Foreword

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We are honored to introduce the Ecology Law Quarterly’s 2014–2015 Annual Review of Environmental and Natural Resource Law. Now in its sixteenth year, the Annual Review is a collaborative endeavor of students and faculty. Most especially, the Annual Review is the product of the hard and selfless work of ELQ’s editorial board and members. ELQ continues to be the leading journal in the field because of their passion and commitment.

Three students deserve special recognition. Alex Hardee, Allison Johnson, and Elise O’Dea devoted a substantial portion of their final year of law school to assisting and advising the student authors. This Annual Review is infused with their talent and insights. Ms. O’Dea played a particularly important role, as she also served as ELQ’s Editor-in-Chief, working with us to compile the list of noteworthy cases and seeing the issue through to publication even as she prepared for the bar exam and her post-graduation employment.

Finally, the Annual Review would not be possible without the extraordinary group of student authors. Their aptitude and zeal for the law is evident in the papers they have produced. Their work is extraordinary. Often starting with little background, they each dove into a recent case or development, worked tirelessly to understand its context and import, developed a thesis, and wrote and polished their paper within the space of an academic year. We are awed by the hard work they put in, duly impressed with the products, and grateful to have had the opportunity to guide this special group of future lawyers.

Law professors, students, legal historians, and countless other scholars seeking insight into the major developments in environmental, natural resource, and land use law during the past year will benefit from this Annual Review. In this foreword, we provide a brief preview of the papers that follow.

The year covered by this issue featured a remarkable diversity of developments emanating from the International Court of Justice, the U.S. Supreme Court, four federal circuits, and one state supreme court, and covering a range of topics. Despite the wide range of sources of these developments, a handful of themes emerge.

Most important is climate change and the fossil fuels that contribute to it. Climate change has increasingly become a central focus of environmental law in the United States in the past two decades, but in many ways it became the
dominant issue in 2014–2015. Of the eleven cases addressed in this year’s Annual Review, three are directly related to climate change. Five others involve the environmental impacts of fossil fuel production and combustion; while they are not directly about climate change, they will have major impacts on climate change policy. For instance, the Federal Environmental Protection Agency’s (EPA) efforts to control hazardous air pollution from coal-fired power plants and interstate air pollution from major industrial sources could also produce significant reductions in greenhouse gas emissions by, for example, forcing the closure of old, highly polluting coal-fired power plants.1

An obvious starting point for considering the impacts of fossil fuel production and combustion on the environment is the Deepwater Horizon oil spill. There have been few environmental disasters in the history of the United States that matched the scale of the blowout from the Deepwater Horizon oil rig in the Gulf of Mexico. Major oil spills likewise prompt litigation over financial responsibility for the damages to economic interests and natural resources. In In re Deepwater Horizon, the Fifth Circuit held that the corporations that owned and operated the oil drilling platform were liable under the Clean Water Act for the damages caused by the explosion.2 But Hayley Carpenter looks beyond the oil and drilling companies, and concludes that government regulators were equally at fault for the disaster. As she demonstrates, the incompetence of the primary environmental and safety regulator of offshore oil and gas drilling at the time, the Minerals Management Service (MMS), facilitated the disaster. The author describes how the conflicting goals of the MMS—to facilitate energy development while simultaneously protecting workers and the environment—hamstrung its regulatory efforts. Nor are Ms. Carpenter’s concerns assuaged by the subsequent splitting of the MMS into three agencies to eliminate the problems of conflicting goals. She notes ongoing, fundamental challenges. MMS and its successor agencies were created unilaterally by executive order. Their existence in part hangs on the uncertainties of congressional appropriations. As a result, the regulatory agencies face institutional uncertainty, the risk of capture by regulated parties, and diminished accountability to the public, all of which will continue to interfere with effective regulation in the future. Ms. Carpenter suggests using funding from the regulated oil and gas industry—structured in a way to avoid capture of the agency by the regulated industry and perverse incentives—as a way to provide more certainty that the surviving agencies will receive adequate funding to do its job.

Onshore, U.S. fossil fuel production (in the form of oil and natural gas) has boomed in the past decade, facilitated by unconventional forms of

2.  753 F.3d 570 (5th Cir. 2014).
extraction techniques such as hydraulic fracturing or “fracking.” The fracking boom has led to political and legal controversy across the country. A key question has been the appropriate level of regulation: Who should take the lead in regulating the impacts of fracking activities, states or local governments? The Pennsylvania legislature enacted a law preempting all local regulation of fracking, which was challenged by local governments and environmental groups. In Robinson Township v. Commonwealth, the Pennsylvania Supreme Court concluded that the state law violated provisions of the state constitution recognizing the right to a healthy environment. Elena Pacheco develops evidence that fracking impacts in Pennsylvania have been disproportionately borne by poor, rural communities. The question she poses is whether giving those communities greater power to regulate fracking will result in stronger environmental protections and, ultimately, advance environmental justice. As Ms. Pacheco concedes, granting local governments leeway to regulate fracking may not necessarily result in greater environmental protection or a more even distribution of fracking’s adverse environmental impacts. But since most state preemption laws are designed to prevent local governments from imposing stringent regulation or bans on fracking, Ms. Pacheco concludes that local power will advance the cause of environmental justice.

