



**PROJECT REPORT**  
FEBRUARY 2009

# BREAKING THE LOGJAM:

Environmental Reform for the New Congress and Administration





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By David Schoenbrod, Richard B. Stewart, and Katrina M. Wyman

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## OVERVIEW

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Despite many earlier accomplishments, the federal environmental protection system is not up to the environmental problems of the present. It is fragmented and too complicated to administer well. Perhaps most important, the current system slows down environmental progress by preventing regulators and private actors from adopting innovative strategies to deal decisively with longstanding and newly emerging environmental problems.

As this report goes to press, it is widely expected that the Obama administration will pursue a large stimulus package that will include investments in green jobs and energy. Environmental law reform would be a natural complement to these measures. While a green stimulus package would promote near-term green investments using the power of the federal purse, environmental law reform could incentivize fundamental innovation by using new tools to enlist the energies of millions of Americans to improve environmental quality.

The shortcomings of the existing environmental statutes and their adverse impact on environmental quality have long been understood by regulators, environmental groups, and industry and have been well-documented by scholars of the left, right, and middle. Yet, political

polarization in Washington has kept Congress from passing any major environmental statute since 1990. There is accordingly an urgent need for innovative strategies for environmental protection that will break the political logjam and meet environmental challenges that have become increasingly complex.

The *Breaking the Logjam* project was started in 2006 by New York Law School Professor David Schoenbrod and New York University School of Law Professors Richard Stewart and Katrina Wyman to address this need by developing an integrated set of proposals for legislative changes. The three project leaders began by enlisting a diverse cross-section of over forty leading environmental law and regulatory experts to propose and comment on ideas for amending the federal environmental laws at a conference held in March 2008 at New York University. The work of these participants has been published in a special issue of the *New York University Environmental Law Journal*.

The purpose of this report, which is authored by the three project leaders, is to provide a constructive starting point for the political dialogue that is necessary to achieve environmental law reform. The report builds on many of the ideas discussed at the March 2008 conference, but it is not a synthesis of these ideas, and indeed conference



The federal environmental statutes that Congress has addressed to EPA run to more than 2,700 pages in the two large, maroon United States code volumes. The legally binding regulations issued by EPA to implement these statutes fill the 31 ochre volumes of the Code of Federal Regulations. The guidance and other documents issued by EPA to explain or interpret its regulations fill around one million pages and are represented by the 1,250 grey loose-leaf volumes.

participants may disagree with aspects of the report. By offering a comprehensive, integrated package of legislative proposals, the project leaders hope that the report will spur the discussions among legislators, regulators, environmental groups, and regulated interests that are a vital prerequisite to legislative change.

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## The Problem of Statutory Obsolescence

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In the 1970s, when the first wave of federal environmental statutes was passed by large bipartisan majorities, almost everyone believed that the federal government had to dictate to polluters how to clean up their act because only it had the expertise and political will to do so. Thus, the 1970s environmental statutes, which remain our principal federal environmental statutes, rely heavily on top-down, hierarchical regulatory approaches. The chain of command reaches down through federal regional offices and often states and localities to businesses, individuals, and other targets of regulation.

This strategy achieved impressive gains in many, but not all, fields of environmental regulation. In the 1970s and 1980s, highly prescriptive federal regulation quickly reduced air and water pollution from large sources of pollution, such as power plants, and addressed some of the most serious toxic waste problems. It also achieved some successes in natural resource protection. But today, almost forty years after the passage of our basic federal

governing structure, we have learned more about the nature of some longstanding environmental problems and the limits of the regulatory tools that we have used for addressing them. We are also encountering new problems. We need new tools to address many old problems more effectively and to deal with the new ones.

There is also growing recognition that, with proper government oversight, regulatory approaches relying on market- and property right-like mechanisms and information techniques can and should be designed to address environmental problems. These regulatory tools have the potential to harness the innovation and entrepreneurship of many to produce greater environmental gains, often at a lower aggregate cost than traditional regulation. More efficient regulatory approaches are especially desirable in the current economic environment when governments are striving to do more with less.

Further, there is also recognition that there should be a more sensible division of responsibility between federal and state governments—one in which the federal government has the responsibility and authority to deal directly with national and transnational environmental problems, and the states have more scope to address environmental problems, especially if those problems are primarily local. Since 1990, the last time Congress passed a major piece of environmental legislation, states have stepped up to the plate on a host of environmental issues, including climate change and oceans degradation, offering exciting solutions that ultimately could be the model for federal efforts. The energy at the state level emphasizes the potential for the states—as well as the federal government—to be environmental leaders.



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## Moving Forward

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How can we move beyond the grip of political polarization? The process leading up to the passage of the 1990 amendments to the Clean Air Act may point the way.

In 1990, as now, the country faced significant economic challenges while Congress and various administrations had been gridlocked for more than a decade over how to address a major environmental problem: acid rain. What finally allowed the administration and Congress to proceed was a regulatory innovation—a cap and trade system—and the support of a group of experts that included every living Nobel Prize-winning economist in the United States.

The cap and trade system imposed a declining cap on the amount of sulfur dioxide that power plants could release as a group in order to cut emissions by 50 percent. But it did not exact a steep economic price, because individual power plants were given the right to sell unused permits to release sulfur dioxide to each other, thereby allowing the plants that could reduce emissions most cheaply to do so while selling their permits to others who had higher costs. Since 1990, the acid rain trading program has reduced sulfur dioxide emissions from utilities to a greater

degree and at a significantly lower cost than expected. The trading program was a win-win solution that allowed the country to move forward on reducing acid rain.

There are two lessons to be drawn from the 1990 experience about the way out of the current logjam in environmental law. The first is that we should be looking for as many innovative policy tools as possible to help make environmental protection regulation smarter, more flexible, and more cost effective. We need win-win solutions that guarantee environmental improvements while confronting head-on concerns that improving environmental quality costs too much. The second is that groups of experts, either nonpartisan or representative of the whole range of stakeholders on a given issue, can help legislators move beyond partisanship by offering consensus solutions to difficult problems.

Today the public demands action on climate change, and government cannot respond sensibly without new legislation. The success of the acid rain trading program has helped to generate broad support for making cap and trade the centerpiece of any program to deal with climate change. But the work of the new administration and Congress cannot, and should not, stop with climate change. To be effective, any legislative response to climate change must also change how the Clean Air Act deals with conventional pollutants. Moreover, the same logic that calls for an innovative response to climate change supports overhauling the old statutes and administrative programs dealing with other challenges.

This report identifies specific reforms that should be made to our current environmental laws. Our recommendations are ambitious but realistic.

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## About the *Breaking the Logjam* Project

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This report is the product of a joint undertaking by New York Law School and New York University School of Law to recommend how the new Congress and administration should amend the major federal environmental laws. The project's recommendations are guided by the four principles outlined on pp. 6–7.

The project is led by New York Law School Professor David Schoenbrod and New York University School of Law Professors Richard Stewart and Katrina Wyman.<sup>1</sup> In 2006, the project leaders enlisted over forty environmental law experts from around the country and across the ideological spectrum to propose statutory changes and to comment upon those proposals at a conference held in March 2008 at New York University School of Law. The conference participants included not only law professors but also economists and individuals from environmental advocacy groups, major corporations, and national, state, and local governments. The proposals, refined on the basis of discussion at the conference, have been published in a special issue of the *New York University Environmental Law Journal*.<sup>2</sup>

This report was prepared by the project leaders and reflects their judgment of the key changes that should be made to federal environmental law. In preparing the report, the project leaders drew on reform proposals presented and commented upon at the March 2008 conference. But the report is not merely a synthesis of the many ideas discussed at the conference, and the project leaders make no representation that it reflects the views of the many individuals who generously participated in the conference or the project in general.

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## Project Leaders

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**David Schoenbrod** is a professor at New York Law School and a visiting scholar at the American Enterprise Institute. As a staff attorney for the Natural Resources Defense Council (NRDC) during the 1970s, he was a leader in the campaigns to get lead out of gasoline, reduce air pollution in Puerto Rico, and combat automotive pollution in New York City. His work on environmental justice began earlier in a position as director of community development at the anti-poverty organization that Senator Robert Kennedy established in Bedford-Stuyvesant. His writings on environmental law and regulation appear in books, scholarly journals, and newspapers.

