

The New York Environmental Lawyer

A publication of the Environmental Law Section
of the New York State Bar Association

Message from the Chair

I have been afforded the honor and privilege of becoming the latest Chair of the Environmental Law Section of the New York State Bar Association. I wish to begin by thanking the outgoing Chair, Teresa Bakner, for her patience and leadership in guiding our Section. Specifically, Teresa has undertaken the less than glamorous tasks of restructuring our committee system, undertaking financial reform, improving diversity, and reviving our membership efforts with great success. These goals



Michael Lesser

will continue to be my objectives in the 2015-2016 term. In addition, improving Section communications will be added to the list of imperatives.

In regard to these issues, I also wish to recognize and thank Carl Howard and Kevin Reilly, the past Chairs with whom I have worked in the Section cabinet. All the recent Section cabinets have recognized the need to aggressively address these important issues.

The 2015-2016 officers also are committed to continuing the pursuit of these goals. The new Section officers are: Larry Schnapf, Vice Chair; Kevin Bernstein, Treasurer; and, Marla Wieder, Secretary. Linda Shaw will be our delegate to the NYSBA House of Delegates. Past Chair Gail Port has also agreed to assist me as the Section

Inside

Message from the Editor-in-Chief	4
(Miriam E. Villani)	
Message from the Student Editorial Board	5
(Max Lindsey on behalf of the SEB)	
EPA Update.....	6
(Mary McHale, Chris Saporita, Joseph A. Siegel and Marla E. Wieder)	
DEC Update	19
(Randall C. Young)	
SECTION NEWS	
Member Profiles:	
Long-Time Member: Gail S. Port.....	21
New Member: Jillian Kasow	22
Member News.....	22
In Memoriam: Frank Grad.....	23
In Memoriam: Ernest J. Ierardi	25
Scenes from the Annual Meeting.....	26
Scenes from the Fall Meeting	27
Hudson River Sloop Clearwater Receives State Bar's	
Environmental Award	28
Scenes from the 2015 Legislative Forum	28
Committee Report on 2014 Legislative Forum	29
The New York Environmental Enforcement Update	
2013 Annual Report	34
New York's Community Risk and Resiliency Act Addresses	
Climate Change	35
(Gene Kelly)	

Subsequent Owners of a Former Hazardous Waste Treatment, Storage, or Disposal Facility Are Not Strictly Liable to Financially Guarantee Cleanup Under RCRA.....	36
(Philip Gitlen and Robert Rosborough)	
New Rochelle: Planning for Climate Change Impacts	42
(Paola Bettelli)	
Environmental Accidents: Prevention, Preparedness and Response: The Regulatory Landscape	54
(Walter Mugdan)	
When Every Drop Counts: Addressing Hydrologic Connectivity as a Climate Change Issue	62
(Max Lindsey)	
The Efficiency and Management of the International Trade in Electronic Waste: Is There a Better Plan Than a Ban?	73
(Jennifer Chen)	
Navigating Treacherous Waters: The Navigation Law and Private Petroleum Cleanup Costs	93
(Michael Kettler)	
Tribal Water Codes—Their Administration and Enforcement.....	101
(David L. Ganje)	
Recent Decisions and Legislation in Environmental Law.....	106
Administrative Decisions Update	124
(Robert A. Stout Jr.)	

Counsel. In addition, past Section Chair Phil Dixon will continue to be our liaison to our valued sponsors. Finally, our Diversity Committee Co-chairs John Greenthal and Joan Leary Matthews will continue to assist the executive board with the improvement of our programs and membership efforts.

We are also fortunate to have hard working members who contribute to our various media outlets including: the Editor-in-Chief of this publication, Miriam Villani; Sam Capasso as the Editor of “Envirosphere,” our Section blog; and Larry Schnapf in the new role of the Section’s LinkedIn social media manager. I will also continue to act as the chief cook and bottle washer for the monthly “NY Environmental Enforcement Update,” which is also edited by Sam Capasso and posted monthly on our blog.

Finally, I wish to warmly thank Lisa Bataille, Kathy Plog, Lori Nicoll, Vincent Titus, and many others at NYSBA for past and future assistance with the operation of the Section. Their participation and wisdom has been and continues to be simply indispensable.

Upcoming Section Events

To improve the quality of our services to Section members, the cabinet and executive committee have determined that more frequent and varied programming is necessary. These themes will also enhance our membership and diversity efforts. In this regard, I have tasked Vice-Chair Larry Schnapf to improve our visibility in social media and other electronic and conference media such as webinars. This is not as easy as it sounds given the financial and administrative constraints of the Bar Association framework. But Larry remains resolute and he has already jump-started our outreach and communication with members.

As an example, on April 1, 2015, more than two dozen Section members participated in a conference call arranged by the Brownfields Task Force regarding the new revised Brownfields Cleanup Program (BCP) statute. As of this writing (early April) the following statewide Section events are or were scheduled for the remainder of 2015:

April 1—BCP Update Webinar

April 14—Annual Oil Spill Symposium

April 16—Coastal Resiliency Summit at Tour Law School (Co-Sponsor)

May 6—Legislative Forum: NY Water Legislation (Albany)

May 14—NYSBA Section Leadership Conference (NYC)

May 20—CLE, Survey, N.Y. Regulatory Enforcement Update (NYC)

June 26—Section Executive Committee Planning Retreat (Poughkeepsie)

October 2 to 4—CLE, Environmental Section Fall Meeting (Saratoga)

Buffalo Area Fall Law School Mixer (Date TBA)

January 25-30, 2016—NYSBA Annual Meeting

January 29, 2016—Environmental Law Section Annual Meeting

Please note that all future dates and locations are subject to change.

Section Resources (Old and New)

As part of our Section’s themes of membership retention and new membership, this is a good place for members to inventory and take advantage of some of the tangible benefits of Section membership. Let us start with the Section’s website function as a portal to further useful practice information. The Environmental Law Section home page or website can be reached directly on the internet at: <http://www.nysba.org/Environmental/> or indirectly via the NYSBA homepage at: <http://www.nysba.org/>. All of the following resources can be linked to via the Section homepage.

The New York Environmental Lawyer (Online)

One of the Section’s underutilized secret treasures is the online availability of past issues of the Section journal back to 2000. This resource can also be accessed via the publications webpage at www.nysba.org/Environmental-Lawyer. A word searchable index of the past issues is a key research feature of this resource. Note: direct access to the past issues is a member-only benefit and requires a user ID and password (both available via prompts from NYSBA).

Legal Links

The Section home page can also be used to link and access a broad library of legal research and practice information (no password required).

Envirosphere—The ELS Blog

Blog Editor and fellow Section member Sam Capasso has helmed our award-winning blog since 2013. Among the innovations is the monthly “NY Environmental Enforcement Update,” a unique stand-alone multiple-item blog post that is now in its third year. All blog items are keyword searchable for research purposes (no password required). Please contact Sam Capasso if you have any questions or suggested posts at: samcapasso@gmail.com.

NY Environmental Enforcement Update 2013 Annual Report

The *NY Environmental Enforcement 2013 Annual Report* is an outgrowth of the blog's "Environmental Enforcement Update" and is the first e-book approved and posted by the Section. It is a free seventy-seven page download which can be reached from a link on the Section homepage. It is also searchable via keyword and by subject TAGS (no password required).

LinkedIn.com (Social Media)

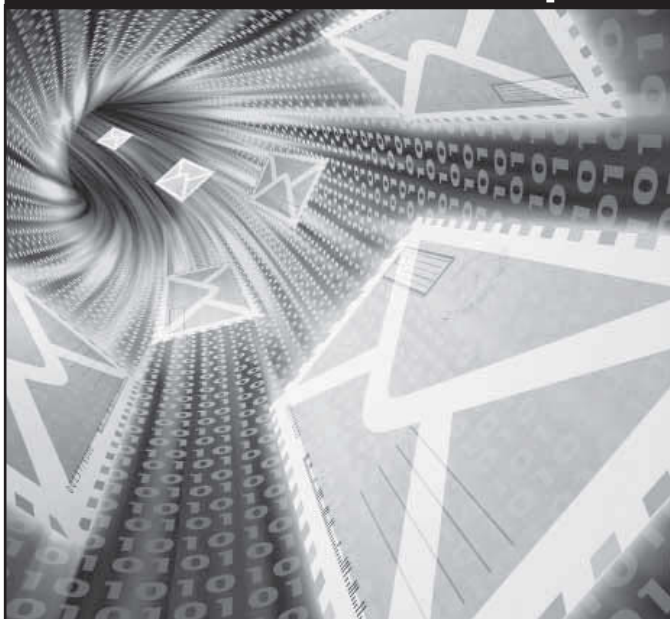
Finally, we are proud to announce that in cooperation with NYSBA, the Section has invaded social media via the internet-based LinkedIn professional service. Despite the recent startup, over 100 Section members have already availed themselves of this professional social media and communication service. A higher social media profile for the Section will enhance our existing communications via Section blast email and the old listserv technology. The

Section's LinkedIn site is open to Section members only and can be accessed by contacting either Vice Chair Larry Schnapf at Larry@SchnapfLaw.com or NYSBA Section liaison Lisa Bataille at lbataille@nysba.org. It is also a good time to update or add your email address to the Section's records by also contacting Lisa at NYSBA. Visit www.nysba.org/socialmedia for a full list of the New York State Bar Association's social media sites.

I hope this update gives you a glimpse into the dedication of your Section officers and extended executive committee in bringing Section members new and expanded services and programs. All of these activities will support our Section goals of diversity, membership and financial reform. If you have any questions, suggestions or a notion to volunteer to help the Section please do not hesitate to contact me at: mlessor@nycap.rr.com or (518) 452-5598. I look forward to meeting all of you at future Section events.

Michael Lesser

Request for Articles



If you have written an article you would like considered for publication, or have an idea for one, please contact one of *The New York Environmental Lawyer* Editors:

Miriam E. Villani
Sahn Ward Coschignano, PLLC
333 Earle Ovington Blvd.,
Suite 601
Uniondale, NY 11553
mwillani@swc-law.com
Editor-in-Chief

Justin M. Birzon
259 State St.
Albany, NY 12210
birzon.law@gmail.com
Issue Editor

Prof. Keith Hirokawa
Albany Law School
80 New Scotland Ave.
Albany, NY 12208
khiro@albanylaw.edu
Issue Editor
Aaron Gershonowitz
Forchelli Curto
333 Earle Ovington Blvd.
Uniondale, NY 11553
agershonowitz@fcsbcc.com
Issue Editor

Articles should be submitted in electronic document format (pdfs are not acceptable), along with biographical information.

www.nysba.org/EnvironmentalLawyer

Message from the Editor-in-Chief

According to NOAA, the globally averaged temperature over land and ocean surfaces for 2014 was the highest for all years since recordkeeping began in 1880. The December 2014 combined global land and ocean average surface temperature was also the highest on record. Although we on the East Coast suffered one snowstorm after another resulting in more inches of snow than we ever care to see at once again, globally the 2014-2015 winter was the hottest winter on record, topping the previous record set in 2007.



