



MICHIGAN ENVIRONMENTAL LAW JOURNAL Vol. 32, No. 2, Winter 2014, Issue 94

Message From the Editor

Christopher J. Dunsky, Editor, Michigan Environmental Law Journal

Even though the calendar says March, it's definitely still winter in Michigan, especially for those of us who have just removed another six inches of snow from our driveways. Conventional wisdom says that there's nothing we can do about the weather, but writer W.J. Vogel suggests "To shorten winter, borrow some money due in spring." Remind me to try that next year.

In this issue, Bridget Nugent, a Notre Dame Law School graduate now clerking with the United States District Court in Miami, Florida, reminds us: not all mammals look forward to warmer weather. She observes that polar bears are threatened by the reduction of Arctic ice caused by climate change, and explains the legal difficulties that environmental groups have encountered in attempting to use the Endangered Species Act to force reductions of greenhouse gas emissions.

What did your State legislators do last year to improve our environmental and natural resource laws? You already know about extensive changes to Michigan's wetland protection statute. This issue contains a summary of 31 other 2013 Public Acts that may affect your practice.

Why is this issue of the *Journal* a little shorter than most? Well, there are approximately 600 members of the Environmental Law Section. In the previous four issues of the *Journal*, twelve of those members contributed nine articles. We have room for articles by the other 588 section members and would warmly welcome an article by you. Your article doesn't have to be long; our readers prefer articles that are concise and of practical value. If you have an idea you'd like to write about, contact me at cdunsky@comcast.net or at (313) 418-0913.

Upcoming Events

Tuesday, March 25, 2014, Noon–1:30 p.m.

2014 Update on Michigan's Brownfields Program

This webinar will be presented by **Carrie Geyer**, MDEQ Brownfield Redevelopment unit chief. Ms. Geyer will present an overview of Michigan's Brownfields program, information on available grants and loans, and an update on the status of Michigan's Brownfields Program in 2014, including the recently initiated Brownfields Continuous Program Improvement Stakeholder Workgroup.

Hosted by the Hazardous Substances and Brownfields Committee of the Environmental Law Section. Webinar space is limited.

Register at <https://www4.gotomeeting.com/register/325041847>

Wednesday, April 23, 2014, 9 a.m.–1 p.m.

Clearing the Air: An Overview of Federal, Regional, and State Air Quality Issues in 2014

The 5th Annual Conference co-sponsored by the Air Committee of the Environmental Law Section and the Michigan Manufacturers Association (MMA).

Join us at the MMA Headquarters at 620 S. Capitol Ave., Lansing, for a half-day program with updates on the most urgent environmental regulatory issues facing Michigan companies. Experts from government, industry, advocacy groups, technical consultants, and the legal profession will address the latest developments and what to expect. Refreshments and lunch will be provided.

Topics & Speakers

Welcoming Remarks

Kurt Kissling, Attorney, Pepper Hamilton LLP

Legal Update on Significant Air Cases

S. Lee Johnson, Attorney, Honigman Miller Schwartz & Cohn LLP

The Continuing Evolution of the Statute of Limitations

Nathan Dupes, Attorney, Bodman PLC

Environmental Advocacy by the Michigan Attorney General

Neil Gordon, Assistant Attorney General, Michigan Attorney General—Natural Resources & Agriculture Division

Revisions to Michigan's Air Rules Regarding Air Toxics and Permit-to-Install Exemptions

Andy Such, Director of Environmental & Regulatory Policy, MMA

Paul Collins, Attorney, Miller Canfield Paddock & Stone

Steve Kohl, Attorney, Warner Norcross & Judd

An Update from the AQD Chief

Vince Hellwig, Chief, Michigan Department of Environmental Quality—Air Quality Division

[Register now](#) with MMA. Further information available in the downloadable [promotional flyer](#). Early Bird pricing effective through 4/9/14.

Questions regarding registration may be directed to MMA's LeAnn Hicks at (517) 487-8557 or (800) 253-9039, press 9 and ext. 557, or by e-mail to hicks@mimfg.org.

Save the Date

Friday, June 20, 2014

ELS Summer Program & Council Meeting

Time and location to be determined

Section Mission & Membership

The Environmental Law Section provides education, information, and analysis about issues of concern through meetings, seminars, this site, public service programs, and publication of the *Michigan Environmental Law Journal*. Membership in the Section is open to all members of the State Bar of Michigan and to law students. Statements made on behalf of the Section do not necessarily reflect the views of the State Bar of Michigan.

Dues are \$30 per year for members of the Bar, subject to the following exceptions.

Newly admitted members may join without charge.

Law students: No charge.

Public Sector Employees: No charge.

In order to join, please complete a [section membership application](#) or attorneys can join online by logging into the Bar's [member area](#) and selecting Section Membership.

Environmental Law Writing Contest

Three prizes will be awarded: \$2,000 for first place, \$1,000 for second place, and \$500 for third place. Winning essays will be published in the *Michigan Environmental Law Journal*. Entries must be postmarked by June 30, 2014. [Complete Essay Contest Rules](#)

Plan to Attend

September 17-19, 2014

State Bar Annual Meeting in Grand Rapids

Calendar of Council Meetings

The next Council meeting will be **April 23, 2014**, following the Clearing the Air program in Lansing at the MMA Headquarters. Committee Reports due April 16. Other Council meetings are scheduled for **June 20, 2014** (time and location TBD) and **September 18, 2014**, at DeVos Place in Grand Rapids.

Help Promote Section Events & Activity!

Watch the Section's web page for updates regarding these and other events currently in the planning stages!

Connect with the Environmental Law Section on Facebook and LinkedIn. Join the Environmental Law Section (Like us) on [Facebook](#) and [LinkedIn](#) to stay informed of environmental law seminars, forums, education, and networking.

Can We Save Them?

Greenhouse Gas Emissions, Climate Change, & the Endangered Species Act

Bridget Nugent[†]

Nothing is more priceless and more worthy of preservation than the rich array of animal life with which our country has been blessed. It is a many-faceted treasure, of value to scholars, scientists, and nature lovers alike, and it forms a vital part of the heritage we all share as Americans.¹

The United States Supreme Court has described the Endangered Species Act (ESA)² as the “most comprehensive legislation for the preservation of endangered species ever enacted by any nation.”³ As one of the strongest environmental laws in the United States, the statute is one of the most controversial—especially recently.⁴ During the past five years, environmental groups have begun to try to use the ESA to regulate greenhouse gas (GHG) emissions. GHG emissions cause climate change, and climate change harms certain listed species and their ecosystems. Because the ESA forbids federal agencies and other actors from jeopardizing threatened and endangered species, environmental groups hope to wield the ESA to challenge activities that create the emissions contributing to global warming.

This litigation strategy was born with the listing of the polar bear (*Ursus maritimus*). On May 15, 2008, the U.S. Fish and Wildlife Service (FWS), an executive agency within the Department of Interior, issued a regulation listing the polar bear as a threatened species, citing the effects of global warming on the bear’s melting sea-ice habitat.⁵ The bear was the first animal to be listed solely due to the impact of climate change upon the animal.⁶ The highly publicized decision cemented the polar bear as the iconic example of the devastating impacts of global warming on the planet’s biodiversity.

[†]Bridget Nugent, J.D. Notre Dame Law School, 2013. A.B. Economics, Georgetown University, 2010. Ms. Nugent is a federal law clerk in the Southern District of Florida. She would like to thank Professor John Copeland Nagle for his inspiration and for offering invaluable insight throughout early drafts of this article; Dean Reineking, for his unwavering encouragement; and her family, for their constant support. She graciously thanks the editing team that has supported this article’s publication and strengthened its value, especially Christopher J. Dunsky, for his close scrutiny and exacting detail.

¹ President Nixon’s Statement on Signing the Endangered Species Act of 1973, 374 Pub. Papers 1027, 1027-1028 (Dec 28, 1973), quoted in [Alliance for the Wild Rockies v. Salazar](#), 800 F. Supp. 2d 1123, 1126 (D. Mont. 2011), *aff’d* [672 F.3d 1170](#) (9th Cir. 2012).

² Endangered Species Act of 1973, Pub. L. No. 93-205, 87 Stat. 884 (codified at [16 U.S.C. §§ 1531–1544](#)).

³ *Tennessee Valley Auth. v. Hill*, [437 U.S. 153](#), 180 (1978).

⁴ See generally *The Endangered Species Act at Thirty, Vol. I: Renewing the Conservation Commitment* (Dale D. Goble, J. Michael Scott, & Frank W. Davis, eds.) (Island Press 2006).

⁵ Department of the Interior, Fish and Wildlife Service, [50 CFR Part 17](#) (“Determination of Threatened Status for the Polar Bear (*Ursus maritimus*) Throughout its Range, Final Rule”) [Fed. Reg. Doc. E8-11105 Filed 5-14-08].

⁶ It was not the first species protected under the statute in which global warming played a significant role, though. The National Marine Fisheries Service has declared two species of Caribbean coral to be threatened under the ESA, and attributed their decline partially to climate change. Department of Commerce, National Oceanic and Atmospheric Administration, National Marine Fisheries Service [50 CFR Part 223](#) (Endangered and Threatened Species: Final Listing Determinations for Elkhorn Coral and Staghorn Coral) [Fed. Reg. Doc. 06-4321 Filed 5-8-06].

With the polar bear listing, environmental groups began to consider the use of the ESA in protecting species imperiled by global warming. Such efforts present a significant challenge: How can a plaintiff demonstrate a causal connection between any GHG emissions activity and climate change strong enough to create an obligation on any actor to reduce its GHG emissions? This article addresses this issue. Part I provides an overview of the ESA, including its objectives and key provisions. Part II briefly describes the environmental dangers of concern to environmentalists. Part III examines the nexus of tort law, proximate cause theory and climate change, addressing the tort-based causation tests relevant to establishing culpability for climate harms and explaining the specific challenges that plaintiffs face in proving causation when pursuing citizen suit under § 7 and § 9 of the ESA.

I. Moving to Maintain Biodiversity: The Endangered Species Act

A. Securing Federal Protection for Endangered Species

The ESA commits the federal government to protect all threatened and endangered species.⁷ Specifically, the Act mandates that FWS identify species that deserve protection and their critical habitats⁸ and prohibits the federal government from taking any action to jeopardize protected species. By instructing that environmental rather than economic factors of a given project are put at a premium, the statute ensures the protection of at-risk species on a macro level.⁹ To encourage public participation in its enforcement, moreover, the statute authorizes citizens to enforce compliance with the Act.¹⁰

The statute has engendered some controversial decisions. In 1978, the Supreme Court held that the ESA precludes federal agencies from taking actions that “jeopardize” species protected by the statute, and promptly shut down a multimillion-dollar dam project nearing completion because it threatened the existence of a small fish of little economic consequence.¹¹ Courts enforcing the ESA have since halted such activities as logging, to protect threatened owls;¹²

⁷ In addition to charismatic megafauna like eagles and pandas, the Act protects every plant, fish, crustacean, insect, or bird that the Fish and Wildlife Service lists. See generally [16 U.S.C. § 1532\(c\)](#) (Lists), [id. § 1532\(d\)](#) (Protective regulations). See also, e.g., [16 U.S.C. § 1532\(6\)](#) (“The term ‘endangered species’ means any species which is in danger of extinction throughout all or a significant portion of its range other than a species of the Class Insecta determined by the Secretary to constitute a pest whose protection under the provisions of this Act would present an overwhelming and overriding risk to man”); [id. § 1532\(14\)](#) (“The term ‘plant’ means any member of the plant kingdom, including seeds, roots, and other parts thereof”); [id. § 1532\(16\)](#) (“The term ‘species’ includes any subspecies of fish or wildlife or plants, and any distinct population segment of any species of vertebrate fish or wildlife which interbreeds when mature”).

