress made a finite amount available for direct commodity payments each fiscal year; individual farmers received payments calculated using a formula that took into account their “contract acreage.” PFC contracts were available to eligible farmers who grew certain commodities and signed up to participate for the seven-year duration of the FAIR Act.

The amount set aside for PFC payments declined over the life of the FAIR Act because the Act “assumed that emerging export markets

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66 USDA, supra note 3, at v, 29; Econ. Research Serv., USDA, supra note 12, at 129.
67 USDA, supra note 3, at 29.
68 Id.
69 See Econ. Research Serv., USDA, supra note 12, at 3.
70 See id. at 1, 3.
72 USDA, supra note 23. The set payment levels from 1996 to 2002 varied from approximately $4.0 to $5.8 billion. Id. In determining payments:

The annual total amount was first determined for all contract crops combined (wheat, rice, feed grains, and upland cotton) and then allocated to specific crops based on percentage allocation factors established in the 1996 Act. Each participating producer of a contract crop received payments equal to the product of their production flexibility contract payment quantity and the national average production flexibility contract payment rate.

73 USDA, supra note 23; see 2002 Farm Bill: Glossary, supra note 72.
would make traditional government price and income support unnecessary." This proved to be a miscalculation, as markets failed to materialize. Beginning in 1998, Congress authorized the use of emergency market loss assistance (MLA) payments to supplement the PFC payments. The payments initially were used in 1998 to shore up low commodity prices—and were renewed in subsequent years—with over $18 billion paid out between 1998 and 2002 for commodity crops. The MLA payments counteracted the effect of the gradual decrease in PFC payment levels, increasing the total amount paid in subsidies.

The FAIR Act also provided for continued commodity and marketing loans. These loans protected farmers from the need to sell their crops when prices were low by providing funds for "producers to store their harvested crop . . . and repay [the loan] upon the sale [of the crop] when market conditions [were] more favorable." Marketing loans first came into effect with the Food Security Act of 1985 and allowed repayment of loans at the lower of either the world market price or the loan rate (plus interest). Exercising this option meant that the producer effectively received additional income; when the world price was the lower of the two, the farmer ended up paying less than the loan rate, resulting in a "marketing loan gain." The marketing loan program started with rice and upland cotton, but eventually expanded. In 1996, the FAIR Act "mandate[d] that marketing loan provisions be implemented for feed grains, wheat, rice, upland cotton, and all oilseeds." Producers who chose not to exercise the lower repayment rate

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74 Erin Morrow, Agri-Environmentalism: A Farm Bill for 2007, 38 Tex. Tech L. Rev. 345, 351 (2006); see USDA, supra note 23; see also Poole, supra note 12, at 191 ("[The FAIR Act] was to be the end of federal regulation of agriculture . . . . [but] prices fell unexpectedly near the end of the decade and Congress came to the rescue in the usual manner . . . making the end of federal regulation of agriculture appear just like its beginning.").

75 See Morrow, supra note 74, at 351.

76 See USDA, supra note 23.

77 Environmental Working Group, supra note 22; USDA, supra note 23.


80 Buhi, supra note 14, at 241.


82 Cotton Panel Report, supra note 81, ¶ 7.207; Buhi, supra note 14, at 241, 246.

83 2002 Farm Bill: Glossary, supra note 72.

option could instead elect to receive “loan deficiency payment[s]” (LDPs) that compensated them for those amounts.85

2. A Substantially Similar Payment-Based System: The Farm Security and Rural Investment Act of 2002

Although the Farm Security and Rural Investment Act of 2002 made some modifications to the FAIR Act’s existing programs, most provisions of the FAIR Act had similar counterparts in the 2002 Act.86 The 2002 Act used three main programs to support commodity-crop farmers: (1) direct payments; (2) counter-cyclical payments; and (3) marketing loans.87

Under the 2002 Act, the method for calculating direct payments differed from the system used for determining PFC payments.88 PFC payments are calculated based on a government-preset payment amount and paying each farmer individually according to the amount grown using that rate.89 In contrast, the 2002 Act paid farmers directly for certain commodity crops—wheat, corn, grain sorghum, barley, oats, upland cotton, rice, and soybeans and other oilseeds—as they did in the original 1973 system.90 Under this system, payments were not made according to predetermined levels of government spending.91

In addition, a new program of counter-cyclical payments replaced the supplemental MLA payments of the FAIR Act.92 In contrast to the emergency nature of the MLA payments, which required annual renewal, Congress wrote counter-cyclical payments directly into the 2002 Act.93 The 2002 Act provided that payments would be made when the “effective” price of commodities did not meet a target price that was set

85 Federal Agriculture Improvement and Reform Act of 1996 § 135; see Cotton Panel Report, supra note 81, ¶ 7.207.
86 See USDA, supra note 23 (providing side-by-side comparison between commodity programs proposed for the 2002 Act, and their counterparts in the FAIR Act).
88 See USDA, supra note 23.
89 See id.
90 Farm Security and Rural Investment Act of 2002 § 1103; see USDA, supra note 23.
91 See USDA, supra note 23. The payment rates for the different crops included $0.24 per bushel of barley, to $0.52 per bushel of wheat, and the payment rate for upland cotton was $0.667 per pound. Id.
93 Farm Security and Rural Investment Act of 2002 § 1104; e.g., Agricultural Risk Protection Act of 2000 § 201; see Morrow, supra note 74, at 353.
in legislation and “based on a historical average of payment yields from 1998 through 2001.” The new system of direct and counter-cyclical payments helped farmers because it ended the practice of basing payments on the acreage used in planting commodity crops. Marketing assistance loans and loan deficiency payments continued much as they had before but with minor modifications. For example, the 2002 Act expanded both programs to include “peanuts, wool, mohair, honey, small chickpeas, lentils, and dry peas.”

In addition to subsidy payments for growing crops, the FAIR and 2002 Acts contained provisions for export guarantee programs and programs specific to cotton producers. Export guarantee programs—originally established under the Agricultural Trade Act of 1978—functioned to “guarantee repayment of credit extended to eligible banks which issue[d] letters of credit on behalf of purchasers of U.S. products.” Credit extended under the Export Credit Guarantee Program, also known as the General Sales Manager-102, or GSM-102, was good for up to three years. FAIR Act’s Intermediate Export Credit Guarantee Program created the GSM-103 credit, which was good for up to ten years. Another program, the Supplier Credit Guarantee Program, also guaranteed payments from foreign purchasers of agricultural commodities produced in the United States. The Acts also continued a series of payments specifically available to cotton producers—“user marketing (Step 2) payments.” Under certain circumstances, when “United States cotton pricing benchmarks [were] exceeded,” eligible

94 Shumaker, supra note 4, at 554; USDA, supra note 23. “The effective price is equal to the sum of 1) the higher of the national average farm price for the marketing year, or the national loan rate for the commodity and 2) the direct payment rate for the commodity.” USDA, supra note 23.
95 Shumaker, supra note 4, at 554.
96 USDA, supra note 23.
97 USDA, supra note 23 see Farm Security and Rural Investment Act of 2002 §§ 1201–1202, 1205.
99 Econ. Research Serv., USDA, supra note 12, at 37, 38; see Agricultural Trade Act of 1978 §§ 101–604.
100 Econ. Research Serv., USDA, supra note 12, at 38; see Farm Security and Rural Investment Act of 2002 § 3102; Federal Agriculture Improvement and Reform Act of 1996 § 243; Agricultural Trade Act of 1978 §§ 101–604.
102 Cotton Panel Report, supra note 81, ¶ 7.244.
103 See id. ¶ 7.209; USDA, supra note 23.
exporters and users of domestic upland cotton were given either marketing certificates, or cash payments. These “pricing benchmarks” were tied to the world price of cotton and to price quotations in northern Europe and the United States.


The payment-based systems derived from the Agriculture and Consumer Protection Act of 1973—later outlined in the FAIR and 2002 Acts—are relatively new in the history of farm bill legislation, but have had tremendous ramifications on crop production. Payment-based subsidies encouraged overproduction, both for corn and other subsidized crops, without an eye to either demand or price. According to Michael Pollan’s discussion of industrial corn in *The Omnivore’s Dilemma*:

> The change from loans to direct payments hardly seems momentous—either way, the government pledges to make sure the farmer receives some target price for a bushel of corn when prices are weak. But in fact paying farmers directly for the shortfall in the price of corn was revolutionary. . . . They had removed the floor under the price of grain. Instead of keeping corn out [when prices were low,] the new subsidies encouraged farmers to sell their corn at any price, since the government would make up the difference.

Payment-based subsidies, which were meant to increase productivity, replaced measures such as price support through loans, “land idling,” and government purchase of surplus grain. The nature of the agricultural sector exacerbated problems with overproduction due to factors such as the inelastic demand for food, the tendency towards overproduction due to new technologies, and difficulty in shifting “resources previously committed to farm production . . . out of farming” commod-

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105 *Id.*; ECON. RESEARCH SERV., USDA, *supra* note 12, at 11.
106 See Pollan, *supra* note 1, at 52–53.
108 Pollan, *supra* note 1, at 52.
109 See *id.*
As a result, price supports traditionally used to help family farmers in times of crisis were used to make commodity crops cheaper domestically and more competitive in the world markets by encouraging overproduction and artificially depressing prices, while paying to keep farmers in business.

Payment-based subsidies for commodity crops, outlined in recent farm bills, have drawn heavy fire from critics who blame the system for rising obesity rates, ongoing environmental impacts caused by intensive farming, and the perpetuation of poverty in developing countries. The set price that the government is willing to pay for commodity crops guarantees their sale and discourages farmers from growing other, unsubsidized crops. The effects of this shift can be seen worldwide; for example, critics accuse American corn subsidies of “pushing the poorest Mexican corn farmers out of business.”

Because most farm bill programs only last for finite periods of time, proposals for new farm bills offer chances to rectify such problems. The provisions of the 2002 Act provided for its lapse in 2007. Though this presented an opportunity to overhaul current agricultural policies, Congress ultimately passed the five-year Food, Conservation,

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110 Cochrane & Ryan, supra note 47, at 15; see Pollan, supra note 1, at 54.
111 See Imhoff, supra note 1, at 72, 74; Pollan, supra note 1, at 52, 54; Philpott, supra note 107, at 1. This is not the first time that government and commodities producers have “found” new markets to increase demand and boost crop prices in the face of overproduction; the school lunch program, the feeding of grain to cattle, the advent of high-fructose corn syrup, and the development of corn ethanol as a gasoline additive (and now as an alternative fuel) can all be traced back to the desire to dispose of commodity surpluses. See Cochrane & Ryan, supra note 47, at 73; MacLean, supra note 18; Pollan, supra note 1, at 67, 103.
112 See Pollan, supra note 1, at 54, 102–03; Philpott, supra note 107, at 2. The availability of cheap commodity crops translates into cheap food for consumers, and not just for processed foods containing commodity ingredients such as high-fructose corn syrup. See Pollan, supra note 1, at 18–19. Cheap meat, poultry, and dairy products also depend on inexpensive feed supplies, which come from commodity crops. See id. at 18.
113 Pollan, supra note 1, at 54.
114 Elizabeth Becker, U.S. Corn Subsidies Said to Damage Mexico, N.Y. Times, Aug. 27, 2003, at C4; see Poole, supra note 12, at 192–93. The United States has also been accused of “subsidiz[ing]ing domestic farmers to the point of having to pay to feed foreign farmers, who without the subsidies would have been able to feed themselves.” Poole, supra note 12, at 193.
115 See Econ. Research Serv., USDA, supra note 12, at 1; Morrow, supra note 74, at 346.
and Energy Act of 2008 on June 18, 2008, which kept many of the provisions of the 2002 Act unchanged.117

III. THE UNITED STATES, FARM SUBSIDIES, AND THE WORLD TRADE ORGANIZATION

The issue of subsidies has become increasingly important on the international stage because trade is vital to globalization, and may make up a large part of a country’s economy.118 According to the theory of comparative advantage, countries benefit the most when they are allowed to trade with each other without governmental interference.119

In order to facilitate trade amongst countries, a group of nations formed the World Trade Organization (WTO) in 1995 in order to establish rules for international commerce, resolve trade disputes amongst member nations, and provide a forum for members to negotiate trade issues.120 The United States has been a member of the WTO since January 1, 1995, when the Agreement Establishing the World Trade Organization became effective.121

A. The WTO Dispute Resolution Process: An Overview

The WTO dispute settlement process functions as “the central pillar of the multilateral trading system.”122 Members can seek to resolve disputes by bringing complaints against other members who they feel


118 See Chris Wold et al., Trade and the Environment: Law and Policy 1, 9 (2005). For example, exports made up approximately fifteen percent of the gross domestic product (GDP) in the United States, and half of the GDP in Canada. Id. at 3.

119 Id. at 26–27.

120 WTO, Understanding the WTO, http://www.wto.org/english/tratop_e/dispu_e/underst_e/underst_e.htm (last visited Apr. 10, 2009). The WTO was formed in accordance with the rules set out in the General Agreement on Tariffs and Trade (GATT), which first took effect in 1948. Id. See generally Wold et al., supra note 118, at 72–76 (providing background information on the history and development of GATT).

121 See Wold et al., supra note 118, at 77; WTO, supra note 120; WTO, Understanding the WTO—Members, http://www.wto.org/English/tratop_e/dispu_e/underst_e/org6_e.htm (last visited Apr. 10, 2009).

are not abiding by the agreed-upon trade rules. If the disagreement cannot be resolved through consultations or formal mediation during this time, a three-member panel is convened. This panel is given six months to consider the arguments presented and issue a written report. The WTO adopts the report unless it is appealed or rejected by a consensus of all WTO members. Either party may appeal the decision before the Appellate Body, which “can affirm, reverse, or modify the report of the panel.” The Appellate Body also issues a report, and unless rejected by all WTO members, the decision is adopted. Upon the adoption of a panel or Appellate Body report, the losing country is expected to comply with the terms of the report, either immediately or within a reasonable time as a general obligation under international law. If the losing party refuses to comply, unilateral trade sanctions may be authorized by the Dispute Settlement Body (the “DSB”), with any outstanding matters remaining within the purview of the DSB.