The connection between climate change, extreme weather, and health issues is clear. Record heat, drought, extreme storms, and fire are showing us what climate change looks like. Carbon pollution is the main reason the Earth is getting hotter, increasing the chances of weather disasters, drought, and flood. It is impacting our health.

There are ways to address climate change. To deal with the problems already occurring as a result of a warming planet, policies need to be implemented so we are prepared for flooding, drought, superstorms, and other consequences. To keep the climate change problem from continuing to grow exponentially, we know that carbon pollution can be cut by reducing the dependence on fossil fuels and by increasing the use of clean, renewable energy. But, what can we as environmental lawyers do?

In 2010, *The New York Environmental Lawyer* published an article by Section members Megan R. Brillault and Kristen Kelley Wilson, titled "Greening the New York Legal Profession—Encouraging a More Sustainable Practice." The concept of "Going Green" is as important today as when it was first developed, if not more so. In their article, Ms. Brillault and Ms. Wilson described the actions law offices can take to "go green" and participate in the American Bar Association's Climate Challenge program. Going Green is understood by all types of professions and industries as a cost-effective process that results in less waste. As a reminder for us, I am reiterating here some of the actions our law offices can take to reduce their carbon footprints. Law offices may:

1. Adopt best practices for office paper management by reducing paper usage, increasing recycled content in paper purchased, or increasing recycling.
2. Participate in EPA's WasteWise program, which encourages organizations to save energy by reducing waste.
3. Participate in EPA's Green Power Partnership (Green Power) program by purchasing energy from renewable sources to cover at least a portion of electricity usage.
4. Participate in EPA's ENERGY STAR program, which encourages law offices to reduce energy use by at least 10% through, among other things, the purchase of ENERGY STAR-designated equipment and implementation of better energy management practices. This program has features that recognize the issues associated with tenant law offices.

As a Section, we must continue to reduce the use of paper, decrease the amount of energy used, and promote awareness of climate change and provide guidance about carbon footprint reduction. The Section should continue its efforts to reduce the number of paper announcements and attempt to limit publicity for Section events and other announcements to electronic delivery. Our members should opt out of hard copy delivery of this publication so that delivery of *The New York Environmental Lawyer* becomes almost entirely electronic. Attendance of our meetings will continue to be accessible by telephone, webinar, or other available electronic means. Agendas and other materials will continue to be circulated electronically and will be available to members on the Section's website.

Now, as much as ever, Section members—environmental lawyers from the public sector, private sector, not-for-profits, and academia—are being called upon to comment, give guidance, and help address environmental concerns, including climate change issues. As the members of this Section have done in the past, and as other environmental lawyers across the country are doing, we must continue to devote ourselves to protecting the environment. Our efforts to accomplish this are multifold and include reducing our individual carbon footprints both inside and outside the office, reducing the carbon footprint of the Section, educating other lawyers, guiding our clients, and otherwise promoting awareness.

Miriam E. Villani

Message from the Student Editorial Board

Environmental lawyers entering the profession are starting their careers in a time of imminent transformation. The dramatic alterations in the environment that accompany climate change will certainly change the issues our profession must address. One of the areas of most drastic change will be the water cycle and the manner in which we permit, regulate, clean, and conserve this precious resource. News from western states about record-breaking forest fires, dried-up reservoirs, and disappearing rivers has dominated many of the recent headlines, while here in New York the concern lies not in scarcity, but over-abundance, purity, and filtration. The impacts of climate change on the water cycle are a nation-wide concern.

In New York, unprecedented changes to precipitation patterns and an increase in the frequency of “superstorms” are cause for concern. For example, these changes are evidenced by recent incidents affecting New York City’s water supply, which is largely acquired from the Catskill-Delaware watershed. Following Hurricane Sandy, turbidity levels in New York City’s drinking water exceeded federal standards for safe drinking water.¹ This raises concerns that the natural watershed filtration system currently used to supply drinking water to New York City may not maintain its functionality through future storms. If the natural filtration system cannot continue functioning in the face of new storms, we may need to construct a \$10 billion filtration plant to provide safe drinking water to the City’s residents. While the Catskill-Delaware watershed is a pristine example of the benefits that careful ecosystem management and pollution control can provide, these recent events illustrate that “the water system was not designed to withstand the type of violent storms that have begun to hit the U.S. with more frequency.”² Only time will tell whether we are able to preserve the systems we have historically relied upon to regulate

our environment, or if we will be forced to accommodate what is now largely beyond our control.

The increase of storm events also raises questions about many other aspects of environmental regulation. Traditional ideas of slope stability may need to be reconsidered with an overabundance of water infiltrating the soil. Municipal stormwater systems need to be reconstructed to handle mass rain events. Historic hydrogeology data must be adapted to accurately reflect the patterns anticipated for the future. This list presents only a small number of the many potential issues climate change could present to our profession.

The law school experience teaches us, as a cornerstone of legal education, that change and adaptation to such change is the foundation of successful legal representation. For this reason, it is the prerogative of the new generation of environmental lawyers to lead the charge on this front to respond to climate change. We are in a position going forward to adapt, learn, and change with the changing environment. The change on our environment and our profession is clear, and the manner in which we react and adapt to the challenge that this change presents will shape the landscape of the next generation of New York’s environmental law.

**Max Lindsey on behalf of the SEB
Albany Law School ‘15**

Endnotes

1. Sebastien Malo, *Sandy Stirs Up Trouble for City Drinking Water*, THE NEW YORK WORLD (Mar. 6 2013), <http://www.thenewyorkworld.com/2013/03/06/sandy-drinking-water/>.
2. *Id.*

**Looking for Past Issues of
The New York Environmental Lawyer?**

<http://www.nysba.org/EnvironmentalLawyer>



EPA Update

By Mary McHale, Chris Saporita, Joseph A. Siegel and Marla E. Wieder



Mary McHale



Chris Saporita



Marla E. Wieder



Joseph A. Siegel

I. Introduction

This past year, despite unabated budget and staffing challenges and all-too-familiar political and industry attacks on EPA's ability to protect human health and the environment, the agency has continued its efforts to clean up legacy contamination, improve pollution control standards, punish and deter violations of the law, and respond to the threats posed by climate change. In 2014, by focusing its efforts on the communities that need protection most, adopting innovative pollution monitoring and information technology, and focusing resources on large cases to drive industry compliance, EPA obtained more than \$9.7 billion in cleanups and injunctive relief to control pollution, \$163 million in penalties, and combined prison sentences of 155 years; reductions of approximately 141 million pounds of air pollutants and 337 million pounds of water pollutants; and the cleanup of approximately 856 million cubic yards of contaminated aquifers and water bodies.

II. Climate Change

2014 was a banner year for climate change in the Obama Administration. In addition to the EPA actions discussed below, the President has taken significant steps on the international level. At a United Nations summit organized by Secretary-General Ban Ki-moon in September, President Obama announced that he was directing federal agencies to begin factoring climate resilience into the United States' international development programs and investments.¹ The President also announced in September a new initiative with the private sector to reduce emissions of hydrofluorocarbons (HFCs), which are greenhouse gases with a high global warming potential.² The commitments are expected to reduce cumulative global consumption of HFCs by the equivalent of 700 million metric tons of carbon dioxide through 2025. This is equivalent to 1.5% of the world's 2010 greenhouse gas emissions and has the same effect of taking nearly

15 million cars off the road for 10 years. Perhaps most significantly, President Obama and President Xi Jinping of China jointly agreed on the importance of working toward an international agreement in 2015 under the UN Framework Convention on Climate Change and announced on November 12 their post-2020 actions.³ The joint announcement stated that "the United States intends to achieve an economy-wide target of reducing its emissions by 26%-28% below its 2005 level in 2025 and to make best efforts to reduce its emissions by 28%. China intends to achieve the peaking of CO2 emissions around 2030 and to make best efforts to peak early and intends to increase the share of non-fossil fuels in primary energy consumption to around 20% by 2030."⁴ The new U.S. target goes well beyond the prior goal of 17% below 2005 levels by 2020 announced by President Obama at the 2009 international climate change summit in Copenhagen.⁵

A. Impacts and Adaptation

1. EPA Releases New Policy Statement on Climate Change Adaptation

On June 26, 2014, Administrator Gina McCarthy issued a new Policy Statement on Climate Change Adaptation, noting that since the first Policy Statement was issued three years earlier, "new and stronger evidence indicates that human-caused climate change is affecting people in every region of the U.S."⁶ The Administrator's Policy Statement articulates seven directives: (1) modernize EPA financial assistance programs to encourage climate resilient communities; (2) provide information, tools, training and technical support for climate change preparedness and resilience; (3) implement priority actions identified in EPA's climate change adaptation plan and implementation plans; (4) focus on the most vulnerable people and places; (5) measure and evaluate performance; (6) continue agency planning for climate change related risk; and (7) coordinate with other federal agencies on adaptation planning.⁷

The new Policy Statement is available at: <http://epa.gov/climatechange/Downloads/impacts-adaptation/adaptation-statement-2014.pdf>.

2. First-Ever Final Adaptation Plans Released by EPA Region 2 and Other EPA Regional and Headquarters Offices

On October 31, 2014, EPA Region 2 released its Climate Change Adaptation Plan along with sixteen other Regional and Headquarters program office plans and an EPA Agency-wide plan. The plans were issued in response to Executive Order 13653, Preparing the United States for the Impacts of Climate Change.⁸ EPA Region 2's Plan contains an assessment of vulnerabilities in the Region and priority actions to address those vulnerabilities.⁹ The vulnerability assessment portion of the Plan cites to, among other things, increasing precipitation in New York and the attendant rise in frequency and intensity of combined sewer overflows, and sea level rise in New York City and Long Island. The Plan also cites to a projected increase in ozone pollution due to climate change which will make it more difficult to achieve the health-based ozone standards in New York, the potential release of contaminants into communities from RCRA Corrective Action Sites, Superfund sites, Brownfield sites, and landfills during extreme weather events, and impacts to Long Island's drinking water aquifer.¹⁰

Region 2's Plan also includes 28 short-term and 21 long-term priority actions to address the vulnerabilities to EPA's authorities, programs, and operations.¹¹ These actions are wide-ranging and include, for example, everything from promoting green infrastructure, to educating emergency generator purchasers about new, cleaner, and more efficient generators, to identifying environmental justice communities at high risk for climate change impacts, and assessing potential impacts from storm surges on Superfund and RCRA Corrective Action sites. The Plan also calls upon the Region to develop legal tools to assist in its efforts to adapt to climate change.¹²

Region 2's Plan and the other Agency adaptation plans are available at: <http://epa.gov/climatechange/impacts-adaptation/fed-programs/Final-EPA-Adaptation-plans.html>.