**Richard B. Stewart** has taught and written on environmental and administrative law for thirty-five years, first at Harvard Law School and the Kennedy School of

Government and, since 1992, at New York University School of Law where he heads the Frank J. Guarini Center on Environmental and Land Use Law. From 1989 to 1991, he served President George H. W. Bush as Assistant Attorney General for Environment and Natural Resources, U.S. Department of Justice, where he led the prosecution of Exxon for the Exxon Valdez oil spill and played a central role in the development of the 1992 Rio Climate Change Convention. He is a longtime trustee of the Environmental Defense Fund, serving as its Chairman from 1981 to 1983. He has written extensively on economic incentives for environmental protection and federalism issues in environmental policy.

**Katrina M. Wyman** was born and raised in Canada and moved to the U.S. seven years ago to teach at NYU. She is particularly interested in the use of property rights and market mechanisms for addressing environmental problems, and she has extensively studied the use of emissions trading and individual fishing quotas in different countries. Before studying law in Canada, she was a policy analyst in the Ontario government for several years.

This report does not necessarily reflect the views of any of the organizations with which the project leaders are associated.



Left to right: David Schoenbrod, Katrina M. Wyman, and Richard B. Stewart.

<sup>1</sup> They have been assisted by Carol Casazza Herman, as Project Counsel, and Katherine Schoonover, as Director of Communications.

<sup>2</sup> For the essays in the special *Breaking the Logjam* issue of the *New York University Environmental Law Journal*, see <http://www.breakingthelogjam.org/CMS/files/75471232124490TOC.pdf>.

## Project Principles

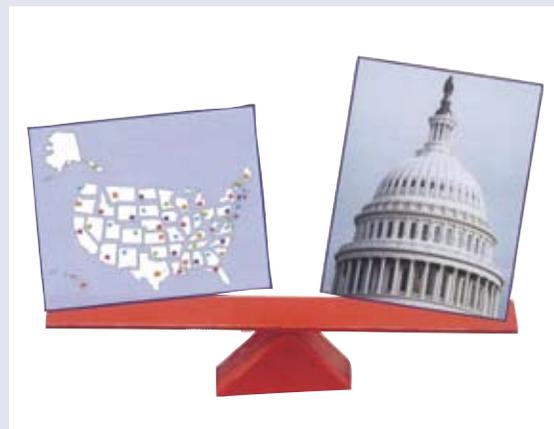
### FOUR PRINCIPLES UNDERPIN THIS REPORT'S RECOMMENDATIONS.

The principles outlined below are not new. While not everyone agrees, many environmental scholars from the left and the right do advocate them. The unique contribution of the *Breaking the Logjam* project is to harness all four principles together to propose concrete reforms for a comprehensive range of environmental challenges.



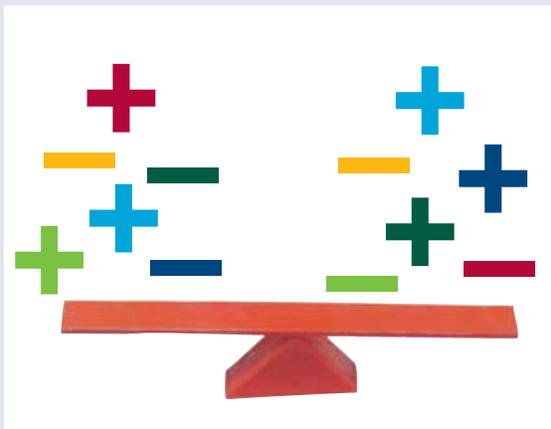
**Principle 1:** Traditional hierarchical regulatory approaches should be complemented by new tools that deploy market- and property right-like mechanisms, such as cap and trade programs and information disclosure, whenever they can reliably achieve environmental objectives.

If properly designed, monitored, and enforced, regulatory strategies based on market- and property right-like mechanisms can create networks that enlist the creative ideas and energies of many actors in the service of improving environmental quality. These strategies should be regarded as a useful supplement to, not a replacement for, traditional regulatory strategies. Regardless of the approach selected, sound enforcement and rigorous performance verification are necessary to achieve environmental gains.



**Principle 2:** Authority should be realigned so that the federal government has direct responsibility for national and transnational environmental problems, and states and their subdivisions have more independent responsibility for essentially local ones.

When Congress adopts legislation to address climate change, implementing this new regulatory regime will be the top priority of the federal environmental bureaucracy. The Environmental Protection Agency (EPA) and other federal agencies need to be given the space to focus their resources on this new challenge and on other environmental issues that cross state or national lines. In some cases this will require expansion of existing federal authority, while in others, especially with regard to local environmental problems, it will require a greater state role.



**Principle 3:** Trade-offs should be faced openly and made on the basis of reliable information.

The environmental statutes of the 1970s often make it difficult to weigh explicitly the costs and other trade-offs involved in determining how much pollution to allow or how much of a resource to conserve. As a result, agencies charged with implementing these statutes often have no choice but to make these trade-offs in opaque ways that are inaccessible to public scrutiny and review. For example, in setting technology-based controls for major air and water pollution sources, EPA must, and does, weigh costs and feasibility against the extent of the environmental benefit achieved, but it does so in hundreds of different complex rulemaking proceedings, and often in highly technical jargon without explicitly confronting the trade-offs presented. Going forward, Congress should admit that trade-offs are inevitable in environmental protection. Statutes should make the trade-offs themselves or openly address how they will be made and by whom. Whatever method of regulatory impact analysis is used, the executive branch should reexamine its methods to ensure that the underlying data, assumptions, and methodologies are up-to-date and even-handed.



**Principle 4:** Regulatory approaches should be cross-cutting and address underlying causes.

The governmental structures adopted in the 1970s compartmentalize environmental protection. Despite its sweeping title, the Environmental Protection Agency shares responsibility for environmental protection with many other federal agencies. And EPA itself is divided into distinct offices, such as offices for air pollution and water pollution, which operate largely independently of each other. This compartmentalization is problematic because with environmental protection, as with the natural environment itself, everything is connected to everything else. While some degree of compartmentalization is inevitable, we should aim to minimize it and its ill effects. Congress's response to climate change, for example, should comprehensively address climate change and conventional air pollution and not relegate these issues to separate silos.

## REPORT HIGHLIGHTS

### **This report makes five clusters of recommendations:**

1. **Climate Change and Air Pollution Regulation:** We recommend that Congress adopt a cap and trade (or, possibly, a tax) program for climate change, and that it simultaneously reform the regulation of criteria air pollutants under the Clean Air Act through use of a cap and trade approach in order to protect public health more effectively, avoid conflict with the climate change program, and address underlying problems with the existing Act.
2. **Oceans:** We recommend that Congress and the administration start the process of zoning the oceans to preserve areas for future generations, recover declining fish populations, and make more sustainable use of the vast ocean resources under U.S. control.
3. **Water, Lands, and Wildlife:** We recommend that Congress and the administration use market- and property right-like mechanisms and better target existing regulatory resources in order to reduce water pollution, improve the management of federally owned public lands, and reduce biodiversity loss.
4. **Nuclear Waste:** We recommend a comprehensive new approach to the management and disposal of nuclear waste in order to redress the failures of the current system and address a key issue—nuclear waste disposal—underlying the current debate over potential expanded use of nuclear energy.
5. **Institutional Innovations:** We recommend that environmental lawmaking and regulation be improved by assuring proper consideration of environmental benefits in regulatory cost-benefit analysis, broadening expert participation in rulemaking, improving the use of environmental science, and increasing the use of expert proposal systems. The last point is important because it provides a vehicle for Congress to get done what it needs to do after a long legislative logjam.