B. Regulation of Agriculture in the WTO

The issue of agricultural subsidies is a hotly contested topic in the WTO. According to Michael Shumaker, the reason for this is simply that:

123 See Understanding the WTO—A Unique Contribution, supra note 122. See generally Wold et al., supra note 118, at 95–102 (providing a more detailed overview of the WTO dispute resolution process); Shumaker, supra note 4, 567–77 (providing a general overview of the background of WTO dispute resolution, and of the procedure in place for settlement of disputes between WTO members).
124 Understanding the WTO—A Unique Contribution, supra note 122; see WTO Dispute Settlement Understanding, supra note 122, art. 3.7.
125 WTO Dispute Settlement Understanding, supra note 122, art. 3.7, 8.5; Understanding the WTO—A Unique Contribution, supra note 122. Under some circumstances, such panel may consist of five members. WTO Dispute Settlement Understanding, supra note 122, art. 8.5.
126 WTO Dispute Settlement Understanding, supra note 122, art. 12.8; Understanding the WTO—A Unique Contribution, supra note 122.
127 WTO Dispute Settlement Understanding, supra note 122, art. 16.4; Understanding the WTO—A Unique Contribution, supra note 122.
128 Wold et al., supra note 118, at 96–97; see Understanding the WTO—A Unique Contribution, supra note 122.
129 WTO Dispute Settlement Understanding, supra note 122, art. 17.14; Understanding the WTO—A Unique Contribution, supra note 122.
130 Wold et al., supra note 118, at 97.
131 See Understanding the WTO—A Unique Contribution, supra note 122.
132 See Wold et al., supra note 118, at 599–600.
Agriculture is a sensitive topic in virtually every country. In general, agricultural products are easily exported . . . yet, every country seeks to maximize economic advantages for its own agricultural sector. . . . Developing countries have few opportunities other than agriculture for trade and development while developed countries seek to defend their rapidly diminishing competitive advantage in agricultural production.\textsuperscript{133}

All countries use domestic price supports in regulating agriculture.\textsuperscript{134} Developed countries often can afford to sink more money into these endeavors than their less-developed counterparts.\textsuperscript{135} For this reason, disputes have arisen amongst countries in the fight for market share.\textsuperscript{136} For example, disagreements between developed and developing nations regarding agricultural trade stalled talks on the Doha agenda among the WTO’s member nations in September 2003, and seven years after they began, the talks have proven ineffective.\textsuperscript{137}

In the WTO, subsidies are generally governed by the terms of the Agreement on Subsidies and Countervailing Measures (the “SCM Agreement”).\textsuperscript{138} In drafting the SCM Agreement, the WTO took into

\textsuperscript{133} Shumaker, supra note 4, at 549 (footnotes omitted) (internal quotations omitted).
\textsuperscript{134} Wold et al., supra note 118, at 598.
\textsuperscript{136} See Wold et al., supra note 118, at 599.
\textsuperscript{137} Id; Editorial, The Next Step for World Trade, N.Y. Times, Aug. 2, 2008, at A14. The WTO provides for a Ministerial Conference, consisting of all members, that is to “make all major policy decisions, initiate new negotiations, and otherwise determine the strategic direction of the WTO.” Wold et al., supra note 118, at 78, 80. These conferences take place once every two years in different cities—Singapore in 1996, Geneva in 1998, Seattle in 1999, Doha in 2001, Cancun in 2003, and Hong Kong in 2005. Id.; WTO, Ministerial Conferences—Ministerial Declarations and Decisions, http://www.wto.org/english/thewto_e/minist_e/min_declaration_e.htm (last visited Apr. 10, 2009). Members put issues to be addressed on an agenda and conduct talks attempting to come to consensus on how to approach those issues. Wold et al., supra note 118, at 80. The Doha Ministerial Conference took place in November 2001, and addressed issues such as trade in services and trade in intellectual property rights, in addition to the question of agricultural subsidies. See World Trade Organization, Ministerial Declaration of 14 November, 2001, ¶¶ 13–15, 17–19, WT/MIN(01)/DEC/1, 41 I.L.M. 746 (2002). During talks in 2003 meant to further the goals set out during the Doha Ministerial Conference, Japan, the European Union, the United States, and Canada—leaders in world in agricultural subsidies—refused a request from China, India, Brazil, and other developing countries to decrease those subsidies. Wold et al., supra note 118, at 599.
account the fact that agriculture remained one of the most heavily subsidized sectors in many national economies, and created special provisions for handling this area. As a result, the SCM Agreement defers to the WTO’s Agreement on Agriculture (the “Agriculture Agreement”) on the issue of prohibited subsidies.

The WTO classifies all agricultural subsidies in one of three “boxes,” based on their effects on trade flows. “Green box” subsidies must be funded by the government and cause little to no trade distortion. Subsidies in this category include payments towards research, pest control, regional development and environmental protection, as well as “direct income supports for farmers that are not related to (are ‘decoupled’ from) current production levels or prices.”

In contrast, “amber box” subsidies exhibit trade- and production-distorting effects and include supports tied to production and market price. Most agricultural supports are presumed to be of this type. Minimal supports of this type—totaling between five and ten percent of production—may be used; the Agriculture Agreement required subsidy reductions from the thirty countries who exceeded these “de minimis” levels. Countries calculated reduction amounts by using a measure that took into account all supports (both specifically allocated and otherwise) before coming up with an allowed Total Aggregate Measurement of Support (Total AMS).

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142 Id.
144 WTO, supra note 141; see Agriculture Agreement, supra note 143, arts. 6.1, 6.3.
145 Inst. for Agric. and Trade Policy, supra note 135, at 5. The United States and European Union currently lead the world in spending on domestic supports for agriculture. Id.
146 Agriculture Agreement, supra note 143, art. 6.4; WTO, supra note 141. Supports up to “de minimis” levels are not calculated into a country’s AMS levels. Inst. for Agric. and Trade Policy, supra note 135, at 5.
147 WTO, supra note 141; see Agriculture Agreement, supra note 143, arts. 6.1, 6.3.
A third type of agricultural subsidy—“blue box” supports—are supports that would normally fall under the “amber box” category, but are classified differently due to certain restrictions that decrease their impact on the market.148 These restrictions might limit production by basing the payments on fixed area and yields, or by basing them on “85 percent or less of the base level of production,” thus allowing producers to avoid mandatory domestic payment reductions.149 Article 13 of the Agriculture Agreement exempted permitted subsidies from action under the SCM Agreement for nine years after the adoption of the WTO Agreement in 1995, after which countries could challenge supports that otherwise met limits set in the Agriculture Agreement.150 Although there are prohibited “red box” subsidies described in the SCM Agreement, those do not exist in the context of the Agriculture Agreement.151


One of the first actions brought in the WTO for violation of the provisions of the Agriculture Agreement and the SCM Agreement had significant implications for United States agricultural policy.152 Brazil formally requested consultation with the United States on the issue of its upland cotton subsidies on September 27, 2002.153 From 1999 to 2002, the United States produced about one fifth of the world’s cotton, second only to China.154 At this time, the United States was also the world’s leading exporter.155 Brazil’s share of the global upland cotton market and domestic production numbers were infinitesimal in comparison—less than three and five percent, respectively.156 The parties failed to resolve their differences, and on February 6, 2003, Brazil re-

148 See Agriculture Agreement, supra note 143, art. 6.5; WTO, supra note 141.
149 Agriculture Agreement, supra note 143, art. 6.5. There is a third provision here that exempts from reduction payments based on a fixed number of livestock. Id. art. 6.5(a)(iii).
150 Id. art. 1(f), 13; INST. FOR AGRIC. AND TRADE POLICY, supra note 135, at 7. 
151 WTO, supra note 141.
152 Request for Consultations by Brazil, United States—Upland Cotton, WT/DS267/1 (Oct. 3, 2002) [hereinafter Brazil Consultation Request].
155 Cotton Panel Report, supra note 81, ¶ 7.1283.
156 Id. ¶ 7.1284.
quested the establishment of a panel to assess the facts presented and make recommendations or issue a ruling.157

Both the consultation request and the panel request raised the same issues.158 In its submissions to the DSBC, Brazil claimed that certain subsidies provided to growers, exporters, and users of upland cotton were prohibited by the WTO.159 Among other things, Brazil challenged the use of domestic supports under the FAIR Act and the 2002 Act, including: direct payments, counter-cyclical payments, crop insurance, marketing loans, and loan deficiency payments; export subsidies provided under the FAIR and 2002 Acts; subsidies contingent on use of domestic instead of foreign cotton; and the use of Step 2 marketing certificates and payments.160

The panel circulated its decision on September 8, 2004, six months after its projected completion date and almost eighteen months after the panel was first requested.161 In its decision, the Panel found that challenged export subsidies on upland cotton and other subsidized crops violated articles 8 and 10.1 of the Agriculture Agreement by undertaking export subsidies that “result[ed] in circumvention of United States’ export subsidy commitments.”162 Export subsidies violated articles 3.1(a) and 3.2 of the SCM Agreement because the subsidies in question were contingent on export performance.163 The Panel also found that Step 2 payments to domestic users and exporters of cotton violated articles 3.1 and 3.2 of the SCM Agreement.164 In light of these findings,

157 Request for Establishment of a Panel by Brazil, United States—Subsidies on Upland Cotton, WT/DS267/7 (Feb. 7, 2003) [hereinafter Brazil Panel Request]; see WTO Dispute Settlement Understanding, supra note 122, art. 11.
158 See Brazil Panel Request, supra note 157; Brazil Consultation Request, supra note 152.
159 Brazil Panel Request, supra note 157; Brazil Consultation Request, supra note 152.
160 Brazil Panel Request, supra note 157; Brazil Consultation Request, supra note 152.
162 Cotton Panel Report, supra note 81, ¶¶ 7.875, 8.1(d)(i); see Agriculture Agreement, supra note 143, arts. 8, 10.1. Article 8 of the Agriculture Agreement specifies that “[e]ach Member undertakes not to provide export subsidies otherwise than in conformity with this Agreement and with the commitments as specified in that Member’s Schedule,” and article 10.1 specifies that certain export subsidies are not to be “applied in a manner which results in, or which threatens to lead to, circumvention of export subsidy commitments.” Agriculture Agreement, supra note 143, arts. 8, 10.1.
163 Cotton Panel Report, supra note 81 ¶¶ 7.947, 8.1(d)(i). Articles 3.1(a) and 3.2 of the SCM Agreement prohibit the grant or maintenance of “subsidies contingent . . . upon export performance.” SCM Agreement, supra note 140, arts. 3.1(a), 3.2.
164 Cotton Panel Report, supra note 81, ¶ 8.1(e)(iii)–(f). Step 2 payments to domestic users of upland cotton were invalid because they “were subsidies contingent on the use of do-
the panel recommended the immediate withdrawal of subsidies prohibited under the SCM Agreement.\textsuperscript{165}

In addition, the panel also found that certain price-contingent subsidies suppressed prices, caused serious prejudice to Brazil’s interests pursuant to article 6.3(c) of the Agriculture Agreement, and should be removed.\textsuperscript{166} The panel considered three factors in its determination of whether there was significant suppression: “(1) the relative magnitude of U.S. production and exports in the world cotton market; (2) general price trends in the market for the subsidized product; and (3) the nature of the challenged subsidies.”\textsuperscript{167} The panel held that the subsidies in question were price-contingent and therefore actionable because they functioned to “insulate U.S. production from the effects of the global market.”\textsuperscript{168} The price-contingent subsidies identified as causing price suppression included marketing loans, Step 2 payments, market loss assistance payments, and counter-cyclical payments.\textsuperscript{169} The panel pointed out that for these subsidies, “the United States [was] under an obligation to ‘take appropriate steps to remove the adverse effects or . . . withdraw the subsid[ies].’”\textsuperscript{170} The panel’s ruling did not, however, include subsidies deemed to be non-price-contingent, such as PFC payments, direct payments, and crop insurance payments.\textsuperscript{171} The United States appealed the results of the panel report, and the Appellate Body re-examined the issues addressed.\textsuperscript{172} The Appellate Body re-
leased their final report on March 3, 2005 (the “Upland Cotton decision”), which largely upheld the panel’s findings.173

2. United States—Upland Cotton: Implications for U.S. Farm Policy

The Upland Cotton decision caused ramifications beyond the immediate panel and Appellate Body rulings.174 The United States subsidizes and holds considerable market share in many crops other than upland cotton.175 Some observers concluded that future WTO challenges to other United States crop subsidies were likely to follow.176 They were right—less than two years after the Appellate Body ruling, Canada requested consultations on the issue of United States agricultural subsidies for corn and other crops.177 Canada’s complaint ultimately challenged use of export subsidies in the United States and claimed that the amount of its “amber box” domestic supports exceeded allowed AMS levels under the Agriculture Agreement.178 The outcome of that dispute, since joined by Brazil and currently in front of a WTO dispute resolution panel, is still pending.179

Congress recognized, at least on a cursory level, the importance of complying with WTO restrictions on subsidies.180 In response to the Upland Cotton decision, the Department of Agriculture discontinued the Step 2 program of payments and marketing certificates for cotton in August 2006.181 In its 2007 farm bill proposals, the USDA noted the WTO’s conclusion that supports such as marketing assistance loans, gains on marketing loans, and counter-cyclical payments constituted

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174 See Request for Consultations by Canada, United States—Subsidies and Other Domestic Support for Corn and Other Agricultural Products, WT/DS357/1 (Jan. 11, 2007) [hereinafter Canada Consultation Request].


176 See Buhi, supra note 14, at 252.

177 Canada Consultation Request, supra note 174; see Cotton Appellate Body Report, supra note 173.

178 See Request for the Establishment of a Panel by Canada, United States—Subsidies and Other Domestic Support for Corn and Other Agricultural Products, WT/DS357/11 (June 8, 2007).


180 See USDA, supra note 5, at 38–39.

181 Id. at 10.
trade-distorting “amber box” subsidies. To ensure compliance with WTO regulations, the proposal recommended that the 2007 farm bill contain a “circuit breaker” provision, similar to one originally drafted into the 2002 farm bill. Applying such a provision to certain “commodity programs,” would theoretically prevent overspending on agricultural subsidies. More recently, trade representatives have indicated that Washington may be willing to cut subsidies available to farmers below levels currently permitted.

IV. MOVING FORWARD BY MOVING BACKWARDS? RETURNING TO A PRE-1973 PRICE SUPPORT SYSTEM

Understanding how pre-1973 American farm legislation works both domestically and on a global scale is not a purely theoretical exercise—it involves practical legal and policy implications. Upon expiration of current farm bill legislation, absent an extension or new legislation, the “permanent provisions” of the Agricultural Adjustment Act of 1938 and the Agriculture Act of 1949 govern domestic supports in American agriculture. For example, the newly passed Food, Conservation, and Energy Act of 2008 is set to expire in five years. It is therefore important to consider whether returning to a pre-1973 price support system makes sense from a policy standpoint, and whether it is actually legal by WTO standards, since revising farm bill legislation is an

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182 Id. at 9–10. The WTO Agriculture Agreement limits the United States to $19.1 billion annually in “amber box” subsidies. Id. at 39.
183 See id. at 38–39. The provision in the 2002 Act stated that:

If the Secretary determines that expenditures . . . that are subject to the total allowable domestic support levels under the Uruguay Round Agreements . . . will exceed such allowable levels for any applicable reporting period, the Secretary shall, to the maximum extent practicable, make adjustments in the amount of such expenditures during that period to ensure that such expenditures do not exceed such allowable levels.

Id. at 38 (quoting Farm Security and Rural Investment Act of 2002, Pub. L. No. 107-171 § 1601(e), 116 stat. 134, 212 (2002)). In recognition of the fact that future WTO agreements might supersede the Uruguay Round Agreements, the 2007 farm bill proposal contains language referring to “the Uruguay Round Agreements, or any successor agreements.” Id. at 38–39.