3. EPA Funds Sandy-Damaged Water Plants in New York to Build Resilience to Climate Change

EPA awarded \$340 million to New York for improvements to wastewater and drinking water treatment facilities impacted by Hurricane Sandy.¹³ The award will help build resilience to climate change by funding projects that reduce the risks of flood damage to wastewater and drinking water facilities during severe storms. EPA Region 2 Regional Administrator Judith A. Enck stated that due to climate change, "the frequency of severe storms is likely to increase, and wastewater treatment and drinking

water plant failures become a serious threat to people's health and the environment. These funds will help ensure that the basic infrastructure needed to protect people's health are operating even during severe storms."¹⁴ The funds were authorized by Congress in the Disaster Relief Appropriations Act of 2013. The projects that will benefit from the \$340 million include, among others, the construction of a new ocean outfall at the Bergen Point Wastewater Treatment Plant in Suffolk County, rehabilitating sewers in the City of Newburgh, and fortifying and flood-proofing critical equipment at New York City's Jamaica Bay Sewage Treatment Plant.

For a list of New York projects that are eligible to receive this funding, see: <http://efc.ny.gov/SMLP>.

4. EPA Releases Report Demonstrating Current Effects from Climate Change

In May, EPA released its third edition of the report, Climate Indicators in the United States. The report examines 30 different indicators and establishes that climate change impacts are already affecting the United States based on observed data. The report provides evidence of the following:

- Average temperatures have risen across the contiguous 48 states since 1901, with an increased rate of warming over the past 30 years. Seven of the top 10 warmest years on record have occurred since 1998.
- Tropical storm activity in the Atlantic Ocean, the Caribbean, and the Gulf of Mexico has increased during the past 20 years.
- Along the U.S. coastline, sea level has risen the most along the Mid-Atlantic coast and parts of the Gulf Coast, where some stations registered increases of more than 8 inches between 1960 and 2013.
- Glaciers have been melting at an accelerated rate over the past decade. The resulting loss of ice has contributed to the observed rise in sea level.
- Every part of the Southwest experienced higher average temperatures between 2000 and 2013 than the long-term average dating back to 1895. Some areas were nearly 2°F warmer than average.
- Since 1983, the United States has had an average of 72,000 recorded wildfires per year. Of the 10 years with the largest acreage burned, nine have occurred since 2000, with many of the largest increases occurring in western states. Water levels in most of the Great Lakes have declined in the last few decades.¹⁵

Information about the Climate Change Indicators report is available at: <http://www.epa.gov/climatechange/indicators.html>.

5. EPA Releases New Stormwater Calculator That Factors in Climate Change

As part of President Obama's Climate Change Action Plan,¹⁶ EPA released the National Stormwater Calculator and Climate Assessment Tool package, which updates an earlier version of the tool by incorporating future climate vulnerability scenarios.¹⁷ The calculator is a desktop application that estimates annual stormwater runoff and can be used by communities to project the amount of runoff in a specific location. Additions to the calculator include "changes in seasonal precipitation levels, the effects of more frequent high-intensity storms, and changes in evaporation rates based on validated Intergovernmental Panel on Climate Change climate change scenarios."¹⁸ According to Gina McCarthy, EPA Administrator, "this tool will help us better prepare for climate impacts by helping build safer, sustainable, and more resilient water infrastructure."¹⁹ More information on the National Stormwater Calculator and Climate Assessment Tool package is available at: <http://www.epa.gov/nrmrl/wswrd/wq/models/swc/>. More information about the virtual climate resilience toolkit can be found at: <http://www.whitehouse.gov/sites/default/files/image/president27sclimateactionplan.pdf>.

B. Mitigation

1. EPA Issues Proposal to Cut Carbon Pollution from Existing Power Plants

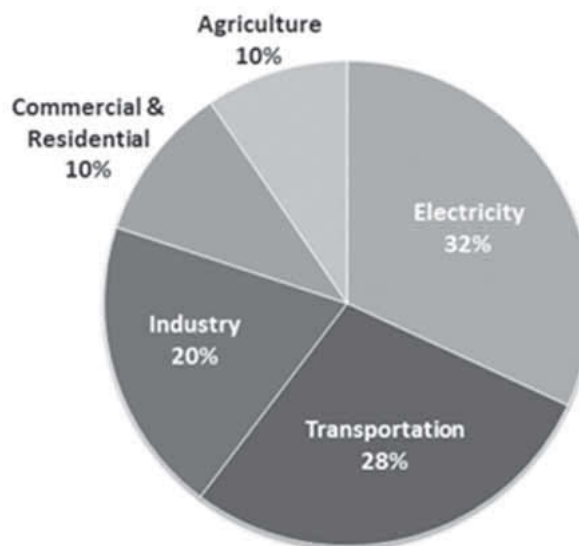
On June 2, 2014, EPA issued a proposed rule, known as the Clean Power Plan, to address carbon pollution from existing power plants under Section 111(d) of the Clean Air Act, 42 U.S.C. §7411. The electricity sector is the largest carbon polluting sector in the United States (see pie-graph opposite), and the Clean Power Plan will cut carbon dioxide pollution from that sector by 30 percent below 2005 levels by 2030.²⁰ The Clean Power Plan will also produce public health and climate benefits of between \$55 billion and \$93 billion per year by 2030, far outweighing the costs of \$7.3 billion to \$8.8 billion per year.²¹

There are two primary components of the proposed rule: (1) state specific emission rate-based goals and (2) guidelines for states to formulate plans.²² To set the state rate-based goals, EPA analyzed the practical and affordable strategies that states and the power sector are already using to lower carbon pollution. The state plans must set standards that represent the "best system of emission reduction" (BSER) that EPA has determined to be adequately demonstrated.²³ The proposed BSER is based on four building blocks: (1) improved operations at electric generating units (EGUs); (2) dispatching lower emitting EGUs; (3) zero emitting energy sources; and (4) end-use energy efficiency.²⁴

EPA established a rate-based goal for each state based on the four building blocks in light of information specific to that particular state. States have the flexibility to

pursue one building block more extensively and others less extensively, or pursue measures other than the four building blocks as long as they meet their goal.²⁵ While EPA proposed the rate-based goals, states like New York and other members of the Regional Greenhouse Gas Initiative (RGGI) could meet their goal on a mass-emissions basis, and through a multi-state market-based program.²⁶ The comment period on the proposed rule closed on December 1, 2014. While the proposal addressed existing sources, EPA also issued a proposed rule on June 2 for CO₂ emissions from modified and reconstructed power plants.²⁷

THE POWER SECTOR'S CONTRIBUTION TO U.S. GREENHOUSE GAS EMISSIONS



2. Supreme Court Largely Upholds EPA's Regulation of Greenhouse Gases Under the Clean Air Act's Prevention of Significant Deterioration Program

On June 23, 2014 the Supreme Court issued its third decision on climate change in *Utility Air Regulatory Group v. EPA*.²⁸ The Court had granted petitions for certiorari on only one question: "Whether EPA permissibly determined that its regulation of greenhouse gas emissions from new motor vehicles triggered permitting requirements under the Clean Air Act for stationary sources that emit greenhouse gases."²⁹ The Court rejected that portion of EPA's Tailoring Rule that set thresholds for greenhouse gases above the 250 tons per year major stationary source level in the statute. However, the Court upheld EPA's regulation of greenhouse gas emissions from "anyway" sources, which are those that would have to obtain a PSD permit anyway for other pollutants regulated under the PSD program. The Court did not reject EPA's application of a 75,000 ton per year de minimis level for applying the Best Available Control Technology to anyway sources but indicated that EPA must justify its threshold on proper grounds.³⁰ The end result of the Court's decision is that the vast majority of sources will still be regulated under

the PSD program and only approximately 3% of sources, the non-anyway sources, will no longer be regulated.³¹

3. EPA Releases Its Fourth Year of Data from the Greenhouse Gas Reporting Program

On September 30, 2014 EPA released the fourth year of data, for 2013, from the Greenhouse Gas Reporting Program.³² The data includes details on emissions from individual facilities which can be categorized by industrial sector and geographic region. Large industrial facility emissions grew by 20 million metric tons (0.6%) from the prior year, driven largely by increased use of coal in the energy sector. Over 8,000 facilities report their greenhouse gas emissions under the program. The three largest emitting sectors were power plants, petroleum and natural gas systems, and refineries. The importance of the Greenhouse Gas Reporting Program was highlighted by Administrator Gina McCarthy in her statement that “EPA is supporting the President’s Climate Action Plan by providing high-quality greenhouse gas data to inform effective climate action.”³³ The President’s Climate Action Plan set EPA on a course to address carbon pollution from the power and transportation sectors, and to improve energy efficiency in homes, businesses and factories. For further information and to explore the 2013 data, see: www.epa.gov/ghgreporting/.

4. EPA Proposes More Stringent Requirements for Methane-Containing Landfill Gas

In furtherance of the President’s Climate Action Plan, EPA proposed revised standards for new municipal solid waste landfills that would require capture of additional methane-containing landfill gas.³⁴ EPA also issued an Advanced Notice of Proposed Rulemaking seeking broad public input on options for further reducing methane emissions from existing landfills. Methane is a potent greenhouse gas; it is 25 times more powerful than carbon dioxide and accounts for nearly 9% of U.S. greenhouse gas emissions. Under the proposal, landfills would be required to capture two-thirds of their methane and air toxics emissions by 2023, which is 13 percent more than required under current rules. EPA reduced methane emissions from landfills by 30 percent between 1990 and 2012 through regulatory and voluntary programs such as EPA’s Landfill Methane Outreach Program. However, methane emissions are projected to increase through 2030 absent additional actions.³⁵ The President’s Climate Action Plan includes a strategy to reduce methane emission³⁶ and EPA’s proposed rule is an important step in achieving the President’s goal of reducing methane emissions in the United States.