⁸ “Critical habitat” is the area occupied by the species at the time of listing which is “essential to the conservation of the species,” as well as areas not occupied by the species at the time of listing but which are essential to its conservation. [16 U.S.C. §§ 1532 \(5\)\(A\)\(i\)-\(ii\)](#). To the extent practicable, critical habitat is designated at the time a species is listed. [id. § 1533\(a\)\(3\)\(A\)\(i\)](#).

⁹ *Sierra Club v. Marsh*, [816 F.2d 1376](#), 1387 (9th Cir. 1987).

¹⁰ [16 U.S.C. § 1540\(g\)](#).

¹¹ *Tennessee Valley Authority v. Hill*, [437 U.S. 153](#), 171-93.

¹² *Silver v. Babbitt*, [924 F. Supp. 972](#), 976 (D. Ariz. 1995); *Lane County Audubon Soc’y v. Jamison*, [958 F.2d 290](#), 295

commercial fishing, to protect Hawaiian monk seals;¹³ military activities, to protect endangered whales;¹⁴ oil and gas development, to protect grizzly bears;¹⁵ off-road vehicles, to protect imperiled plants;¹⁶ pesticide authorizations, to protect imperiled salmon;¹⁷ and numerous other habitat-damaging activities that threatened a particular protected species. To secure federal protection for any species, FWS or the National Marine Fisheries Service (NMFS) must first list a species as either “threatened” or “endangered” as per ESA requirements.¹⁸ Then, two primary mechanisms by which the ESA then protects these listed species are contained in §§ 7 and 9 of the statute. Section 7 establishes requirements for federal agencies, while § 9 prohibits any person (not just agencies) from “taking” a listed species.¹⁹

B. Section 7: The Jeopardy Provision

When a federal agency is planning to conduct an action that may adversely affect a listed species, § 7(a) of the ESA establishes the procedure for carrying out requisite consultations and analyses that an agency must execute to predict its impact on listed species. The ultimate product is a “biological opinion” setting forth “a summary of the information on which the opinion is based, detailing how the agency action affects the species or its critical habitat.”²⁰ A federal agency begins this process by asking FWS or NMFS (the “consulting agency”) whether any listed species exists in the area of a proposed action.²¹ Using the best scientific and commercial data available, FWS or NMFS decides whether any endangered or threatened species exist in the area.²²

If the acting federal agency discovers that its proposed action is likely to affect an endangered or threatened species, it must begin formal consultation with the consulting agency.²³ The consulting agency then provides the acting agency with a report describing how the proposed action will affect the species and its critical habitat.²⁴ This report—the biological opinion—answers two critical questions: (1) will the agency action “jeopardize the continued existence” of an endangered species or threatened species?, and (2) will the agency action “result in the destruction or adverse modification of habitat” of an endangered or threatened species?²⁵ FWS

(9th Cir. 1992).

¹³ *Greenpeace Foundation v. Mineta*, [122 F. Supp. 2d 1123](#), 1138 (D. Haw. 2000).

¹⁴ *Natural Resources Defense Council v. Evans*, [279 F. Supp. 2d 1129](#) (N.D. Cal. 2003).

¹⁵ *Conner v. Burford*, [848 F.2d 1441](#) (9th Cir. 1988).

¹⁶ *Center for Biological Diversity v. Bureau of Land Mgt.*, [422 F. Supp. 2d 1115](#) (N.D. Cal. 2006).

¹⁷ *Washington Toxics Coal. v. Environmental Protection Agency*, [413 F.3d 1024](#) (9th Cir. 2005).

¹⁸ The agency must make the listing determination “solely on the basis of the best scientific and commercial data available.” [16 U.S.C. § 1533\(b\)\(1\)\(A\)](#). A species is “endangered” if it is “in danger of extinction throughout all or a significant portion of its range.” [Id. § 1532\(6\)](#). A species is “threatened” if it “is likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range.” [Id. § 1532\(20\)](#).

¹⁹ Sections 7 and 9 are, respectively, [16 U.S.C. § 1536](#) and [16 U.S.C. § 1538](#).

²⁰ [16 U.S.C. § 1536\(b\)\(3\)\(A\)](#).

²¹ [Id. § 1536\(c\)\(1\)](#).

²² *Id.*

²³ [Id. § 1536\(a\)\(2\)](#).

²⁴ [Id. § 1536\(b\)\(3\)\(A\)](#).

²⁵ [Id. § 1536\(a\)\(2\)](#).

and NMFS have promulgated joint regulations that define “jeopardize” to mean “an action that reasonably would be expected, directly or indirectly, to reduce appreciably the likelihood of both the survival and recovery of a listed species in the wild by reducing the reproduction, numbers, or distribution of that species.”²⁶ They jointly define “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. Such alterations include those that adversely modify physical or biological features of a crucial habitat.²⁷ Finally, the consulting agency determines whether an action would “reduce appreciably the likelihood of both the survival and recovery of a listed species in the wild,” assessing direct and indirect effects of an action on the species and its critical habitat.²⁸ If it concludes that a proposed action will not cause jeopardy or adverse modification, the agency deems its impact on the species “incidental” and the agency action can proceed without violating the Act.²⁹

It takes no stretch of imagination to fit climate change into the structure of § 7. A project that is funded, authorized, or executed by a federal agency that is anticipated to emit GHG fits neatly into the framework. GHG emissions contribute to global warming, the secondary effects of which adversely affect many species.

C. Section 9: The “Take” Prohibition

Section 9(a)(1) of the ESA provides that, “with respect to any endangered species of fish or wildlife . . . it is unlawful for any person subject to the jurisdiction of the United States to . . . take any such species within the United States or the territorial sea of the United States.”³⁰ This “take prohibition” has defined limits—it does not apply to plant species and does not apply to all species of fish and wildlife that are listed as “threatened” instead of “endangered.”³¹ Actors subject to the prohibition include federal, state, and local governments and all private organizations and individuals. The prohibition applies “within the United States,” on public and private lands alike, and prohibits acts that “harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect” the protected species.³² Within that list of prohibited activities, the FWS defines “harm” to include any modification of the species’ habitat and any activity that “actually kills or injures” a member of a species by impairing essential behavioral patterns like breeding, feeding, or sheltering.³³

The Supreme Court pronounced in *Babbitt v. Sweet Home Chapter of Communities for a Great Oregon*³⁴ that “harm” should be read to incorporate “ordinary requirements of proximate

²⁶ [50 C.F.R. § 402.02](#).

²⁷ *Id.*

²⁸ *Id.*

²⁹ *Southwest Ctr. for Biological Diversity v. U.S. Bureau of Reclamation*, [143 F.3d 515](#), 523 (9th Cir.1998).

³⁰ [16 U.S.C. § 1538\(a\)\(1\), \(a\)\(1\)\(B\)](#).

³¹ The listing agency may by rule extend some or all of the take prohibition protections to threatened species. [Id. § 1533\(d\)](#).

³² [Id. § 1532\(19\)](#).

³³ [50 C.F.R. § 17.3](#).

³⁴ [515 U.S. 687 \(1995\)](#).

causation and foreseeability.”³⁵ The Court emphasized that FWS regulation that defines “harm” incorporates “but for” causation, with “every term in the regulation’s definition of ‘harm’ . . . subservient to the phrase ‘an act which actually kills or injures wildlife.’”³⁶ The majority thus indicates that activities that cause minimal or unforeseeable harm do not violate the ESA as construed.³⁷ Since the Court established these tort-like burdens, however, lower courts have not yet had opportunity to enforce the take prohibition based on theories of indirect harm.³⁸

II. Climate Change Threats to Species

All ecosystems undergo disturbances such as flood, fire, and drought, all of which are part of the stable disequilibrium of a resilient, dynamic environment.³⁹ But climate change causes effects that we cannot predict using current ecological knowledge. To understand the import of ESA litigation and the significance of mitigating seemingly beneficial activity for the sake of endangered and threatened species, it is important to first recognize human environmental abuses and the importance of mitigating their contributions to climate change.

Anthropogenic climate change⁴⁰ has had a grave impact on the environment. Humans contribute to climate change by releasing GHG at a rate and scale that overwhelm the natural balance of atmospheric gases. Humans emit carbon dioxide (CO₂) by burning fossil fuels; methane as a result of agriculture, waste, and energy production; and nitrous oxide from agriculture. Power plants and automobiles are tremendous sources of GHG emissions. Since the Industrial Revolution, the human contribution to atmospheric CO₂ has grown to be fifty times that of natural processes.⁴¹

Anthropogenic climate change threatens both wildlife and their habitats. Increased temperatures on land are actually caused by the oceans, which absorb approximately eighty percent of the heat added to the climate system.⁴² Oceans serve as both a depository for excess

³⁵ *Id.* at 696-697 n.9.

³⁶ *Id.* at 700 n.13. In her concurrence, Justice O’Connor was more direct, limiting the scope of the harm rule to “significant habitat modification that causes actual, as opposed to hypothetical or speculative, death or injury to identifiable protected animals.” *Id.* at 708-09 (O’Connor, J., concurring).

³⁷ 515 U.S. at 699.

³⁸ For a thorough survey of the post-*Sweet Home* cases, see [Taking Species: Difficult Questions of Proximity and Degree](#), Alan M. Glen and Craig M. Douglas, 16 *Natural Resources & Environment* 65, 132 (Fall 2001).

³⁹ For a comprehensive treatment of disequilibrium and resilience theories of ecosystem dynamics, see generally *Panarchy: Understanding Transformation in Human and Natural Settings* (Lance H. Gunderson & C.S. Holling, eds.) (Island Press 2001).

⁴⁰ Human contribution to climate change is widely considered to be scientific consensus. See, e.g., Intergovernmental Panel on Climate Change, [Climate Change 2007: Synthesis Report, Summary for Policymakers](#), at 1–6, AR4-SYR (2007) [hereinafter IPCC Report] (presenting substantial evidence of the threats and causes of climate change); [Oversight Hearing Before the Subcomm. on Fisheries, Wildlife, and Oceans of the H. Comm. on Natural Resources](#), 110th Cong. 75 (2007) [hereinafter Oversight Hearing] at 116-118 (statement of Dr. Gary Sharp, Scientific Director, Center for Climate/Ocean Resources Study).

⁴¹ See Oversight Hearing, *supra* note 40, at 90 (statement of Dr. Ken Caldeira, Department of Global Ecology, Carnegie Institute of Washington).

⁴² Ari N. Sommer, [Taking the Pit Bull Off the Leash: Siccing the Endangered Species Act on Climate Change](#), 36 B.C. Envtl. Aff. L. Rev. 273, 274 (2009)

carbon from CO₂ emissions as well as a sink for excess heat. Introduction of CO₂ into the atmosphere alters the oceans and leads to actual heating of the oceans and a rise in sea levels. Ocean heating decreases the solubility of oxygen in water. Oxygen dissolves more readily in cooler water; as a result, ocean warming reduces the ability of deep, cool, nutrient-rich water to mix with and feed the upper, warmer ocean strata.⁴³

Land-based species that have specific ecological needs and limited ability to migrate also face threats from changes in ecological conditions. Some species will not be able to withstand the loss of essential habitat and will have no capacity to migrate and seek suitable conditions elsewhere.⁴⁴ Other species will find ecological conditions disrupted beyond tolerable thresholds. Some species will respond to climate change (particularly warming of surface and water temperatures) by shifting the timing of budding, spawning, or migration.⁴⁵ As it is unlikely that all ecologically linked species will shift in sync, these threats will introduce invasive species into various climes and disrupt food chains.⁴⁶ For example, seabirds, not realizing that their quarry has moved to cooler waters, may continue to hunt in traditional feeding grounds only to find them barren or markedly diminished. Seabird deaths in California and Oregon have already been linked to such changes in the availability of food.⁴⁷

The primary effects of ecological disruption will likely lead to secondary effects as well. First, many species may experience increased stress, becoming more susceptible to disease, parasitism, predation, and other forms of mortality.⁴⁸ Then, certain land species will likely depart their ecosystems in order to withstand the direct effects of climate change. Some will find that certain barriers, such as temperature limits or water availability, which formerly prevented them from successfully establishing in a particular area, have eroded or disappeared. While these species may cause no adverse change to an ecosystem, they just as likely could become destructive invasive species.⁴⁹

Human adaptation to climate change will exacerbate these threats. Climate change will likely lead human populations to increase rainwater harvesting and water storage, to adjust the timing and location of crop plantings, to relocate seawalls and other storm barriers, to relocate

⁴³ *Id.* at 279.