184 See id. at 39.
186 Econ. Research Serv., USDA, supra note 12, at 1, 128–29.
issue that arises once every several years.\textsuperscript{188} Reverting to the permanent provisions may provide a viable solution to problems plaguing American farm policy.\textsuperscript{189}

Upon careful examination of the permanent provisions, it appears that using a pre-1973 system may offer a solution on how to simultaneously alleviate domestic overproduction problems and WTO trade rule violations, but only if the United States is willing to release its hold on commodity export markets.\textsuperscript{190} Even if the permanent provisions are not adopted in their entirety, examining features of the pre-1973 systems may offer valuable lessons on how to shape future farm bill legislation to address issues of overproduction and WTO compliance.\textsuperscript{191}

To date, Congress has insisted on alleviating current farm bill problems by adjusting the post-1973 payment-based system rather than considering a loan-based system like that outlined in the permanent provisions.\textsuperscript{192} For example, in the \textit{Upland Cotton} decision, the WTO panel determined that certain direct payments were production-related, and therefore did not constitute allowed “green box” subsidies under the Agriculture Agreement.\textsuperscript{193} Because direct payments were “conditioned on the recipients’ avoiding production of certain crops after the base period, [they were therefore] . . . related to current production and [did] not meet the criteria for decoupled income support.”\textsuperscript{194} Instead of considering non-payment-based methods of supporting farmers, USDA proposed a payment-based solution that removed restrictions on the planting of fruits, vegetables, and wild rice so that payments would no longer be considered production-related, trade-distorting subsidies subject to limits.\textsuperscript{195} In the \textit{Upland Cotton} decision, the WTO also held that the USDA’s program of marketing assistance loans—including marketing loans and counter-cyclical payments—should be figured into AMS calculations because they distorted trade and “contributed to price suppression in world cotton markets.”\textsuperscript{196} Although technically a “loan” program, the WTO panel determined that producers often profited from

\begin{footnotesize}
\begin{enumerate}
\item [188] \textit{See} Looker, \textit{supra} note 14.
\item [189] Some groups, including the National Farmers Union, are willing to work with the possibility of reverting to the permanent provisions. Looker, \textit{supra} note 14.
\item [190] \textit{See} Shumaker, \textit{supra} note 4, at 549.
\item [191] \textit{See} id.
\item [192] \textit{See} USDA, \textit{supra} note 5, at 32, 37.
\item [193] \textit{Id.} at 32.
\item [194] \textit{Id.}
\item [195] \textit{Id.} It appears that these planting restrictions have been retained in the most recently passed farm bill legislation. USDA, \textit{supra} note 7.
\item [196] USDA, \textit{supra} note 5, at 9–10.
\end{enumerate}
\end{footnotesize}
the loans through marketing loan gains and noted that producers could also elect to receive actual deficiency payments.\footnote{\textsuperscript{197} Id.} Congress responded to this finding in the the 2007 farm bill proposal by suggesting “a more market-based solution for determining loan rates,” but there was no serious move away from using heavily payment-based supports.\footnote{\textsuperscript{198} Id. at 9.} Congress’s failure to seriously consider loan-based alternatives to payment-based price supports may seriously impede its efforts to solve problems with American farm policy.\footnote{\textsuperscript{199} See id. at 9–10, 32, 37. With Congress’s failure to pass new farm bill legislation in 2007, the possibility of reverting the permanent provisions has been at least considered. See Looker, supra note 14. There is some doubt as to whether Congress will ever allow the permanent provisions to take effect. See Matlack, supra note 116 (“[U]nless Congress passes a new bill soon, we will revert back to the permanent farm laws [and] . . . I will be the first to admit this is only an academic point.”) (emphasis added). The fact that Congress has extended the provisions of the 2002 Act several times seems to indicate an unwillingness to move in this direction. Scott, supra note 14.}

Failing to consider the predominantly loan-based systems used before 1973 is shortsighted on two levels. First, the adoption of a loan-based system may solve problems of overproduction and WTO compliance currently plaguing domestic agricultural policy. Even if not adopted as a whole, studying the system may offer valuable insights for those drafting future farm bill legislation.\footnote{\textsuperscript{200} See Pollan, supra note 1, at 52–54.} Looking at the permanent provisions in United States agricultural legislation may offer remedies to those seeking to address problems associated with post-1973 farm bills because loan-based systems affect the market differently from payment-based systems.\footnote{\textsuperscript{201} See id. at 52; USDA, supra note 3, at 29.} Second, the potential effects of the permanent provisions should be analyzed and understood because the provisions could technically come into effect with the expiration of current agricultural legislation, unless they are suspended or other permanent legislation is passed.\footnote{\textsuperscript{202} See Econ. Research Serv., USDA, supra note 12, at 1, 128–29.}

A. Key Differences Between the “Permanent” Farm Bill Provisions and Recent Farm Bill Legislation

Two major systems of domestic price supports have been used in United States agriculture over the last seventy-five years that differ in many ways.\footnote{\textsuperscript{203} See Pollan, supra note 1, at 49–52; USDA, supra note 3, at 29; Poole, supra note 12, at 184.} Both systems—the loan-based system in effect from 1933

\footnote{\textsuperscript{197} Id.}
\footnote{\textsuperscript{198} Id. at 9.}
\footnote{\textsuperscript{199} See id. at 9–10, 32, 37. With Congress’s failure to pass new farm bill legislation in 2007, the possibility of reverting the permanent provisions has been at least considered. See Looker, supra note 14. There is some doubt as to whether Congress will ever allow the permanent provisions to take effect. See Matlack, supra note 116 (“[U]nless Congress passes a new bill soon, we will revert back to the permanent farm laws [and] . . . I will be the first to admit this is only an academic point.”) (emphasis added). The fact that Congress has extended the provisions of the 2002 Act several times seems to indicate an unwillingness to move in this direction. Scott, supra note 14.}
\footnote{\textsuperscript{200} See Pollan, supra note 1, at 52–54.}
\footnote{\textsuperscript{201} See id. at 52; USDA, supra note 3, at 29.}
\footnote{\textsuperscript{202} See Econ. Research Serv., USDA, supra note 12, at 1, 128–29.}
\footnote{\textsuperscript{203} See Pollan, supra note 1, at 49–52; USDA, supra note 3, at 29; Poole, supra note 12, at 184.}
to 1972 and the payment-based system in effect from 1973 onward—offer different types of programs and emphasize fundamentally distinct goals for American agriculture.204 Prior to 1973, farm policy aimed to prevent overproduction, limit the amount of agricultural product reaching the market by idling land, and encourage storage of crops in times of plenty.205 In a complete reversal of policy, post-1973 farm policies sought to “giv[e] farmers incentive to produce as much as possible.”206

Congress tailored the types of programs offered within these two systems to accomplish completely different objectives.207 Pre-1973 legislation sought to curtail production and programs implemented at the time—such as non-recourse loans, grain storage linked to the Ever-Normal Granary, acreage allotments for production control, and the use of marketing quotas—reflected this goal.208 Furthermore, the use of parity indices emphasizing farmers’ buying power and the fact that commodity subsidies were first adopted during the Great Depression suggest that the health of the rural, agricultural sector provided the original impetus for use of domestic price supports.209 Conversely, Congress implemented different programs when seeking to encourage production, meet global demand, and avoid grain shortages.210 Programs of this latter type—including direct and cyclical payments based on target prices, market loss assistance payments, marketing loans, and loan deficiency payments—ultimately have been used to maintain a disproportionate share of world markets, thus coming under heavy scrutiny in the Upland Cotton decision.211

B. Reimplementing the Pre-1973 System Would Rectify Certain Domestic Market Dysfunctions

In The Omnivore’s Dilemma, Michael Pollan argues that the loan-based price support systems in effect before 1973 regulated markets by creating a price “floor” that placed a check on overproduction.212 In 1973, the agricultural price support programs used by the USDA

204 See Pollan, supra note 1, at 49–52; USDA, supra note 3, at 29.
205 See Philpott, supra note 107, at 2–3.
206 See id. at 2.
207 See Pollan, supra note 1, at 52; USDA, supra note 3, at 29.
208 See Cochrane & Ryan, supra note 47, at ix, xi; Pollan, supra note 1, at 49–50.
209 See Clarke, supra note 29, at 154–55; Hazlitt, supra note 27, at 92; USDA, supra note 3, at 3.
210 See Pollan, supra note 1, at 51–52.
212 Pollan, supra note 1, at 52.
changed from a largely loan-based system created to limit agricultural production to a payment-based system designed to encourage it.\textsuperscript{213} The nonrecourse loans, grain storage, and acreage allotments commonly implemented before 1973 and found in the permanent provisions of the Agricultural Adjustment Act of 1938 and the Agricultural Act of 1949 kept grain off the market and prevented prices from falling too steeply.\textsuperscript{214} In contrast, programs created after 1973, including those set out in the FAIR Act and the 2002 Act, emphasized payments based on target prices and market loss, and as a consequence encouraged as much production as possible and further depressed prices.\textsuperscript{215}

Having moved away from a loan-based system of domestic support, it follows that returning to it—or some variation of it—would cure some of the problems caused by the overproduction of agricultural commodities in the United States.\textsuperscript{216} Acreage allotments and marketing quotas could control production by setting projected limits on acreage and could discourage excessive production by penalizing non-compliant farmers.\textsuperscript{217} Mechanisms such as nonrecourse loans backed by crop-storage provisions would even out prices by supporting farmers and preventing the “dumping” of crops on depressed markets.\textsuperscript{218} Used together, these programs could remedy the ills of overproduction triggered in a payment-based system.\textsuperscript{219}

If adopted, the permanent provisions in the 1938 and 1949 Acts would almost certainly need modification to increase their effectiveness.\textsuperscript{220} For example, the USDA continues to calculate the parity index by measuring farmers’ buying power based partly on prices during the period from 1910 to 1914.\textsuperscript{221} Using an index other than parity might better account for differences in technological capability.\textsuperscript{222} A price support program could technically be created using “any other index . . . Congress sees fit to pass, the President sees fit to enact and the USDA sees fit to administer.”\textsuperscript{223} Other additions may also prove necessary, especially since crops such as sugar, soybeans, and rice were not

\begin{footnotes}
\textsuperscript{213} See id.; USDA, supra note 3, at 29.
\textsuperscript{214} See Cochrane & Ryan, supra note 47, at ix; Pollan, supra note 1, at 49–50.
\textsuperscript{215} See Pollan, supra note 1, at 52; USDA, supra note 23.
\textsuperscript{216} See Pollan, supra note 1, at 52–54.
\textsuperscript{217} See Cochrane & Ryan, supra note 47, at ix, xi.
\textsuperscript{218} See Pollan, supra note 1, at 49–50.
\textsuperscript{219} See Cochrane & Ryan, supra note 47, at ix, xi; Pollan, supra note 1, at 49–50.
\textsuperscript{220} See supra note 27 and accompanying text.
\textsuperscript{221} See Cochrane & Ryan, supra note 47, at xi–xii; Laws, supra note 27.
\textsuperscript{222} See Hazlitt, supra note 27, at 92–93; Easterbrook, supra note 27, at 36.
\textsuperscript{223} Matlack, supra note 116.
\end{footnotes}
included under the permanent provisions, but have since increased in prominence.\textsuperscript{224}

Even without adopting the permanent provisions as they stand, it is likely that a domestic support system designed with some pre-1973 controls would curb overproduction. Acreage allotments and marketing quotas control production by limiting the acreage dedicated to growing certain commodities and punishing those who do not comply.\textsuperscript{225} Use of these controls might help prevent overproduction, even if price-contingent, payment-based subsidies are used.\textsuperscript{226} The switch from payment- to loan-based systems might have the same effect without acreage allotments because removing guaranteed payments would decrease incentives to overproduce.\textsuperscript{227} Reverting to a loan-based system of domestic support may not, however, remedy all adverse effects associated with twenty-five years of payment-based domestic support.\textsuperscript{228} Certain consequences, including the deterioration of rural communities, the loss of family farms, the environmental harms of intensive farming, and any economic damage to foreign countries disadvantaged by American agricultural subsidies, may not be fully remedied without separate initiatives falling outside the provisions of the farm bill.\textsuperscript{229}

C. Using the Pre-1973 Price Support System Encourages Compliance with WTO Trade Agreements

The potential for reverting to the “permanent provisions” deserves consideration for another reason—the permanent legislation provided in the 1938 and 1949 Acts may not comply with the terms of the WTO Agriculture and SCM Agreements, leading to the potential for future conflicts with other countries.\textsuperscript{230} This analysis may ultimately appear on the agenda, regardless of whether it is included in any currently pend-

\textsuperscript{224} See Scott, supra note 14; The Effects of Failure to Enact a New Farm Bill, supra note 188.

\textsuperscript{225} Cochrane & Ryan, supra note 47, at ix, xi.

\textsuperscript{226} See id.

\textsuperscript{227} See Pollan, supra note 1, at 53–54.

\textsuperscript{228} See Imhoff, supra note 1, at 39. It is unrealistic to expect problems such as environmental harms and the collapse of rural communities to remedy themselves; logically, curing these issues will almost certainly require government intervention because once broken they may prove difficult to mend.

\textsuperscript{229} See id.

\textsuperscript{230} See Looker, supra note 14; Understanding the WTO—A Unique Contribution, supra note 122.
ing legislation, because the failure to pass a new farm bill means that the permanent provisions come into effect.231

1. The Current Payment-Based System of Domestic Supports Violates WTO Trade Rules

Under the rules set out in the SCM Agreement, income supports decoupled from prices and production levels are allowed “green box” subsidies.232 Trade-distorting subsidies, such as those tied to production or market price, are prohibited “amber box” subsidies and may only be used up to the amount of a country’s allotted AMS.233 If “amber box” subsidies are restricted in order to decrease market impact, they constitute “blue box” subsidies, and are not subject to reductions.234 Restrictions for “blue box” subsidies can be accomplished by basing payments on fixed area and yields, or by setting them at eighty-five percent or less of production base levels, as mandated in the Agriculture Agreement.235

In the United States—Upland Cotton decision, the WTO panel found that certain types of agricultural subsidies in the FAIR and 2002 Acts violated WTO rules.236 The Upland Cotton decision found that marketing loans, market loss assistance payments, and counter-cyclical payments counted as price-contingent “amber box” subsidies, but that PFC payments, direct payments, and crop insurance payments did not.237 The panel determined that these price supports distorted trade, and that the United States was obligated to remove the subsidies or mitigate their adverse effects.238 Replacing some or all of these programs with pre-1973 loan-based price supports might enable the United States to comply with the provisions of the SCM and Agriculture Agreements.

231 See Econ. Research Serv., USDA, supra note 12, at 1, 128–29. It should be noted that if the permanent provisions were found to violate the WTO trade rules on agriculture, the U.S. would have the opportunity to change its policies at that point before sanctions would be imposed, though that does not mean the problem is not worth examining now. See supra notes 130–131 and accompanying text.

232 WTO, supra note 141; see Agriculture Agreement, supra note 143, Annex 2.

233 WTO, supra note 141; see Agriculture Agreement, supra note 143, arts. 6.1, 6.3.

234 WTO, supra note 141; see Agriculture Agreement, supra note 143, art. 6.5.

235 Agriculture Agreement, supra note 143, art. 6.5; World Trade Organization, supra note 141.

236 See Cotton Panel Report, supra note 81, ¶ 8.1(g)(i).

237 See id. ¶ 8.1 (g) (i)–(ii).

238 Id. ¶¶ 8.1(g)(i), 8.3(d). The decision also found that certain export subsidies and Step 2 payments constituted prohibited subsidies under the SCM Agreement, requiring either immediate withdrawal, or substantial revision. Id. ¶¶ 8.1(d), (e)(iii)–(f), 8.3(a)–(c).
2. Programs Used in the Pre-1973 Loan-Based Domestic Support System Limit Overproduction and May Facilitate Compliance with WTO Trade Rules

Major provisions of the pre-1973 commodity programs include acreage allotments, marketing quotas, and warehouse storage of commodities in conjunction with nonrecourse loans. The SCM Agreement applies to loans and payments in considering whether something constitutes a subsidy. For example, the Upland Cotton decision established that both payments and gains from loans could constitute “amber box” subsidies. Therefore, it is not possible to make a simple conclusion as to whether the pre-1973 system would violate WTO trade rules simply because it is “loan-based”—the characteristics of the programs must be considered separately.