More information on EPA’s proposed landfill rule is available at: <http://www.epa.gov/ttn/atw/landfill/landflpg.html>. The President’s Climate Action Plan is available at: <http://www.whitehouse.gov/sites/default/files/image/president27climateactionplan.pdf> and information about the White House methane

strategy can be found at: <http://www.whitehouse.gov/blog/2014/03/28/strategy-cut-methane-emissions>.

5. EPA Takes Action on Climate-Friendly Refrigerants in Furtherance of the President’s Climate Action Plan

EPA took several actions in 2014, consistent with the President’s Climate Action Plan, that will result in the use of more climate-friendly refrigerants. Under Title VI of the Clean Air Act, EPA implements the Significant New Alternatives Policy (SNAP) Program, which evaluates substitute chemicals and technologies that are safe for the stratospheric ozone layer.³⁷ EPA proposed in June 2014 to expand the list of SNAP-approved substitutes to include alternatives that have a lower global warming potential.³⁸ These substitutes can replace high global warming potential hydrofluorocarbons (HFCs). EPA Administrator Gina McCarthy stated that “this proposal is a great example of how businesses and EPA can foster innovation by working together to identify refrigerants that better protect our environment.”³⁹ Two months after the proposed expansion of the list, in August 2014, EPA proposed changing the status of certain substitutes that were previously found acceptable under the SNAP program.⁴⁰ Some of these substances are being phased out of production under the Montreal Protocol on Substances that Deplete the Ozone Layer and Section 605a of the Clean Air Act, 42 U.S.C. §7671d(a). The notice proposes to modify the listings of HFCs to “unacceptable” in aerosol, foam blowing, air conditioning and refrigerant end-uses where there are lower risk alternatives.⁴¹ In October 2014, EPA issued a Determination of Acceptability that expanded the list of acceptable substitutes under the SNAP program. The Determination lists acceptable substitutes for use in refrigeration, air conditioning, foam blowing, and fire suppression/explosion protection.

More information about these actions and EPA’s SNAP Program is available at: <http://www.epa.gov/ozone/snap/index.html>.

III. Air Quality

A. Transport

Supreme Court Decision in EPA v. EME Homer City Generation, L.P.

The “good neighbor” provision of the Clean Air Act (CAA), section 110(a)(2)(D)(i), directs EPA and states to address interstate transport of air pollution that affects downwind states’ ability to attain and maintain the National Ambient Air Quality Standards (NAAQS).⁴² EPA promulgated the Cross State Air Pollution Rule (CSAPR or Transport Rule) to implement the interstate transport provisions of the CAA.⁴³ In an August 21, 2012, decision the D.C. Circuit vacated the Transport Rule.⁴⁴ On April 29, 2014, in a 6-2 decision in *EPA v. EME Homer City Generation, L.P.*, the Supreme Court reversed and remanded the D.C. Circuit’s decision.⁴⁵ The Court held that

the CAA does not command that States be given a second opportunity to file a SIP after EPA has quantified the State's interstate pollution obligations. We further conclude that the Good Neighbor Provision does not require EPA to disregard costs and consider exclusively each upwind State's physically proportionate responsibility for each downwind air quality problem. EPA's cost-effective allocation of emission reductions among upwind States, we hold, is a permissible, workable, and equitable interpretation of the Good Neighbor Provision.⁴⁶

On June 26, 2014, EPA moved the D.C. Circuit to lift the stay of Transport Rule and to extend the compliance deadlines.⁴⁷ The D.C. Circuit lifted the stay on October 23, 2014.⁴⁸

B. Affirmative Defense

1. *NRDC v. EPA* (D.C. Cir. 2014)

In 2013 EPA promulgated the National Emission Standards for Hazardous Air Pollutants for the Portland Cement Manufacturing Industry and Standards of Performance for Portland Cement Plants (2013 Rule).⁴⁹ The 2013 Rule was promulgated in response to a remand of EPA's 2010 Portland Cement NESHAP.⁵⁰

NRDC and other environmental groups petitioned for review of the 2013 Rule, challenging certain emission related aspects of the rule⁵¹ as well as the rule's "affirmative defense for private civil suits when the defendant violated emission standards due to an unavoidable malfunction."⁵²

The D.C. Circuit Court of Appeals issued its decision on April 8, 2014.⁵³ The court granted the petitions in part, vacating the portion of the 2013 Rule pertaining to the affirmative defense, and denied the petitions in all other respects.⁵⁴ The court found that the "affirmative defense for private civil suits exceeds EPA's statutory authority."⁵⁵

On November 19, 2014, EPA published a proposal to remove provisions establishing an affirmative defense from the 2013 Rule.⁵⁶ EPA explained that the D.C. Circuit "found that the EPA lacked authority to establish an affirmative defense for private civil suits and held that, under the CAA, the authority to determine civil penalty amounts in such cases lies exclusively with the courts, not the EPA."⁵⁷

2. Supplemental Notice of Proposed Rulemaking—Affirmative Defense in SIP context

In a notice published on February 22, 2013, EPA proposed to take action on a petition filed by the Sierra Club on June 30, 2011 concerning the treatment, in state implementation plans, of excess emissions by sources during periods of startup, shutdown, or malfunction (SSM).⁵⁸

EPA's February 22, 2013 proposed rulemaking would ensure that state implementation plans require facilities to follow air pollution rules during startup, shutdown, or when a malfunction occurs.⁵⁹ As discussed above, subsequent to issuance of the February 22, 2013 proposed rule, the D.C. Circuit ruled, in *NRDC v. EPA*, that "affirmative defense for private civil suits exceeds EPA's statutory authority."⁶⁰

On September 14, 2014, EPA published a supplemental notice of proposed rulemaking to revise the February 22, 2013 proposal "with respect to affirmative defense provisions in state implementation plans,"⁶¹ to reflect that the "CAA precludes authority of the EPA to create affirmative defense provisions applicable to private civil suits."⁶² For specific affirmative defense provisions identified in the June 30, 2011 petition and for specific affirmative defense provisions EPA has independently identified, the September 14, 2014 supplemental notice proposes findings of substantial inadequacy ("SIP calls").⁶³ The supplemental notice of proposed rulemaking does not revise or seek further comment on any other aspect of the February 2013 proposed action.⁶⁴

IV. Superfund in the News

In July 2014, three Democratic senators introduced a bill called the "Superfund Polluter Pays Restoration Act of 2014," which sought to restore the "polluter pays" tax that funded the Superfund. The bill sought to restore the tax on industries to fund the Superfund program while also "expanding the definition of crude oil to ensure that oil sands operations and shale oil are subject to the tax." The bill has been a priority of Senator Cory Booker of New Jersey, whose state has the most Superfund sites. While previous efforts to restore the tax have fallen short in Congress, we very much appreciate the continuing efforts to reinvigorate the program.⁶⁵

In October 2014, EPA's waste office launched a two-year pilot project to raise the dollar threshold for when Superfund cleanup remedies are reviewed by the National Remedy Review Board (NRRB), a headquarters-based internal advisory board, whose reviews aim to ensure consistency and cost-effectiveness in cleanup decisions. Under the pilot, only remedies costing at least \$50 million will be reviewed by the NRRB, while remedies in the \$25 million to \$50 million range will now be part of a modified regional remedy review process. The reasons for the change include inflation and the need to cap the number of NRRB reviews.⁶⁶

In November 2014, EPA defended its decision to delay the release of new financial-assurance requirements for hardrock mines until at least August 2016. Environmental groups petitioned the U.S. Court of Appeals for the District of Columbia Circuit last summer to force EPA into releasing the Superfund rules by January 2016. EPA asked the court to dismiss the petition on standing,

“questioning whether the lack of new financial assurance requirements is truly affecting the groups’ members.” The environmental groups not only want EPA to issue new financial-assurance requirements for hardrock mines—the largest producer of toxic releases—they also want guidelines for chemical manufacturing, petroleum and coal manufacturing, and the electric power sector. EPA has not yet determined conclusively that regulations for the other three classes of facilities are necessary.⁶⁷

In New York Cleanup News...

In October 2014, the Hudson River dredging concluded for the year. To date, about 2.5 million cubic yards of sediment contaminated with polychlorinated biphenyls (PCBs) have been removed by GE. In 2014 approximately 575,000 cubic yards of PCB-contaminated sediment were dredged from the bottom of the river, exceeding the annual goal of 350,000 cubic yards. Dredging will resume next spring when the Champlain Canal reopens for the season. The remaining dredge areas are expected to be completed next year. Habitat planting and reconstruction will continue in 2016.⁶⁸

Also in October, EPA announced that GE has agreed to conduct a comprehensive study of contamination in the shoreline areas of the upper Hudson River that are subject to flooding, called floodplains. Under the agreement GE will investigate the PCB contamination in a 40-mile stretch of the floodplain from Hudson Falls to Troy, and will develop cleanup options. The estimated value of this investigation work is \$20.5 million. For more information about the project, visit: <http://www.epa.gov/hudson>.

In October 2014, EPA announced a proposed settlement with Niagara Mohawk Power Corporation to perform a soil and groundwater cleanup and reimburse EPA for certain past and future costs at the Niagara Mohawk Power Corporation Superfund site in Saratoga Springs, New York. Under the settlement, Niagara Mohawk will perform this additional cleanup work, valued at \$6.5 million, and pay 100 percent of EPA’s future oversight costs. The site, which was once used to manufacture gas from coal, contains hazardous substances, such as polycyclic aromatic hydrocarbons (PAHs) and VOCs that were produced as byproducts and disposed of on site. Residents within the area impacted by the contaminated groundwater do not use the groundwater as a drinking water source and are served by a public water supply.⁶⁹ For more information on this Site, go to: <http://www.epa.gov/region2/superfund/npl/niagamohawk/>.

In the fall, EPA also finalized a revised plan to address VOC-contaminated soil and groundwater at the former Alcas Cutlery Corporation facility (now known as the Cutco facility) at the Olean Well Field Superfund site in Olean, New York. The final plan changes a prior long-term cleanup plan and also announces a cleanup

plan for a parcel of land south of the facility which was not addressed by previous plans. The actions are intended to speed up the cleanup of the groundwater at the site. The new cleanup plan calls for a combination of cleanup measures, including treating the groundwater in the vicinity of the facility by chemical oxidation (injecting chemicals into the ground to transform the contaminants into less harmful chemical compounds) and excavation of soil from beneath the main building if the EPA determines it is necessary.⁷⁰ More information about the site is available at: <http://www.epa.gov/region02/superfund/npl/olean/>.