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### Further Information

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# 1. CLIMATE CHANGE AND AIR POLLUTION REGULATION

*Climate change is the most important environmental issue, but also the most challenging because of the stakes. When it addresses climate change, the new Congress must also reform the Clean Air Act to improve public health and to avoid clashes between the new climate change program and the Act.*



## RECOMMENDATIONS:<sup>3</sup>

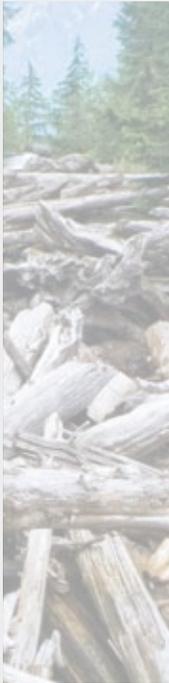
### To address climate change, Congress should:

- Enact a cap and trade (or, possibly, a tax) program limiting greenhouse gas emissions.
  - One cap (or tax program) would apply to emissions from large stationary sources and all fuels. There would be credits and offsets for any sources of emissions or sinks not covered by the program—such as agriculture and forestry—as long as they can be adequately quantified and other reasonable regulatory conditions can be met.
  - A second, separate cap (or tax program) would apply to greenhouse gas emissions from new vehicles, and perhaps a third as well to the carbon content of vehicular fuels.
  - Efficiency standards for new appliances, lighting equipment, engines, and other nationally marketed products would be retained and strengthened.
- Require states to adopt plans to conserve energy through reforms to current systems of public utility regulation, land use and transportation planning, building codes, and other state or local policy tools. The federal government should not control the contents of the state plans. It should instead reward success by providing states with subsidies based on each state's measured impact on energy use.
- Require major greenhouse gas sources to report their emissions and large buildings to report their energy usage. The federal government should make this information available to consumers, investors, and others in a readily searchable and comparable form.
- Exclude greenhouse gas emissions from current Clean Air Act programs following adoption of a cap and trade (or, possibly, a tax) program for those emissions.

### Simultaneously, Congress should also reform the Clean Air Act's framework for regulating conventional air pollution to:

- Adopt direct federal controls on all important sources of criteria pollutants, including large stationary sources, fuels, and new vehicles.
  - These direct federal controls should ensure emission reductions substantially greater than those that could and would realistically be achieved under the current system.
  - These direct federal controls should take the form of cap and trade. Congress should set the caps to decline over time, determine the method of distributing the allowances, and expressly link these federal controls to the cap and trade or tax program on greenhouse gases.

<sup>3</sup> The recommendations in this section on climate change and air pollution are elaborated and discussed in greater depth in "Climate Change and Air Pollution: An Integrated Proposal," a position paper which is available on the *Breaking the Logjam* website, [www.breakingthelogjam.org](http://www.breakingthelogjam.org).



- Set the emission reduction schedule of these direct federal controls to achieve National Ambient Air Quality Standards, visibility objectives, and pollution minimization (which we refer to collectively as “national air quality goals”) at the pace set by Congress rather than through state implementation plans and related programs including New Source Review, vehicle inspection and maintenance, and transportation conformity requirements.
- Establish backstops to be invoked in case a state backslides or allows harmful interstate spillovers, and to prevent hotspots.
- Require EPA to provide the states and localities with guidelines for regulating the small sources of predominantly intrastate pollution left to their control and to provide the public with candid rankings of states’ and localities’ performance in reducing emissions and improving air quality.

**Finally, to keep the regulatory system current, Congress should:**

- Establish a process to reconsider the goals and methods of programs for regulating greenhouse gases and criteria pollutants periodically in light of changes in knowledge and circumstances.





The retreat of the Muir Glacier, Alaska, from 1941 to 2004.

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## Rationale

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### Climate Change

**Why a cap and trade or tax program:** Cap and trade is a proven market-based approach for achieving greater reductions in air pollution at less cost than traditional regulation. It guarantees environmental results by capping total allowable emissions. By allowing trading of allowances among sources, it greatly lowers the cost of reducing pollution compared with traditional regulation by incentivizing low-cost polluters to reduce their emissions below their allowable levels in order to sell their excess permits to higher-cost polluters. By imposing a price on all of the pollution a source emits, it also creates strong incentives for innovation in ways to reduce emissions further.

A tax on greenhouse gas emissions is another market-based approach. Like cap and trade, the tax incentivizes plant managers to find and implement cheaper ways to reduce emissions, gives them complete latitude on how to reduce emissions, and lets the reductions be made at the sources that can do so most economically. Unlike cap and trade, the tax approach would not directly set a cap on emissions, but would instead reduce emissions by putting a price on them. In contrast, cap and trade would not directly set a price on emissions, but would instead make them costly by capping them. We have a preference for cap and trade because we believe that cap and trade is clearly the superior mechanism for international regulation of greenhouse gases, and because it may be easier to integrate a domestic cap and trade program with such an international program. But either market-based approach is preferable to traditional prescriptive regulation.

If cap and trade is chosen, all allowances should be distributed by auction, at least after a transitional period, if for no other reason than to keep climate objectives clear of a political scrum for valuable assets.

### The design of the cap and trade or tax program:

A cap and trade program should include two caps: one on greenhouse gas emissions from large stationary sources and all fuels, and the other on greenhouse gas emissions from new vehicles. Consideration also should be given to establishing a third cap to achieve additional reductions in the carbon content of vehicular fuels. A tax program should cover the same categories of sources.

We recommend one cap (or tax) covering greenhouse gas emissions from large stationary sources and fuels because of the difficulty of monitoring emissions of other sources of greenhouse gases and later expanding the sources covered as monitoring methods improve. However, credits and offsets should be available for emissions from non-capped sources and sinks—such as agriculture and forestry—provided conservative default methods are used to estimate these emissions. Congress should not preempt states from imposing tougher controls on stationary sources.

We propose a separate cap and trade or tax program to reduce the greenhouse gas footprint of new motor vehicles because otherwise the program's only influence on vehicle design would be an increase in the price of fuel, an influence likely to be small. The cap on the greenhouse gas footprint of new vehicles would be in addition to the "CAFE" fuel economy standards. Congress should allow states to impose a tougher "California package" of

controls on new vehicles provided that this package allows trading within and between new vehicle fleets.

The influence of a cap and trade or tax program on emissions from new appliances, lighting equipment, engines, and other nationally marketed products may be blunted because of various market imperfections. Accordingly, federal efficiency standards for these products should be maintained and strengthened.



A carbon sink; forest near Frost Creek, Washington.

**State energy efficiency plans:** Either a cap and trade or tax program would reduce energy use by making it more costly to use energy from sources that contribute to climate change. However, such market-based programs are not sufficient because many decisions are not fully sensitive to price signals. Many such decisions can be reached through public utility regulation, land use and transportation planning, and building codes. States are better placed than the federal government to use these traditional state and local policy tools to reduce energy use. To spur states to use these tools, the federal government should require states to adopt energy efficiency plans, but it should not try to regulate their content. Instead, the federal government should use grants to reward states that move in the right direction, with the reward based on measured accomplishments rather than promises of future success.

#### **The current Clean Air Act and greenhouse gases:**

The Supreme Court has in essence ruled that EPA must treat greenhouse gases as pollutants under the federal emissions control provisions of the Clean Air Act. The pressing issue now is whether the Clean Air Act should be used to tackle climate change. Given that the statute's provisions were adopted without climate change in mind, it is perhaps not surprising that they would be less effective and efficient in controlling it than the measures recommended above. Indeed in some cases it would be unworkable to use the Clean Air Act to regulate greenhouse gases. For example, if the program requiring construction permits for major new or modified sources ("New Source Review") or the program requiring operating permits for any regulated source ("Title V" permits) were applicable to greenhouse gases, the number of permit proceedings would increase one-hundredfold, and include not only large factories but also office and educational buildings, hospitals, and farms. Congress should not foreclose any EPA initiatives under the current Clean Air Act until it enacts a cap and trade (or tax) program for regulating greenhouse gases, but it should not let the choice come down to using the current Act or doing nothing.

#### **Criteria Air Pollutants**

##### **Why revise the Clean Air Act's treatment of criteria pollutants:**

More important than our specific recommendations for reforming the Clean Air Act is the recognition that climate legislation creates the *need* and the *opportunity* for revising the Act's treatment of criteria pollutants.