Certain features of the pre-1973 support system are not relevant to WTO consideration under the SCM Agreement because they constitute internal controls that do not involve financial contribution. Acreage allotments are internal controls, used to manage production levels by attempting to regulate the number of acres of certain crops that can be planted in a given year. Marketing quotas impose penalties on those failing to abide by acreage allotments and are the opposite of financial support. The main program in the pre-1973 system that would fall under WTO regulation is the provision for nonrecourse loans. As structured in the permanent provisions, the nonrecourse loans probably would fall in the limited “amber box” of subsidies. Since the level of support for these loans was calculated based on the parity index, which took into account “the commodity’s most recent 10-year-average farm price,” the subsidies are tied to market prices. Furthermore, although “in many years, producers had to comply with planting re-

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239 See Pollan, supra note 1, at 49–50, 52; USDA, supra note 3, at iv.
240 See SCM Agreement, supra note 140, art. 1.1(a)(1)(i) (“[A] subsidy shall be deemed to exist if . . . there is a financial contribution by a government . . . where (i) a government practice involves a direct transfer of funds (e.g. grants, loans . . .).”)
241 See Buhi, supra note 14, at 246.
242 See SCM Agreement, supra note 140, art. 1.1(a)(1)(i); Buhi, supra note 14, at 246.
243 See Cochrane & Ryan, supra note 47, at ix, xi. While there may be evidence that compliance with acreage allotments and the availability of nonrecourse loans may have been linked in the past, for purposes of this Note they are treated as separate mechanisms.
244 Id. at ix.
245 Id. at ix, xi.
246 See SCM Agreement, supra note 140, art. 1.1(a)(1)(i); Looker, supra note 14.
247 See Inst. for Agric. and Trade Policy, supra note 135, at 5.
248 See Cochrane & Ryan, supra note 47, at xi–xii.
strictions to obtain price support loans,” it is unclear whether such restrictions would classify nonrecourse loans as “blue box” subsidies not subject to limits.249

Nonrecourse loans offered under the pre-1973 farm bills also bear some resemblance to the marketing loan and deficiency payment programs in the 1996 and 2002 farm bills, and the loans could arguably be considered price-contingent on the same grounds.250 Marketing loans enabled farmers to store crops when prices were low; nonrecourse loans were given to farmers in exchange for storing their crops in the Ever-Normal Granary when prices were low—both systems kept crop surpluses off the market.251 Farmers receiving marketing loans could repay the loans at world market prices when they were lower than loan repayment rates, thus obtaining marketing loan gains.252 Similarly, nonrecourse borrowers had the option of forfeiting their crops, presumably worth less than the loans, instead of paying off their complete debt.253

The Upland Cotton decision found that marketing loans caused serious prejudice under articles 5(c) and 6.3(c) of the SCM Agreement and were “amber box” subsidies because they were price-contingent where the amount of the marketing loan gain varied according to the difference between the marketing loan rate and the world price.254 Since nonrecourse loans resemble marketing loans in so many ways, similar analysis could be applied in determining their subsidy type. A farmer utilizing nonrecourse loans would technically receive a “payment” if the farmer chose to forfeit his crops because the loan amount retained from the Commodity Credit Corporation would presumably be higher than the market price of the commodity.255 These gains would also constitute price-

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249 See id.; Agriculture Agreement, supra note 143, art. 6.5; WTO, supra note 141. Such subsidies might not fall under the “blue box,” even though the grant of nonrecourse loans was subject to planting restrictions; acreage allotments were set every year, but might not be set at a level that would comply with “blue box” requirements. See Agriculture Agreement, supra note 143, art. 6.5; Cochrane & Ryan, supra note 47, at xi, xiii. The issue of determining acreage allotments is particularly difficult because they have not been calculated since 1971. The Effects of Failure to Enact a New Farm Bill, supra note 188, at 2.

250 See Cotton Panel Report, supra note 81, ¶ 7.207; Pollan, supra note 1, at 49.

251 See Dean, supra note 36, at 11; Pollan, supra note 1, at 49–50; Buhi, supra note 14, at 241.

252 Buhi, supra note 14, at 241.

253 Dean, supra note 36, at 11; Pollan, supra note 1, at 50.

254 See Cotton Panel Report, supra note 81, ¶ 8.1(g) (1); Buhi, supra note 14, at 241, 246.

255 See SCM Agreement, supra note 140, art. 1.1(a)(1)(i), (iii). In addition, the SCM Agreement also covers situations where “a government provides goods or services other than general infrastructure, or purchases goods.” Id. art. 1.1(a)(1)(iii) (emphasis added). This result reiterates the views of those who have stated that the permanent provisions of
contingent “amber box” subsidies because the amount the farmer stood to “gain” could vary according to the market price of the commodity.\textsuperscript{256}

If nonrecourse loans qualify as “amber box” subsidies, they could potentially cause violations of the Agriculture Agreement, if they exceed allowed support levels.\textsuperscript{257} In this respect, nonrecourse loans resemble other price-contingent subsidies—such as marketing loans, which were found to cause price suppression in the \textit{Upland Cotton} decision—and would be subject to the AMS cap.\textsuperscript{258} In fact, even if subsidies are in compliance with the Agriculture Agreement, article 13 of the Agreement, which exempted permitted subsidies from action for a set period of time, expired in 2003 and compliant subsidies could still face challenges if they are excessive.\textsuperscript{259} To avoid this result, if the amount to be granted in nonrecourse “amber box” subsidies is excessive or exceeds the AMS cap, Congress would either need to include and \textit{abide by} a circuit-breaker as in previous farm bill language, or else alter the permanent provisions to ensure WTO compliance.\textsuperscript{260}

3. Taking into Account Loan-Based Domestic Support Systems Provides at Least Two Possible Options for Limiting Overproduction and Promoting WTO Compliance

The loan-based permanent provisions in the 1938 and 1949 Acts provide insights into alternatives to the proposed revisions to the 2007 farm bill. Because the goal of the pre-1973 system was to control production and the goal of the post-1973 system was to encourage it, it is only natural that using the production-limiting controls from the pre-1973 system might better facilitate WTO compliance.\textsuperscript{261} Using the programs available under the pre-1973 system—acreage allotments and marketing quotas, grain storage, and nonrecourse loans—alone or in

\textsuperscript{256} In a way, it makes sense that features of the pre-1973 loan-based system would promote compliance with WTO trade rules, because the purpose of the pre-1973 subsidy system was to limit production. Limiting production is inconsistent with the goal of producing enough to lead the global market in commodity exports.

\textsuperscript{257} See \textit{Cotton Panel Report}, supra note 81, ¶ 8.1(g)(i); \textit{USDA}, supra note 5, at 9.

\textsuperscript{258} See \textit{NONRECOURSE LOANS AND MARKETING LOANS}, supra note 135, at 7. Article 13 of the Agriculture Agreement, the Peace Clause, prevented countries from bringing suit for a set period of time after the Agriculture Agreement was first adopted. \textit{See id}; \textit{supra} note 150 and accompanying text.

\textsuperscript{259} See \textit{USDA}, supra note 5, at 38–39.

\textsuperscript{260} See \textit{USDA}, supra note 3, at 29; \textit{Philpott}, supra note 107, at 2–3.
combination with features of the post-1973 system would be more compatible with WTO trade rules because controlling production would ultimately prevent overproduction of commodities and depression of world prices.\textsuperscript{262}

One potential method of encouraging WTO compliance would be to implement the pre-1973 loan-based system as it stands in the permanent provisions. This would involve the use of acreage allotments, marketing quotas, and nonrecourse loans.\textsuperscript{263} Although nonrecourse loans might exceed permitted AMS levels if they are classified as “amber box” subsidies, the production-controlling aspects of the pre-1973 system—the acreage allotments in conjunction with the penalties accompanying the adoption of marketing quotas—would potentially decrease incentives to overproduce, especially since penalties imposed could potentially outweigh compensation received for the sale of additional crops.\textsuperscript{264}

Another way to avoid the possibility of a WTO violation completely would be to use a hybrid approach consisting only of programs that are compatible with the SCM and Agriculture Agreements.\textsuperscript{265} Such a system would include only “green” or “blue box” subsidies not subject to limits.\textsuperscript{266} By combining production-limiting features from the permanent provisions with the allowed, non-price-contingent price supports identified in the \textit{Upland Cotton} decision, it is possible to envision a completely WTO-compliant system.\textsuperscript{267} Such a system could involve some combination of the permanent provisions’ acreage allotments and market quotas with more recent programs’ PFC payments or direct payments that were deemed permissible by the WTO. A hybrid system of this type would meet several policy goals: supporting farmers, ensuring WTO compliance, and providing sufficient resources for feeding the nation by creating mechanisms that could more easily limit production, and allow for variable incentive levels for production that could be more easily adjusted as needed.\textsuperscript{268}

\begin{footnotesize}
\begin{itemize}
\item \textsuperscript{262} See Cochrane & Ryan, \textit{supra} note 47, at ix, xi; Inst. for Agric. and Trade Policy, \textit{supra} note 145, at 4–5; Philpott, \textit{supra} note 107, at 2; Pollan, \textit{supra} note 1, at 49–50.
\item \textsuperscript{263} See USDA, \textit{supra} note 3, at iv, v.
\item \textsuperscript{264} See Cochrane & Ryan, \textit{supra} note 47, at ix, xi; Looker, \textit{supra} note 14; WTO, \textit{supra} note 141.
\item \textsuperscript{265} See Agriculture Agreement, \textit{supra} note 143, art. 6.5, Annex 2; Cotton Panel Report, \textit{supra} note 81, ¶ 8.1(g) (ii); WTO, \textit{supra} note 141.
\item \textsuperscript{266} WTO, \textit{supra} note 141.
\item \textsuperscript{267} See Cotton Panel Report, \textit{supra} note 81, ¶ 8.1(g) (ii); Cochrane & Ryan, \textit{supra} note 47, at ix, xi.
\item \textsuperscript{268} See Cotton Panel Report, \textit{supra} note 81, ¶ 8.1(g) (ii); Cochrane & Ryan, \textit{supra} note 47, at ix, xi; Imhoff, \textit{supra} note 1, at 10; World Trade Organization, \textit{supra} note 141; USDA, \textit{supra} note 5, at 38–39.
\end{itemize}
\end{footnotesize}
For the most part, the most recently passed farm bill legislation looks substantively similar to the 2002 Act, so it remains to be seen whether future agricultural legislation will ever benefit from implementing elements of the pre-1973 loan-based system. Lawmakers’ reluctance to consider this a viable possibility may ultimately work to the detriment of American farm policy.

**Conclusion**

Analyzing pre-1973 loan-based systems of agricultural price support is ultimately important for two reasons. First, understanding the purpose these systems served and how they functioned provides valuable insights on potential mechanisms available for shaping future farm legislation. Since the aims of agricultural legislation in the United States have historically had at least two different objectives, using features of both systems may allow Congress to compromise and come up with a system that addresses both goals. Adopting a loan-based system similar to the ones used before 1973, or even integrating elements of such a system, makes sense from both a policy and a legal perspective because such programs focused on controlling crop production. In addition to remedying domestic harms caused by the payment-based systems used after 1973, which encouraged overproduction, implementing features of a loan-based system would allow the United States to continue to support its farmers while encouraging compliance with WTO trade rules. There are at least two possible alternatives that may lead to this result. Furthermore, in the event that no new agricultural legislation is passed, the loan-based permanent provisions contained in the Agriculture Adjustment Act of 1938 and the Agriculture Act of 1949 apply to American domestic supports; therefore, it is worthwhile to consider whether this system is compatible with the SCM and Agriculture Agreements in order to prevent future challenges in the WTO.

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269 See USDA, supra note 5, at 9–10, 32, 37; USDA, supra note 7.
THE DEVELOPMENT OF ROADWAY AIR RIGHTS: BOSTON’S FUTURE, A SLAVE TO ITS PAST

ANDREW SCHULTE*

Abstract: The City of Boston and the Commonwealth of Massachusetts have attempted to develop air rights over the Boston Extension of the Massachusetts Turnpike ever since its construction during the 1960s. There is widespread agreement among politicians, developers and residents that such development would solve myriad existing problems—from aesthetics to safety, to a dire shortage of groundwater. Nevertheless, very little has been built and the turnpike remains an open scar, dividing the urban landscape and undermining important civic objectives. This Note attempts to explain the historical and legal obstacles that have prevented the development of air rights: namely, a misunderstanding of city planning, a weak and belated home rule amendment, and the lingering effects of an Irish-Yankee rivalry.

INTRODUCTION

The Boston extension of the Massachusetts Turnpike was built in the 1960s, shortly after the completion of the turnpike proper, to provide access to downtown Boston and revitalize a depressed economy.¹ To that end, the turnpike has more than served its purpose.² By the 1990s, the average income levels and employment rates in Boston, which were lagging in the 1960s, far exceeded the national norms.³ Throughout Boston neighborhoods, vibrant streets and busy shops re-

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¹ YANNI K. TSIPIS, BUILDING THE MASS PIKE 9–10, 47–48 (2002). The legal definition of the “Boston extension” is “that portion of interstate highway route 90 beginning at and including the interchange of interstate highway route 90 and state highway route 128 in the town of Weston and ending in the city of Boston at the interchange of interstate highway route 90 and interstate highway route 93 . . . .” MASS. GEN. LAWS ch. 81A, § 3 (2005). The term “turnpike proper” is used to refer to interstate highway route 90 beginning at the Massachusetts/New York border and extending easterly to route 128 in Weston. See Tsipis, supra, at 47. This stretch of highway was built before the Boston extension due to financial considerations. See id.

² BOSTON REDEV. AUTH., A CIVIC VISION FOR TURNPIKE AIR RIGHTS IN BOSTON 4 (2000) [hereinafter CIVIC VISION].

³ Id.
placed empty store fronts. The price of convenience and economic growth, however, has been steep. A filthy, noisy, and wide swath of interstate highway snakes through the center of once interconnected and pedestrian-friendly neighborhoods. In addition, the turnpike has accelerated the depletion of groundwater to the point that wood pilings beneath buildings in the surrounding neighborhoods are rotting away.

From the beginning, policy makers in Massachusetts have been well aware of the proper remedy to the turnpike’s unwanted aftermath: the development of air rights. When turnpike construction forced the demolition of a Star Market in Newtonville, the Massachusetts Turnpike Authority (MTA) allowed the supermarket to rebuild over the highway. Additionally, the Prudential Insurance Company undertook a massive air rights development that coincided with the construction of the Boston extension as it cut through the Back Bay in the 1960s. Other than these early examples, legislative hurdles and political rivalries have consistently thwarted the development of air rights, leaving Boston’s ugly scar largely open and untreated for nearly fifty years.