EPA also finalized a plan to clean up contaminated soil and sediment at the Lower Ley Creek area of the Onondaga Lake Superfund Site located in the City of Syracuse and Town of Salina, Onondaga County, New York. Discharges from nearby industries, including the General Motors Corporation (GM) facility, and a landfill have contaminated the soil and sediment with PCBs and other hazardous substances. The cleanup will include excavation and capping of contaminated soil and sediment in Lower Ley Creek and disposal of the excavated soil and sediment. The cleanup will be funded from a \$22 million settlement reached in May 2012 with Motors Liquidation Company, the successor to GM after its bankruptcy. The final cost of the cleanup will depend upon the actual volume of contaminated material, the degree to which it is contaminated, and the ultimate disposal location.⁷¹ For more on the remedy, see: <http://www.epa.gov/r02earth/superfund/npl/onondagalake/index.html>.

After demolishing buildings and removing more than 68,000 cubic yards of contaminated soil, 30,000 tires, 1,400 tons of scrap metal, and 380 tons of concrete from the Consolidated Iron and Metal site in Newburgh, New York, EPA proposed to delist the site in October. To date, EPA has spent approximately \$45 million to address the site, of which more than \$14 million has been paid by parties potentially responsible for the contamination. As part of its work under a consent decree with EPA, the city of Newburgh has developed a plan to manage the site and determine how to redevelop the property. The EPA will continue to oversee groundwater monitoring and will conduct periodic reviews to ensure that the cleanup continues to be protective.⁷²

In September, EPA finalized its cleanup plan to address contaminated groundwater and soil at the Mattiace Petrochemical Co., Inc. Superfund site in Glen Cove, New York. The groundwater and soil are contaminated with VOCs as a result of previous operations at the site by a chemical distribution and drum-cleaning business. The plan amends a prior, long-term cleanup plan and is intended to improve the effectiveness of groundwater treatment at the site. The new plan requires using natural processes together with a technique called bioventing that moves air through the soil and groundwater to promote

the natural breakdown of oily liquid waste and VOCs. A new system to vent the soil and groundwater and capture the vapors will be constructed on the site and on an adjacent property.⁷³ The estimated cost of this phase of the cleanup is approximately \$11.2 million. For more on the remedy, see: <http://epa.gov/region02/superfund/npl/mattiace>.

In September, EPA announced proposed agreements with two subsidiaries of The Lightstone Group that are developing 700 units of residential housing adjacent to the Gowanus Canal in Brooklyn, New York. The companies, LSG 363 Bond Street LLC and LSG 365 Bond Street LLC, have agreed to conduct sampling, cleanup work, and other measures on three parcels of land along the Canal are also subject to a cleanup as part of a New York State Department of Environmental Conservation Brownfield redevelopment program. The estimated value of the work under the settlements is approximately \$20 million.⁷⁴

The Lightstone properties, which were re-zoned by the City of New York for residential use in 2009, were formerly used for a variety of industrial purposes, including oil terminals, dry cleaners, manufacturing and warehousing. Sampling has identified contamination at the properties, particularly VOCs, PAHs and metals from historic operations, which needs to be cleaned up. The state Brownfield cleanup work addresses the land's future use as residential housing; the EPA-required work will prevent the contaminants from getting into the Canal. Relevant documents can be found at: <http://epa.gov/region2/superfund/npl/gowanus/additionaldocs.html>.

In May 2014, EPA added the Wolff-Alport Chemical Company site in the Ridgewood section of Queens, New York to the Superfund list. The soil and nearby sewers were contaminated by radioactive material from past industrial activities at the site. Testing indicates that there is no immediate threat to nearby residents, employees or customers of businesses in the affected area along Irving and Cooper Avenues. Since exposure to the radioactive contamination may pose a threat to health in the long term, in December 2013, the EPA took action to reduce people's potential exposure to the radiation and address the potential health risks from the site.⁷⁵ This will be the third site listed for New York City; the Gowanus Canal site in Brooklyn and the Newtown Creek site on the border of Brooklyn and Queens, were listed in 2010. For more on the Wolff-Alport site, please visit: <http://www.epa.gov/region02/waste/wolff/index.html>.

W.R. Grace Bankruptcy Settlement

In February 2014, the U.S. Department of Justice and EPA announced that W.R. Grace & Co., under its bankruptcy plan of reorganization, paid over \$63 million to the U.S. government to resolve claims for environmental cleanups at approximately 39 sites in 21 states. W.R.

Grace's payment includes approximately \$54 million for the EPA. The company agreed to pay another \$9 million to other federal agencies, including the U.S. Department of Interior and the U.S. Army. W.R. Grace and 61 affiliated companies filed for bankruptcy in April 2001. In 2003, EPA filed claims against the company to recover past and future cleanup costs at sites contaminated by asbestos and other hazardous substances. Numerous agreements to resolve the Agency's environmental claims against the company and its affiliates were negotiated as part of the company's bankruptcy proceedings between April 2008 and February 2013. The company continues to be responsible for all of the sites it owns or operates and for any additional sites that were not known or resolved under the earlier settlements.⁷⁶ The approximately \$54 million payment to EPA will reimburse the Agency for cleanup costs or provide funds for future cleanup at a number of Superfund sites close to home, including, the Li Tungsten Site (Glen Cove, N.Y.), the W.R. Grace Site (Weedsport, N.Y.) and the Zonolite Site (Hamilton Township, N.J.).

For more information on this settlement, see: <http://www2.epa.gov/enforcement/case-summary-epa-receives-over-54-million-wr-grace-bankruptcy>.

Vapor Intrusion and TCE

On June 25, 2014, EPA released its risk assessment on the solvent Trichloroethylene (TCE). The final risk assessment "identifies cancer risk concerns and short-term and long-term non-cancer risks for workers and occupational bystanders at small commercial degreasing facilities and dry cleaning facilities that use TCE-based solvents and spotting agents." EPA's Integrated Risk Information Sys-



tem and international health bodies previously classified TCE as a human carcinogen. The new risk assessment also states that TCE can cause developmental defects and notes that inhalation is the primary route of TCE exposure, though it is also absorbed through the skin.⁷⁷ As EPA has estimated that at least 330,000 Americans may

be exposed to TCE, clearly better efforts must be made on the risk reduction and product substitution front.

In November, industry representatives met with officials from the White House Council on Environmental Quality, the Small Business Administration, EPA and the Office of Management and Budget (OMB) to continue their lobbying to limit the use of EPA's risk value for TCE. This is particularly relevant for the Superfund program as TCE is the most common contaminant at Superfund sites and many are concerned about how EPA's vapor intrusion guidance will be implemented at those sites. Producers of TCE have argued EPA's 2011 Integrated Risk Information System assessment for TCE is flawed and "leads to unnecessarily stringent cleanup standards." OMB is currently reviewing a pair of EPA guidance documents for "assessing and mitigating risks from vapor intrusion, one for vapor intrusion from chlorinated solvents, such as TCE, and another from petroleum hydrocarbons from leaking underground storage tanks."⁷⁸

V. Water Quality

A. Protection and Restoration

1. EPA Awards \$1 Million in Grants to Improve the Protection and Restoration of Wetlands Nationwide

This past January, the EPA awarded \$1 million in six grants to strengthen the capacity of states and tribes to protect and restore wetlands. The National Wetland Program Development Grants provide interstate agencies, intertribal consortia, and non-profit organizations with funding to develop and refine comprehensive state, tribal, and local wetland programs. The recipients will develop and implement the following projects:

- The Environmental Law Institute (ELI) and the University of North Carolina will help wetland programs across the country enhance collaboration with hazard mitigation planners and emergency managers by investigating and mapping hazard mitigation buyouts in three states to examine the potential wetland habitat and flood mitigation benefits of acquired properties.
- ELI will also design and host a conference and a series of webinars devoted to addressing the needs of state, tribal, and local governments seeking approval for, administering, or overseeing In-Lieu Fee compensatory wetland mitigation programs.
- Restore America's Estuaries and its partners will create and operate a "Living Shorelines Academy" focused on promoting the use of natural protection methods to reduce degradation of fringing shorelines and fish habitat that surround our nation's estuaries.

- The Nature Conservancy and its partners will convene a group of national experts to develop a Wetland Stewardship Calculator, accompanying handbook, and web-based application to support the ability of states, tribes, local governments, and land trusts to provide long-term stewardship of wetland protection sites.
- The Association of State Wetland Managers (ASWM) and its partners will convene a Working Group to identify training needs, and develop materials and referrals, to help state, tribal, and wetland professionals improve the implementation of wetland programs.
- ASWM will also develop a national strategy for improving wetland restoration success and pursuing strategies to improve permit application and review of voluntary restoration projects, and will develop a series of written and web-based resources on best management approaches for wetland restoration.

For more information: http://water.epa.gov/type/wetlands/initiative_index.cfm.

2. EPA Awards \$239,000 to Protect Wetlands in New York

In December, the EPA awarded \$141,000 to the New York Natural Heritage Program at the SUNY College of Environmental Science and Forestry to partially fund an evaluation of the relationship of "buffer zones" and surrounding land uses on wetland conditions, focusing on urbanized areas within the Great Lakes region, and the development of draft recommendations for conservation policies based on wetland type, surrounding environmental characteristics, and the influence of buffer zones.

The EPA also awarded \$98,000 to partially fund the New York City Department of Parks and Recreation's revision of its monitoring procedures to more accurately report the status and success of the agency's restoration of salt marshes, and development of an experimental design plan for a salt marsh restoration project in Jamaica Bay. NYC Parks will also use this grant to draft guidelines for urban salt marsh mitigation and restoration design, and to facilitate a technical workshop to review and discuss these guidelines.

For more information on the EPA's Wetland Program Development Grants, visit: <http://www.epa.gov/owow/wetlands/grantguidelines/>.

3. EPA Provides New York State \$537 Million to Improve and Protect Water Infrastructure

In October, the EPA awarded \$197 million to New York to help capitalize low-interest loans to upgrade sewage treatment plants and drinking water systems throughout the state. The Clean Water State Revolving

Fund program, administrated by the New York State Department of Environmental Conservation (DEC) and the New York State Environmental Facilities Corporation, received \$155 million, and the Drinking Water State Revolving Fund program, administrated by the New York State Department of Health (DOH), received \$42 million. These grants were funded by the Clean Water State Revolving Fund program and the Drinking Water State Revolving Fund program, respectively.