⁴⁴ Each effect described here is covered to a deeper extent in scientific literature. *See, e.g.*, Intergovernmental Panel on Climate Change, [Climate Change and Biodiversity](#), IPCC Technical Paper V, 16-23 (2002) [hereinafter Climate Change and Biodiversity].

⁴⁵ *Id.*

⁴⁶ *See* Louis D. Zeidberg & Bruce H. Robison, [Invasive Range Expansion by the Humboldt Squid in the Eastern North Pacific](#), 104 Proc. Nat'l Acad. Sci. 12,948, 12,949-50 (2007) [hereinafter Invasive Squid].

⁴⁷ Oversight Hearing, *supra* note 40 at 117 (statement of Rep. Dale E. Kildee, Member, H. Comm. on Natural Resources) (recognizing the moral and political responsibility of combating climate change).

⁴⁸ Climate Change and Biodiversity, *supra* note 44 at 13-14.

⁴⁹ An example already observed is the expansion of the giant Humboldt squid (*Dosidicus gigas*) into the coastal waters of central California. Previously known in that area only during periodic El Nino events, which allowed them to ride warm water currents northward from Mexico for temporary foraging on hake, the squid have permanently taken residence as warmer water temperatures present the necessary ecological conditions. *See* Invasive Squid, *supra* note 46, at 12,949-12,950.

urban infrastructure, and to shift recreational facilities such as ski slopes to higher altitudes.⁵⁰ Moreover, human communities are likely to find it necessary to migrate from coastal areas to avoid rising sea levels, to relocate agricultural land uses, and to obtain secure water supplies.⁵¹

These migrations will necessarily involve some conversion of land uses in areas that now provide suitable ecological conditions for particular species, in some cases at scales sufficient to pose threats to endangered species.⁵² The relocation of humans, as well as increased flow of goods to new settlement areas, are likely to introduce non-native species to local ecosystems.⁵³ Between a quarter and a third of plant and animal species assessed so far are expected to face increased risk of extinction if global average temperatures increase by more than 1.5-2.5°C.⁵⁴ Federal actors and environmental groups, however, may soon look to the ESA to address these escalating problems.

III. Using Sections 7 and 9 to Bring a Successful Citizen Suit Pursuant to the ESA

A. The “Special Rule” Sparks Climate Litigation

In 2006, environmental groups⁵⁵ petitioned the FWS to list the polar bear as a threatened or endangered species, tying its decline to global warming and melting sea ice. While § 9 of the ESA makes it unlawful to “take” or commit harmful acts with respect to *endangered* species, § 4(d) provides FWS with some discretion on the prohibitions applicable to a less-imperiled *threatened* species.⁵⁶

On May 15, 2008, FWS published its final ruling listing the polar bear as a threatened species; thereafter, a “special rule” under § 4(d), related to that listing, was published on December 18, 2008, exempting from ESA regulation all activity occurring outside the range of the species, which FWS defined as excluding the lower 48 states.⁵⁷ FWS concluded that scientific evidence fails to establish a causal link between activity in the lower states and melting sea ice, and that

⁵⁰ IPCC Report, *supra* note 40.

⁵¹ See generally Norman Meyers, Environmental Refugees in a Globally Warmed World, 43 *Bioscience* 752 (1993).

⁵² *Id.*

⁵³ The EPA has suggested that “important progress has been made in identifying climate change effects on invasive species, but . . . our understanding of effects on specific species and interactions of other stressors needs to be improved.” [Effects of Climate Change on Aquatic Invasive Species and Implications for Management and Research](#), Final Report, EPA/600/R-08/014 (Feb 2008).

⁵⁴ Donald Kennedy, [Mixed Messages About Climate](#), 317 *Science* 169, 169 (2007) (quoting Michael Griffin from radio interview with National Public Radio, the transcript of which is available at NPR, [NASA Administrator Michael Griffin Not Sure that Global Warming is a Problem](#) (accessed Jan 14, 2014).

⁵⁵ The chief group was the Center for Biological Diversity, a conservation advocacy group.

⁵⁶ Compare [16 U.S.C. § 1533\(d\)](#) with [id. § 1538](#).

⁵⁷ See Determination of Threatened Status for the Polar Bear (*Ursus maritimus*) Throughout its Range, 73 Fed. Reg. 28212 (May 15, 2008) (The Listing Rule), cited in *In re Polar Bear Endangered Species Act Listing and § 4(d) Rule Litigation*, [818 F. Supp. 2d 214](#), 215 (D.D.C. 2011); and the “Special Rule for the Polar Bear,” 73 Fed. Reg. 76249 (Dec 16, 2008) which specified “the protective mechanisms that apply to the polar bear as a result of its threatened status.” 818 F. Supp. 2d at 215.

defining the polar bear's range to be wider would only fail to address environmental threats to polar bears as opposed to mitigate the loss of sea ice habitat resulting from global warming.⁵⁸

Predictably, numerous lawsuits were filed by environmental groups and industry groups, to overturn the Listing and the exemption. Both prongs of the litigation, the challenge to the Listing and the opposition to the agency rule, were consolidated in the multidistrict litigation titled *In re Polar Bear Listing and § 4(d) Rule Litigation*, which matter was assigned to District Judge Emmett Sullivan.

After disposing of the challenge to the Listing, finding it "a reasonable exercise of agency discretion" in a ruling filed on June 30, 2011, Judge Sullivan upheld the "special rule" on October 17, 2011.⁵⁹ In the latter ruling, Judge Sullivan held:

The question at the heart of this litigation - whether the ESA is an effective or appropriate tool to address the threat of climate change - is not a question that this Court can decide based upon its own independent assessment, particularly in the abstract. The answer to that question will ultimately be grounded in science and policy determinations that are beyond the purview of this Court.⁶⁰

Discussing the prospect of the 4(d) rule foreclosing ESA citizens' suits against GHG emitters, the court carefully noted that the rule would not preclude suits against emitters operating within the bear's range, advising "the 4(d) rule does not preclude the agency from pursuing an enforcement action against a GHG emitter within the bear's range."⁶¹ Judge Sullivan's conclusions foretold the landscape on which these kinds of suits are situated: one on which judges do not feel that they are the right players to be making national energy policy, and issue decisions based on that instinct. So while government agencies refrain from using the ESA to regulate climate change, the sea ice continues to recede for the polar bear.

⁵⁸ See 818 F. Supp. 2d at 215, describing the "4(d) ruling".

⁵⁹ See *In re Polar Bear Endangered Species Act Listing & 4(d) Rule Litigation*, [794 F. Supp. 2d 65](#), 69 (D.D.C. 2011); *In re Polar Bear Endangered Species Act Listing*, 818 F. Supp. 2d 214 (D.D.C. 2011). Nonetheless, Judge Sullivan mandated further proceedings as he "found the Service violated NEPA and the Administrative Procedure Act . . . by failing to conduct a NEPA analysis for its December 16, 2008, final 4(d) special rule for the polar bear." *Endangered and Threatened Wildlife and Plants; Special Rule for the Polar Bear under Section 4(d) of the Endangered Species Act*, [78 Fed. Reg. 11766](#), 11767 (Feb 20, 2013)(summarizing prior proceedings and issuing final rule).

On January 30, 2012, FWS published a revision to the Code of Federal Regulations to reflect the November 18, 2011, court order. *Id.*, citing [77 Fed. Reg. 4492](#). On April 19, 2012, FWS "announced the availability of the draft environmental assessment under NEPA, as well as announcing a 60-day public comment period on the proposed rule and draft environmental assessment," *Id.*, citing [77 Fed. Reg. 23432](#). Final publication came, as noted above, on February 20, 2013, which specified that the published rule would be effective on March 22, 2013. 78 Fed. Reg. 22766.

After final publication but before the final effective date, the Court of Appeals for the D.C. Circuit affirmed both prongs of Judge Sullivan's orders, *sub nom.*, *In re Polar Bear Endangered Species Act Listing & Section 4(d) Rule Litigation--MDL No. 1993*, [No. 11-5219](#) (D.C. Cir., Mar 1, 2013).

⁶⁰ 818 F. Supp. 2d at 234.

⁶¹ 818 F. Supp. 2d at 232 n.16.

Judge Sullivan’s decision did not answer whether emissions activity that occurs outside the officially established range of an endangered species may be regulated via the ESA. His opinion suggests, however, that a plaintiff pursuing a citizen suit needs to establish with reasonable certainty that the emissions of a particular facility lead directly to a specified harm. His opinion underscores the importance of establishing casual connections between the “harming” and the “harmed” in ESA-based citizen suits. ESA citizen suits are at their strongest when they proceed like other tort cases: in that, in addition to a breached duty to prevent harm, a plaintiff must demonstrate causation and damages. The harm to be alleged in an ESA citizen suit would clearly be the effects of climate change.⁶² The breach of duty is straightforward—the broad mandate of the ESA prohibits agencies from jeopardizing certain species, and prohibits both agencies and private actors from “taking” them through harm.⁶³ Damages would be established on a case-by-case basis, and should not represent a doctrinal problem.

Proving causation, however, will be the elemental hurdle. In a tort case, one must establish cause-in-fact (“but for”) causation as well as proximate (“substantial factor”) causation.⁶⁴ Liability, therefore, requires showing (1) that but for the actions of a defendant, an injury could have been avoided; **and** (2) that the defendant’s action was a “substantial factor,” *i.e.*, a proximate cause, of the harm.⁶⁵ The Restatement provides a three-factor test for determining whether an action is a “substantial factor” in bringing about a harm: (1) the number of other factors that produced the harm and the extent of the effect; (2) whether the actor created a force that continued until the harm occurred, or created a situation that was harmless until an independent force intervened; and (3) the lapse of time between the action and the harm.⁶⁶ One must ultimately use this test and these factors to establish a causal link between an emissions activity and a climate harm to create liability under the ESA.⁶⁷ The next two subsections of this Part discuss challenges a plaintiff may experience in establishing causation in a suit pursuant to § 7 or § 9 of the ESA.

B. Demonstrating Causation in a § 7 Citizen Suit

Because § 7 prohibits federal agencies from jeopardizing listed species,⁶⁸ a civil action brought pursuant to § 7 needs to demonstrate that a particular proposed agency action will cause climate change. A plaintiff, therefore, must show that climate change harms the survival or

⁶² See Part II, *supra* at notes 39-54 & accompanying text.

⁶³ See Part I, *supra* at notes 7-38 & accompanying text.

⁶⁴ Restatement (Second) of Torts § 431 (1965) [hereinafter Restatement].

⁶⁵ *Id.* To clarify: the legal standard for causation in tort law varies by jurisdiction while, for the purposes of consistency, the analysis in this article is limited to the Restatement, which is widely recognized in jurisdictions but neither uniformly followed nor applied without variance.