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4 Id. at 4.
5 Id. at 1 (describing the turnpike as a “physical, social and economic breach”); see Thomas C. Palmer, Jr., Building on the Pike, BOSTON GLOBE, Mar. 19, 2006, at E1 (discussing the neighborhood divide created by the turnpike).
6 CIVIC VISION, supra note 2, at 1, 3, 4; Susannah Patton, Seeking a Clear Vision for Air Rights, BOSTON HERALD, Feb. 14, 2000, at 23 (“It’s an asphalt gash through the heart of Boston, spreading a trail of fumes and noise from Back Bay to Brighton.”).
7 Thomas C. Palmer, Jr., Columbus Center Will Make an Impact on Boston’s Skyline. And Under Ground, BOSTON GLOBE, Feb. 21, 2005, at D1. Currently, rainwater falls on the turnpike and is swept into the harbor unused—a major problem because buildings in the Back Bay and the South End are built on wood pilings that require moisture to retain their strength. Id. A ground level deck, however, will catch the rainfall and allow it to soak into the earth, helping to avert an engineering nightmare and billions of dollars in damage. See id.
8 See CIVIC VISION, supra note 2, at 13 (“Efforts to deck over the Turnpike began almost as soon as the extension was completed.”); Palmer, supra note 5, at E1 (quoting Alex Krieger, an urban planner and chief executive of Chan Krieger & Associates: “Since ’62, we’ve assumed there would be a substantial covering [of the turnpike]”). Air rights have been defined as “the right to occupy the space above a specified plane over, on, or beneath a designated tract of land.” Comment, Conveyance and Taxation of Air Rights, 64 COLUM. L. REV. 338, 338 (1964).
9 Tsipis, supra note 1, at 14; see also Lease of Premises in Newtonville, Massachusetts, Between Massachusetts Turnpike Authority and Star Properties of Newton, Inc. (July 1, 1963).
10 Tsipis, supra note 1, at 47–48, 88–89.
11 See infra Part III. Copley Place, completed in 1984, involved the use of air rights but also included a large parcel of terra firma owned by the MTA. Interview with Paul McCann, Executive Assistant to Director, Boston Redevelopment Authority, in Boston, Mass. (Dec. 12, 2007). The twenty-three parcels designated for development by the MTA in the early 1990s—made up almost exclusively of air rights—have proved much more difficult to develop. See Palmer, supra note 5, at E5; McCann, supra.
The hurdles and rivalries that hinder air rights development also have an insidious effect on Boston’s growth in general. Therefore, although this Note focuses on the development of air rights over the Boston Extension of the Massachusetts Turnpike, there is more at stake than this stretch of interstate highway. This Note explains how a historical misunderstanding of the principles of planning, a weak and belated home rule amendment, and an Irish-Yankee rivalry have restricted the City of Boston’s ability to control its own growth and have hindered the much-needed development of air rights.

Part I of this Note describes the historical context of Massachusetts’ planning and home rule legislation. This historical context explains why Massachusetts legislation operates as it does and how it could have been different. Part II describes the City of Boston’s historical development and Irish heritage and the significant role these factors have played in the state legislature’s unique treatment of the city with regard to land use law. Part III explains how the historical factors introduced in Parts I and II affect the current development of air rights over the Massachusetts Turnpike, using WinnDevelopment’s high profile “Columbus Center” project as a case study. Part IV suggests that the Massachusetts state legislature must break away from past misunderstandings and biases in order to allow for the responsible and efficient development of turnpike air rights and the city as a whole.

I. MUNICIPALITIES IN MASSACHUSETTS: PLANLESS AND POWERLESS

A. Lack of Planning

Today’s land use laws are commonly understood as a binary system of two separate powers: planning and zoning. Planning sets forth long-term growth objectives according to the particular needs of a municipality, such as transportation, affordable housing, and infrastructure. Zoning implements these objectives by specifying where different structures and uses may be built. In their finest form, planning and zoning create a comprehensive and proactive system that prevents disputes before they arise and provides for necessities such as parks,

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12 See infra, Part II (discussing Boston’s unique land use laws and the city’s resulting lack of control over its own development).
13 See infra, Part II.
15 Id. at 26–28.
16 Id. at 209.
schools, and affordable housing before they become deficiencies.\textsuperscript{17} Some states have come closer to this ideal than others, and Massachusetts is one of the latter.\textsuperscript{18}

Massachusetts’s land use laws are lacking because planning—one half of the land use law binary system—has been misunderstood and underappreciated for generations.\textsuperscript{19} To comprehend the deficiency of planning in Massachusetts, one must study the evolution of land use law from the beginning.\textsuperscript{20}

1. The National Planning and Zoning Movement

Land use law evolved from nuisance law, which is neither comprehensive nor proactive, but piecemeal and reactive.\textsuperscript{21} During the nineteenth century, the inefficiency of nuisance law led many communities to adopt fire and health regulations, such as prohibiting noxious industries from locating in residential areas or limiting the height of wooden buildings.\textsuperscript{22} These regulations were more comprehensive than nuisance law, but they only applied to certain industries or particular types of construction.\textsuperscript{23} In general, private property rights remained supreme and were only restricted in the most extreme cases.\textsuperscript{24}

Eventually, the concept of zoning took root in New York City when the city’s Board of Estimate and Apportionment promulgated the first city-wide zoning regulation in 1916.\textsuperscript{25} Unlike previous laws, the New York zoning regulations applied to all landowners regardless

\textsuperscript{17} See Am. Planning Ass’n, Growing Smart Legislative Guidebook 7-6 to -7 (Stuart Meck ed., 2002) (listing the advantages of local planning) [hereinafter Growing Smart]; cf. Joel S. Russell, Massachusetts Land-Use Laws—Time for a Change, Land Use Law & Zoning Dig., Jan. 2002, at 3, 6 (explaining the inefficiency of zoning without planning).
\textsuperscript{18} Russell, supra note 17, at 3.
\textsuperscript{19} See infra Part I.A.2.
\textsuperscript{20} See Mandelker et al., supra note 14, at 26 (describing the current influence of model acts passed in the 1920s).
\textsuperscript{21} See 1 Michael S. Giaimo, Massachusetts Zoning Manual § 1.2 (Martin R. Healy ed., 4th ed. 2007); Mandelker et al., supra note 14, at 52–58. Nuisance claims, like all torts, require past or ongoing conduct by the defendant and substantial harm to the plaintiff, thereby restricting the use of nuisance law to individual cases in the past or present. 1 Giaimo, supra, § 1.2; Mandelker et al., supra note 14, at 52.
\textsuperscript{22} 1 Giaimo, supra note 21, § 1.2; see, e.g., Hadacheck v. Sebastian, 239 U.S. 394, 414 (1915) (upholding an ordinance prohibiting brick manufacturing in a residential area); Welch v. Swasey, 214 U.S. 91, 107–08 (1909) (upholding height restrictions in a residential area of Boston).
\textsuperscript{23} 1 Giaimo, supra note 21, § 1.2; see Hadacheck, 239 U.S. at 410; Welch, 214 U.S. at 107–08.
\textsuperscript{24} 1 Giaimo, supra note 21, § 1.2.
\textsuperscript{25} Id. § 1.2.1; Mandelker et al., supra note 14, at 209.
of their business or construction methods.\textsuperscript{26} Under the New York model, the entire city was divided into residential, commercial, and unrestricted zones, with each progressive zone allowing for more uses and less restrictive structural regulations.\textsuperscript{27}

The validity of zoning regulations, such as the one promulgated in New York City, was challenged in \textit{Village of Euclid v. Ambler Realty Co.}\textsuperscript{28} The plaintiff claimed that the zoning ordinance was an unconstitutional deprivation of his liberty and property in violation of equal protection and the due process of law.\textsuperscript{29} In a pivotal decision, the Supreme Court held that zoning is a means of protecting the health, safety, and welfare of the public and is therefore a valid exercise of police power.\textsuperscript{30} In coming to his conclusion, Justice George Sutherland drew from the common law nuisance theory, \textit{sic utere tuo ut alienum non laedas} ("use your property so as not to damage another’s").\textsuperscript{31} Therefore, so long as zoning is rationally related to preventing harm, it falls under constitutional police powers.\textsuperscript{32}

Meanwhile, Herbert Hoover, the Secretary of Commerce under Warren G. Harding, was gaining an appreciation for zoning as a tool to improve the quality of life and promote commerce throughout America.\textsuperscript{33} To encourage and control widespread zoning initiatives, Hoover formed the Advisory Committee on City Planning and Zoning (ACCPZ) in 1921 in order to draft a Standard Zoning Enabling Act (SZEA) and a Standard City Planning Enabling Act (SCPEA).\textsuperscript{34}

The SZEA and SCPEA encouraged and aided states nationwide to adopt progressive land use laws.\textsuperscript{35} Tragically, the ACCPZ failed to convey the importance of planning and establish it as a prerequisite to zoning.\textsuperscript{36} Their failure was both substantive and procedural.\textsuperscript{37} In substance, the SZEA states that zoning "shall be made in accordance with a

\begin{footnotesize}
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  \item 26 I Giaimo, \textit{supra} note 21, § 1.2.1; Mandelker et al., \textit{supra} note 14, at 209.
  \item 27 Mandelker et al., \textit{supra} note 14, at 209.
  \item 28 272 U.S. 365, 384 (1926).
  \item 29 \textit{Id.} Section 1 of the Fourteenth Amendment of the U.S. Constitution states in part, "nor shall any State deprive any person of life, liberty, or property, without due process of law; nor deny to any person within its jurisdiction the equal protection of the laws." U.S. Const. amend. XIV, § 1.
  \item 30 \textit{See Euclid}, 272 U.S. at 389–90.
  \item 31 \textit{Id.} at 387–88; Black’s Law Dictionary 1757 (8th ed. 2004).
  \item 32 \textit{Euclid}, 272 U.S. at 389–91.
  \item 34 \textit{Id.} at 3–6.
  \item 35 \textit{See id.} at 8.
  \item 36 \textit{See Mandelker et al., supra} note 14, at 26; Charles M. Haar, \textit{In Accordance with a Comprehensive Plan}, 68 Harv. L. Rev. 1154, 1157 (1955).
  \item 37 \textit{See Mandelker et al., supra} note 14, at 26; Haar, \textit{supra} note 36, at 1157.
\end{itemize}
\end{footnotesize}
comprehensive plan,” but fails to define what a “comprehensive plan” entails.\textsuperscript{38} Even the SCPEA contains contradictory statements and confusing explanations of how the plan should relate to zoning.\textsuperscript{39} Procedurally, the ACCPZ published the SZE A two years before the SCPEA, thereby facilitating zoning without planning.\textsuperscript{40}

2. Planning and Zoning in Massachusetts

Massachusetts is one of the states that fell through the crack created by the ACCPZ’s failure to properly associate planning and zoning.\textsuperscript{41} The General Court of Massachusetts adopted the Commonwealth’s original zoning enabling act in 1920 and recodified it in 1933 after the release of the SZE A.\textsuperscript{42} The planning enabling act, however, was not passed until 1947, thus giving zoning in Massachusetts a twenty-seven year head start on planning.\textsuperscript{43}

On its face, the planning enabling act, found in chapter 41, section 81D of the Massachusetts General Laws, appears to require local planning.\textsuperscript{44} In reality, the requirement has no teeth because the statute does not give the government any enforcement powers.\textsuperscript{45} Moreover, comprehensive plans adopted by local governments are next to meaningless because the statute does not require zoning to be in accordance with the plan.\textsuperscript{46} This is not the case in states such as California, Oregon, Rhode Island, Delaware, Florida, and others where a comprehensive plan is required before zoning can take place and continued compliance with the plan is mandatory.\textsuperscript{47}

The purpose of a prerequisite, mandatory plan is to prevent haphazard zoning that forfeits long-term goals.\textsuperscript{48} Unfortunately, the empty planning legislation in Massachusetts allows for unpredictable zoning

\textsuperscript{38} U.S. Dept. of Commerce, A Standard State Zoning Enabling Act § 3 (1926); Haar, supra note 36, at 1157.
\textsuperscript{39} T.J. Kent, Jr., The Urban General Plan 35, 38 (1990); see U.S. Dept. of Commerce, A Standard City Planning Enabling Act § 6 (1928).
\textsuperscript{40} Mandelker et al., supra note 14, at 26.
\textsuperscript{41} See Russell, supra note 17, at 3–4.
\textsuperscript{42} I Giaimo, supra note 21, § 1.3.2 to .3; see Mass. Gen. Laws ch. 40, § 25 (1933) (current version at Mass. Gen. Laws ch. 40A (2004)).
\textsuperscript{44} Mass. Gen. Laws ch. 41, §§ 81A, 81D (2004); Russell, supra note 17, at 4.
\textsuperscript{45} Russell, supra note 17, at 4; see ch. 41, §§ 81A, 81D.
\textsuperscript{46} Russell, supra note 17, at 4; see ch. 41, § 81D (mandating only that the plan shall be internally consistent).
\textsuperscript{47} Growing Smart, supra note 17, at 7-65; Russell, supra note 17, at 4 n.2.
\textsuperscript{48} See Haar, supra note 36, at 1157–58.
decisions that create complex legal battles between municipalities and developers.  

B. Weak Home Rule

The authority of municipalities to plan and zone is derived from the police power, which enables governments to pass legislation that provides for the “public health, safety, morals, and welfare.” Some states follow “Dillon’s Rule,” under which police power resides exclusively with the state and may only flow to the municipalities through specific delegation. In other states—“home rule” states—police power over local matters resides with the municipalities and is only limited by specific exemptions or preemptions enacted by the state. Although Massachusetts is technically a home rule state, Boston’s power over local affairs is significantly constricted due to a host of exemptions and preemptions.

1. The National Home Rule Movement

Before the home rule movement, federal and state constitutions gave no rights to local governments. The state specifically defined and delegated every instance of local power. Moreover, most state courts subscribed to Dillon’s Rule which stated that, when in question, grants of power should be narrowly construed.

Today, however, the home rule system has replaced Dillon’s Rule in the majority of states. The home rule revolution came in two waves. The first occurred at the end of the nineteenth century and was more robust—treating cities as independent states within states. Under this model, cities and towns possess unrestricted power over

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49 See Russell, supra note 17, at 6.
50 1 Healy et al., Massachusetts Zoning Manual § 2.2.1 (Martin R. Healy ed., 4th ed. 2007); see Mass. Const. pt. 2, ch. 1, § 1, art. IV.
51 1 Healy et al., supra note 50, § 2.2.1; Mandelker et al., supra note 14, at 211–12.
52 1 Healy et al., supra note 50, § 2.2.1; Mandelker et al., supra note 14, at 211–12.
53 See infra Part I.B.2.
54 1 Healy et al., supra note 50, § 2.2.1; Mandelker et al., supra note 14, at 211–12.
55 1 Healy et al., supra note 50, § 2.2.1; Mandelker et al., supra note 14, at 211–12; see Stetson v. Kempton, 13 Mass. 271, 281 (1816) (establishing that, in Massachusetts, “the powers of towns, as well as parishes, are either entirely derived from some legislative act, or defined and limited by the general statutes prescribing the powers and duties of both classes of corporations”).
56 Mandelker et al., supra note 14, at 212.
58 Id. at 10.
59 Id.
municipal affairs. The second—and more restrained—wave of the home rule revolution followed World War II. Although municipalities still had general police powers over local issues, they could be limited by specific state exemptions. Defined restrictions helped the courts determine what qualifies as “municipal affairs” and what issues are outside the power of local governments.

2. Home Rule in Massachusetts

Massachusetts finally adopted a restrained home rule amendment in 1966. Article 89 of the Massachusetts State Constitution, better known as the Home Rule Amendment, empowers municipalities to adopt their own charters, act independently of state-delegated power, and petition the General Court for special legislation. However, the amendment also contains significant limits on these powers.

Most of the municipalities in the Greater Boston area, including Boston itself, have declined their power to adopt their own charters. This is due to the confusing and rigid procedure for adopting charters that is set forth in the Home Rule Amendment. Moreover, by the time the amendment was adopted in 1966, cities in Massachusetts had developed for so long without a home rule charter that adopting one would be immensely complicated. It is easier for Boston and other cities in Massachusetts to petition the General Court for specific changes to the charter rather than adopt an entirely new one. Therefore, one of the most central characteristics of home rule power has gone largely unused in Massachusetts.

Similar to the charter provision, the general powers granted by the Home Rule Amendment are not quite what they seem. Standing
alone, the declaration that “[a]ny city or town may . . . exercise any power or function which the general court has power to confer upon it” appears expansive. However, large areas of this power have been carved out through exceptions and preemption. Massachusetts Constitutional Amendment, article 89, section 7 lists six areas in which municipalities have no power to act: regulating elections, levying taxes, borrowing money, disposing of park land, enacting private or civil law governing civil relationships, and punishing felonies. These exemptions are very limiting compared to those found in other home rule states.