The *need* arises because the future program to reduce climate change and the various existing programs to control criteria pollutants will clash without substantial revisions of the Clean Air Act. Consider two perverse consequences of introducing a climate change program without reforming the Clean Air Act. First, the current design of the Clean Air Act would prevent getting the full advantage of cuts in combustion-related pollutants that would come as a co-benefit from controlling greenhouse gas emissions from combustion sources that generate both types of pollutants. To take an example, a utility that replaces a coal-fired power plant with wind farms or nuclear power not only eliminates emissions of carbon dioxide, the most important greenhouse gas, but also eliminates conventional pollutants that come from burning coal. The Clean Air Act's system for regulating criteria

pollutants needs to be changed to ensure that the double benefit of reducing greenhouse gas emissions—i.e., the reduction in GHG emissions and the attendant reductions in emissions of conventional pollutants such as sulfur dioxide—is realized rather than squandered. Second, the current system for the control of criteria pollutants would undercut the benefits of a cap and trade or tax program for greenhouse gases. Cap and trade and taxes promote efficient and innovative ways to control greenhouse gases by giving individual sources latitude to decide who cuts emissions and how and the advance information needed to plan long term to make the most of that latitude. In contrast, many current Clean Air Act programs tightly constrain who cuts criteria pollutants and how, and can change those requirements frequently and piecemeal, often pollutant by pollutant and program by program. Such inflexible constraints and frequent changes would interfere with the latitude and advance planning essential to efficiency in cutting greenhouse gases.

The introduction of a climate change program also presents an *opportunity* to revise the Clean Air Act because the amendments needed to avoid conflicts with the new climate program could also address important shortcomings in the Act's approach to criteria pollutants. The Clean Air Act relies on two approaches to reduce criteria air pollutants. Sometimes Congress directly requires sources to reduce their emissions; in general, direct federal regulation has proven to be a successful way of reducing criteria pollutants. For example, in 1990, Congress required that power plants cut their sulfur dioxide emissions by 50 percent from 1980 levels by 2010; the cut was 48 percent by 2007. However, the centerpiece of the Clean Air Act is the state implementation planning process. Under this process states are required to adopt state implementation plans (SIPs) to reduce emissions within their borders sufficiently to achieve the National Ambient Air Quality Standards by specified deadlines. The state implementation planning process is widely regarded as an unwieldy process that consumes the limited time of federal, state, and local environmental agencies. A 2004 National Research Council study commented upon the process in unusually strong language, writing that "The SIP process now mandates extensive amounts of local, state, and federal agency time and resources in a legalistic and often frustrating proposal and review process, which focuses primarily on compliance with intermediate process steps." The same logic that recommends a cap and trade or tax program for controlling greenhouse gases also recommends a reduced



The view from Dickey Ridge, Shenandoah National Park, on a clean day (left) and on a polluted day (right).

reliance on state implementation plans for criteria pollutants. Indeed, EPA opted for cap and trade in its 2005 Clean Air Interstate Rule. A court found that the rule conflicts with the Clean Air Act and remanded it to EPA to correct the violation, if it can. Our recommendations would fix the problems this court decision causes by generalizing the cap and trade mechanism of the Clean Air Interstate Rule (which applies to a few pollutants from a limited range of sources in one region) and applying it to all criteria pollutants from all important sources in all regions.

**Use cap and trade to further cut criteria pollutants and reconcile their control with greenhouse gas regulation:** Instead of relying heavily on SIPs to reduce criteria pollutants, Congress should institute direct federal regulation of emissions from the largest stationary sources and continue direct federal regulation of emissions from new motor vehicles, fuels, and paints and solvents, all of which are nationally marketed products.

Direct federal controls should take the form of cap and trade and be expressly linked to the cap and trade or tax program for greenhouse gases. If there are source categories whose emissions cannot be measured or reliably estimated, they should be subject to federal emission limits without trading, but also without strings that have the practical effect of dictating the means chosen to achieve those limits. As to new vehicles, federal regulation could take the form of a limit on average emissions per vehicle. Under such a credit trading system,

manufacturers should be able to average emissions of the vehicles in their own fleets for each model year and trade with other manufacturers. A parallel approach should apply to paints and solvents and fuels.<sup>4</sup>

In the case of cap and trade, Congress itself should prescribe how the caps shall decline over time and how to apportion allowances. In the case of any other federal regulations, Congress should similarly lay down the rules prescribing how much emissions should be cut over time and apportioning the clean up burdens.

These federal controls for criteria pollutants should be expressly linked to and coordinated with the cap and trade or tax program for greenhouse gases to ward off the perverse effects described above, as well as to cope with unexpected technological breakthroughs or difficulties in controlling criteria pollutants. In the case of source categories subject to trading for criteria pollutants, this link should take the form of a system of safety valve prices. To guard against sources slacking off on criteria pollutant controls as a result of steps to reduce greenhouse gas emissions or unexpected breakthroughs in controlling criteria pollutants, the number of allowances for a criteria pollutant should be decreased if its market price falls below a set price. To guard against sources having to install criteria pollutant control equipment that becomes unnecessary because of the double benefit from greenhouse gas controls adopted somewhat later, the number of allowances should be increased if the market price rises above another set price. These two safety valve prices should be set to bracket the level of pollution control effort demanded from industry.<sup>5</sup> For source categories denied the opportunity to trade, the danger would not be sources slacking off, but rather having to make investments that would soon be unnecessary. To guard against that, sources should be allowed to postpone compliance with the emission limit for a limited period by paying a set fee.

**Which sources should be subject to direct federal regulation:** The stationary sources subject to direct federal control should be selected with the twin objectives of maximizing federal control of pollution

and reducing the administrative burden at the federal level to manageable proportions. Currently, the state implementation plan process is supposed to deal with 52,194 “point sources”<sup>6</sup> in 874 categories plus hundreds of thousands of generally much smaller “area sources.” Consider instead, by way of illustration, if direct federal control was limited to the 3,225 point sources in twelve categories.<sup>7</sup> In that case, direct federal regulation would reach only 6 percent of the point sources and 0 percent of the area sources now covered in the state implementation plan process. Yet, together with continued regulation of new vehicles, fuels, and paints and solvents, direct federal regulation would deal with the great majority of ambient concentrations covered by criteria pollutants, as shown in the following table.

Pollutant	Portion federally regulated
Sulfur dioxide	85%
Nitrogen oxides	84%
Volatile organic compounds	More than three quarters
Particulate matter	More than three quarters
Carbon monoxide	83%
Lead	By far the largest source, lead additives to vehicular gasoline, has been eliminated. Two-thirds of the remaining lead emissions would be covered.

In fact, the numbers in the table understate the degree to which controllable pollution would be subject to federal regulation. Some of the ambient concentrations not covered come from sources that are impossible to control, such as forest fires and building fires. Almost all of the rest comes from sources that are individually smaller, including not only large firms with modest emissions, but also small businesses and residences. The cost of securing a unit of pollution reduction from many of these sources in control costs, administrative resources, and political pain makes them difficult to control.

<sup>4</sup> Trading, however, should not be extended to regulation of fuel characteristics essential to make the fuel compatible with emissions control systems in vehicles.

<sup>5</sup> This safety valve system would be applicable to any source category subject to trading.

<sup>6</sup> EPA’s AirData uses the term “point source” rather than “major source.” The information in AirData comes from states, and they are supposed to include in the point source category only major sources, but there appear to be many sources other than major sources reported as point sources. This oddity in AirData is one reason why our proposal on which stationary sources should be subject to federal control is tentative.

<sup>7</sup> We identify the twelve categories in our position paper on “Climate Change and Air Pollution: An Integrated Proposal,” which is available on the *Breaking the Logjam* website, [www.breakingthelogjam.org](http://www.breakingthelogjam.org).



**Backstops:** It is necessary to provide backstops to deal with three possibilities: state backsliding in controlling emissions from stationary sources not subject to federal standards; the problem of interstate spillovers, where a state allows the stationary sources it regulates to interfere with achieving national air quality goals in a downwind state; and hotspots that might arise under cap and trade programs. In our position paper on “Climate Change and Air Pollution: An Integrated Proposal,” we provide concrete ways of dealing with these three problems, ways that are enforceable through citizen suits.