The impacts from fossil fuels do not end with taking the fuel out of the ground, but extend to air quality. In this regard, the impacts are both local and global. Local air pollution impacts can be severe. Long before modern environmental statutes were enacted and enforced by government agencies, private parties harmed by air pollution could seek relief by suing in court on a nuisance theory. But have those private nuisance remedies survived the enactment of comprehensive regulatory statutes like the Clean Air Act? In Bell v. Cheswick Generating Station, the Third Circuit concluded that nuisance remedies are indeed alive and well and not preempted by federal law, at least for neighbors suing a nearby power plant for property damage caused by dust and powder emitted by the plant. Ingrid Pfister identifies the key elements of the decision, contrasting Bell with other cases in which courts have found nuisance law displaced by the Clean Air Act. Ms. Pfister’s analysis provides a useful roadmap for future plaintiffs seeking to protect their property rights through nuisance litigation. The author acknowledges the limits of nuisance, particularly with respect to complex problems of interstate air pollution or greenhouse gas emissions. Nonetheless, Ms. Pfister argues that nuisance is a valuable complement to regulations enforced, and permits issued by, government agencies.

However, many of our most challenging air pollution problems from fossil fuel combustion are long-distance in nature. Pollution from large industrial sources, particularly power plants, inevitably crosses state borders, thereby

4. 734 F.3d 188 (3d Cir. 2013).
exacerbating serious air pollution problems in metropolitan areas. Pursuant to its regulatory authority under the Clean Air Act, EPA imposed limits on the emission of interstate air pollution. EPA’s regulation was challenged by states and industry and, given the scope and importance of the regulation, it is not surprising that the Supreme Court agreed to hear it. In *EPA v. EME Homer City Generation, L.P.*, the Court upheld EPA’s regulations. But Purba Mukerjee identifies some potential risks in EPA’s approach. Under the Clean Air Act, states generally take the first step in developing plans to reduce air pollution. EPA approves or rejects those plans. In the event the state fails to produce a satisfactory plant, EPA can impose its own plan. In the regulation at issue in *EME Homer*, EPA both concluded that state plans were inadequate to control interstate air pollution, and proceeded directly to impose its own federal plan without giving states a chance to respond. While the Court approved EPA’s approach, Ms. Mukerjee observes that aggressive and rapid federal displacement of state authority in this area could cause major disruption to the regulatory structure for electricity rates and reliability, a structure historically developed at the state level. The author advocates a slower, steadier approach by the EPA in future regulatory decisions.

Another form of long-distance air pollution from fossil fuel combustion is the emission of toxic air pollutants, particularly mercury, from coal-fired power plants. EPA’s efforts to control this pollution under the Clean Air Act were at issue in *White Stallion Energy Center, LLC v. Environmental Protection Agency*. Industry challenged EPA’s regulations in part for their failure to adequately consider costs in making the decision whether to regulate. While the D.C. Circuit initially rejected that challenge, ultimately the Supreme Court agreed with industry. Molly Coyne notes, however, that the debate over whether EPA should have considered costs and benefits in a particular stage of the regulatory process pursuant to the language of the Clean Air Act is beside the point. EPA already was effectively required to consider costs and benefits throughout its regulatory process because of oversight by another federal agency, the Office of Information and Regulatory Affairs, a unit of the Office of Management and Budget in the White House. Pursuant to executive orders issued by every president since Ronald Reagan, all federal agencies have been required to demonstrate that the issuance of major regulations will produce more benefits than costs. Ms. Coyne critiques this process, arguing that it has given disproportionate influence to the regulated community in the regulatory process, has facilitated political attacks on EPA’s regulatory efforts, and overemphasizes the easily measured costs of regulation at the expense of the often all-too-hard-to-measure environmental benefits of regulation.