While the ban on taxing and borrowing may have the most direct effect on local initiatives, the private and civil affairs exception has been defined expansively. For example, in Marshal House, Inc. v. Rent Review & Grievance Board, the Supreme Judicial Court of Massachusetts struck down a rent control statute in Boston because it interfered with the “civil relationship” between landlords and tenants.

In addition to expanding written exemptions, the Supreme Judicial Court inferred an additional “intermunicipal” exception in Beard v. Town of Salisbury. In that case, the court placed the burden on the town, stating, “nothing in . . . the Home Rule Amendment can be construed to allow a municipality . . . to regulate or prohibit intermunicipal traffic.” According to the Home Rule Amendment, however, the burden should be on the State to prove the amendment specifically disallows the action.

Specific exemptions are just one layer of limitation on the Home Rule Amendment; the other is the amorphous preemption clause. Several actions that are not enumerated as exempt are nonetheless outside the power of cities and towns because they are “inconsistent with

74 Id. §§ 6–7.
75 Id. § 7.
76 Frug & Barron, supra note 64, at 20–21 (comparing home rule in Massachusetts to home rule in Colorado, Illinois, California, New York, Washington, and Georgia); see also David J. Barron, Reclaiming Home Rule, 116 Harv. L. Rev. 2255, 2263 (2003) (contending that no home rule amendment establishes actual local legal autonomy).
77 See Frug & Barron, supra note 64, at 20.
78 260 N.E.2d 200, 205 (Mass. 1970) (stating “[t]he term ‘private or civil law governing civil relationships’ is broad enough to include law controlling ordinary and usual relationships between landlords and tenants [and] is not so confined as clearly to apply only to general legislation”).
80 Id.
81 See Mass. Const. amend. art. LXXXIX, §§ 1, 6 (stating that the power of cities and towns shall only be denied by express or clearly implicated limitations).
82 Id. §§ 6–7.
the constitution or laws enacted by the general court.” The phrase “inconsistent with” allows courts ample discretion when determining which local ordinances to uphold and which to strike down as ultra vires. In Bloom v. City of Worcester, the Supreme Judicial Court applied an expansive interpretation of the phrase, stating “[l]egislation which deals with a subject comprehensively, describing (perhaps among other things) what municipalities can and cannot do, may reasonably be inferred as intended to preclude the exercise of any local power or function on the same subject because otherwise the legislative purpose of that statute would be frustrated.” Since state legislation deals with a multitude of subjects, the limits to local power are numerous and ever-growing.

II. Boston Takes the Brunt

Boston’s lack of local power is exaggerated by its role as the state’s largest and most densely populated city, as well as a prolonged political rivalry between the Yankees and the Irish. Boston’s position as the most populated city in the Commonwealth creates concerns not present in smaller cities and attracts increased attention from the General Court. Moreover, the historical feud between Boston’s Irish politicians and the Commonwealth’s English-bred politicians led to additional limitations on Boston’s autonomy. Nowhere are these unique concerns and limitations more apparent than in the city’s land use laws.

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83 Id. § 6.
85 293 N.E.2d at 280.
86 FRUG & BARRON, supra note 64, at 22.
87 See FRUG & BARRON, supra note 64, at 11–17 (describing the long history of state intervention into Boston’s affairs and the reasons for it); David J. Barron & Gerald E. Frug, Defensive Localism: A View of the Field from the Field, 21 J.L. & Pol. 261, 267 (2005) [hereinafter Defensive Localism] (arguing that large cities have a unique need for local autonomy).
89 FRUG & BARRON, supra note 64, at 14.
A. Boston’s Unique Characteristics

1. The Flagship City

By their nature, large cities face different issues and more complicated problems than do suburban and rural municipalities.\(^\text{91}\) Densely populated cities must address traffic, sanitation, and safety concerns not present in the suburbs.\(^\text{92}\) Moreover, cities are a “complex microcosm of the state or nation” in that they include significant economic, residential, and cultural components and are home to the full spectrum of class and race.\(^\text{93}\) Smaller towns and suburbs, on the other hand, are often homogeneous and primarily residential.\(^\text{94}\)

In the campaign for greater autonomy, the city’s “microcosm” designation can be a blessing or a curse.\(^\text{95}\) Although home rule is more practical in large and diverse settings, flagship cities demand more attention from state governments because their fate affects the welfare of the entire state.\(^\text{96}\) Boston’s designation as a “microcosm” has not led to the autonomy enjoyed by several other large cities.\(^\text{97}\) Indeed, Boston’s unique, big-city issues have led to more state interference, not less.\(^\text{98}\)

2. Curse of the Irish

Cultural differences between the residents of a flagship city and the state as a whole often generate distrust between the state and city governments, which leads to increased attention and undue interference.\(^\text{99}\) This was certainly the case in Boston, where tens of thousands of Irish immigrants disrupted the traditionally English-bred city during the potato famine of the 1840s.\(^\text{100}\) Not only did the Irish arrive in overwhelming numbers, they arrived poor, sick, and for the most part

\(^{91}\) *Defensive Localism*, supra note 87, at 267.

\(^{92}\) See *Berman*, supra note 88, at 55.


\(^{94}\) Id.

\(^{95}\) See *Berman*, supra note 88, at 55; Briffault, supra note 93, at 347.

\(^{96}\) See *Berman*, supra note 88, at 55; Briffault, supra note 93, at 347.

\(^{97}\) BRUFF & BARRON, supra note 64, at v.

\(^{98}\) See id.

\(^{99}\) *Berman*, supra note 88, at 55–61 (“Behind the condemnation of large cities, one found anti-immigrant, anti-Catholic, and anti-alcohol sentiments, particularly on the part of people in rural areas and state legislators from those areas.”). In addition to Boston, cities such as Chicago, New York, St. Paul, and St. Louis were involved in political/cultural rivalries with their respective state legislatures during the mid-nineteenth century. *Id.* at 55, 58.

uneducated. The strain on the economy was undeniable, with large numbers of “aged, blind, paralytic, and lunatic immigrants” becoming “charges on [Boston’s] public charities.” As a result, tax rates increased and property values dwindled.

The cultural impact was even more disturbing than the economic impact for many Protestant, native-born “Yankees.” Poverty and lack of education spawned alcoholism, crime, and violence within the Irish community. The Yankee establishment viewed the Irish as “idle, thriftless, poor, intemperate, and barbarian.” In addition to the cultural divide, the Yankees and Irish had different views of religion, slavery, immigration, and political management. All of these factors led to mutual distrust and political antagonism.

Over time the condition of the Boston Irish improved. When Irish-born Hugh O’Brien won the mayoral election of 1884, it marked their triumphant ascendance from listless immigrants to powerful political leaders. As the Irish took control of City Hall, the Yankees reinforced their power from the State House. From their position in the State House—and without the restrictions of home rule—the Yankees were able to amend Boston’s charter and retool the structure of its government without any input from the Irish. From 1885 to 1909, the State reduced the power of the city council, abolished the board of aldermen, and established commissions to oversee city accounts, budgets, and mayoral appointees.

The State did not always interfere with Boston’s local government unilaterally. During the financial crisis of the 1950s and 1960s, Boston voluntarily handed over control to the State to relieve itself of costs and acquire badly needed funding. For example, in 1956, Bos-

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101 Id. at 59–64.
102 Id. at 63 (quoting Mayor John Prescott Bigelow).
103 Id. at 69.
104 Id. at 69–70.
105 Id. at 63–64.
106 O’Connor, supra note 100, at 64 (quoting Reverend Theodore Parker).
107 Id. at 81–86, 123–124 (discussing the presidential election of 1860 in the first part and the divergent philosophies of government in the second).
108 See Berman, supra note 88, at 55–56; Frug & Barron, supra note 64, at 11–17.
109 O’Connor, supra note 100, at xi, 128.
110 Id.
111 Frug & Barron, supra note 64, at 14.
112 Id. at 11–14.
113 Id. at 11–13.
114 Id. at 14–15.
115 Id. Boston’s population dropped by over 100,000 in the 1950s and continued to drop through the 1960s and 1970s due to “structural shifts in the economy, and . . . notoriously high property taxes.” Id.
ton’s Irish-American mayor, John B. Hynes ceded control of the city’s ports, the Tobin Bridge, and Logan Airport to the newly created state agency, the Massachusetts Port Authority. Additionally, Boston gladly allowed the Massachusetts Turnpike Authority—a state entity—to assume the responsibility and costs of building the Boston extension of the turnpike during the 1960s.

The passage of the Home Rule Amendment in 1966 finally restrained the State’s ability to interfere with Boston’s local government by prohibiting the General Court from passing city-specific laws. The amendment, however, failed to make the prohibition retroactive. Therefore, fallout from the Yankee-Irish rivalry and the post-World War II financial crisis continues to play a central role in Boston politics.

B. Boston’s Unique Land Use Laws

One of the most prominent examples of Boston’s special treatment is the fact that the city has its own zoning enabling act and a specially tailored planning and redevelopment authority, with different provisions than those governing the rest of the state.

Boston’s zoning enabling act, set forth in chapter 665 of the 1956 Massachusetts Acts, differs from chapter 40A of the Massachusetts General Laws in many significant respects. Chief among these differences is the distribution of power. Whereas the power to pass zoning ordinances is granted to the democratically elected city councilors under chapter 40A, Boston has a separate Zoning Commission. Moreover, members of the Zoning Commission are not elected; instead, five members are nominated by interest groups that represent architects, builders, labor unions, and residential neighborhoods and six are appointed by the mayor according to special criteria.
Much like its zoning enabling act, Boston’s redevelopment authority is the result of special legislation. The Boston Redevelopment Authority (BRA) is a semi-public corporation charged with drafting a comprehensive plan, encouraging economic growth, and making recommendations to the Zoning Commission. Other redevelopment authorities in Massachusetts are under the control of the City Commission, but BRA board members are appointed by the mayor (four appointees) and the governor (one appointee). Additionally, every other municipality in Massachusetts has a planning board and a redevelopment authority, thereby separating the two functions. In Boston, both powers are held by the BRA. The unique concentration of power held by the BRA has been highly controversial. Opponents argue that an entity charged with economic development and planning has an unavoidable conflict of interest because they are responsible for both long-term goal setting and short-term economic return.

The BRA is similar to other redevelopment authorities throughout the Commonwealth in one significant respect: adherence to the comprehensive plan is not mandatory. As explained in Part I, the Massachusetts General Laws do not mandate adherence to comprehensive plans and, for the purpose of interpreting the BRA’s planning powers, chapter 652, section 12 of the 1960 Massachusetts Acts states that the BRA is subject to Massachusetts General Laws.

The relatively small role played by the city’s elected officials and the conflicting goals of the BRA illustrate Massachusetts’ misunderstanding and under-appreciation of planning. The Standard City Planning Enabling Act encourages the adoption of an independent

127 See FRUG & BARRON, supra note 64, at 68–71; BARR, supra note 121, at § 16.4.4.
128 FRUG & BARRON, supra note 64, at 68–69; BARR, supra note 121, at § 16.4.4.
131 See FRUG & BARRON, supra note 64, at 69–70; see, e.g., Shirley Kressel, BRA Lacks a Vision for Boston, BOSTON GLOBE, June 8, 1998, at A15.
132 Kressel, supra note 131, at A15.
135 See U.S. DEPT. OF COMMERCE, A STANDARD CITY PLANNING ENABLING ACT § 2 n.10 (1928) (noting that the purpose of a planning board is to foil city councilmen who may want to move too quickly); FRUG & BARRON, supra note 64, at 68–71 (observing that the BRA often moves “too quickly to remake the city’s physical landscape without sufficient consultation with those who will be affected”).
planning commission for good reason—to avoid the “pressures of purely current problems.” In Boston, this mandate has been lost.

III. History’s Effect on the Development of Air Rights

The lack of appreciation for planning, the belated and weak Home Rule Amendment, and the state versus city rivalry have all played a part in the struggle to get air rights projects off the ground. All of these factors converged in the passing of the Massachusetts Turnpike Authority’s (MTA) zoning exemption for the development of air rights over the Boston extension of the turnpike.

Chapter 81A, section 15 of the Massachusetts General Laws subjects the use of air rights over the turnpike to the state building code and to “such other requirements as the [MTA] deems necessary or advisable to promote the public health, convenience, and safety of persons and property.” The section, however, exempts the development of air rights from “any other building, fire, garage, health or zoning law or any building, fire, garage, health or zoning ordinance, rule or regulation applicable in the city of Boston.” This exemption is limited, however, because the development of air rights requires terra firma upon which to dig footings, attach the deck, and connect utilities. Unlike air rights, terra firma must comport with Boston’s zoning code according to chapter 81A, section 16 of the Massachusetts General Laws. With the BRA in control of the terra firma on either side of the turnpike, and the MTA holding on to its zoning exemption, a thirty-four year standoff ensued, during which little was built.

Eventually, the Central Artery/Tunnel Project (CA/T project), better known as the Big Dig, forced the two sides to the negotiation table. With the cost of the CA/T project escalating by the billions, in-
come from the development of air rights became increasingly necessary.\textsuperscript{146} To this end, the MTA and the BRA broke their stalemate and drafted several mechanisms to bridge the void created by the zoning exemption.\textsuperscript{147} These mechanisms, while providing guidelines similar to those found in a zoning ordinance, are marred by the very shortcomings that created the exemption in the first place: unenforceable comprehensive plans, weak home rule, and the legacy of the Irish-Yankee feud.\textsuperscript{148}

A. The Effects of Weak Planning Legislation on Air Rights Development

The 1963 enactment of the air rights zoning exemption illustrated the Commonwealth’s lack of appreciation for comprehensive local planning.\textsuperscript{149} Air rights parcels in Boston comprise forty-four acres of potential real estate valued at more than $500 million.\textsuperscript{150} With no control over such a large and crucial swath of land, the BRA’s ability to carry out its duty as the city’s planning board has been severely limited.\textsuperscript{151}

Even after the CA/T project led to a compromise, the effects of Massachusetts’ weak planning legislation persisted.\textsuperscript{152} The document that purports to be a comprehensive plan for air rights development—\textit{A Civic Vision for Turnpike Air Rights in Boston (Civic Vision)}—is limited by chapter 41, section 81D of the Massachusetts General Laws, which fails to make adherence to comprehensive plans mandatory.\textsuperscript{153} Indeed, the first successful air rights development proposal since the compromise strays significantly from the \textit{Civic Vision}, setting a dangerous, yet all-too-familiar precedent.\textsuperscript{154}

\textsuperscript{146} See Flint, \textit{supra} note 144, at B1; Patton, \textit{supra} note 6, at 23.

\textsuperscript{147} \textit{Civic Vision}, \textit{supra} note 2, at 13–14; Patton, \textit{supra} note 6, at 23.

\textsuperscript{148} See infra Parts III.A–C.


\textsuperscript{150} \textit{Frug & Barron}, \textit{supra} note 64, at 77.

\textsuperscript{151} See \textit{supra} Part II.B; cf. Memorandum from the Conservation Law Found. to Robert Durand, Executive Office of Envtl. Affairs and Randi Lathrop, Boston Redev. Auth. 1 (Feb. 8, 2002) [hereinafter CLF Memorandum] (expressing the breadth of air rights development and the importance of city control over such development).

\textsuperscript{152} See, e.g., CLF Memorandum, \textit{supra} note 151, at 4–6 (illustrating the lack of adherence to the \textit{Civic Vision}—the purported comprehensive plan for turnpike air rights).