**Guidelines and rankings:** To help the states do a better job, Congress should require EPA to issue suggested guidelines to states and localities on options for regulating sources not subject to direct federal control. In addition, EPA should rank states’ and localities’ performance in

controlling these sources. The ranking would serve the same function as the Toxics Release Inventory, which made public information on plants’ toxic releases zip code by zip code and thereby caused companies to cut such releases dramatically. Here, however, the pressure would be put on states and localities to cut the emissions for which they are responsible.

**Other parts of the Clean Air Act:** We do not recommend any basic changes in the current system of regulation for toxic substances. We note, however, that such regulation may call for controls that will also affect, directly or indirectly, emissions of criteria pollutants and/or greenhouse gases from those same sources. Of particular note, controls on mercury emissions from power plants may reduce sulfur dioxide from power plants. In that event, there will be a need to coordinate those regulations with criteria pollutant and greenhouse gas regulations for those sources, for the same reasons as discussed above with respect to coordinating criteria pollutant and greenhouse gas regulations.

#### **Changes in Knowledge or Circumstances**

Changes in knowledge or circumstances may make the climate change program inadequate to achieve its goals or the revised Clean Air Act inadequate to achieve national air quality goals. The statute should call upon EPA or another expert body to propose to Congress at set intervals (perhaps every five or six years) any needed changes in the climate change program as well as the levels of National Ambient Air Quality Standards, which sources are federally regulated, the caps on federally regulated sources of greenhouse gases and criteria pollutants, and the various backstops.

#### **Background Essays in the *Breaking the Logjam* Symposium Issue of the *New York University Environmental Law Journal***

Andrew P. Morriss, *The Next Generation of Mobile Source Regulation*

William F. Pedersen, *Adapting Environmental Law to Global Warming Controls*

David Schoenbrod, Joel Schwartz, and Ross Sandler, *Air Pollution: Building on the Successes*

Jonathan B. Wiener, *Radiative Forcing: Climate Policy to Break the Logjam in Environmental Law*

Soo-Yeun Lim, *Mandatory Corporate Greenhouse Gas Emissions Disclosure to Encourage Corporate Self-Regulation of Emissions Reduction*

## 2. OCEANS

*After climate change and conventional air pollution, oceans are the area where the new administration and Congress can make the biggest contribution to our environment.*



### **RECOMMENDATIONS:**

#### **Start the process of zoning U.S. oceans**

- Working with the new administration, Congress should pass legislation creating an Oceans Zoning Commission. The Commission should be tasked with developing legislation, within one or two years, for zoning federal ocean waters in the U.S. Exclusive Economic Zone, which are generally the waters between three and two hundred nautical miles from the shore.
- The Commission should be made up of experts who can take the broad view in formulating a process for zoning the oceans. The Commission should consult with, but not delegate decision-making to, marine stakeholders such as: federal agencies; coastal states and cities; conservationists; and oil and gas, renewable energy, fishing, aquaculture, shipping, navigation, and mining interests.
- Among the issues that the Commission should be called upon to address in crafting the legislation that would enable ocean zoning are: what institution should zone the oceans; what Congress's role should be in ocean zoning; what criteria should be used in establishing zones; whether certain areas of the oceans should be zoned before others; and how the zones should be managed after they are established. In addressing these issues, the Commission should draw on experiences with municipal zoning and the federal government's experience managing federally owned public lands.

#### **Create additional marine reserves**

- Acting under the Antiquities Act, President Obama should reserve additional environmentally sensitive areas of the oceans before it is too late.

#### **Introduce more Limited Access Privilege Programs in wild fisheries**

- To help rebuild depleted wild fish stocks, the new administration should introduce more Limited Access Privilege Programs (LAPPs), which limit fish catches by distributing tradable fishing quotas to fishermen. Congress should facilitate the spread of LAPPs in fisheries by removing several impediments to their initiation in the Magnuson-Stevens Fishery Conservation and Management Reauthorization Act of 2006.

## Rationale

The oceans are America's next frontier. Larger than the country's total land mass, most of the ocean waters under U.S. control only came under national jurisdiction in the 1970s, when the country extended its jurisdiction to two hundred nautical miles from the shore.

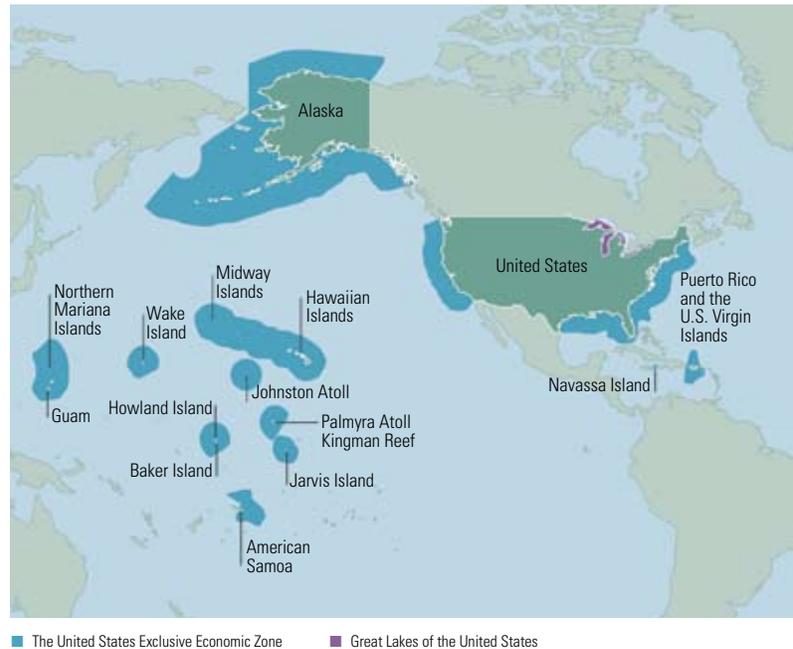
Already there are stakeholders harvesting the resources of the sea, including fishermen and oil and gas interests. More importantly, increasing numbers of new stakeholders are making claims to the oceans, some for uses that would conflict with each other. These include not only the oil and gas exploration firms whose claims we have heard so much about recently, but also renewable energy sources—such as wind turbines and tidal energy—and aquaculture facilities.

Conservationists are also increasingly interested in establishing protected areas in the oceans. Just as the settlement of the American West led to the establishment of some of our great national parks and forests in the late nineteenth and early twentieth centuries, so the growth in extractive uses of the oceans is prompting conservationists to call for oceanic protected areas. Today, 4.6 percent of the U.S.'s land area is protected as wilderness, but less than 1 percent of the oceans is in marine reserves.



Coordination is essential in busy offshore waters.

- Wind farm proposals
- Shipping lanes, fairways, and precautionary areas
- Hazardous areas—dumping areas; toxic wastes; unexploded ordinance, torpedoes, depth charges, etc.
- State waters (3 nautical miles)
- National Marine Sanctuary
- Telecommunications cables—active
- Telecommunications cables—inactive



To date, the U.S. has managed its ocean resources largely through agencies with single-purpose mandates. For example, wild fisheries are managed by the National Marine Fisheries Service and regional fishery management councils, and oil and gas leases by the Minerals Management Service. The problem with this fragmented, use-by-use management approach is that it means that there are few efforts to comprehensively plan the management of U.S. ocean space in an era of growing numbers of potentially conflicting claims to use the oceans.

There is increasing recognition that it is time to start zoning the areas of the oceans under U.S. control for different and potentially conflicting uses. In 2008, for example, Massachusetts became the first U.S. jurisdiction to pass legislation mandating the zoning of the three-mile band of the oceans under its control. Other countries, such as Australia, already have zoned parts of their ocean waters.

The new administration and Congress have a historic opportunity to chart the future course of U.S. oceans by establishing the parameters within which claims can be made to ocean resources. Once these parameters are

established, individual users such as offshore oil and gas exploration firms, aquaculture facilities, and wind farms will have a better idea of what parts of the oceans are open to them to develop. Conservationists also will have greater security that certain areas of the oceans will be protected from development forever.