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But the most global of all the impacts of fossil fuel combustion is the emission of greenhouse gases contributing to climate change. As noted above, climate change has become the driver of much environmental law, including much of the EPA’s regulatory efforts under the Clean Air Act. Because of their scope and the difficult legal and policy questions they raise, those efforts have attracted the attention of the Supreme Court. In *Utility Air Regulatory Group v. EPA* (*UARG*), the Supreme Court considered industry challenges to EPA regulations imposing Clean Air Act permitting requirements on large industrial sources of greenhouse gases.\(^7\) The ultimate result was a mixed decision for the EPA, with the Court upholding the basic concept of EPA regulation of greenhouse gases under the Clean Air Act, but restricting permitting requirements to sources already subject to regulation because of the emission of other pollutants. As Eric DeBellis notes, the real import of *UARG* is not the impact on the particular regulatory programs at issue in the case, but on the future, more extensive EPA efforts to regulate greenhouse gas emissions from existing power plants across the country: EPA’s Clean Power Plan. Mr. DeBellis observes that what drove the Court’s reasoning in *UARG* was skepticism about government regulation of millions of small, nonindustrial sources. The key question is whether that same skepticism will doom the Clean Power Plan if the Court ever hears legal challenges to it (as seems likely). In particular, the Plan includes efforts to reduce energy demand “beyond-the-fenceline” of power plants. The Plan does not only embody control measures integral to power plants’ own industrial systems, but also can include efforts to, for example, reduce energy demand across the electric grid. This component has been controversial and will be the subject of legal challenges. The author notes that the Court’s concerns in *UARG* focused on regulation of small sources. Thus, Mr. DeBellis opines that so long as the “beyond-the-fenceline” regulation focuses on large actors such as utilities, the Court may well uphold the Plan.

Not all of the action on climate change is occurring at the federal level. California has been a leader in seeking to limit greenhouse gas emissions. But California’s efforts have also lead to repeated conflicts, both legal and political, over whether the state has overstepped constitutional boundaries in our federal system of government. The most recent chapter in these fights has been litigation over California’s Low Carbon Fuel Standard, which seeks to reduce carbon emissions from transportation fuels. A range of energy producers challenged California’s standard in federal court, arguing that it discriminated against interstate commerce in violation of the so-called Dormant Commerce Clause. In *Rocky Mountain Farmers Union v. Corey*, a divided Ninth Circuit rejected these challenges.\(^8\) Stephanie Postal concludes that the court reached the correct result, but argues that the Dormant Commerce Clause is a

\(^7\) 134 S. Ct. 2427 (2014).

\(^8\) 730 F.3d 1070 (9th Cir. 2013), *reh’g en banc denied*, 740 F.3d 507 (9th Cir. 2014).
problematic doctrine to apply in reviewing state environmental laws. She observes that the doctrine lacks any textual basis in the U.S. Constitution, and is a creature of case-by-case judicial decision making that has created flexible standards often difficult to precisely apply. As a result, Ms. Postal argues that the conclusions in Dormant Commerce Clause cases are heavily influenced by the values of the judges rendering those decisions. This leads to enormous difficulty in predicting outcomes in Dormant Commerce Clause cases, which in turn has a chilling effect on important state efforts to protect the environment. The author calls for courts to make their Dormant Commerce Clause jurisprudence more predictable, and more deferential to states.

State-level action might extend beyond direct state regulatory efforts to include enforcement efforts through citizen suits by environmental groups. Such suits play a central role in U.S. environmental law, impacting both the interpretation and implementation of federal and state laws. However, the principles governing standing limit who can initiate a lawsuit. Standing has recently become a major obstacle for environmental plaintiffs seeking to challenge state and federal agency decisions with respect to the regulation of greenhouse gas emissions. For instance, in *Washington Environmental Council v. Bellon*, the Ninth Circuit held that environmental plaintiffs did not have standing to challenge a Washington state environmental agency decision setting standards for greenhouse gas emissions from oil refineries.\(^9\) According to the Ninth Circuit, the plaintiffs could not demonstrate that the oil refinery emissions were more than a trivial cause of global climate change or that imposing more stringent emission standards would remedy climate change harms. Niran Somasundaram first notes that the *Bellon* court’s application of the relevant standing precedent appears to be overly restrictive. But he goes on to catalogue the other tools available to plaintiffs seeking to challenge greenhouse gas emissions in court, even if federal courts continue to strictly apply standing doctrine to greenhouse gas litigation: challenges under the National Environmental Policy Act in federal court, citizen suits based on federal law in state courts (many of which have crafted more relaxed standing standards), and citizen suits filed in state courts based on state law or state constitutional provisions.