⁶⁶ *Id.* § 433.

⁶⁷ *Id.* These factors also serve to establish whether it was **foreseeable** that a harm would arise from the action. However, this article does not discuss the implications of this element of causation with much depth. Climate change literature is too well-settled to seriously allow a discussion as to the foreseeability of the effects of emissions, at least in relation to a § 7 discussion of jeopardizing species.

⁶⁸ See section I(B), *supra*.

recovery of a species; then, the plaintiff must prove that an agency's action would contribute to the climate harms that jeopardize the survival of that species or its habitat. Both the FWS and NMSF have demonstrated the willingness to accept the proposition that climate change may imperil a species.⁶⁹ Any plaintiff attempting to prove that a specific agency action causes climate change, however, must then tackle two questions concerning causation under § 7. First, throughout what geographical range can a citizen-plaintiff hold an agency responsible for the environmental impact of its proposed action? Second, what is the baseline against which the incremental impact of a proposed action is measured? These questions are explored in the subsections below.

1. Determining an Action Area

Effects of GHG emissions naturally appear in places far removed from the source of emissions. However, in a suit brought pursuant to § 7 of the ESA, plaintiffs are limited to considering the effects of a proposed activity within a designated "action area."⁷⁰ Courts have upheld the joint NMFS and FWS regulations defining "action area" as "all areas to be affected directly or indirectly by the Federal action and not merely the immediate area involved in the action."⁷¹ In *Defenders of Wildlife v. Babbitt*,⁷² the court explained:

FWS must analyze the effects of the action in conjunction with the effects of other agencies' actions on the [subject] The purpose of Section 7(a)(2)'s consultation requirement is to insure that an agency's activities do not jeopardize endangered species For this reason, applicable regulations require an agency to analyze the effects of its activities when added to the past and present impacts of all federal activities in the action area on an endangered species, as well as certain anticipated actions that have already undergone formal or early consultation.⁷³

⁶⁹ NMFS, by listing the Elkhorn and Staghorn Corals as threatened, has already recognized that species may warrant listing on the basis of changes caused by climate change. See *Endangered and Threatened Wildlife; Notice of 90-Day Finding on a Petition to List 83 Species of Corals as Threatened or Endangered Under the Endangered Species Act*, [75 Fed. Reg. 6616](#) (Feb 10, 2010). FWS, in listing the polar bear as threatened, has indicated a similar willingness to accept that climate change may imperil the survival of a species. *Endangered and Threatened Wildlife and Plants; 90-Day Finding on a Petition to List 12 Penguin Species as Threatened or Endangered under the Endangered Species Act*, [72 Fed. Reg. 37695](#) (Jul 11, 2007).

⁷⁰ See, e.g., *Native Ecosystems Council v. Dombeck*, [304 F.3d 886](#) (9th Cir. 2002) (upholding the "action area" regulations).

⁷¹ See, e.g., *Northwest Environmental Defense Ctr. v. National Marine Fisheries Serv.*, [647 F. Supp. 2d 1221](#) (D. Or. 2009):

To formulate its biological opinion, NMFS must determine the geographic scope of the "action area." The "action area" includes "all areas to be affected directly or indirectly by the Federal action and not merely the immediate area involved in the action." 50 C.F.R. § 402.02. "[T]he determination of the scope of an [action] area requires application of scientific methodology and, as such, is within the agency's discretion." *Native Ecosystems Council v. Dombeck*, 304 F.3d 886, 902 (9th Cir.2002) (citing *Kleppe v. Sierra Club*, 427 U.S. 390, 414, 96 S.Ct. 2718, 49 L.Ed.2d 576 (1976)).

547 F. Supp. 2d at 1230. For the joint NMFS and FWS regulations, see [50 C.F.R. § 402.02](#).

⁷² [130 F. Supp. 2d 121](#) (D.D.C. 2001).

⁷³ *Id.* at 126

An “action area” therefore includes only those areas in which the proposed federal action will have an effect on a species; it does not necessarily include the species’ entire habitat.⁷⁴ In *Babbitt*, for example, the National Park Service (NPS) argued that for its proposed activities in Organ Pipe Cactus National Monument, NPS needed to analyze the impacts of its proposed actions only in the immediate area of the action.⁷⁵ NPS did not consider impacts on lands it did not manage.⁷⁶ Evidence in FWS’s Biological Opinion, however, indicated that a proposed road that would run through the monument could prevent a certain species of pronghorn from traveling through it, and sever the pronghorn into two populations.⁷⁷ Thus, the evidence suggested that NPS’s proposed actions would have effects on pronghorn outside the monument. The court therefore held that the regulations prohibited FWS from limiting the action area to the monument.⁷⁸ This decision explained that an “action area” is defined by the geographic scope of anticipated effects.⁷⁹ An action area therefore includes the geographic area where the agency action has direct or indirect effects on the listed species, as evidenced by the record, even if the effects occur on lands not owned or managed by the action agency.⁸⁰ Climate change truly stretches the concept of “action area” because an agency’s GHG emissions arguably affect the entire globe. To use the American pika⁸¹ as an example, a plaintiff might argue that a federal action related to a proposed coal-fired power plant in Texas requires an assessment of the impact that the plant’s GHG emissions will have on the pika throughout its mountainous habitat in western North America. The plaintiff could argue that emissions from coal-fired power plants in Texas indirectly affect pikas in Montana, and thus the action area should include pika territory in Montana, or as far out as Washington, Colorado, and New Mexico as well. The problem with such an argument is that the action area expands exponentially as an agency is required to consider wider and wider spans of area impacted by the emissions of its proposed project. Even with the limited scope of remedies available for § 7

⁷⁴ *Oceana, Inc. v. Evans*, [384 F. Supp. 2d 203](#), 229 (D.D.C. 2005). In *Oceana*, plaintiffs challenged a Biological Opinion by NMFS that concluded that amendments to a Fishery Management Plan for the scallop fishery would not result in jeopardy to loggerhead sea turtles. *Id.* at 228. In its Biological Opinion, NMFS confined its analysis to the area in which the scallop fishery operates. *Id.* Plaintiffs claimed that this analysis was unduly narrow and failed to consider impacts throughout the turtles’ entire range, including impacts from sources other than the scallop fishery. *Id.* The court upheld the action area in the Biological Opinion, since there was no evidence in the record that the scallop fishery had indirect effects on sea turtles outside the area in which the scallop fishery operated. *Id.* at 228–29.

⁷⁵ *Babbitt*, *supra*, 130 F. Supp. 2d at 122.

⁷⁶ *Id.*

⁷⁷ *Id.* at 129 n.10.

⁷⁸ *Id.* at 129.

⁷⁹ *Id.*; see also [50 C.F.R. § 402.02](#).

⁸⁰ *Babbitt*, 130 F. Supp. 2d at 129; see also *Dombeck*, *supra*, 304 F.3d at 902–03.

⁸¹ American Pikas (*Ochotona princeps*) are small rodent-like mammals that live in cool and moist high mountain ecosystems. See National Wildlife Fed’n, [American Pika](#). Although they look like squirrels or guinea pigs, they are more closely related to rabbits and hares. *Id.* American Pikas are suffering because global warming has brought higher temperatures to their western mountain homes. *Id.* Higher temperatures can cause the Pikas to overheat. Unlike other mountain species that can move to higher altitudes in warming climates, Pikas live so high on the mountain that there is nowhere for them to go. *Id.*

violations,⁸² many courts may hesitate to interpret § 7 as requiring federal agencies to consider the impact of GHG emissions throughout such a huge geographical area in the interest of public policy. However, under the right set of circumstances, some judges just might do so; there is nothing in existing regulations that precludes them from doing so.

2. Measuring the Environmental Baseline

Once the action area is established, a plaintiff will need to assess the incremental impact of an agency action upon a listed species.⁸³ A plaintiff may look to the evaluations of the relevant consulting agency in the construction of this prong of his causation argument, since the consulting agency will have evaluated “the current status of the listed species or critical habitat” and “the effects of the action and cumulative effects on the listed species or critical habitat” in its biological opinion.⁸⁴ The “current status” of a species is evaluated by its “environmental baseline,” a measure defined as the past and present impacts of all governmental and private activities in the relevant action area, the anticipated impacts of all proposed federal projects in the action area that have undergone formal consultation, and the impact of state and private actions contemporaneous with the consultation.⁸⁵

The consulting agency quantifies the impact of an action by analyzing its marginal effects, as compared against the environmental baseline. A biological opinion may not simply mention the baseline and then analyze the action’s impacts independent of the baseline status.⁸⁶ While the jeopardy analysis does not direct an agency to combine all impacts to make a jeopardy determination, a despoiled baseline invariably makes a jeopardy finding more likely.⁸⁷ If the

⁸² Courts normally remedy § 7 violations with injunctive relief. Monetary damages are simply not available in the ESA context, although civil penalties may be imposed. [16 U.S.C. §§ 1540\(a\)–\(b\)](#). However, in *Connecticut v. American Elec. Power Co.*, the plaintiffs sought injunctive relief under the federal common law of nuisance or, in the alternative, state nuisance law, to force the defendants to cap and then reduce their carbon dioxide emissions. The court of appeals remanded the matter to the district court, holding that harm from climate change is a public nuisance under federal common law, even assuming, *arguendo*, that state law is displaced by the Clean Air Act (an issue the court of appeals therefore did not reach) and even though the plaintiffs sought only injunctive relief. [582 F.3d 309, 314](#) (2d Cir. 2009). The Supreme Court granted a writ of certiorari, held that federal common law is preempted by the Clean Air Act, and therefore reversed the judgment of the Second Circuit, remanding the matter for further proceedings on the rationale that “the availability *vel non* of a state lawsuit depends, *inter alia*, on the preemptive effect of the federal Act” and that the parties had not “briefed preemption or otherwise addressed the availability of a claim under state nuisance law.” *American Elec. Power Co. v. Connecticut*, 131 S. Ct. 2527 (2011). As a result, it is unclear whether the absence of a request for money damages in a § 7 suit will alleviate the concerns expressed by courts in recent cases seeking relief from entities alleged to have contributed to global warming.

⁸³ [50 C.F.R. § 402.14](#).

⁸⁴ *Id.*

⁸⁵ *Id.*

⁸⁶ *Defenders of Wildlife v. Babbitt*, [130 F. Supp. 2d 121](#), 127 (D.D.C. 2001) [*Defenders I*] (holding that “[s]imply reciting the activities and impacts that constitute the baseline and then separately addressing only the impacts of the particular agency action in isolation is not sufficient” to comply with § 7). The matter was remanded to FWS.

⁸⁷ Subsequent to the remand in *Defenders I*, the matter returned to the district court *sub nom Defenders of Wildlife v. Norton*, No. 99-927, 2003 U.S. Dist. LEXIS 26558, at *20 (D.D.C., Jan 7, 2003). The case was once again remanded to FWS, as the court rejected the plaintiff’s position that a Biological Opinion must analyze “whether the impacts of all of the agency’s activities, taken together, are jeopardizing the species” and held:

consulting agency determines that the proposed action would harm listed species even where baseline conditions already jeopardize a species, an agency may not take action that deepens the jeopardy.⁸⁸

This process of evaluating an environmental baseline raises unique causation questions in the context of considering greenhouse gas emissions. Scientists believe that even if global greenhouse gas emissions were immediately cut to zero, the climate would continue to warm for the next several decades⁸⁹—specifically, by approximately 0.1 degree Celsius each decade for the next two decades.⁹⁰ The Intergovernmental Panel on Climate Change (IPCC) states that it would take a century to reduce the amount of carbon dioxide in the atmosphere by half.⁹¹ Roughly 20 percent of the carbon dioxide emitted remains in the atmosphere for millennia.⁹² With this understanding, an agency could logically claim that a project’s relevant environmental baseline must include an amount of GHG that already promises us atmospheric warming for the next several decades. That agency could thus argue that any anticipated jeopardy to listed species shall result from emissions that are already in the atmosphere, rather than from its proposed action; therefore, its proposal should be approved since the marginal impact of its emissions is insignificant.