Also in October, the EPA awarded \$340 million to New York for improvements to wastewater and drinking water treatment facilities impacted by Hurricane Sandy, that will reduce the risks of flood damage and increase the resiliency of wastewater and drinking water facilities to withstand the effects of severe storms. This funding was authorized by Congress in the Disaster Relief Appropriations Act of 2013. These projects include such projects as the construction of a new ocean outfall at the Bergen Point Wastewater Treatment Plant in Suffolk County, sewer rehabilitation the City of Newburgh, and measures to fortify and flood proof critical equipment at the Jamaica Bay Sewage Treatment Plant in New York City.

For more information on the Clean Water State Revolving Fund program, visit http://water.epa.gov/grants_funding/cwsrf/cwsrf_index.cfm. For information on the Drinking Water State Revolving Fund program visit <http://www.epa.gov/safewater/dwsrf/>.

4. New York Organizations Use EPA Grants to Monitor Water Pollution in their Communities; EPA Launches Equipment Loan Program to Help Community Organizations Collect Environmental Data

Last summer, with \$25,000 in the EPA's "citizen science" grants, the Bronx River Alliance (BRA) and the Sparkill Creek Watershed Alliance (SCWA) monitored water quality on tributaries of the New York/New Jersey Harbor for the bacteria *Enterococcus*, which indicates the presence of fecal contamination, and measured general water quality parameters such as dissolved oxygen, pH, and temperature. Equipment used by the two organizations, which is often the most expensive part of a monitoring program, is part of the EPA's new equipment loan program, the goal of which is to allow more citizen scientists the opportunity to collect high quality data and increase environmental stewardship in their community. In addition, the EPA conducted a two day training session for volunteers on operating GPS devices, and water quality meters, as well as data management techniques and laboratory analysis.

For more information on Citizen Science, visit: <http://epa.gov/region2/citizenscience>.

5. EPA Provides Grant to NYC Parks to Boost Citizen Science in City Parks Along the Bronx and Harlem Rivers

In July, the EPA awarded a \$60,000 grant to the New York City Parks Department for work that will improve water quality in parks along the Bronx and Harlem Rivers. The funding, which is part of the EPA's Urban Waters program, will be used to hire a Community Engagement Coordinator to create a volunteer monitoring program that engages local community groups and schools to collect important data on oyster reef restoration, alewife migration, and eel populations and to expand awareness on the importance of improving water quality. The Bronx and Harlem Rivers are among 18 designated Urban Waters Federal Partnership locations, which are chosen to advance environmental justice, and focus on community greening and green infrastructure, communities and water quality data, or integration of water quality and community development in planning.

For more information on the Urban Waters Federal Partnership, visit: <http://urbanwaters.gov/>.

6. Water Quality Improves in Long Island Sound; Nitrogen Pollution Is Declining

In October, the Connecticut Department of Energy and Environmental Protection's Long Island Sound (LIS) Study Water Quality monitoring program, the University of Connecticut's LIS Integrated Coastal Observing System, and the Interstate Environmental Commission's LIS water quality monitoring program, reported that, for the second summer in a row, concentrations of dissolved oxygen in the Sound are higher than the long-term average, indicating improved water quality and improved ecological conditions for organisms that live in the Sound.

Aquatic animals rely on oxygen that is dissolved in water to survive. When dissolved oxygen levels decline, this can cause some animals to move away, weaken, or even die. Low dissolved oxygen can occur when nutrients such as nitrogen enter a water body in excess, over stimulating plant growth. Nutrients such as nitrogen can enter a waterbody through discharges of sewage and from fertilizer runoff. High levels of nitrogen and other nutrients can also have other harmful effects. Coastal wetlands that protect coastal communities against flooding can be degraded by high nitrogen levels, and high nitrogen levels can also contribute to harmful algae blooms, which directly threaten aquatic animals and human health.

Every summer, dissolved oxygen is reduced to a level that causes what is known as hypoxia, particularly in the western portion of the Sound and sometimes extending into central portions of the Sound. In 2000, Connecticut and New York developed a nitrogen budget, known as a Total Maximum Daily Load, to reduce the daily discharges of nitrogen to the Sound by more than 58% from early 1990s levels. Connecticut has reached its nitrogen reduc-

tion target for wastewater treatment facilities and New York is expected to reach its target by 2017.

To see a chart with the year by year measurement of the hypoxic area of the Sound since 1987, visit: <http://longislandsoundstudy.net/indicator/area-of-hypoxia/>.

A. Regulation and Guidance

1. EPA Proposes Standards to Reduce Mercury Discharges from Dental Offices

In September 2014, the EPA proposed standards under the Clean Water Act to help cut discharges of dental amalgam to the environment. Amalgam is a mixture of mercury and other metals that dentists use to fill cavities. Mercury is discharged when dentists remove old fillings or remove excess amalgam when placing a new filling, and studies show that about half the mercury that enters Publicly Owned Treatment Works (POTWs) comes from dental offices. That mercury can then make its way into the environment in a number of ways, including through a POTW's discharges to water bodies, and contact with some microorganisms can help create methylmercury, a highly toxic form of mercury that builds up in fish, shellfish and fish-eating animals. Fish and shellfish are the main sources of human exposure to methylmercury.

The proposed rule would require all affected dentists to control mercury discharges to POTWs through the use of amalgam separators, which are the best available technology economically achievable, and the use of other Best Management Practices, and the EPA expects compliance with this proposed rule will cut metal discharge to POTWs, half of it from mercury, by at least 8.8 tons a year. The public comment period closed on February 20, 2015, and EPA expects to finalize the rule in September 2015.

For more information, visit: <http://water.epa.gov/scitech/wastetech/guide/dental/>.

2. EPA and New York State Announce Ban on Dumping Sewage from Boats into Lake Erie

In June 2014, the EPA issued a final determination that New York may completely ban the discharge of sewage from vessels into New York's section of Lake Erie, thus creating a "no discharge zone." The EPA reviewed the New York State DEC's proposal to establish a no discharge zone for the lake and determined that there are adequate facilities in the area for boats to pump out their sewage. The no discharge zone is a 593 square mile area that includes the New York State area of the Lake, as well as the Upper Niagara River and numerous other tributaries, harbors and bays of the Lake, including Barcelona Harbor, Dunkirk Harbor and the Buffalo Outer Harbor. Boaters must now dispose of their sewage, which can contain harmful levels of pathogens and chemicals such as formaldehyde, phenols and chlorine, at one of the lake's specially-designated pump-out stations. This

action is part of a joint EPA and New York State strategy to eliminate the discharge of sewage from boats into the state's waterways.

For more information, visit: <http://www.epa.gov/region02/water/ndz/index.html>.

3. EPA Finalizes Standards to Protect Fish, Aquatic Life from Cooling Water Intakes

In May 2014, the EPA finalized standards, under the Clean Water Act, to protect billions of fish and other aquatic life drawn each year into cooling water systems at large power plants and factories. An estimated 2.1 billion fish, crabs, and shrimp are killed annually by being pinned against cooling water intake structures (impingement) or being drawn into cooling water systems and affected by heat, chemicals, or physical stress (entrainment). The final rule establishes requirements for all existing power generating facilities and existing manufacturing and industrial facilities that withdraw more than 2 million gallons per day of water from waters of the U.S. and use at least 25 percent of the water they withdraw exclusively for cooling purposes, which is roughly 1,065 existing facilities—521 of which are factories, and the other 544 of which are power plants. The technologies required under the rule are well understood, have been in use for several decades, and are in use at over 40 percent of facilities.

The rule establishes a strong baseline level of protection and then allows additional safeguards for aquatic life to be developed through site-specific analysis, to ensure that the best technology available is used and that the permit writer(s) can tailor the requirements to the particular facility. There are three tiers to the final regulation:

1. Existing facilities that withdraw at least 25 percent of their water from an adjacent waterbody exclusively for cooling purposes and have a design intake flow of greater than 2 million gallons per day are required to reduce fish impingement through the choice of one of seven options that meet the best technology available standard.
2. Facilities that withdraw very large amounts of water—at least 125 million gallons per day—are required to conduct studies to help the permitting authority determine what site-specific entrainment mortality controls, if any, will be required. This process will include public input.
3. New units at an existing facility that are built to increase the generating capacity of the facility are required to reduce the intake flow to a level similar to a closed cycle, recirculation system. Closed cycle systems are the most effective at reducing entrainment. This can be done by incorporating a closed-cycle system into the design of the new unit, or by making other design changes equivalent to the reductions associated with closed-cycle cooling.

For more information, visit: <http://water.epa.gov/lawsregs/lawsguidance/cwa/316b/>.

4. EPA and Army Corps of Engineers Clarify Protection for Nation's Streams and Wetlands

In March 2014, the EPA and the U.S. Army Corps of Engineers (Army Corps) jointly released a proposed rule to clarify protection under the Clean Water Act for streams and wetlands that form the foundation of the nation's water resources. Determining Clean Water Act protection for streams and wetlands became confusing and complex following Supreme Court decisions in 2001 and 2006. For nearly a decade, members of Congress, state and local officials, industry, agriculture, environmental groups, and the public asked for a rulemaking to provide clarity.

The proposed rule clarifies protection for streams and wetlands, and establishes definitions of waters that will apply to all Clean Water Act programs. It does not protect any new types of waters that have not historically been covered under the Clean Water Act and is consistent with the Supreme Court's most recent reading of Clean Water Act jurisdiction in *Rapanos v. United States*, 547 U.S. 715, 719 (2006).

The agencies first analyzed the scientific literature to understand the connectivity of various water bodies, and their effects on traditional navigable waters. The resulting report found that the health of rivers, lakes, bays, and coastal waters depends on the streams and wetlands where they begin, and that streams and wetlands provide many benefits to communities, by trapping floodwaters, recharging groundwater, removing pollution, and providing habitat for fish and wildlife. About 60 percent of stream miles in the U.S. only flow seasonally or after rain, but have a considerable impact on the downstream waters, and approximately 117 million Americans—about one in three—get their drinking water from public systems that rely in part on these streams. Based on these scientific conclusions, the proposed rule creates the following framework for determining which waters are protected under the Clean Water Act:

- Most seasonal and rain-dependent streams are protected.
- Wetlands near rivers and streams are protected.
- Other types of waters may have more uncertain connections with downstream water and protection will be evaluated through a case specific analysis of whether the connection is or is not significant.

The public comment period closed on November 14, 2014, and the EPA expects to publish the final rule this summer. For more information, visit: www.epa.gov/uswaters.