To address the depletion of wild fisheries, the new administration and Congress should facilitate the implementation of more Limited Access Privilege Programs (LAPPs) by regional fishery management councils. LAPPs provide fishermen with quasi-property

rights in fish before they leave the sea, and therefore give fishermen an incentive to care about the health of fish stocks. LAPPs have been introduced into increasing numbers of federal fisheries since the early 1990s with considerable success. To promote the establishment of additional LAPPs, Congress should remove various impediments to the initiation of LAPPs introduced in the Magnuson-Stevens Fishery Conservation and Management Reauthorization Act of 2006, including the requirements that fishing permit holders in two of the eight regional fishery management councils approve the initiation of LAPPs in referenda.



**Background Essays in the *Breaking the Logjam* Symposium Issue of the *New York University Environmental Law Journal***

Joshua Eagle, James N. Sanchirico, and Barton H. Thompson, Jr., *Ocean Zoning and Spatial Access Privileges: Rewriting the Tragedy of the Regulated Oceans*

Peter Schikler, *Has Congress Made It Harder to Save the Fish? An Analysis of the Limited Access Privilege Programs (LAPP) Provisions of the Magnuson-Stevens Fishery Conservation and Management Reauthorization Act of 2006*

### 3. WATER, LANDS, AND WILDLIFE

*The new Congress and administration will confront a variety of problems involving water pollution, the management of federal lands, and biodiversity loss. Consistent with the project principles, we recommend extending and modifying existing market- and property right-like systems, and better targeting of federal resources, to get the most environmental benefits possible from limited federal spending and regulatory capacity.*

## WATER



### RECOMMENDATIONS:

#### Use economic incentives to reduce water pollution from nonpoint sources

- The new administration should require states to develop implementation plans, based on Total Maximum Daily Loads (TMDLs) for achieving ambient water quality standards, that specify regulatory obligations for point and nonpoint sources. If legally necessary, Congress should amend the Clean Water Act (CWA) to require states to develop these implementation plans.
- The new administration should reward agricultural sources covered by state implementation plans with greater ease of access to USDA Farm Bill subsidy programs.
- The new administration should strongly encourage effluent trading among point sources, between point and nonpoint sources, and among nonpoint sources, to reduce water pollution at lower cost.
- To encourage point sources to participate in effluent trading, Congress should amend the CWA to allow point sources greater latitude to trade obligations to achieve technology-based standards, provided the trading would not result in pollution hotspots.

### Rationale

In the thirty-seven years since the Clean Water Act was passed, much progress has been made in reducing water pollution from large point-source dischargers, such as industrial facilities and municipal wastewater facilities, primarily through technology-based standards. However, many of the nation's waters remain polluted. Of the water bodies that have been assessed, 39 percent of the river miles, 46 percent of the lake acres, and 51 percent of estuarine areas fail to meet one or more water quality standards.

Improving the quality of these waters will require reducing pollution from nonpoint sources, chiefly agricultural ones, because nonpoint runoff from agriculture is the main cause of the poor quality of the nation's polluted waters. To reduce nonpoint pollution, it is necessary to bring agricultural sources within the purview of the CWA. The most direct way of doing this is to require states to prepare implementation plans for achieving Total Maximum Daily Loads (TMDLs) that impose obligations on nonpoint as well as point sources.

To increase the likelihood that states will prepare effective implementation plans that impose appropriate obligations on nonpoint sources, the new administration should reward agricultural operations that are covered by implementation plans with greater ease of access to USDA Farm Bill subsidies. These subsidies are potentially a very powerful instrument for encouraging agricultural operations to reduce nonpoint pollution, but few efforts have been made to date to link Farm Bill subsidies with the TMDL program for improving ambient water quality. Currently, the USDA spends roughly \$4 billion annually on conservation, a large share of it on improving water quality, but these subsidies are often not directed at improving water quality in waters polluted by agricultural sources.

Effluent trading is another underutilized instrument for improving water quality. There are a number of reasons why experience with effluent trading is limited. One is that the CWA has been interpreted as not allowing point sources to trade out of the technology-based requirements imposed on them. Second, the absence of binding obligations on nonpoint sources has limited demand from

them to introduce instruments that would reduce pollution at lower cost. Third, the nature of water as a resource limits the potential for trading. To use trading to improve the water quality of a particular water body, trading has to occur only between sources affecting that body's quality. If the watershed is small, this could mean that there are few sources to trade with each other. And even if there are many sources, their discharges may not be fungible, because a discharge in one area of the watershed may not have the same impact on water quality as the equivalent

volume of discharge in a different area. To the extent that viable trading programs can be developed that take account of these limitations, point sources should be allowed to trade obligations to achieve technology-based standards, given the potential for trading to lower the cost of reducing water pollution. Trading between point and nonpoint sources and among nonpoint sources also should be encouraged to the extent that it is possible to reliably estimate reductions in pollution from nonpoint sources.

## LANDS



### RECOMMENDATIONS:

#### Allow grazing permits to be permanently retired

- Congress should require the Bureau of Land Management and the U.S. Forest Service to permanently retire federal land from grazing, if the holder of a grazing permit requests the withdrawal. This would allow ranchers to sell their grazing permits voluntarily to buyers, such as conservationists, who are willing to pay for the permits in order to restore the ecological health of federal lands.

#### Rationalize scattershot pattern of federal land ownership

- Congress should create a commission to propose changes in federal land holdings to make them more contiguous and effective in achieving their environmental and other purposes.

### Rationale

#### Grazing Permit Reform

Grazing is the most widespread extractive use of federally owned public lands acre for acre and is a major cause of the poor ecological condition of many of these lands. Yet the meat produced from grazing on federal lands provides only about 2 percent of the nation's supply. Moreover,

grazing on public lands generates few economic benefits in the eleven western states where it mainly takes place.

Some conservation organizations would like to buy federally issued grazing permits from ranchers who want to sell them and permanently retire the permits in order to allow the land to return to ecological health. At the moment, however, there is no way that conservationist-owners of grazing permits can permanently retire them. If an owner of a grazing permit does not graze cattle on the land covered by the permit, the agencies that regulate grazing on federal lands—the Bureau of Land Management and the U.S. Forest Service—can always reallocate the grazing privileges to another rancher. The result is that conservation organizations are reluctant to buy up grazing permits, even when ranchers are interested in selling them. We recommend a change in the law to permit the permanent retirement of grazing permits at the request of the holder.

#### Scattershot Federal Land Holdings

Federal holdings in many places are neither contiguous nor along lines that make environmental or economic sense today. To the contrary, due to various accidents of history, they are as scattered as the colors on a



Overgrazing takes a terrible toll on public lands, as seen on the far side of the fence.

checkerboard. The sensible solution is evident in the abstract: trades in which the federal government exchanges land where it does not need it for land where it does need it. There are statutes that do allow for such swaps, but they are too cumbersome to make any substantial dent in the irrational pattern of federal land ownership.

Senate Majority Leader Harry Reid, together with Senator John Ensign, launched a process in which the state and local governments; environmental, business, and civic groups; and federal officials negotiated comprehensive solutions for three areas of Nevada. They included

auctioning off some federal lands and using some of the proceeds for the federal government to purchase additional lands in environmentally sensitive areas. They also called for wilderness designations of some federal lands, both newly acquired and old. The negotiated solutions were put into bills that were enacted.

To achieve such outcomes in other places through a more standardized process, Congress should create a commission tasked with proposing balanced solutions in other areas and submitting the proposals, area by area, for consideration by Congress.