\textsuperscript{154} See CLF Memorandum, \textit{supra} note 151, at 4–6.
1. Origins of the Civic Vision

As the CA/T project got underway in 1993, the MTA issued the Air Rights Study in order to inform public discussion about “[w]hat kind of development should be encouraged, how much development could be accommodated, and where along the corridor should development be located[.]”\(^{155}\) With the BRA maintaining control over the terra firma, the MTA’s study was merely exploratory.\(^{156}\) Nevertheless, the issues, opportunities, and development scenarios it introduced facilitated discussion about the future development of air rights.\(^{157}\)

In 1997, with the cost of the CA/T project mounting, the state legislature instructed the MTA and the BRA to sign a memorandum of understanding (MOU) regarding the development of air rights over the turnpike.\(^{158}\) The MOU is based on article 80 of the Boston Zoning Code—an article that empowers the BRA to make a scoping review and adequacy determination of all development projects in Boston that result in the addition of at least 20,000 square feet.\(^{159}\) For the most part, the MOU mirrors the procedure set forth in article 80, section B-5, with the notable additions of MTA oversight and an arbitration clause.\(^{160}\)

In 1988 Boston Mayor Thomas M. Menino created a Strategic Development Study Committee (SDSC) to set standards of review for


\(^{156}\) See id.

\(^{157}\) See id.

\(^{158}\) 1997 Mass. Acts 34; Memorandum of Understanding between Mass. Turnpike Auth. and the City of Boston para. 1 (June 1, 1997) [hereinafter Memorandum of Understanding]. The MOU has created such a unique partnership between the state and the city that one commentator labeled the unified support for air rights projects as “the rarest of political evolutions.” Cosmo Macero, Jr., Why Columbus Center Matters, Boston Herald, Feb. 27, 2006, at 24.

\(^{159}\) Boston, Mass., Zoning Code art. 80, §§ B-2, E-2 (2008) (setting forth the applicability of article 80 review). Compare Zoning Code art. 80, § B-5 (setting forth the procedure for large project review), with Memorandum of Understanding, supra note 158, art. 3 (setting forth the procedure for air rights project review).

\(^{160}\) Compare Zoning Code art. 80, § B-5, with Memorandum of Understanding, supra note 158, art. 3, § 2. Both article 80 and the MOU require the proponent to subject its plans to public comments and a “scoping determination” by the BRA. Zoning Code art. 80, § B-5.3; Memorandum of Understanding, supra note 158, art. 3, § 2(a)–(c). The BRA may then require the proponent to modify its plans. Zoning Code art. 80, § B-5.4; Memorandum of Understanding, supra note 158, art. 3, § 2(d). After reviewing the modified plans, the BRA must issue a project determination in which the proposed project shall be certified as filed, subjected to reasonable conditions, or denied altogether. Zoning Code art. 80, § B-5.4; Memorandum of Understanding, supra note 158, art. 3, § 2(d). The MOU differs from article 80 in that the “scoping determination” is subject to MTA approval and the proponent may exercise an arbitration clause if certification is “unreasonably withheld, conditioned or delayed.” Memorandum of Understanding, supra note 158, art. 3, § 2(c), 2(f)(3).
MOU projects.161 Through collaboration with city and state agencies, developers, and community members, the SDSC established general development objectives such as increasing public transportation, enriching the unique characteristics of surrounding neighborhoods, creating affordable housing and jobs, and improving the public realm.162 Additionally, the SDSC applied these general objectives to the specific needs of each affected neighborhood.163 Together, the MOU and the Civic Vision provide guidelines that would normally be found in a zoning ordinance.164

2. Limits of the Civic Vision

While the MOU is a binding legal document, the Civic Vision cannot be enforced in and of itself.165 The lack of enforceability comports with Massachusetts’s standard approach to planning—as an activity that is encouraged, but is neither mandatory nor enforceable.166 The Civic Vision, like all other Massachusetts comprehensive plans, may be ignored without consequence.167 Indeed, “Columbus Center”—the first air rights proposal to gain BRA approval since the 1997 MOU—varies significantly from the Civic Vision’s guidelines.168

Columbus Center is a planned multiuse development spanning Boston’s Back Bay, South End, and Bay Village neighborhoods.169 The project, as proposed by WinnDevelopment, involves over one million square feet of livable space, including approximately 199 hotel rooms, 493 residential units, a health club, a daycare, retail stores, and restaurants.170 If completed, the project will include thirty-five story, fourteen story, and seven story buildings on three adjacent air rights parcels.171

The Conservation Law Foundation (CLF), New England’s largest nonprofit environmental advocate, noted the significant discrepancies between the Civic Vision and WinnDevelopment’s proposal in a memorandum of concern addressed to the BRA during the MOU-styled re-

161 Civic Vision, supra note 2, at 1.
162 Id. at 1, 55–57.
163 Id. at 59–83.
164 See id. at 13–14.
165 Id. at 1 (“This civic vision, while not a zoning code, provides a framework for the future Citizens Advisory Committees and the City of Boston to review air rights proposals.”).
166 See supra Part I.A.2.
167 See supra Part I.A.2.
168 See CLF Memorandum, supra note 151, at 4–6.
169 Boston Redevel. Auth., Development Plan for Planned Development Area No. 62, at 1–3 (2003) [hereinafter Columbus Center PDA].
170 Id. at 1, 3–4.
171 Id. at 3–6.
view process.\textsuperscript{172} CLF’s memorandum observes that—among other substantial deviations—the Columbus Center proposal involves taller buildings, significantly less green space, far more parking spaces, and less public access than called for by the \textit{Civic Vision}\.\textsuperscript{173} The BRA, however, chose to approve WinnDevelopment’s proposal despite these inconsistencies.\textsuperscript{174} Unfortunately for the CLF and its clients, there is no legal recourse for enforcing the \textit{Civic Vision} due to Massachusetts’s weak planning enabling statute.\textsuperscript{175}

B. \textit{The Effects of Weak Home Rule on Air Rights Development}

In powerful home rule states, the MTA’s influence over the BRA’s ability to guide development in Boston would be impermissible.\textsuperscript{176} Amendments adopted pursuant to the first, more robust wave of the home rule revolution grant local governments unrestricted jurisdiction over all “municipal affairs.”\textsuperscript{177} Planning and zoning (along with public education) are two of the most fundamental and widely recognized municipal affairs.\textsuperscript{178} In Massachusetts, however, the State may explicitly or implicitly preempt any local power—including those as fundamental as planning and zoning.\textsuperscript{179} The MTA’s zoning exemption under chapter 81A, section 15 of the Massachusetts General Laws is an example of explicit preemption under the Commonwealth’s Home Rule Amendment.\textsuperscript{180}

The extent of the preemption and its relationship with the MOU is the subject of an ongoing controversy.\textsuperscript{181} While chapter 81A, section 15 authorizes the MTA to lease \textit{air rights} and \textit{exempts} such leases from zoning, section 16 authorizes the MTA to lease \textit{land} but expressly \textit{subjects} these leases to zoning.\textsuperscript{182} As explained above, the city’s ability to

\begin{footnotesize}
\begin{enumerate}
\item CLF Memorandum, \textit{supra} note 151, at 4–6.
\item \textit{Id.}
\item See Memorandum from Susan Hartnett, Dir. of Econ. Dev., Boston Redev. Auth., et al., to Mark Maloney, Dir., Boston Redev. Auth. 4–5 (Oct. 23, 2003) [hereinafter BRA Memorandum].
\item See \textit{supra} Part I.A.2.
\item See Briffault, \textit{supra} note 57, at 10 (discussing the immunity from state interference enjoyed under powerful home rule amendments).
\item \textit{Id.}
\item \textit{See Mass. Const. amend. art. LXXXIX, § 6; supra} Part I.B.2.
\item Cosmo Macero, Jr., \textit{Conflict Towers over Plan; Zoning, Building Height Snags for Pike Project, Boston Herald}, July 2, 1999, at 25; CLF Memorandum, \textit{supra} note 151, at 13–14.
\end{enumerate}
\end{footnotesize}
control the terra firma was instrumental in preventing the development of air rights before the 1997 MOU.  

Ironically, the clear-cut division of control between air rights and terra firma—the very situation that made the MOU necessary—was distorted by language within the MOU.  

The MTA claims that the MOU acknowledges a statutory zoning exemption for both air rights and land. CLF and other groups claim that the provisions of chapter 81A, section 16 prevail no matter what the MOU may suggest, and therefore, projects involving terra firma are subject to the article 80 review process. Thus far, the issue has not been litigated. If the conflict does go to court, however, Massachusetts’s Home Rule Amendment could play a major role. The Home Rule Amendment prohibits any local law that is “inconsistent with the constitution or laws enacted by the general court.” The flexibility of the phrase “inconsistent with” may be enough to prevent article 80 review over projects involving both air rights and terra firma.

C. The Effects of the Irish-Yankee Feud on Air Rights Development

1. The Feud’s Influence on the Zoning Exemption

The MTA’s zoning exemption does not apply anywhere but the city of Boston—an anomaly that would violate the Home Rule Amendment if it were passed today. The exemption, however, was passed in 1963, three years before Massachusetts enacted the amendment, and therefore remains good law. Although Boston was in need of funding for a turnpike in the 1960s and welcomed state aid, the special zoning exemption and continued state control of the Boston extension is an unwanted descendant of the old Irish-Yankee rivalry.

On the other hand, the State views the zoning exemption as fair consideration for construction of the Turnpike and security on their

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183 See supra notes 138–142 and accompanying text.  
184 See Memorandum of Understanding, supra note 158, para. 3.  
185 Macero, supra note 181, at 25.  
186 Frug & Barron, supra note 64, at 78; Macero, supra note 181, at 25; CLF Memorandum, supra note 151, at 13–14.  
187 Frug & Barron, supra note 64, at 78.  
193 McCann, supra note 11.
investment. Subjecting plans to the BRA’s review process, however, does not nullify the economic benefits of air rights development. Indeed, the MOU and the Civic Vision allow for city review and economically beneficial development. Therefore, economic factors alone cannot explain the MTA’s zoning exemption and the ensuing thirty-four year standoff. This is because the exemption was more personal than financial; it was a product of the Irish-Yankee political saga.

Even with the signing of the MOU and the publication of the Civic Vision, the exemption still looms large. While Boston’s zoning code is vast and flexible, the MOU is narrow in scope and void of alternatives. For example, under the Boston Zoning Code, the BRA/Zoning Commission may designate “special purpose overlay districts” with distinct regulations and review procedures. One such overlay district is called a “Planned Development Area” (PDA). PDAs can be established for large projects through a contract signed by the BRA and the developer. The contract grants the BRA increased control over the developer’s project in return for streamlined approval.

The MOU does not provide for the flexibility of overlay districts. Nevertheless, the BRA was able to circumvent the limits of the MOU by signing a PDA agreement with WinnDevelopment, which places Columbus Center in an overlay district with all the authority of a normal

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194 Id.; see Tsipis, supra note 1, at 48 (noting that the cost of the Boston extension was $180 million).
195 See Civic Vision, supra note 2, at 29 (“Consideration of economic feasibility is very important in crafting an achievable civic vision and Guidelines.”); Memorandum of Understanding, supra note 158, art. 3, §§ 2(c), 2(f)(1) (providing the MTA with oversight of the review process in section 2(c) and prohibiting the BRA from unreasonably withholding approval in section 2(f)(1)).
196 See Civic Vision, supra note 2, at 29; Memorandum of Understanding, supra note 158, art. 3, § 2(c), 2(f)(1).
197 See Civic Vision, supra note 2, at 29; Memorandum of Understanding, supra note 158, art. 3, § 2(c), 2(f)(1).
198 See supra Part II.A.2.
199 See infra notes 206–208 and accompanying text.
200 Compare Boston, Mass., Zoning Code art. 3, § 1A (2008) (establishing flexible overlay districts), and Zoning Code art. 80, § C (setting forth the procedure for establishing custom-designed planned development areas), with Memorandum of Understanding, supra note 158, art. 3, § 2 (setting forth a procedure void of alternatives).
201 Zoning Code art. 3, § 1A.
202 Id. art. 3, § 1A(a).
203 See id. art. 80, § C; see, e.g., Columbus Center PDA, supra note 169.
204 Compare Zoning Code art. 80, § C-5, with Zoning Code art. 80, § B-5.
205 See Memorandum of Understanding, supra note 158, art. 3, § 2.
Due to the MTA’s zoning exception and according to the procedure set forth by the MOU, however, the plan signed by the BRA and WinnDevelopment is voluntary.  

Although the agreement and resulting PDA is enforceable against WinnDevelopment due to its signature, it may not be enforceable if another developer were to take over the project.  The voluntariness of the PDA may come into play because of Columbus Center’s current financial problems and the common practice of transferring development rights from one proponent to another. If such a takeover were to occur with Columbus Center, the regulations set forth by the PDA could very well be null and void.

2. Boston’s Peculiar Planning Board

Another instance of Irish-Yankee influenced legislation—the peculiar organization of the BRA—also continues to effect the development of air rights. As explained in Part II, every other municipality in Massachusetts has a planning board and a redevelopment authority, while in Boston, both powers are held by the BRA. According to many, this represents an irreconcilable conflict of interest. The consequences of this conflict have been on display throughout Columbus Center’s highly publicized review process. In fact, CLF’s memorandum of concern addressed to the BRA illustrates that the long-term

206 COLUMBUS CENTER PDA, supra note 169, at 1; see ZONING CODE art. 3, § 1A(a); ZONING CODE art. 80, § C.
207 See MASS. GEN. LAWS ch. 81A, § 15 (2005); Memorandum of Understanding, supra note 158, art. 3, § 2. See generally COLUMBUS CENTER PDA, supra note 169.
208 See ch. 81A, § 15; COLUMBUS CENTER PDA, supra note 169, at 1.
209 See Andrea Estes & Thomas C. Palmer, Jr., Turnpike May Halt Columbus Center Job: $800m Project Loses Its Biggest Lender, BOSTON GLOBE, Dec. 13, 2007, at A1 (reporting that Columbus Center’s largest lender backed out of the project and that the MTA threatened to halt construction); Casey Ross, Columbus Center May Get a Lifeline; Two Developers to Scour Project’s Finances, BOSTON GLOBE, Sept. 4, 2008, at A1 (reporting that two separate developers, Related Properties and the Beal Companies, have been hired as consultants for Columbus Center and may invest in the venture); Scott Van Voorhis, Pike Tower Plan Stalls: Builder Seeks 18-Month Delay, BOSTON HERALD, Mar. 28, 2008, at 18 (reporting that financial trouble forced Columbus Center developers to ask for a delay and that some lawmakers are pushing to rebid the project).
210 See ch. 81A, § 15; Memorandum of Understanding, supra note 158, art. 3, § 2. See generally COLUMBUS CENTER PDA, supra note 169.
211 See, e.g., CLF Memorandum, supra note 151, at 4–6, 9–12 (noting that elements of the CIVIC VISION were sacrificed for economic reasons).
212 See supra Part II.B.
213 See FRUG & BARRON, supra note 64, at 69–70; Kressel, supra note 131, at A15.
214 See CLF Memorandum, supra note 151, at 4–6, 9–12.
goals of the *Civic Vision* have already been sacrificed for the sake of economic growth.\textsuperscript{215}

CLF argued that the *Civic Vision* and the MOU should augment—not replace—article 80’s scoping determination and citizen review requirements.\textsuperscript{216} Additionally, CLF urged the *Civic Vision* to be utilized as a mandatory plan rather than a mere proposal.\textsuperscript{217} Neither of these demands was heard during the Columbus Center negotiations, and therefore, the project avoided several article 80 provisions and varies markedly from the plan outlined by the *Civic Vision*.\textsuperscript{218}

Moreover, CLF pointed to clear language in the *Civic Vision* stating that the goals therein should not be sacrificed for economic reasons alone: “[t]he SDSC believes inappropriate air rights development—projects that generate too much traffic or require buildings that diminish the character of their surroundings—should not be built. . . . These Guidelines should not be compromised in response to weak real estate conditions.”\textsuperscript{219} Despite this strong language, proponents for Columbus Center have indicated that variation from the *Civic Vision* was necessary for the sake of economic feasibility.\textsuperscript{220} It is hardly surprising that the BRA is willing to compromise a comprehensive plan for the sake of economic growth; after all, the BRA’s charter legislation charges it with responsibility for Boston’s economic vitality.\textsuperscript{221}

### IV. Meaningful Planning, No Exceptions: The Path to Responsible and Efficient Development of Air Rights

For reasons explained in Part III, the MOU and the *Civic Vision* are insufficient solutions to weak planning legislation and an unjustifiable zoning exemption—they are mere stopgaps, hastily prepared and narrowly tailored to offset the costs of the CA/T project.\textsuperscript{222} Beneath this thin veneer lie impractical laws born of bias and outdated...
legal philosophies. As long as comprehensive plans can be ignored without consequence and wholesale zoning exemptions remain on the books, the development of air rights (if not the city itself) will continue to be an arduous process with disappointing results.