3. What Arguments Could Work?

It bears repeating here that the substantive validity of FWS’s no jeopardy conclusion is not an issue before the Court; instead, the only questions now are whether FWS described the correct environmental baseline and whether the agency then gave adequate consideration to that baseline in assessing its proposed action. In this respect, plaintiffs only concrete objection to this BO is that it lacks a determination whether “federal agency activities are collectively jeopardizing the continued existence of the pronghorn,” which they argue was required by *Defenders I*. This claim, however, misreads the Court’s previous Memorandum Opinion. When *Defenders I* suggested that a BO must consider the total impact of the proposed action on the species, it was not thereby imposing a requirement that each BO include a collective jeopardy finding, *i.e.*, a determination whether all federal agency action, considered together, is likely to jeopardize the continued existence of the pronghorn.

Instead, while each BO must take into account the effects of other agency actions in determining the environmental baseline, and use that baseline as a starting point for assessing the impact of the action at issue, it is nevertheless only the impact of that proposed action which must be the subject of FWS’s ultimate jeopardy finding.

Id. at *16 -*17.

⁸⁸ *National Wildlife Fed’n v. National Marine Fisheries Serv.*, [481 F.3d 1224](#), 1232 (9th Cir. 2007).

⁸⁹ *Climate Change 2007—The Physical Science Basis*, Contribution of Working Group I to the Fourth Assessment Report of the IPCC, S. Solomon, D. Qin, M. Manning, Z. Chen, M. Marquis, K.B. Averyt, M. Tignor, and H.L. Miller (eds.) (Cambridge Univ. Press 2007) (hereinafter Contribution of Working Group I).

⁹⁰ These long-term effects of emissions stem from the slow rate at which greenhouse gases are removed from the atmosphere. Different greenhouse gases persist in the atmosphere for different lengths of time. The IPCC report expresses the lifetime of a greenhouse gas as the length of time that it takes for a gas to reduce to 37 percent of its initial volume. Contribution of Working Group I, *supra* note 89 at 824.

⁹¹ *Id.*

⁹² *Id.*

In the face of the aforementioned arguments, plaintiffs face two substantive hurdles in satisfying questions of causation in a suit brought to combat alleged § 7 violations. First, a defendant agency could argue that, consistent with the current understanding of patterns of greenhouse gases, past actions caused contemporary climate harms and thus its proposal ought not be considered to create a marginal impact on a species' habitat. The second issue is that the persistence of atmospheric greenhouse gas emissions compounds the problem of identifying a single significantly contributing source of climate change. Chief Justice Roberts' dissenting opinion in *Massachusetts v. EPA*⁹³ notes specifically that carbon dioxide emissions remain in the atmosphere for 50 to 200 years; he uses that fact to argue that EPA's refusal to regulate carbon dioxide emissions from vehicles has been responsible for too few emissions to be a cause of climate change injuries.⁹⁴ Roberts reasons that injuries to Massachusetts caused by climate change are the result of emissions released throughout the last two hundred years, so EPA's fractional responsibility for the state's injuries is even smaller than its fractional share of current global emissions, considering in aggregate all past emissions of greenhouse gases. While Chief Justice Roberts's dissent reflects generally accepted scientific models of the lifecycles of greenhouse gases, future plaintiffs may refute his argument by invoking the language in *Massachusetts v. EPA* that indicates that a plaintiff may establish a successful causation argument despite a harm being incapable of being completely redressed by a court's action.⁹⁵ The *Massachusetts* Court held that though "regulating motor-vehicle emissions will not by itself reverse global warming, it by no means follows that we lack jurisdiction to decide whether EPA has a duty to take steps to slow or reduce it."⁹⁶ The Court held that though complete amelioration is impossible, the statute offers relief for a plaintiff who can demonstrate that court action will relieve some portion of the harm: the opinion concludes: "'a plaintiff . . . need not show that a favorable decision will relieve his every injury.'"⁹⁷ Pursuant to *Massachusetts*, therefore, a plaintiff could forward an argument that any reduction in emissions would slow the pace of global emissions increase, ameliorating the risk of harm to the action area, and thus satisfy questions of sufficient casual impact in a suit brought pursuant to § 7.

So if a defendant agency argues that the anticipated emissions from its proposed action could not jeopardize a species and would not serve as a "substantial factor" in that species' harm, a plaintiff must respond with two arguments. First, the plaintiff should demonstrate that the emissions from a proposed action contribute significantly to climate change by diverting a species' status from the baseline condition, thereby establishing "but for" causation. Then, the plaintiff needs to show that the anticipated emissions of the agency action substantially contribute to the GHG emission harm inflicted on the species within an action area, thus establishing the "substantial factor" prong of causation. A proposed action, then, that emits a substantial amount of greenhouse gases could be found to jeopardize a species sensitive to

⁹³ *Massachusetts v. EPA*, [549 U.S. 497](#), (2007)

⁹⁴ *Id.* at 542-543.

⁹⁵ *Id.* at 498.

⁹⁶ *Id.* at 499.

⁹⁷ *Id.* at 525 (quoting [Larson v. Valente](#), [456 U.S. 228](#), 244 n.15 (1982)).

climate change even if the emissions do not collect reasonably close to a species' critical habitat, because significant emissions activity necessarily contributes to the snowballing effects of GHG collection in the atmosphere.

To illustrate, a plaintiff may challenge the EPA's authorization of the building of a coal-fired power plant at the edge of the Rocky Mountains that would produce significant carbon emissions. A court could theoretically find that such a plant would endanger the American pika, a listed species that lives in that area and currently suffers from increased heat and constricted habitat. FWS has already established the foundation for a holding that *significant* adverse impacts on a species' chance of survival violates § 7,⁹⁸ so proposals that promise to introduce a significant amount of greenhouse gas into the atmosphere could very well result in a favorable decision to a challenger as long as the plaintiff demonstrates the emissions harm as well as the relation between the pika's habitat and the location of the emissions, establishing both the "but for" and "substantial factor" elements of causation.

C. The "Take" Provision: Challenges to Climate Change Cases Under § 9

As explained in Part I, § 9 of the ESA makes it unlawful for either private or governmental actors to "take" any endangered or threatened species within the United States or "upon the high seas."⁹⁹ The prohibition applies to all species of fish and wildlife listed as "threatened" unless a specific regulation provides otherwise.¹⁰⁰ A plaintiff undoubtedly faces a difficult task when bringing a § 9 suit. In contrast to a § 7 suit, in which a plaintiff must prove only that a proposed action will jeopardize the existence of a species or adversely affect its habitat, a plaintiff in a § 9 suit must demonstrate that a specified action has actually harmed or continues to harm a specific group of organisms. Nonetheless, bringing a suit based on harm from climate change under § 9 raises similar issues. As with cases under § 7, there are no *per se* problems with establishing duty, breach, or damages in a § 9 action. However, proving causation is difficult for several reasons.

First, a huge number of sources emit greenhouse gases, and each source emits only a small fraction of global emissions. The sheer volume of active emitters poses a problem because of the traditional requirement that an entity may be held liable for harm only if its conduct is a substantial factor in bringing about the harm to a specific animal.¹⁰¹ Second, the persistence of greenhouse gas emissions in the atmosphere is problematic because the total number of emitters responsible for climate change includes past emitters whose greenhouse gas emissions still linger. As a result, the fractional responsibility of each additional emitter decreases, thereby

⁹⁸ The handbook published jointly by the U.S. Fish & Wildlife Service and the National Marine Fisheries Service states that harm to individuals of a listed species results in jeopardy if it "is likely to result in *significant* adverse effects throughout the species' range." [Endangered Species Consultation Handbook](#): Procedures for Conducting Consultation and Conferences Under Section 7, 4-34 (Mar 1998) (emphasis added) (accessed Feb 28, 2014).

⁹⁹ [16 U.S.C. § 1538\(a\)\(1\)\(B\)-\(C\)](#). Endangered species of plants have fewer protections. It is illegal to "remove and reduce to possession" an endangered plant from federal lands, but no such prohibition extends to non-federal lands. *Id.* [§ 1538\(a\)\(2\)\(B\)](#).

¹⁰⁰ [50 C.F.R. § 17.31](#).

¹⁰¹ *See* Restatement § 431 cmt. a.

making it more difficult to establish that any one emitter is a substantial factor in bringing about harm from climate change.¹⁰² Finally, a prospective plaintiff faces the daunting task of tracing the lifecycle of greenhouse gas emissions from a particular source to particular climate change harm. This aspect of greenhouse gas emissions poses a legal problem because an entity is liable only to the persons whose injuries he caused. It is nearly impossible to identify how a specific animal group may be harmed by a specific emitter's actions, regardless of how substantial its emissions.¹⁰³

The Supreme Court has definitively stated that § 9 requires a plaintiff to prove both factual, or "but-for" causation, and proximate, "substantial factor," causation.¹⁰⁴ Justice Stevens, writing for the majority in *Sweet Home*, stated that the regulation should be read to incorporate ordinary requirements of proximate causation and foreseeability.¹⁰⁵ Unfortunately, few cases have elaborated on how courts should apply proximate cause in a § 9 case. Thus, in resolving climate change causation issues under § 9, one must still turn to sources outside ESA case law.

1. Demonstrating Causation under § 9

ESA case law provides no guidance regarding when an action contributes enough greenhouse gases to cause a legal harm to a species. To date, no published cases deal specifically with the question. Given the lack of ESA cases on point, other areas of the law, particularly those at the nexus of climate change and tort law,¹⁰⁶ provide guidance. Notably, the purpose of the two-pronged causation analysis is to separate the many but-for causes into substantial and insubstantial causes, and to impose liability only for acts that are substantial causes. Based on *Massachusetts v. EPA*, a court should consider an action that emits a certain percent of annual, global carbon dioxide emissions to be a legally cognizable cause of climate change.¹⁰⁷ However,

¹⁰² Restatement § 433 ("The following considerations are in themselves or in combination with one another important in determining whether the actor's conduct is a substantial factor in bringing about harm to another: (a) the number of other factors which contribute in producing the harm and the extent of the effect which they have in producing it; (b) whether the actor's conduct has created a force or series of forces which are in continuous and active operation up to the time of the harm, or has created a situation harmless unless acted upon by other forces for which the actor is not responsible; (c) lapse of time.")

¹⁰³ As within the discussion of causation under § 7 suits, the analysis of this article is synchronized with the Restatement (Second) of Torts. See Restatement § 431.

¹⁰⁴ *Babbitt v. Sweet Home Chapter of Communities for a Great Oregon*, [515 U.S. 687](#), 697 n.9 (1995).

¹⁰⁵ *Id.* Justice O'Connor, in her concurrence in *Sweet Home*, agreed with Justice Stevens that § 9 includes a proximate cause requirement. O'Connor wrote that the "harm" regulation prohibited significant habitat modification that proximately causes death or injury to animals listed under the ESA. *Id.* at 713–714. O'Connor wrote that *Palila II* was wrongly decided because the plaintiffs had not shown that maintenance of the sheep proximately caused injury to any identifiable Palila birds. *Id.* "Destruction of the seedlings did not proximately cause actual death or injury to identifiable birds; it merely prevented the regeneration of forest land not currently sustaining actual birds." *Id.*

¹⁰⁶ As explained in the discussion of § 7, tort law deals with this question by dividing causes into "but-for" and "proximate" causes. Any action that was a necessary condition of the harm occurring is a but-for cause, but only those actions that were a substantial factor in bringing about the harm are proximate causes; liability requires both but-for and proximate causation.