## WILDLIFE



### RECOMMENDATIONS:

#### **Better target existing resources under the Endangered Species Act to prevent biodiversity loss**

- Congress should amend the Endangered Species Act (ESA) to decouple the listing of a species from decisions about the protections that the species should receive.
  - Congress should require that, after a species is listed, the Fish and Wildlife Service or the National Marine Fisheries Service identify and implement the most cost-effective ways of protecting the species.
  - The Services should have broad scope for adopting economic incentives such as conservation payments, habitat trading, and fees for using habitat, as well as regulatory techniques such as habitat conservation planning, critical habitat designation, prohibitions on taking the species and its habitat, and special obligations on federal agencies.
  - In the interim, while the Services are identifying the most cost-effective measures for protecting the species, a standard legislated package of protections analogous to a preliminary injunction should safeguard the species.
- The new administration and Congress should attempt to channel public and private funding for conservation toward the nation's biological hotspots.
  - The new administration should identify the principal biological hotspots in the U.S. using the definitions of hotspots in existing scientific literature and, to the extent possible, channel the limited funds appropriated for the ESA toward protecting species in these hotspots.
  - Congress should adopt two reporting requirements to encourage targeting of funds to hotspots.
    - First, it should require the two Services to report every two years on the current biological status of U.S. biological hotspots.
    - Second, it should require the two Services to report every two years on how funding under their Endangered Species Programs, and, separately, total federal and state funding on imperiled species, would be distributed if spending were allocated to protect imperiled species in biological hotspots, and how much the current allocation of funds departs from these benchmarks.

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## Rationale

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The Endangered Species Act is the main federal statute safeguarding biodiversity, meaning the variety of life and its processes. In practice, however, the ESA protects only a narrow slice of biodiversity since it applies only to endangered and threatened species and does little proactively to safeguard species before they are imperiled.

Under the current statute, once a decision is made to list a species, the species benefits from a standard package of legally enforceable protections. While potentially very powerful, these protections have had a mixed record in achieving the stated goal of the ESA of recovering species to the point where they can be delisted. The populations of very few of the species listed under the ESA have recovered to the point that the ESA's protections could be removed. The ESA has been more successful, however, in stabilizing species' populations and moderately increasing them.

An underlying problem with the ESA is that it is premised on an assumption prevalent in the 1970s that the number of imperiled species is rather limited and that the problem of species loss is therefore readily solvable. Over the past twenty years, environmentalists and scientists have come to recognize that species loss is a large problem that arises primarily from the vast scale of human dominion of the earth. With growing recognition of the scale of the problem, there also has been a growing recognition among scientists and environmentalists of the need to better target the limited resources available for biodiversity protection.

The recommended changes attempt to make it easier to better target our biodiversity conservation efforts in two ways. While not touching the existing listing process, the recommendations propose that the ESA be amended to decouple the decision to list a species from the determination of what measures should be implemented to protect the species. As explained above, the current

statutory practice of giving listed species a standard set of legal protections has produced mixed results for species. Decoupling would create the space for agencies implementing the ESA to develop individualized legal protections for species that would be more responsive to the species' needs and circumstances. Legally binding individually tailored plans would ideally produce better results for the species at less cost overall than the current standard package of protections.



Endangered Florida panther.

The second way in which the recommendations would better target conservation resources is by encouraging decision-makers to prioritize the protection of biological hotspots by increasing public awareness of the existence of hotspots and their biological condition. There are various definitions of hotspots, but in general they are areas rich in biodiversity that are threatened by human activities. While there are imperiled species across the country, most of the nation's remaining biodiversity is concentrated in areas within a small number of states. For example, 72 percent of listed species reside in six states: Alabama, California, Hawaii, Florida, Tennessee, and Texas. In fact, Hawaii and California alone account for almost 50 percent of listed species. Notably, some conservation NGOs, such as Conservation International, already use a hotspot strategy to allocate their resources around the world.

### **Background Essays in the *Breaking the Logjam* Symposium Issue of the *New York University Environmental Law Journal***

Kai S. Anderson and Deborah Paulus-Jagrič, *A New Land Initiative in Nevada*

Jonathan Cannon, *A Bargain for Clean Water*

James L. Huffman, *The Federal Role in Water Resource Management*

John D. Leshy and Molly S. McUsic, *Where's the Beef? Facilitating Voluntary Retirement of Federal Lands from Livestock Grazing*

G. Tracy Mehan, III, *Establishing Markets for Ecological Services: Beyond Water Quality to a Complete Portfolio*

J.B. Ruhl, *Agriculture and Ecosystem Services: Strategies For State and Local Governments*

Barton H. Thompson, Jr., *Ecosystem Services & Natural Capital: Reconceiving Environmental Management*

Katrina Miriam Wyman, *Rethinking the ESA to Reflect Human Dominion Over Nature*

## 4. NUCLEAR WASTE

*With the need to reduce our use of fossil fuels becoming ever more pressing, nuclear power is once again moving to the forefront of national energy planning. However, the current U.S. system of nuclear waste law and policy is bankrupt. The federal government's failure to deal credibly with nuclear waste storage and disposal issues requires an integrated new approach that openly acknowledges and addresses the trade-offs involved.*



### **RECOMMENDATIONS:**

#### **Rethink our nuclear waste policy**

- The new administration and Congress should establish a high-level Nuclear Waste Policy Commission to rethink the country's nuclear waste policy and chart a new course.
  - The Commission should include: representatives of the key federal agencies, including EPA, the Nuclear Regulatory Commission, the Departments of Energy, Defense, Interior, State, and Commerce; key members of Congress; representatives of states with major nuclear facilities or sites, including Nevada, Washington, New Mexico, Idaho, and South Carolina; and a cross-section of other states.

#### **Establish new institutions for nuclear waste management, siting, and regulation**

- The new administration and Congress should establish new institutional structures for nuclear waste management, siting, and regulation. Currently, the Office of Civilian Radioactive Waste Management in the Department of Energy is responsible for both management and siting. Two new separate entities should be established:
  - One entity should be responsible for managing nuclear waste, including storage, treatment, transportation, development of waste containers, construction and operation of interim consolidated storage facilities, and construction and operation of a repository.
  - The second entity should be responsible for siting nuclear waste facilities. Compared with the management agency, the siting agency will need to be more open, representative of stakeholder interests, and connected to Congress and the states.

#### **Institute a risk-based approach to waste policy and implementation**

- Congress and the two new agencies responsible for waste management and siting should institute a risk-based approach to waste policy and implementation. The risks from nuclear waste should be regulated using techniques that rely on probabilistic risk assessment and probabilistic performance assessment rather than maximum permitted exposure levels.



### **Restrict the proposed Yucca Mountain nuclear waste repository to a limited-scale demonstration project**

- It is necessary to build and open Yucca to move forward on nuclear waste. If Yucca is not opened, there will be a widespread perception of policy failure. However, Yucca's role should be rethought.
  - Only a small quantity of the nuclear waste destined for Yucca should be deposited in the repository, essentially as a pilot test of the use of a repository. Other waste destined for the facility could be stored on site in dry casks.

### **Rethink the ethical and practical underpinnings of the policy of immediate burial of waste**

- The new administration and Congress need to rethink the ethical underpinnings of our current approach to nuclear waste disposal. The ethical idea underlying the push for immediate burial of nuclear waste is that the generation that benefits from nuclear power is obligated to dispose of the waste in perpetuity. But it is not clear that only the current generation benefits from nuclear power: the benefits of current uses are partly passed onto future generations in the form of enhanced social and economic capital, energy security, and reduced carbon dioxide in the atmosphere.
- Future generations might not be best served by immediate burial, since technological changes likely will improve our ability to safely dispose of waste and choose repositories. In addition, better ways of reprocessing spent nuclear fuel might be discovered in the future that would allow it to be used as an energy source. Other countries, such as Canada, have concluded that it is not desirable to immediately bury nuclear waste.



View to the south of Yucca Mountain crest showing coring activities.

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## Rationale

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Nuclear power is a proven, reliable technology that could help address climate change and conventional air pollution as part of a portfolio of energy strategies, including renewables and increased energy efficiency. The existing arrangements for waste storage have a high degree of

safety. But the status quo is a serious obstacle to the potentially valuable option of expanding nuclear power.