C. Compliance and Enforcement

1. Owners of Buffalo Area Gas Stations Ordered to Pay \$290,000 in Penalties

In September 2014, the EPA ordered the owners and operators of four gasoline stations in the Buffalo, New York area to pay \$287,100 in penalties for numerous violations of the EPA's underground storage tank regulations, which are designed to protect water from petroleum contamination, including failure to: meet corrosion protection or other new standards, conduct release detection every thirty days, perform annual tests of automatic line leak detector systems, provide adequate equipment to protect against tank overfills, conduct an annual line tightness test or conduct monthly monitoring of underground pressurized piping for fuel lines, properly cap off temporarily closed underground storage tanks, keep adequate records of release detection monitoring and respond to a request for information.

One of the companies, Amerimart Development Company, reached an agreement with the EPA to settle the alleged violations regarding underground storage tanks at gas stations it owned and operated. Three other companies named in the complaint, Qual-Econ Lease Co., Inc., MJG Enterprises, Inc., and Clear Alternative of Western NY, Inc. (d.b.a. G & G Petroleum), chose not to resolve the problems and were ordered by a judge to bring their gas stations into compliance with federal law and to pay the penalties.

2. EPA Settlement with Rochester Area Home Builder Protects Area Waterways; Developer Agrees to Construct Project to Reduce Polluted Stormwater Discharges

In May 2014, the EPA reached an agreement with the Atlantic Funding and Real Estate home building company and its owner, Alfred Spaziano, to settle EPA's administrative complaint for violations of the Clean Water Act and the regulations that control the discharge of polluted stormwater from construction sites at its Gateway Landing construction site in the towns of Green and Gates, New York. Under the agreement, the company was required to comply with all stormwater control requirements and pay a \$50,000 penalty. The agreement also required the company to spend approximately \$70,000 to construct a 20,204 square foot bioswale, containing a 7,800 square foot rain garden, on the Gateway Landing site to capture and filter stormwater before it discharges into the Erie Canal.

EPA inspections in 2012 and 2013 revealed several violations of the company's permit and stormwater pollution prevention plan, including the failure to install a designated concrete washout area at the construction site and a perimeter silt fence prior to the start of work, failure to construct sediment basins at the site, failure to permanently stabilize drainage ditches with vegetation

prior to road and building construction, failure to conduct scheduled site inspections and failure to properly amend its stormwater pollution prevention plan to minimize discharges of pollutants from the site.

3. Town of Newburgh, New York Providing Clean Drinking Water to Area Residents Under Agreement with EPA

In March, the EPA announced that the Town of Newburgh, New York had completed the construction of a drinking water treatment plant that will deliver a reliable and clean source of drinking water to local residents under the terms of a 2008 consent decree between the town and the EPA. The underlying complaint alleged that the town violated the Safe Drinking Water Act by delivering drinking water that exceeded maximum contaminant levels for treatment chemical byproducts, failing to properly monitor for contaminants and failing to publish sampling results. The consent decree required the town to filter its drinking water for the first time by building the Delaware Aqueduct Tap Water Treatment Plant, pay a fine, and complete three water quality projects. The treatment plant began operating in November 2013 and serves 22,800 people with water drawn from New York City's Delaware Aqueduct and filtered with membrane microfiltration technology. The three water quality projects were completed in February 2014 and have preserved land to buffer waters from pollution, provided sanitary sewer service to previously unserved Newburgh residents and replaced all existing catch basins that empty into Orange Lake.

Endnotes

1. White House Press Release, Remarks by President at U.N. Climate Change Summit, Sept. 23, 2014.
2. White House Fact Sheet, Obama Administration Partners with Private Sector on New Commitments to Slash Emissions of Potent Greenhouse Gases and Catalyze Global HFC Phase Down, available at <http://www.whitehouse.gov/the-press-office/2014/09/16/fact-sheet-obama-administration-partners-private-sector-new-commitments>, Sept. 16, 2014.
3. U.S.-China Joint Announcement on Climate Change, available at <http://www.whitehouse.gov/the-press-office/2014/11/11/us-china-joint-announcement-climate-change>, Nov. 12, 2014.
4. *Id.*
5. White House Press Release, President to Attend Copenhagen Climate Talks, Nov. 25, 2009.
6. U.S. EPA Policy Statement on Climate Change Adaptation, available at <http://epa.gov/climatechange/Downloads/impacts-adaptation/adaptation-statement-2014.pdf>, June 26, 2014 (rev.).
7. *Id.*
8. Executive Order 13653, Preparing the United States for the Impacts of Climate Change, 78 Fed. Reg. 66819 (Nov. 6, 2013).
9. EPA Region 2 Climate Change Adaptation Plan, available at <http://epa.gov/climatechange/Downloads/Region2-climate-change-adaptation-plan.pdf>, Oct. 31, 2014.
10. *Id.*
11. *Id.* at 31-36.
12. *Id.* at 31.
13. EPA Press Release, EPA Provides \$340 Million to New York to Make Sewage Treatment Plants and Drinking Water Systems Damaged by Sandy More Resilient, Oct. 1, 2014.
14. *Id.*
15. EPA Press Release, EPA Report Shows Impact of Changing Climate on Americans' Health and Environment, May 28, 2014.
16. Executive Office of the President, President's Climate Change Action Plan, available at <http://www.whitehouse.gov/sites/default/files/image/president27climateactionplan.pdf>, June 2013.
17. EPA Press Release, EPA Releases Climate Assessment Update To National Stormwater Calculator, Jan. 30, 2014.
18. *Id.*
19. *Id.*
20. EPA Fact Sheet, Clean Power Plan, By the Numbers: Cutting Pollution from Power Plants, June 2, 2014, available at <http://www2.epa.gov/sites/production/files/2014-06/documents/20140602fs-important-numbers-clean-power-plan.pdf>.
21. *Id.*
22. 79 Fed. Reg. 34833 (June 18, 2014).
23. *Id.* at 34834.
24. *Id.* at 34835.
25. *Id.* at 34897.
26. *Id.*
27. EPA Fact Sheet, PROPOSAL TO LIMIT CARBON POLLUTION FROM MODIFIED AND RECONSTRUCTED POWER PLANTS, June 2, 2014, available at <http://www2.epa.gov/sites/production/files/2014-05/documents/20140602factsheet-modsreconstructs.pdf>.
28. 134 S.Ct 2427 (2014).
29. *Id.* at 2438.
30. *Id.* at 2449.
31. *Id.* at 2438.
32. EPA Press Release, EPA Releases Greenhouse Gas Emissions Data from Large Facilities, Sept. 31, 2014.
33. *Id.*
34. EPA Press Release, EPA Proposes Updates to Reduce Methane, Other Harmful Pollution from New Landfills/Agency also seeks public input on potential updates to guidelines for existing landfills, July 1, 2014.
35. *Id.*
36. President's Climate Action Plan, available at <http://www.whitehouse.gov/sites/default/files/image/president27climateactionplan.pdf>, June 2013.
37. 42 U.S.C. §7671.
38. EPA Press Release, EPA Proposes Approval of New Climate-Friendly Refrigerants / Proposal supports president's Climate Action Plan by curbing emissions of potent greenhouse gases, June 27, 2014.
39. *Id.*
40. 79 Fed. Reg. 46126 (Aug. 6, 2014).
41. *Id.*
42. Clean Air Act, Section 110(a)(2)(D)(i), <http://www.epa.gov/airtransport>
43. "Federal Implementation Plans: Interstate Transport of Fine Particulate Matter and Ozone and Correction of SIP Approvals," 76 Fed. Reg. 48,208 (Aug. 8, 2011).
44. *EME Homer City Generation, L.P. v. EPA*, 696 F.3d 7 (D. C. Cir. 2012).
45. *EPA v. EME Homer City Generation, L.P.*, 134 S. Ct. 1584.

46. *Id.* at 1609-1610.
47. *Respondents' Motion to Lift the Stay Entered on December 30, 2011*, Document #1499505, filed June 26, 2014, *EME Homer City Generation, L.P. v. EPA*, No. 11-1302 (D.C. Cir.).
48. *Order*, Document #1518738, issued Oct. 23, 2014 *EME Homer City Generation, L.P. v. EPA*, No. 11-1302, (D.C. Cir.).
49. 78 *Fed. Reg.* 10,006 (Feb. 12, 2013).
50. *Cement Association v. EPA*, 665 F.3d 177 (D.C. Cir. 2011) (remanding 75 *Fed. Reg.* 54,970 (Sept. 9, 2010)).
51. *NRDC v. EPA*, 749 F.3d 1055, 1057 (D.C. Cir. 2014).
52. *Id.* at 1058.
53. *NRDC v. EPA*, 749 F.3d 1055 (D.C. Cir. 2014).
54. *Id.* at 1057, 1064.
55. *Id.* at 1057.
56. 79 *FR* 68821 (Nov. 19, 2014).
57. *Id.* at 68824.
58. 78 *FR* 12460 (Feb. 22, 2013).
59. http://www.epa.gov/airquality/urbanair/sipstatus/docs/SSM_SIP_SNPR_Fact_Sheet.pdf, at p.1.
60. *NRDC v. EPA*, 749 F.3d 1057.
61. 79 *FR* 55920 (Sept. 17, 2014).
62. *Id.*
63. 79 *FR* 55920; *see* Clean Air Act, Section 110(k)(5); *see also* http://www.epa.gov/airquality/urbanair/sipstatus/docs/SSM_SIP_SNPR_Fact_Sheet.pdf.
64. 79 *FR* 55923.
65. Greenwire, SUPERFUND: Dems introduce bill to restore long-dormant cleanup tax, July 29, 2014.
66. InsideEPA.com, Superfund Report, EPA Waste Office Launches Pilot To Raise Threshold For Remedy Reviews, Vol. 28, No. 21, October 13, 2014.
67. Greenwire, Financial Assurance—SUPERFUND: EPA defends delay on bonding against green legal challenge, November 20, 2014.
68. EPA Press Release, Another Successful Year of Hudson River Cleanup Draws to a Close; One More Year of Dredging Expected, October 30, 2014.
69. EPA Press Release, EPA Announces Proposed Settlement with Niagara Mohawk Power Corporation for Cleanup of Saratoga Springs, NY Superfund Site; Value of Cleanup Work Estimated at \$6.5 Million, October 16, 2014.
70. EPA Press Release, EPA Finalizes Changes to Cleanup Plan to Address VOCs at the Olean Well Field Superfund Site on the Alleghany River in Cattaraugus County in New York, October 7, 2014.
71. EPA Press Release, EPA Finalizes Cleanup Plan for Lower Ley Creek Portion of Onondaga Lake Superfund Site; \$17 to \$25 Million to Be Spent to Address PCBs, October 3, 2014.
72. EPA Press Release, EPA Proposes to Remove Newburgh, NY Site from Superfund List; \$45 Million Spent to Address Bankrupt Metal Processing Site on the Hudson River, October 1, 2014.
73. EPA Press Release, EPA Finalizes \$11 Million Plan to Clean Up Soil and Groundwater at Toxic Site in Glen Cove, New York, September 30, 2014.
74. EPA Press Release, EPA Proposes \$20 Million Settlement with Lightstone Group Development to Conduct Cleanup on the Banks of the Gowanus Canal Superfund Site in Brooklyn; 17,500 Cubic Yards of Contaminated Soil to be Removed, September 9, 2014.
75. EPA Press Release, EPA Adds Radiation Site in Ridgewood Queens, New York to the Superfund List, May 8, 2014.
76. EPA Press Release, W.R. Grace Pays Over \$63 Million Toward Cleanup and Restoration of Hazardous Waste Sites in Communities Across the Country, February 5, 2014.
77. Greenwire, CHEMICALS: 330K Americans risk exposure to carcinogen in dry cleaning, degreasing—EPA, June 25, 2014.
78. InsideEPA.com—Daily News, Renewing TCE Challenge, Industry Urges OMB To Ease EPA's Vapor Guide, November 25, 2014.