¹⁰⁷ See *Massachusetts v. EPA*, [549 U.S. 497](#), 522–25 (2007). ("Even leaving aside the other greenhouse gases, the United States transportation sector emits an enormous quantity of carbon dioxide into the atmosphere—

most entities emit only a very small fraction of global greenhouse gas emissions, making it hard to establish that a given action is a substantial factor in contributing to a harm caused by climate change.

As explained above in the section regarding § 7 suits, the number of emitters responsible for causing climate change includes both present and past emitters and the proportional responsibility of each emitter is small. As the total amount of emissions increases, it becomes more difficult to say that any single emitter is a “substantial factor” in bringing about the total concentration of emissions.¹⁰⁸ This is an even greater challenge when trying to prove specific harm to an identified group of organisms in a § 9 action, as opposed to merely demonstrating that emissions jeopardize the existence of a species in general. These causation problems contribute to the final challenge of a § 9 emissions suit, that is, scientists’ present inability to trace the path of particular emissions in the atmosphere. At present, there is no way to determine the path emissions follow. This poses a legal problem in proving causation because a plaintiff may recover from a defendant only if the plaintiff can prove that a particular defendant’s conduct caused the plaintiff’s injuries.¹⁰⁹

2. Seeking a Solution Through Asbestos

Given these challenges, a plaintiff employing § 9 should seek to invoke an exception to the traditional tort requirements of demonstrating causation. Fortunately, there are numerous exceptions to the general rule that a defendant is liable only if the plaintiff can prove that the defendant’s tortious conduct caused the plaintiff’s injury. One promising exception is set forth in *Borel v. Fibreboard*,¹¹⁰ an asbestos case.¹¹¹

The process by which asbestos causes injury is similar to how GHG emissions generate climate change. Just as limited exposure to asbestos fibers does not cause asbestosis, marginal GHG emission has little effect on global climate. However, exposure to many fibers in the aggregate,

according to the MacCracken affidavit, more than 1.7 billion metric tons in 1999 alone . . . that accounts for more than 6% of worldwide carbon dioxide emissions.”)

¹⁰⁸ Restatement § 431.

¹⁰⁹ Of course, every emitter of greenhouse gases contributes to climate change. One might think that a plaintiff might be able to hold a defendant liable for harm given that contemporaneous greenhouse gas emissions have the same effect on climate change regardless of where they are emitted. Presumably, then, a plaintiff only needs to know who emitted greenhouse gases, and in what quantities, and can apportion liability based purely on quantity of gases emitted. Some greenhouse gases, however, have different effects on climate change depending on where they are released. IPCC, [Aviation and the Global Atmosphere, Summary for Policymakers](#), 4.2, (Joyce E. Penner *et al.*, eds.) (IPCC 1999) (accessed Feb 28, 2014). Moreover, just because an entity emitted ten tons of carbon dioxide into the atmosphere ten years ago does not mean that all ten tons are still in the atmosphere and contributing to climate change. If a plaintiff attempts to hold a defendant liable for contributing to climate change, the plaintiff will need to know not just how much the defendant emitted, but how much of those emissions remains in the atmosphere—and this requires being able to trace the lifecycle of particular emissions.

¹¹⁰ *Borel v. Fibreboard Paper Products Corp.*, [493 F.2d 1076](#) (5th Cir. 1973).

¹¹¹ Exposure to asbestos causes two principal diseases, asbestosis and mesothelioma. *Id.* at 1083 These diseases usually result not from one exposure to asbestos, but from repeated exposures, with each exposure to asbestos fibers resulting in both new, separate injuries and the worsening of previous asbestos injuries. *Id.*

or a longtime collection of GHG emissions, produces significant overall impact. The holding in *Borel* indicates that courts may relax the causation requirement when the cumulative effects of multiple actions clearly cause harm but a plaintiff cannot identify which defendant caused how much harm.¹¹²

In *Borel*, the court faced a plaintiff with identifiable injuries (asbestosis) who lacked knowledge of the specific identity of his tortfeasors; he could only present definitive evidence that continued exposure to asbestos from many tortfeasors resulted in escalating tissue change over time.¹¹³ Because asbestosis is the biological product of many years of exposure to asbestos dust, both past and recent exposures to asbestos causes the effect.¹¹⁴ In recognizing that an asbestosis-ridden plaintiff faced invariable difficulty in identifying which defendant's tortious conduct caused his injuries, and to what extent, the *Borel* court held that any defendant that had tortiously exposed any plaintiff to asbestos fibers can be held liable for the plaintiff's injuries.¹¹⁵ As a consequence, the court held each tortfeasor that was responsible for any exposure to asbestos leading to the plaintiff's asbestosis.¹¹⁶ The court specifically explained that the effects of the multiple exposures to asbestos were cumulative, since each exposure could result in an "additional and separate injury."¹¹⁷ Therefore, each defendant was jointly and severally liable for the plaintiff's injuries.¹¹⁸

A plaintiff trying to prove causation in a climate change case will have some of the same difficulties faced in *Borel*. Like asbestos, GHG emissions over time produce harm; effects generally compound from many different sources over a number of years.¹¹⁹ Like asbestosis, each emission of a greenhouse gas can both worsen existing harm and contribute separate, additional harm.¹²⁰ It is impossible to determine which emission caused the disease; one cannot trace emissions to an identifiable portion of the harm. However, *Borel* does not offer a paradigm that fits the climate change context perfectly. The number of defendants in *Borel* was small, and each defendant had acted tortiously by creating a dangerous product. The court assigned liability to a limited number of companies, each of which had exposed the plaintiff to a dangerous product.¹²¹ By contrast, in a climate change suit, the number of potential defendants (i.e., entities that emit greenhouse gases) is exponentially higher, and the act of emitting greenhouse gases is not generally considered tortious activity.

To illustrate, assume again that the Pika is threatened, and a plaintiff is claiming that a coal-fired power plant in Texas is "taking" Pikas in Montana. In a § 9 case to protect a group of Pikas,

¹¹² *Id.* at 1082.

¹¹³ *Id.* at 1083.

¹¹⁴ *Id.* at 1083-1084.

¹¹⁵ *Id.* at 1094.

¹¹⁶ *Id.*

¹¹⁷ *Id.* at 1095.

¹¹⁸ *Id.* at 1096.

¹¹⁹ *Id.* at 1083.

¹²⁰ *Id.*

¹²¹ *Borel* sued eleven companies that manufactured asbestos insulation to which he was exposed. *Id.* at 1086. After *Borel* settled with four companies, and the court directed a verdict as to another, only six companies remained. *Id.*

the plaintiff would have to demonstrate that the plant is a substantial cause of the group's harm. Case law interpreting § 9 indicates that an entity "takes" a listed animal when the entity harms the habitat of a species and this harm results in injury to identifiable animals.¹²² Facing, then, the difficulty of finding actions that emit enough greenhouse gases to be "substantial factors" in bringing about the quantum of climate change that takes a listed animal, he can try to adopt the method used in *Borel*. The plaintiff would have to demonstrate that the actions of the coal plant contributed to the effects of multiple emitters, each of which resulted in an "additional and separate injury."¹²³ He would try to have the court hold each defendant jointly and severally liable for the plaintiff's injuries.¹²⁴

However, anyone but a very liberal judge would be unlikely to accept this argument. There are millions of greenhouse gas emitters: every person who drives a car counts among them. Unlike the manufacture of asbestos, driving a car and producing coal are publicly beneficial activities with which a court may be reluctant to interfere. It is appropriate to think that all GHG emitters have contributed to a particular harm caused by climate change, because emissions generally have the same effect regardless of where they are released. Nevertheless, courts are likely to be reluctant to announce a rule with the potential to impose such expansive liability.¹²⁵

Ultimately, the inability to trace the course of particular emissions presents problems in holding an emitter liable for the harms caused by climate change. In the climate change context, every emitter of greenhouse gases *has* contributed to climate change, so there is no danger of holding a defendant liable for harm that the defendant has not caused. Rather, the problem is that the amount of each defendant's contribution cannot be determined solely from the amount of emissions released, because emissions are removed from the atmosphere at varying rates and by different processes. In other words, unless one can trace a particular defendant's emissions over time, one cannot know the precise amount of climate change attributable to a particular defendant. It is unlikely that a suit brought pursuant to § 9 will succeed until more conclusive scientific resources can "track" emissions to their harms.

IV. Conclusion

Citizen suits have long served a role in the enforcement of the ESA and have the potential for assuming new vitality in the face of climate change. As the primary and secondary effects of climate change increasingly jeopardize this country's wildlife, the federal courts will likely be called upon to play a larger role in construing and applying the Act's safeguards. A suit brought pursuant to the ESA is a crude tool for the purpose of limiting CO₂ emissions. However, in the right legal environment and with the right actors, the ESA may offer unparalleled capacity to

¹²² See *Babbitt, supra*, 515 U.S. at 697–701; see also *Arizona Cattle Growers' Ass'n v. U.S. Fish & Wildlife*, [273 F.3d 1229](#), 1238, 1240 (9th Cir. 2001).

¹²³ *Borel*, 493 F.2d at 1095.

¹²⁴ *Id.* at 1096.

¹²⁵ For an explicit discussion of the role of limiting liability in determining the scope of a defendant's duty to a plaintiff, see *Strauss v. Belle Realty Co.*, 482 N.E.2d 34 (1985) (holding that it is still the responsibility of courts, in fixing the orbit of duty, "to limit the legal consequences of wrongs to a controllable degree and to protect against crushing exposure to liability" (internal citations omitted)).

address an increasingly important, if chronically underemphasized, threat to listed species and ecosystems. Eco-conscious plaintiffs can be cautiously optimistic that the jeopardy provision of § 7 in particular may be fruitfully leveraged against existing federal agencies to help improve the protection of threatened and endangered species and ecosystems. Certainly, to ignore the ESA's potential to mitigate impacts of greenhouse gas pollution on species imperiled by climate change would cheapen a creative solution to a burgeoning problem. So while only the future can reveal the success of ESA-based suits, the groundwork laid for species-sympathetic outcomes is undoubtedly promising.

Summary of 2013 Michigan Public Acts—Environment and Natural Resources

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The Michigan Legislature approved a number of significant changes to the Michigan Natural Resources and Environmental Protection Act (NREPA) during the 2013 legislative session. It revamped Michigan's wetland protection law, enacted a number of changes to facilitate the dredging of harbors in both the Great Lakes and inland waters, and made targeted changes to Part 201 to limit liability for certain releases of sodium and chlorides and to eliminate liability for certain pre-1981 releases of agricultural materials.

The legislature also modified a number of statutes that regulate hunting and fishing, including the latest round of legislation regarding authority to designate game species, increasing penalties for poaching, and several acts that appear to be solutions in search of problems (see PA 22 and 111). It also enacted several sets of bills to promote the development and expansion of Michigan's forest products industry and to provide substantial roles for the Department of Agriculture and Rural Development (DARD) and for conservation districts in that effort.

The following is a summary of 2013 Michigan Public Acts pertaining to environmental and natural resource issues.

I. Environmental Protection

A. Wetlands

[PA 98](#): (MCL 324.1307 *et seq.* Effective July 2, 2013.)