The 1982 Nuclear Waste Management Act set a 1998 deadline for opening a deep geologic repository for nuclear waste. In 1987, Congress amended the Act to designate Yucca Mountain as the only potential site and severely restricted the development of any federal facility for consolidated storage of nuclear waste. Twenty-two years later, and eleven years after the legislated deadline, the proposed Yucca repository remains mired in controversy and unremitting opposition from Nevada. There is no prospect for an alternative repository or for the development of a federal consolidated storage facility. The wastes destined for Yucca are held in several Department of Energy nuclear facilities and over a hundred nuclear power plants around the country. The volume of these wastes already exceeds the maximum storage capacity Congress mandated for Yucca and continues to grow.



Twilight view of the 25-foot tunnel boring machine entering the North Portal of Yucca Mountain.

**Background Essays in the *Breaking the Logjam* Symposium Issue of the  
*New York University Environmental Law Journal***

Richard B. Stewart, *U.S. Nuclear Waste Law and Policy: Fixing a Bankrupt System*

## 5. INSTITUTIONAL INNOVATIONS

*Reforming environmental law requires more than passing new statutes setting out substantive goals and reworking the goals in existing statutes. It also requires changes to the institutions and procedures through which environmental laws are implemented to ensure greater openness about trade-offs, and to promote cross-cutting approaches.*



### RECOMMENDATIONS:

#### Promote even-handed regulatory impact analysis

- President Obama should issue a new Executive Order governing the use of regulatory impact analysis.
- The new Executive Order should ensure that cost-benefit analysis is used as a neutral analytical tool, gives appropriate weight to all relevant regulatory benefits and costs, and that the data, assumptions, and methodologies underlying cost-benefit analysis are up-to-date and neither favor nor disfavor environmental regulation *a priori*.
- To signal the administration's commitment to a level playing field for regulatory impact analysis, the new Executive Order should create a procedure to review an agency's failure to adopt a proposed new regulation.

#### Broaden expert participation in rulemaking and improve agency science

- The new administration should make it easier for experts to participate in rulemaking by requiring agencies to specify questions to elicit the experts' knowledge. The new administration also should use the Internet to enable experts to collaboratively evaluate each other's answers to these questions.
- Congress should create a Scientific Investigation Board (SIB) within environmental agencies to help them increase the credibility and reliability of their assessments of environmental harms and methods for their reduction.
  - Individual environmental agencies should be statutorily required to appoint SIB scientists, engineers, ecologists, economists, or others with technical expertise relevant to the work of their agency.
  - The SIB should work with stakeholders in the agency, those regulated, and environmental groups from the beginning of a regulatory process to assess environmental harms and the feasibility and attributes of alternative regulatory tools and means to reduce these harms. The SIB should attempt to get these stakeholders to agree on impartial investigators and methods for controversial assessments. Failing that, it should evaluate how the agency intends to make the assessments. The agency should grant funds to selected environmental groups to facilitate their informed involvement in this process.

#### Establish expert proposal systems to develop win-win solutions to the logjam

- The new administration and Congress should establish systems through panels of experts to propose environmental legislation to Congress in order to help it cope with the complexity of environmental legislation. These panels should be modeled on the panels of the National Academy of Sciences, whose members strive to reach consensus and do not represent particular interests. Representation of the broadest range of perspectives should be sought, but under conditions designed to promote open-minded deliberation on innovative approaches. Alternatively, agencies could be tasked to propose legislation.

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## Rationale

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### Regulatory Impact Analysis

Achieving our environmental goals requires making trade-offs. While reducing pollution has the obvious benefit of saving lives, it also has costs. For example, consumers may have to pay higher prices for goods that are manufactured in less-polluting factories.

One of the weaknesses of the environmental statutes of the early 1970s is that they did not establish a mechanism for explicitly weighing the benefits and costs that regulators would confront in future rulemakings. Since the late 1970s, successive administrations have filled the void left by Congress by entrenching cost-benefit analysis in the administrative state. Today, as a result of executive orders, most major new environmental and other regulations proposed by agencies are subject to cost-benefit analysis to determine if their benefits exceed their costs.

Cost-benefit analysis must consider a wide range of costs and benefits. Sometimes the costs of regulation take the form of increased environmental health and safety risks. For example, banning asbestos in products may make motor vehicle brakes less effective. At the same time, environmental regulations aimed at producing a given benefit, such as reductions in an air pollutant, may produce co-benefits in the form of reductions of other pollutants generated by the same source. Whether the analysis values the costs and benefits in terms of money or other metrics, such as lives saved, the analysis must value them in an even-handed way. Knowledgeable scholars, including those who embrace cost-benefit analysis, have argued that existing practices often exaggerate regulatory costs and underestimate or unduly discount regulatory benefits. On the other hand, scholars also have contended that regulatory benefits often are overstated because of very conservative adjustments for uncertainty in risk analysis. Since regulatory impact analysis is here to stay, having been embraced by every president over the past thirty-five years, it should be conducted in a way that is even-handed and with the policy choices embedded within it made transparently.

If properly carried out, cost-benefit analysis can provide extremely useful information, but it is only one factor to be considered in decision-making, and its limitations must be recognized. Shortcomings in data and methodologies often produce considerable uncertainties in results. In



Phil Sharp, president of Resources for the Future, speaking at the *Breaking the Logjam* conference at New York University School of Law in March 2008.

addition, the qualitative dimensions of regulatory costs and benefits and distributional consequences must also be considered. Furthermore, good regulatory analysis should explore a range of alternative regulatory actions and means, with the aim of identifying the approach that best accommodates the underlying trade-offs.

A procedure requiring review of significant agency decisions *not* to regulate where petitioners make a *prima facie* showing that a regulation's benefits would exceed its costs would remove an asymmetry in the regulatory review process whereby the costs and benefits of significant regulatory action are examined, while those of inaction remain largely unacknowledged. Both regulatory action and inaction can undesirably reduce social welfare.

### Expert Participation and Agency Science

Participation in federal agency rulemaking is theoretically open to all, but is in practice foreclosed to most experts. Most experts, except for those affiliated with regulated interests or advocacy groups, cannot as practical matter find out about rulemakings in which their expertise is relevant and the state of the argument on those issues on which their expertise can shed light. Agencies can, however, get the help of a much broader range of self-selected experts. To do so, they should in proposing rules separately specify questions relevant to their decisions in which expert assistance would be helpful. The agencies should post responses, question by question, and in a web

format in which experts may grade each other's responses. Such a system will encourage members of communities of experts to call each other's attention to the opportunity to participate meaningfully in important governmental decisions.

Many of the landmark federal environmental statutes of the 1970s mandated that regulators use the best available science in rulemaking. This makes sense. Regulators should rely on credible scientific evidence about risks to public health and the environment in deciding whether to regulate and how.

Unfortunately, however, since the 1970s science has too often been used not just as a necessary input into decision-making, but as a justification for decisions that are made on other policy or political grounds. This has left many interest groups suspicious of the science that regulators claim justifies their decisions. It has also left scientists vulnerable to the charge that their work is politically motivated. Science advisory boards such as EPA's Science Advisory Board can help, but they review the agency's science after years of in-house work when a regulatory decision is about to be finalized. Congress

should create Scientific Investigation Boards in every agency and require that agencies consult these boards early in the regulatory process in designing how assessments will be conducted. These boards should also work with stakeholders early in the regulatory process to try to get agreement on how to conduct assessments.

### Expert Group Consensus Proposals

Nineteen years after the last major piece of federal environmental legislation, the logjam in environmental law is so serious that action is urgently required. But the new Congress and administration will have many issues in a host of areas ranging from the economy to foreign policy on their plates and consequently limited institutional capacity to undertake the comprehensive environmental law reform we need. This report offers a number of recommendations for reform in key areas. To translate some of our ideas into legislation, and to address issues that we have not touched, the new administration and Congress should commission panels of experts to assist them. Such a model is more likely to produce win-win results—given the institutional concerns of regulated industries, government agencies, and environmental groups—and lead to success in breaking the logjam.

### Background Essays in the *Breaking the Logjam* Symposium Issue of the *New York University Environmental Law Journal*

Cary Coglianese, *The Managerial Turn in Environmental Policy*

E. Donald Elliott, *Portage Strategies for Adapting Environmental Law and Policy During a Logjam Era*

Bradley C. Karkkainen, *Framing Rules: Breaking the Information Bottleneck*

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