The impacts of climate change will include major changes to precipitation patterns around the world, forcing the physical and legal restructuring of water systems. For instance, the current drought in California has triggered many battles over the shrinking water supply in the state. One of the most important is the fight over how to allocate water from the San Joaquin-Sacramento Delta. The centrally located Delta is the hub for the state’s complex water distribution system, but also a highly altered and threatened ecosystem with multiple endangered fish species. Where there are endangered species, there is the Federal Endangered Species Act (ESA), which regulates federal actions.
potentially harming such species. Pursuant to the ESA, the Bureau of Reclamation cut water deliveries to farmers in California’s Central Valley in order to protect the delta smelt, a fish species listed as threatened under the ESA. Irrigation districts sued, arguing that the agency’s decision was not based on sound science. They lost in the Ninth Circuit, which ruled in San Luis & Delta-Mendota Water Authority v. Jewell that the federal agencies had applied the ESA correctly. But Shampa Panda notes that the conflict over water from the Delta in the San Luis case is just one more example of a fundamental problem in California water management. Economists and policy makers are well aware of fundamental tools to advance water conservation, including more effective pricing techniques for water delivery and less wasteful irrigation technology. Yet water districts have consistently lagged in implementing those tools, despite repeated cycles of drought. Ms. Panda surveys reports produced by the major irrigation districts and finds that districts with more senior, protected water rights are consistently worse in implementing these techniques. She argues that these delays in using proven techniques to conserve water demonstrate the need for government regulation to ensure effective water management, particularly in the face of increasing water shortages in the future due to climate change.

Climate change is not the only global-level threat to the environment. Human activity has caused significant impacts on biodiversity around the world. One of those impacts, a result of the increased trade and commerce of a modern globalized society, has been an increase in the transfer of species to new habitats where they have not been historically present. Non-native species can often cause significant ecological and economic damage. For instance, the Asian carp was introduced to the southern United States for aquaculture, but later escaped. The Asian carp has taken over the Mississippi River ecosystem, causing major ecological damage to native fish species and economic losses for the fishing industry. A major concern is the possibility that the carp might enter into the Great Lakes, devastating the unique and valuable lake ecosystems. Relying on federal common law nuisance, the Great Lakes states sued to force the Army Corps of Engineers to close the Chicago Area Waterways System, the canal that connects the Mississippi River watershed with the Great Lakes and provides the path by which the carp might invade the lakes. In Michigan v. U.S. Army Corps of Engineers, the Seventh Circuit denied the states’ request for injunctive relief even while acknowledging the dire threat the carp posed to the Great Lakes. Sabira Khan considers whether the court’s deference to the Army Corps was appropriate. She analyzes whether judicial intervention (through nuisance litigation) or agency action (implementing congressional statutes) would be more effective in addressing invasive species threats such as the carp. Ms. Khan ultimately concludes that agency action will generally be

10. 747 F.3d 581 (9th Cir. 2014).
11. 667 F.3d 765 (7th Cir. 2011).
more effective, though she also concludes that courts should keep a close eye on agencies to prevent them from unreasonably delaying necessary response actions.

Human impacts on biodiversity extend to the oceans as well. The legacy of decades of commercial whaling has lead to the collapse of whale populations around the world. Disputes over commercial whaling on the high seas have prompted political controversy, diplomatic rows, and even a reality TV show. It has also prompted litigation in the International Court of Justice (ICJ). Australia sued Japan, alleging that Japan’s harvesting of whales for its scientific research program violated a ban on commercial whaling enacted under the International Convention on the Regulation of Whaling. In a case noted for its extensive use of scientific evidence and expert witnesses, the ICJ concluded in *Australia v. Japan* that Japan’s whale harvests could not be justified as a scientific program. While the ICJ’s decision has received much attention for the implications it might pose for the conservation of marine mammals, Remi Moncel notes that the ICJ’s decision has broader implications for how international tribunals use scientific information. Like environmental law and policy in general, international environmental disputes will usually involve contested science. Mr. Moncel argues that international tribunals must consistently weigh scientific evidence using recognized judicial procedures to ensure accountability and transparency. However, the author concludes that while the ICJ made effective use of scientific evidence in *Australia v. Japan*, it did not clearly articulate the standards governing the admission and analysis of that evidence. The problem, the author notes, is that this leaves little guidance for future tribunals that could benefit from the ICJ’s guidance. Mr. Moncel advocates that international tribunals and the treaties that create them should establish clear and consistent procedures to guide the use of scientific information in resolving international environmental disputes.

While the eleven articles in this year’s Annual Review on the surface appear to be on widely disparate topics, in the end they share fundamental connections. They all reflect the dramatic changes that human activities have had on our environment—from the global to the local level. Fossil fuel production impacts the land and sea; the combustion of fossil fuels produces air pollution from the local to the continental level, as well as climate change that will reshape natural systems (such as hydrological cycles) around the planet; and the increased commerce and travel of our modern global society threatens biodiversity on land and sea. These impacts will be felt across society, though they will be particularly harsh on those with the least capacity to adjust. Some scientists have announced that we are on the cusp of a new geological era, the Anthropocene, because of the level of human dominance of global systems

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such as climate, water, and biodiversity.\textsuperscript{13} As our student articles this year make clear, the sweeping nature of those impacts are well reflected in the challenges facing United States and global, environmental law.

\textsuperscript{13} See Will Steffen et al., \textit{The Anthropocene: Are Humans Now Overwhelming the Great Forces of Nature?}, 36 AMBIO 614 (2007).