This is among the most important and most controversial environmental legislation enacted last year. This Act amends Parts 13 (Permits), 301 (Inland Lakes and Streams), 303 (Wetlands Protection), and 325 (Great Lakes Submerged Lands) of NREPA. Among other things, this Act:

- Requires the Department of Environmental Quality (DEQ) to make decisions on permit applications based on evidence that meets the statutory standards for a contested case;
- Revises the standards used by DEQ to deny a permit, and extends them to any review upholding DEQ's decision;
- Revises several exceptions to the requirement to obtain a permit under Parts 301 and 303;

- Revises certain exemptions from regulation under Part 303;
- Requires DEQ to develop a general permit under Part 301 for legally established drains, and allows a drain commissioner or drainage board to apply for authorization under the general permit on a countywide basis every year;
- Authorizes DEQ to issue a conditional permit under Part 303 before the expiration of a 20-day period during which a person may request a hearing on the application, if emergency conditions warrant a project;
- Establishes a rebuttable presumption with regard to the availability of feasible and prudent alternatives to the issuance of a Part 303 permit, and prescribes the conditions that may be considered in determining such alternatives;
- Prescribes factors DEQ must consider in imposing wetland mitigation requirements;
- Authorizes DEQ to establish a stewardship fund to develop wetland mitigation at particular sites or provide an alternative to financial assurance required for mitigation projects;
- Requires DEQ to prepare revised administrative rules pertaining to wetland mitigation banking;
- Requires that DEQ establish a program to provide grants and loans to eligible municipalities for the creation of wetland mitigation banks;
- Authorizes DEQ to develop and maintain new general permit and minor project categories consistent with nationwide permits;
- Requires DEQ to develop a general permit under Part 303 for alteration of wetlands for blueberry farming;
- Requires DEQ to propose new general permits or minor project categories under Part 303 for conversion of wetlands to blueberry farming or other agriculture that includes more than minimal drainage or earth moving; and
- Prescribes criteria to be considered in identifying a wetland and determining whether it is contiguous to a body of water.

The Act also provides that DEQ's powers, duties, functions, and responsibilities resulting from federal approval of Michigan's permit program under the federal Clean Water Act apply only to "navigable waters" and "waters of the United States," and that determining the need for regulation beyond the scope of federal law is the responsibility of the Michigan Legislature.

The Act repeals a section of Part 303 regarding waivers of certain federal requirements regarding the state's permit program for the discharge of dredged or fill material into navigable waters.

For a more detailed discussion of PA 98, see M. Perry, 2013 Public Act 98 Significantly Changes Michigan's Wetlands Protection Program, [31 Michigan Environmental Law Journal](#) (Summer 2013, pg. 32).

B. Water and Water Quality

[PA 86](#): (MCL 324.36201 and 324.36202 *et al.* Effective June 28, 2013.)

This Act amends Part 362 (Agricultural Preservation Fund) of NREPA to revise procedures for resolving disputes between owners of high-capacity agricultural wells and low-capacity wells.

[PA 180](#): (MCL 324.3109e. Effective November 26, 2013.)

This Act amends Part 31 (Water Resources Protection) of NREPA to prohibit DEQ from establishing or enforcing a limitation in a groundwater discharge permit for sodium or chloride that is more restrictive than 400 milligrams per liter (mg/L) of sodium or 500 mg/L of chloride. This Act also prohibits DEQ from establishing or enforcing any limitation for sodium or chloride in groundwater that is more restrictive than 230 mg/L of sodium or 250 mg/L of chloride.

If a permittee discharges sodium or chloride into groundwater that migrates off the property, and the discharge directly causes the concentration in groundwater to exceed either 230 mg/L of sodium or 250 mg/L of chloride, the permittee must monitor downgradient water supply wells. If the concentration of sodium in a downgradient water supply exceeds the prescribed level, for each affected water supply, the permittee must provide and maintain a free point-of-use treatment system that will remove sodium and achieve compliance with the prescribed level. If the concentration of chloride in a downgradient water supply exceeds the prescribed level, the permittee must give each affected water supply owner a notice of aesthetic impact. A permittee who complies with these requirements may not be required to perform response activities under Part 201 (Environmental Remediation) of NREPA with respect to a discharge of sodium and/or chloride that complies with the discharge level prescribed in this Act.

C. Environmental Remediation/Part 201

[PA 141](#): (MCL 324.20101. Effective October 22, 2013.)

This Act amends Part 201 (Environmental Remediation) of NREPA to revise exceptions to the definitions of "release" and "hazardous substance" for substances applied according to or consistent with generally accepted agricultural and management practices (GAAMPS), by specifying "at the time of the application." The purpose is to prevent landowners from being liable under Part 201 for remediation of certain agricultural products that were applied to land before 1981 according to GAAMPS that existed when the products were applied.

Before the Act, "hazardous substance" under Part 201 excluded fruit, vegetable, or field crop residuals or processing by-products, or aquatic plants, that were applied to the land for an agricultural use or for use as an animal feed, but only if the use was consistent with GAAMPS developed pursuant to the Michigan Right to Farm Act (MRTFA), MCL 286.471, which was enacted in 1981.

"Release" generally refers to the escape or disposal of a hazardous substance into the environment. Before the Act, the term excluded the application of a fertilizer, soil conditioner, agronomically applied manure, or pesticide, or fruit, vegetable, or field crop residuals or

processing by-products, aquatic plants, or a combination of these substances, but only if they had been applied according to label directions and according to GAAMPS developed pursuant to MRTFA. "Release" also excluded fruits, vegetables, field crop processing by-products, or aquatic plants, that had been applied to the land for an agricultural use or for use as an animal feed, but only if the use was consistent with GA AMPS developed pursuant to MRTFA.

The Act revises these definitions so they now refer to generally accepted agricultural and management practices "at the time of the application," and the references to MRTFA are deleted.

PA 180: (MCL 324.3109e. Effective November 26, 2013.)

As noted above, the holder of a groundwater discharge permit who complies with certain requirements may not be required to perform response activities under Part 201 (Environmental Remediation) of NREPA with respect to a discharge of sodium and/or chloride that complies with the discharge levels prescribed in this Act.

D. Brownfields

PA 67: (MCL 125.2652. Effective June 19, 2013.)

A suite of Acts amended various statutes to specify that tax increment revenue under those statutes do not include ad valorem property taxes levied under either the Zoological Authorities Act or the Art Institute Authorities Act, or specific local taxes attributable to those ad valorem property taxes. The Acts protect revenues derived from voter-approved regional taxes for the support of the Detroit Zoo and the Detroit Institute of Art from being captured by special purpose authorities and include amendments to the Brownfield Redevelopment Financing Act (Act 67), the Tax Increment Finance Authority Act (Act 61), the Downtown Development Authority Act (Act 66), the Local Development Financing Act (Act 62), the Corridor Improvement Authority Act (Act 68), the Nonprofit Street Railway Act (Act 63), and the Private Investment Infrastructure Act (Act 64).

E. Solid and Hazardous Wastes

PA 250: (MCL 324.11504 *et al.* Effective December 26, 2013.)

Part 115 (Solid Waste Management) of NREPA requires every landfill owner or operator to maintain a perpetual care fund (PCF) for 30 years after the final closure of a landfill, in addition to meeting other financial assurance requirements. PCFs are intended as a funding mechanism in the event the state has to assume responsibility for maintenance and/or post closure activities on behalf of a landfill operator. Previously, Part 115 required PCFs to be maintained as cash accounts established as either trust or escrow accounts. PA 250 amended Part 115 to allow a landfill owner or operator to establish the required PCF by using non-cash surety bonds and letters of credit.

[PA 72](#): (MCL 324.11525a. Effective June 25, 2013.)

This Act amends Part 115 (Solid Waste Management) of NREPA to delay the sunset on the Solid Waste Surcharge Fee from September 30, 2013, to September 30, 2015. The fee is currently 12 cents per cubic yard of solid waste.

[PA 73](#): (MCL 324.11108 *et al.* Effective October 1, 2013.)

This Act amends Part 111 (Hazardous Waste Management) of NREPA to:

- Eliminate the Waste Reduction Fund (WRF) and transfer its balance to the Environmental Pollution Prevention Fund (EPPF) on October 1, 2013;
- Require collected fees that are currently credited to the WRF to be credited instead to the EPPF;
- Specify that the EPPF may be used, upon appropriation, for the purposes for which the WRF may be used, as well as to fund programs under Part 111 of NREPA and the Hazardous Materials Transportation Act;
- Eliminate the Hazardous Waste Transporter Account and the Hazardous Waste and Liquid Industrial Waste Users Account (HWLIWUA) from the EPPF;
- Change the sunset on hazardous waste manifest fees, site identification number user charges, and hazardous waste management program user charges from October 1, 2013, to October 1, 2014; and
- Eliminate a requirement that, if the balance of the HWLIWUA exceeds \$3.2 million as of December 31 of any year, the handler user charges be suspended until October of the following year.

[PA 74](#): (MCL 29.472 and 29.475. Effective October 1, 2013.)

This Act is related to PA 73 discussed above. It amends the Hazardous Materials Transportation Act to:

- Define "fund" as the Environmental Pollution Prevention Fund (EPPF) rather than the Hazardous Materials Transportation Permit Fund (HMTPF); and
- Eliminate the HMTPF and transfer its balance to the EPPF on October 1, 2013.

II. Natural Resources

A. Dredging

[PA 10](#): (MCL 324.95231 *et seq.* Effective March 27, 2013.)

This Act creates the Marina Dredging Loan Origination Act and authorizes the State Treasurer to establish a program through which the State may pay the origination fees for dredging loans obtained by the owners of "eligible marinas." Among other things, the Act requires participating qualified financial institutions to make marina dredging loans before March 1, 2014. Loans may not exceed \$500,000 per marina and may have a term up to five years. The State pays 5% of the principal amount of the loan to cover the financial institution's administrative costs.

"Eligible marina" is defined as a privately owned, commercial facility in Michigan that: 1) extends into or over the Great Lakes, their connecting waters, or an inland lake or stream; 2) provides services for recreational boating on a non-discriminatory basis; and 3) has received permits required by law from DEQ and the Army Corps of Engineers, as appropriate, for the dredging to be conducted with marina dredging loan funds.

[PA 11](#) and [PA 13](#): (MCL 324.32513 and 324.30104. Effective March 27, 2013.)

These Acts amend Parts 325 (Great Lakes Submerged Lands) and 301 (Inland Lakes and Streams) of NREPA to eliminate the permit application fee for projects to dredge at least 10,000 cubic yards if the dredge material consists of at least 90% sand.

[PA 12](#): (MCL 324.32514. Effective March 27, 2013.)

This Act amends Part 325 (Great Lakes Submerged Lands) of NREPA to authorize DEQ to issue a conditional permit for a project that would affect submerged lands before the end of the 20-day period during which adjacent riparian owners and others may file objections to the permit. DEQ may issue a conditional permit if a project is needed to protect property or public health, safety, or welfare because of emergency conditions. After the 20-day period and any public hearing on the permit application, DEQ must consider any objections received, and may add conditions to the final permit.

[PA 25](#): (MCL 125.1773 and 125.1780. Effective August 9, 2013.)

The Water Resource Improvement Tax Increment Finance Authority Act (WRTIFAA), MCL 125.1771 *et seq.*, allows the governing body of a city, village, or township to establish a water resource improvement tax increment finance authority (TIFA) within a designated water resource improvement district. The authority may finance the costs of water resource improvements in various ways, including tax increment financing, the issuance of revenue bonds and notes, and special assessments. The Act amends WRTIFAA to allow for the creation of new authorities, allow for dredging and other improvement projects to be financed under the act, and allow harbors and their tributaries to be included within resource improvement districts, among other things. The Act repeals a section that prohibited the creation of a water resource improvement TIFA or the expansion of a TIFA's development plan after December 31, 2011.