Building a massive deck over six lanes of interstate highway and a commuter rail system is complicated and costly under any circumstances. Add the uncertainty of an unenforceable comprehensive plan plus a zoning exemption and the prospect of developing air rights becomes almost unthinkable. Developers require the predictability of zoning laws to draft their plans and attract investors. When the plans involve an engineering-intensive deck that costs upwards of $160 million, predictability is all the more crucial. Therefore, the uncertainty surrounding the Civic Vision and MOU is a major deterrent to the development of air rights.

Even if a developer survives the gauntlet of engineering, financing, governmental review, and public scrutiny, the Civic Vision and the MOU do not guarantee a satisfactory product. As discussed in Part III, the CLF memorandum cited a host of environmental, aesthetic, and cultural shortcomings in the Columbus Center plans. Despite these shortcomings, Columbus Center has been fully approved. CLF’s memorandum to the BRA articulates the significance of such approval:

Both because of the importance of the Columbus Center project and because of the precedent that will be set for subsequent air rights proposals from Chinatown to Allston, it is essential that the scoping documents issued by both the BRA

223 See supra Part III.
224 See, e.g., Palmer, supra note 5, at E5 (noting that the “[l]egal complexities alone were bewildering” for the proponents of Columbus Center); CLF Memorandum, supra note 151, at 4–6 (citing the many ways in which Columbus Center falls short of Civic Vision’s mandates).
225 See Bailey, supra note 220, at D1 (citing the escalating costs of construction); Interview with Arthur Winn, Chairman, WinnCompanies, in Boston, Mass. (Nov. 14, 2007): Scott Van Voorhis, Owners to be Liable for New Pike Tunnel, BOSTON HERALD, July 12, 2007, at 24 (illustrating the complications, such as ventilation and safety concerns, created by constructing a lengthy new tunnel over the turnpike).
226 See Russell, supra note 17, at 4, 6; cf. GROWING SMART, supra note 17, at 7-7 (explaining the security afforded to developers in localities with reliable planning laws).
227 See id.; Bailey, supra note 220, at D1.
228 See Palmer, supra note 5, at E5 (quoting Matthew J. Kiefer, a director at the law firm Goulston & Storrs PC, who has worked on Columbus Center since 1997: “This is five-dimensional chess for us”).
229 See CLF Memorandum, supra note 151, at 4–6.
230 Id.
231 See BRA Memorandum, supra note 174, at 4–5.
and Massachusetts Environmental Policy Act (MEPA) office clearly define the appropriate process and substance for review of Columbus Center and future air rights developments.\textsuperscript{233}

There are still an additional nineteen air rights parcels designated for development by the MTA, and the precedent set by Columbus Center suggests air rights projects will continue to fall short of the \textit{Civic Vision}’s guidelines.\textsuperscript{234}

To obtain a measure of predictability and facilitate truly responsible development, the Massachusetts General Court cannot hide outmoded legislation with makeshift solutions—it must exorcize past demons, revise the state’s planning enabling act, and repeal blanket zoning exemptions.\textsuperscript{235} These changes will enable developers to create practical proposals that address the long-term needs set forth in the \textit{Civic Vision} and empower the City of Boston to control its own future.\textsuperscript{236}

\textbf{A. Bucking the Past}

As discussed in Parts II and III, the zoning exemption was created in 1963 due to a cultural rivalry, the absence of home rule, and the State’s desire for a return on its investment in the turnpike.\textsuperscript{237} When the \textit{Civic Vision} was released in the summer of 2000, both the Governor of Massachusetts and the Mayor of Boston were Italian-Americans, the Commonwealth had been a home rule state for over thirty years, and very little money had been made from the development of turnpike air rights.\textsuperscript{238} Clearly, the environment into which the exemption was born has long since evaporated; and yet, this relic remains.\textsuperscript{239}

The United States has gone through several momentous social transformations since tens of thousands of Irish immigrants arrived on the shores of Boston during the 1840s, including the abolition of

\textsuperscript{233} See CLF Memorandum, \textit{supra} note 151, at 4–6.
\textsuperscript{234} See \textit{Civic Vision}, \textit{supra} note 2, at 55–73, 79–83 (setting forth guidelines for the development of the remaining nineteen parcels); CLF Memorandum, \textit{supra} note 151, at 4–6. As of December, 2008, the MTA was considering four proposals for the development of parcels eleven through fifteen. Casey Ross, \textit{Turnpike Fields Construction Plans; Housing, Offices, Retail Suggested for Back Bay, Fenway}, \textit{Boston Globe}, Dec. 6, 2008, at B9 (providing an overview of the proposals without mentioning their relationship with the \textit{Civic Vision}).
\textsuperscript{235} See \textit{infra} Parts IV.A–C.
\textsuperscript{236} See \textit{infra} Parts IV.A–C.
\textsuperscript{237} See \textit{supra} Parts II, III.
slavery, the granting of women’s suffrage, and the Civil Rights Movement. As cultural barriers throughout the nation have dissolved, so too has the divide between Irish-Catholics and Yankee-Protestants. The Boston Irish have come a long way from the “idle, thriftless, poor, intemperate, and barbarian” immigrants they were characterized as in the nineteenth century. They are now, as one historian describes them, “statesmen and diplomats, physicians and lawyers, businessmen and bankers, artists and musicians, priests and poets.”

In addition to an enlightened society, Massachusetts has an evolved legal structure for local government. As discussed in Part I, municipal control over local affairs has been widely accepted throughout the United States. In 1966, Massachusetts joined the home rule movement by passing a constitutional amendment with the stated intent “to reaffirm the customary and traditional liberties of the people with respect to the conduct of their local government, and to grant and confirm to the people of every city and town the right of self-government in local matters.” The state legislature, therefore, has recognized that laws such as the MTA’s zoning exemption—which only applies to Boston—go against the “customary and traditional liberties of the people.” Nevertheless, the State continues to allow laws born of cultural biases and outmoded legal philosophies to dictate development in its largest city.

It is time to break free of past mistakes and embrace an integrated and independent Boston.

B. Meaningful Planning

Whereas home rule has been accepted in Massachusetts—if not always reflected in the law—mandatory and enforceable planning is essentially unheard of. Meanwhile, there is a growing consensus

240 O’Connor, supra note 100, at 303.
241 Id. at 64, 303.
242 Id. at 303.
244 Mandelker et al., supra note 14, at 211 (“In virtually all states, the legislature is required to act with respect to municipalities by ‘general laws’ whenever possible, a reform which limits the possibility of specific meddling in the affairs of individual municipalities.”); Briffault, supra note 57, at 10–11 (“Today, forty-one states provide some form of home rule to at least some of their local governments.”).
245 Mass. Const. amend. art. LXXXIX, § 1.
246 See id. §§ 1, 8; Joanna Blum Jerison, Home Rule in Massachusetts, 67 Mass. L. Rev. 51, 59 (1982) (discussing the principle that “localities can more nearly satisfy their citizens’ specific wants than can the Legislature”).
247 See supra Part III.
among legal scholars, professional city planners, and politicians that effective planning is necessary for the proper enactment of zoning regulations. Unfortunately, reversing the early influences of the SZEA and the SCPEA, which led many states to enable zoning before planning, is a difficult task. After all, zoning is more flexible and immediately gratifying if it does not have to comport with a comprehensive plan. Immediate results are often attractive to city councilors who “must deal with a dynamic political environment and must engage in political bargaining.” Under this model, however, there is no accounting for long-term goals such as affordable housing or environmental sustainability.

In Massachusetts, where the zoning enabling act predates the planning enabling act by twenty-seven years, municipalities have grown accustomed to immediate gratification through flexible zoning policies. Sadly, these flexible policies are taking their toll on long-term goals and many communities are already paying the price. Columbus Center’s inconsistency with the Civic Vision is just one more example in a long pattern of sacrificing long-term needs for short-term benefits.

Oregon was the first state that enforced comprehensive local plans as mandatory and authoritative. Oregon’s landmark legislation, passed in 1973, “affords all Oregonians predictability and sustainability to the development process by allocating land for industrial, commercial and housing development, as well as transportation and agriculture.” Today, nearly half of the states throughout the country have followed Oregon’s lead and passed legislation that mandates local planning. In these states, comprehensive plans prevent zoning from

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249 See Growing Smart, supra note 17, at 7-65; Daniel R. Mandelker, Planning and the Law, 20 Vt. L. Rev. 657, 657 (1996) (“Most land use professionals support statutes and court decisions that mandate planning and require zoning to be consistent with a plan.”).
250 See Mandelker et al., supra note 14, at 26.
251 See Mandelker, supra note 249, at 657–58.
252 See id.
253 See Russell, supra note 17, at 6.
256 CLF Memorandum, supra note 151, at 4–6.
257 See Mandelker, supra note 249, at 657.
259 Growing Smart, supra note 17, at 7-65.
becoming arbitrary while maintaining the focus on long-term, complex objectives.\textsuperscript{260} As one expert puts it:

\begin{quote}
We simply cannot satisfy all these conflicting demands on our physical resources at the same time without making tough and mutually exclusive choices. . . . It should be clear that the most reasonable way to moderate these conflicts is to sort them out before decisions have to be made about the use of land resources.\textsuperscript{261}
\end{quote}

In order to improve upon the arduous process of development and its oft-disappointing results, Massachusetts must join the growing contingency of states that have recognized the vital importance of mandatory planning.

C. \textit{No Exceptions}

Mandating local planning and enforcing compliance would be a major step towards responsible development that addresses the complex, long-term needs of municipalities in Massachusetts.\textsuperscript{262} Even if this step were taken, however, it would not apply to turnpike air rights in Boston as long as the MTA retains its zoning exemption.\textsuperscript{263} Therefore, in order to obtain desirable air-rights development, the zoning exemption cannot stand.

The exemption’s impracticality was painfully realized during the thirty-four year interim between its enactment and the signing of the MOU.\textsuperscript{264} Not only did the MTA face a need for city-controlled terra firma, it was up against a politically active community that demanded a voice in the development process.\textsuperscript{265} While the MOU appears to solve these problems, it does not establish zoning.\textsuperscript{266} The lack of zoning creates uncertainty for developers and casts doubt on important agreements such as PDAs.\textsuperscript{267}

\textsuperscript{261} Id.
\textsuperscript{262} See supra Part IV.B.
\textsuperscript{264} See Flint, supra note 144, at B1; Patton, supra note 6, at 23; McCann, supra note 11.
\textsuperscript{265} See Patton, supra note 6, at 23 (quoting Boston Mayor Thomas Menino: “Don’t forget, the Turnpike Authority represents the people of Boston. Those air rights belong to us and nobody else”); McCann, supra note 11.
\textsuperscript{266} See supra Part III.C.1.
\textsuperscript{267} See supra Part III.C.1.
Such uncertainty would be avoided if the State repealed MTA’s exemption and established actual zoning.268 The Commonwealth has little to lose and much to gain by doing so.269 The power retained by the MTA through the MOU—the right of review and an arbitration clause—are not worth the memorandum’s critical shortcomings.270 To wit, the MTA’s right of review depends on a showing of the BRA’s unreasonableness.271 Since the BRA has vast experience and wide discretion in issuing scoping determinations, a challenge from the MTA would almost certainly fail, barring egregious demands from the BRA.272 Demands on the developer are unlikely to reach the extent called for in the Civic Vision, let alone rise to the level of egregiousness.273

Similar to the right of review, the arbitration clause is only exercisable in the event that “the BRA has unreasonably withheld, conditioned or delayed its certification.”274 Moreover, the proponent—not the MTA—holds the power to exercise the clause.275 Therefore, the clause provides deference to the BRA and is unlikely to be exercised by proponents who depend repeatedly on the BRA and are concerned about creating goodwill.276 In fact, WinnDevelopment’s familiarity with the BRA and desire for goodwill surely played a role in its decision to sign a PDA, which further marginalized the MTA’s power.277 In the end, this largely nominal and marginalized power is not much to sacrifice for the sake of much-needed predictability.278

268 See supra Part III.C.1.

269 See Memorandum of Understanding, supra note 158, art. 3, § 2(c), 2(f)(3); compare supra Part III.C.1 (discussing the limits and uncertain applicability of the MOU), with infra notes 270–278 and accompanying text (discussing the minimal power afforded to the MTA through the MOU).

270 See Memorandum of Understanding, supra note 158, art. 3, § 2(c), 2(f)(3); supra Part III.C.1.

271 See Memorandum of Understanding, supra note 158, art. 3, § 2(c).

272 Id.

273 Compare Civic Vision, supra note 2, at 74–78, with Columbus Center PDA, supra note 169, at 3–5.

274 Memorandum of Understanding, supra note 158, art. 3, § 2(f)(3).

275 Id.

276 See, e.g., Michael Rosenwald, Signatures on the City’s Skyline, Boston Globe, Dec. 23, 2001, at G1 (discussing the Columbus Center proponents’ long-standing relationship with the BRA); Memorandum of Understanding, supra note 158, art. 3, § 2(f)(3).

277 See Columbus Center PDA, supra note 169; Rosenwald, supra note 276, at G1 (noting that one of the Columbus Center proponents, Roger Cassin, has been known to “bend over . . . backward in an attempt to accommodate both the BRA and the community’s needs”).

278 See supra notes 223–227 and accompanying text (discussing the importance of predictability).
CONCLUSION

There is little argument in Boston over whether or not the development of air rights over the Massachusetts Turnpike is important. Such development attracts business, creates jobs, and increases the amenities and appeal of the city. In addition to these benefits, the development of air rights solves myriad existing problems, including a dire shortage of groundwater, air and noise pollution, dangerously unlit and uninhabited overpasses, socially divided neighborhoods, and a lack of green space.

The distinct opportunity presented by the development of air rights has already resulted in rarely seen cooperation between city and state officials. Hopefully, it will also provide occasion to rid Boston of restrictive and outmoded land use laws created through misunderstanding and bias. These quirks of history have hindered Boston’s future for far too long. It is time to update Massachusetts planning legislation and allow Boston to determine its own future with zoning ordinances that apply to all land owners, no matter what their identity. Only then will Boston be able to develop air rights—and the city as a whole—in an efficient and responsible manner.