Specifically, the Act amends WRTIFAA to:

- Allow dredging and other activities that enhance a waterway's navigability among the water resource improvements that may be financed under WRTIFAA;
- Include the shoreline of a Great Lakes harbor, as well as connected land and tributaries, in the definition of "water resource improvement district;"
- Include chemical treatment to control aquatic nuisances as a water resource improvement eligible for financing;
- Allow a TIFA board to apply for state and federal permits required for a public facility or water resource improvement under WRTIFAA.

[PA 87](#): (MCL 324.1301 *et al.* Effective June 28, 2013.)

This Act amends Parts 13 (Permits), 301 (Inland Lakes and Streams), and 325 (Great Lakes Submerged Bottomlands) of NREPA to:

- Provide that a permit to dredge or fill bottomland under Part 301 or Part 325 is valid for five years;
- Prohibit DEQ from requiring additional environmental studies or surveys during the five-year term;
- Allow open lake disposal of dredge material that is not contaminated with toxic substances under a Part 325 dredging permit, in water at least 30 meters deep or at least 1.5 kilometers from shore;
- Authorize DEQ to issue a permit under Part 325 before the end of the 20-day period during which an objection to the permit may be filed, if a project is needed to protect property or public health, safety, or welfare because of emergency conditions;
- Establish a 30-day processing period for dredging permit applications under Parts 301 and 325; and
- Reduce the application fee to \$50 for a permit to dredge at least 10,000 cubic yards, if the dredge material is at least 90% sand.

B. Hunting and Fishing

[PA 21](#): (MCL 324.40103 *et al.* Effective May 8, 2013.)

This Act amends Parts 401 (Wildlife Conservation) and 487 (Sport Fishing) of NREPA to:

- Authorize the Natural Resources Commission (NRC), in addition to the Legislature, to designate a species as game and authorize the first open season for an animal designated as game;
- Provide that only the Legislature may remove a species from the list of game;
- Grant the NRC exclusive authority to regulate the taking of fish in Michigan, and require it to issue related orders following a public meeting and an opportunity for public input and notify the Legislature before doing so;
- Require the NRC to use principles of sound scientific management in making decisions regarding the taking of fish.

The Act also amends Part 435 (Hunting and Fishing Licensing) to revise provisions pertaining to hunting and fishing licenses issued to members of the military, by eliminating the \$1 fee, deleting a provision that limits the license to a two-week period, and deleting a requirement that a member be stationed outside the state.

[PA 22](#): (MCL 324.40113a. Effective May 8, 2013.)

This Act amends Part 401 (Wildlife Conservation) of NREPA to add the following legislative declaration: "The legislature declares that hunting, fishing, and the taking of game are a valued part of the cultural heritage of this state and should be forever preserved. The legislature further declares that these activities play an important part in the state's economy and in the conservation, preservation, and management of the state's natural resources. Therefore, the

legislature declares that the citizens of this state have a right to hunt, fish, and take game, subject to the regulations and restrictions prescribed by subsection (2) and law."

Subsection (2) of Section 40113a provides that the NRC has exclusive authority to regulate the taking of game in Michigan, and requires the NRC to use principles of sound scientific management in making decisions regarding the taking of game. The NRC may issue orders after a public meeting and an opportunity for public input. At least 30 days before issuing an order, the NRC must give a copy of it to specified members of the legislature.

PA 37: (MCL 324.1616 and 324.43559. Effective May 28, 2013.)

In 2004, Michigan became one of approximately 40 states that have entered into the Interstate Wildlife Violator Compact. (Public Act 235 of 2004.) Public Act 37 adds a new section to Part 16 (Enforcement of Laws for Protection of Wild Birds, Wild Animals, and Fish) and amends 435 (Hunting and Fishing Licensing) of NREPA to:

- Require the Department of Natural Resources (DNR) to suspend the license privileges of a Michigan resident who fails to comply with the terms of a wildlife citation issued by another state that participates in the Compact;
- Require the DNR to suspend the license privileges of a Michigan resident who is convicted of a wildlife violation in another participating state, if the conviction would have resulted in a mandatory suspension had it occurred in Michigan;
- Allow the DNR to suspend the license privileges of any person whose privileges are suspended in another participating state, if the violation leading to the suspension would have led to a suspension under Michigan law;
- Require the DNR to give a person whose license privileges are suspended under the Compact an opportunity for an evidentiary hearing;
- Require a person who requests a hearing to surrender to the DNR any licenses issued to him or her, and prescribe a misdemeanor penalty for failure to do so; and
- Require the DNR to suspend the hunting, fishing, and trapping licenses of a person who fails to answer a citation or a notice to appear in court, or fails to comply with a court order or judgment within a prescribed time period.

PA 111: (MCL 324.40109a. Effective September 24, 2013.)

This Act adds a new section to Part 401 (Wildlife Conservation) of the NREPA that provides that the State of Michigan may not prosecute, punish, or penalize an individual for: 1) lawfully taking game in another state; 2) lawfully engaging in a hunt in another state; or 3) possessing game that was lawfully taken in another state or in Michigan if the person possesses the game in compliance with NREPA and with orders issued under NREPA. The Act was enacted in response to a 2012 event in which the President of the California Fish and Game Commission lost his position after he legally hunted and killed a mountain lion in Idaho. He was criticized because hunting mountain lions is illegal in California.

[PA 175](#) and [176](#): (MCL 324.40119 (PA 175); 324.73109 and 324.73110 (PA 176). Both Acts effective February 25, 2014.)

Several parts of NREPA regulate the taking of game. Potential sanctions for violations include payment of restitution to the state for an animal that is illegally killed, possessed, purchased, or sold. For a deer, the restitution value is \$1,000. An offender is also prohibited from possessing a hunting license for three years.

PA 175 responds to concerns that the restitution amount and the license sanction did not provide an adequate deterrent or adequately penalize people who illegally take a large antlered deer. It amends Part 401 (Wildlife Conservation) of NREPA to:

- Require a person to pay additional restitution to the state for illegally killing, possessing, purchasing, or selling an antlered white-tailed deer with eight or more antler points.
- Increase the hunting license prohibition period for illegally killing, possessing, purchasing, or selling wildlife if the violation involves an antlered white-tailed deer.

Another issue related to poaching involves recreational trespass, which occurs when a person engages in a recreational activity, including hunting, without the landowner's permission. Previous law allowed the landowner to recover up to \$250 or actual damages, whichever was greater, from the violator, and prescribed a misdemeanor penalty for someone convicted of recreational trespass. PA 176 amends Part 731 (Recreational Trespass) of NREPA to:

- Increase the amount of damages that a property owner may recover in an action against a recreational trespasser to \$750 or actual damages, whichever is greater, plus attorney fees;
- Make it a misdemeanor to kill any protected animal, game, or fish while violating Part 731; and
- Increase the criminal fine that may be imposed for a second or subsequent violation of Part 731.

[PA 108](#): (Numerous MCL sections are affected by PA 108. Effective September 17, 2013.)

This Act amends Part 435 of NREPA to change the types of hunting and fishing licenses available and change the fees for licenses. Formerly, an individual who wished to hunt a certain species of game had to purchase the specific type of license required to hunt that species. Now, an individual who wishes to hunt any type of game must first purchase a base hunting license, and then purchase a license for the specific type of game he or she wishes to hunt. A base license gives a hunter the same hunting rights as the current small game license, which has been replaced by the base license.

C. Forests

The legislature enacted several bills that, while not formally tie-barred, were part of a “Forestry Package” intended to promote Michigan’s forest products industry. All of these Acts were effective June 6, 2013.

[PA 42](#), [PA 43](#) and [PA 44](#): (MCL 211.7jj[1] (PA 42); 211.1035 (PA 43); and 211.7dd (PA 44). Effective June 6, 2013.)

“Qualified forest property” is exempt from the tax levied by a local school district for school operating purposes. PA 42 amends the General Property Tax Act to modify the qualified forest property tax program in numerous ways, including transferring responsibilities for the program from the Department of Natural Resources to the DARD. PA 43 amends the Qualified Forest Property Recapture Tax Act to redirect recapture tax proceeds from the General Fund to a new Private Forestland Enhancement Fund. PA 44 expands the definition of “qualified agricultural property” in the General Property Tax Act for tax exemption purposes.

[PA 45](#): (MCL 324.9301 *et al.* Effective June 6, 2013.)

This Act amended Parts 93 (Soil Conservation Districts) and 513 (Private Forestry) of NREPA to:

- Create the "Private Forestland Enhancement Fund" to support private forestland management assistance;
- Authorize DARD to review soil conservation district budgets and financial information;
- Prescribe criteria that a soil conservation district must meet to be eligible for a grant from DARD;
- Permit DARD to promulgate rules to implement grant provisions, although the rules may not remain in effect for more than three years after the effective date of the Act;
- Prohibit a professional forester employed under a DARD grant from competing with a private sector business or developing a client base for forestry consultation outside of his or her employment with the conservation district;
- Include references to forestland in provisions prescribing a conservation district's powers regarding farmland and natural resources;
- Add the following to the powers of a conservation district: collaborating with DARD in reviewing applications for qualified forest property exemptions, evaluating nonindustrial private forestland, and providing forestry assistance to landowners;
- Allow a conservation district to cooperate with a local unit of government or other subdivision of state government to implement forestland management projects; and
- Authorize DARD to enter into cooperative agreements with federal agencies to assist landowners in management of their nonindustrial private forestland.

The Act also repealed sections of Part 501 (Forest Improvements) that defined terms used in provisions for forest restoration pilot projects, prescribed specific requirements for the Western Upper Peninsula Forest Improvement District, and required State agencies to cooperate with a forest improvement district board.

PA 46: (MCL 324.8703 *et al.* Effective June 6, 2013.)

This Act amends Part 87 (Groundwater and Freshwater Protection) of NREPA to expand the Environmental Assurance Advisory Council (EAAC) to include forest industry professionals and require the EAAC to provide assistance, advice, and tools for evaluating the environmental, ecological, and economic benefits that can be realized by managing areas of the land that are not utilized for traditional or production agriculture practices.

PA 47: (MCL 324.50301 and 324.50302. Effective June 6, 2013.)

This Act amends Part 503 (State Forest Products Industry Development Council) of NREPA to require the Department of Natural Resources (DNR) to carry out a number of tasks related to the development and promotion of Michigan's forest products industry jointly with DARD. Previous law assigned these responsibilities to DNR alone. This Act requires DNR and DARD to promote the "expansion," not just the development, of Michigan's forest products industry, including the use of Michigan forest products in other states and other countries.

PA 48: (MCL 324.51102 *et al.* Effective June 6, 2013.)

PA 48 amends Part 511 (Commercial Forests) of NREPA to do the following with regard to tax-exempt commercial forest property:

- Allow an owner of commercial forestland to withdraw from the program without penalty, under certain circumstances;
- Eliminate a requirement that DNR prepare a forest management plan upon request of an applicant who cannot secure the services of a registered forester or natural resources professional to prepare a plan, and charge the owner a fee;
- Exempt forest management plans from disclosure under the Freedom of Information Act;
- Allow the DNR to require withdrawal of commercial forestland from the program if an owner denies or inhibits access to the commercial forest for public hunting and fishing;
- Revise the conditions under which sand and gravel may be removed from a commercial forest; and
- Prohibit the use of commercial forestland for wind energy development except under certain circumstances.

PA 49: (MCL 211.1032 and 211.1034. Effective June 6, 2013.)

PA 49 amends the Qualified Forest Property Recapture Tax Act to revise the calculation of the recapture tax that is imposed on qualified forest property that is converted by a change in use.

PA 50: (MCL 211.27a. Effective June 6, 2013.)

PA 50 amends the General Property Tax Act to revise the requirements for a transferee to file an affidavit upon the transfer of qualified forest property in order to avoid an adjustment in the property's taxable value.