Mary McHale is an Assistant Regional Counsel with the U.S. Environmental Protection Agency, Region 2, Air Branch; Chris Saporita is an Assistant Regional Counsel in Region 2's Water and General Law Branch; Joseph A. Siegel is an Assistant Regional Counsel in the Region's Air Branch and an Alternative Dispute Resolution Specialist; and Marla E. Wieder is an Assistant Regional Counsel in the Region's New York and Caribbean Superfund Program.

Any opinions expressed herein are the authors' own, and do not necessarily reflect the views of the U.S. Environmental Protection Agency. This Update is based on select EPA press releases (available at <http://www2.epa.gov/newsroom>) and other public information from approximately March 1, 2014 through February 28, 2015, and is not intended to be inclusive or comprehensive.



CHECK US OUT ON THE WEB
<http://www.nysba.org/Environmental>

DEC Update

By Randall C. Young

DEC Proposes Revisions to Bulk Storage Regulations

The Department of Environmental Conservation has proposed revisions to 6 NYCRR Parts 612 through 614 (Petroleum Bulk Storage), 6 NYCRR Parts 595 through 599 (Chemical Bulk Storage), 6 NYCRR section 370.1(e)(2) and 6 NYCRR Subpart 374-2 (Hazardous Waste Management and Used Oil and regulations). The proposed revisions are the first of two planned rule-makings intended to align the State's regulations with 40 CFR Part 280 and 281, and to address changes that have occurred since the State adopted its bulk storage regulations in 1985.

A summary of the draft regulations and links to the proposed regulations, background information, and a proposed operator training policy are available on the DEC's website at: <http://www.dec.ny.gov/chemical/92526.html>.

Brownfield Cleanup Program Extended

This year's state budget included a ten-year reauthorization of the Brownfield Cleanup Program which is intended to create incentives for redevelopment of contaminated sites. The legislation included a change to the definition of "brownfield site" to include:

...real property where a contaminant is present at levels exceeding the soil cleanup objectives or other health-based or environmental standards, criteria or guidance adopted by the department... based on the reasonably anticipated use of the property...¹

The categorical exclusion of Class 2 Hazardous Waste sites from the definition of brownfield sites has been changed to make such sites eligible for inclusion in the program if they are owned by a volunteer and the DEC has not identified a responsible party with the ability to pay for investigation and remediation of the site.² Revisions to the program also include the imposition of certain eligibility criteria for tax credits for projects undertaken in New York City.

General Permit for Repair and Replacement of Lawfully Existing Bulkheads

The DEC has issued general permit GP-1-13-001 for repair and replacement of bulkheads in specific areas along Long Island's south shore. The general permit provides an efficient mechanism for repair and replacement projects in areas with high concentrations of privately

owned bulkheads west of the Robert Moses Causeway on the south shore in Nassau and Suffolk Counties. The permit authorizes removal and replacement of functional and lawfully existing bulkheads, the replacement of a bulkhead with one 18 inches higher in elevation, and limited dredging related to bulkhead replacement. Before any work may begin, the DEC must review and approve all requests for authorization of projects under the general permit.

The general permit does not cover projects in vegetated tidal wetlands, along the ocean shoreline, or on the ocean shore of Long Beach Island, Jones Beach Island State Park, and Robert Moses State Park Barrier Islands.

Specific information regarding the permit and "Request for Authorization" forms are available on the DEC's website at: <http://www.dec.ny.gov/permits/95953.html>.

Regulation setting standards for Liquefied Natural Gas storage facilities within the state became effective February 26, 2015. The regulations can be found at 6 NYCRR Part 570. The regulations include siting and design criteria and require site specific consideration of each application. Permit application review will include evaluation of compliance with siting standards, the capabilities of local fire departments, compliance with design standards, and consideration of special permit conditions necessary to ensure safe operation. Facility designs must be certified as complying with National Fire Protection Association (NFPA) standards by independent third parties. Failure to meet any of the standards would result in permit denial.

Personnel Changes

Several long-serving attorneys have retired from the DEC's Office of General Counsel (OGC) in recent months. Leo Bracci retired from his position as Regional Attorney for Region 8. Mr. Bracci joined DEC in Region 8 as an Assistant Regional Attorney in the late 1980s before being promoted to Regional Attorney in 2007. Vernon Rail and Gail Hintz retired from their positions as Assistant Regional Attorneys in Regions 1 and 2, respectively. Associate Attorney Kenneth Hamm retired from DEC's Office of General Counsel, Central Office, where he was DEC's lead attorney on Forest Preserve issues.

Louis Oliva has moved from his position as Regional Attorney for DEC's Region 2 Office to take a position supervising the DEC Office of General Counsel's Remediation Bureau in Albany. The Remediation Bureau is responsible for handling legal matters related to hazard-

ous waste remediation, RCRA, petroleum spills, and bulk storage.

A departure outside the Office of General Counsel that may also be of interest to the members of the Environmental Law Section is Gene Kelly's departure from the position of Regional Director for Region 4. Before becoming Regional Director, Mr. Kelly had a long career as an environmental attorney beginning with the NYS-DEC, then with the NYS Attorney General's office before returning to NYSDEC as Regional Director for Region 4. Regional Spill Engineer Keith Goertz was appointed Regional Director for Region 4 following Mr. Kelly's departure.

The departure of veteran staff brings new appointments. Dennis Harkawik succeeded Leo Bracci as Regional Attorney for Region 8. Before joining DEC, he practiced law at Jaeckle Fleishmann & Mugel, LLP in Buffalo, New York.

Karen Mintzer has succeeded Mr. Oliva as Regional Attorney for Region 2. Ms. Mintzer comes to DEC with eighteen years of experience practicing environmental law, most recently with the environmental practice group of Framer, Levin, Maftalis, and Frankel.

Madeline Gwyn also joined DEC's Region 2 as an Associate Attorney 1. Her primary responsibilities will be pesticide and petroleum bulk storage matters.

Bradford Burns has joined the DEC's Office of General Counsel in Albany. His primary area of responsibility with DEC will be real property acquisition and environmental easements.

Jennifer Andaloro has joined the DEC Office of General Counsel (OGC) in Central Office as Associate Attorney. Her primary focus will be matters handled by the DEC's Division of Materials Management.

Deborah Gorman has joined the DEC's Office of General Counsel in Central Office where she will work in the Corporate and Remediation bureaus. Ms. Gorman holds a JD from Pace University and previously interned with OGC.

Jennifer Dougherty will be filling the position of Assistant Regional Attorney in DEC's Region 9 office in Buffalo. She comes to the Department with ten years of experience practicing environmental law.

Scott Crisafulli has been promoted to Deputy General Counsel, succeeding Alison Crocker who accepted a position with the Attorney General's office. Scott was most recently the head of the General Enforcement Bureau in the Office of General Counsel.

Endnotes

1. ECL §27-1405(2).
2. ECL §27-1405(2)(a).

Randall C. Young is Regional Attorney for Region Six of the New York State Department of Environmental Conservation. This column is the work of the author and is not published by or on behalf of the New York State Department of Environmental Conservation.

Member Profiles

Long-Time Member: Gail S. Port

It is long overdue that the Environmental Law Section honors Gail S. Port as one of our most outstanding and accomplished members. Ms. Port joined the New York State Bar Association immediately after graduating *magna cum laude* from New York Law School. Ms. Port has been a Section member and regular contributor to the work of the Section since the early 1980s, and has held every officer position, going up the ranks from Secretary, Treasurer, First and Second Vice-Chair, to Chair from April 2000 through March 2001. Prior to becoming an officer, Gail co-chaired the Committees on Continuing Legal Education and on Environmental Impact Statements. She also holds the honor of being the first woman to be appointed Chair of the City Bar Association's Environmental Law Committee, a role she fulfilled when the Environmental Law Section and the City Bar Association's Environmental Law Committee got together to establish the minority fellowship.



Ms. Port is currently the head of the Interdepartmental Environmental Group at Proskauer Rose LLP in New York City, where she focuses her practice on environmental law, land use, and litigation. Her practice is very diverse, involving the environmental risks in mergers and acquisitions, real estate transactions and financings, environmental compliance matters, Superfund and RCRA cases, federal and state enforcement proceedings, sustainability and climate change issues, remediation, environmental litigation and administrative proceedings, land use matters, and historic preservation.

Ms. Port is also deeply committed to public service. From 1984-1989, she was the Deputy General Counsel, Acting General Counsel, and the chief environmental advisor to the New York State Urban Development Corporation (now the Empire State Development Corp.), where she was involved in many high-profile, large-scale land use and development projects and related financing transactions. Further, she has served as one of only five citizen members on the New York State Environmental Board for 23 years, an honor that followed her appointment by Governor Mario Cuomo (and State Senate confirmation) and continued as she served at the pleasure of Governors Pataki, Spitzer, Paterson, and Andrew Cuomo.

Gail Port's accolades could fill a book, including: being listed in Chambers USA since 2005 for two distinct practice areas; inclusion as one of the "Best Lawyers in America" since 2005 (and The Best Lawyers in America Lawyer of the Year in Environmental Law 2012); New York Super Lawyers 2006-2014; twice being named as one of the Top 50

Women New York Super Lawyers; being named in Who's Who Legal (The International Who's Who of Business Lawyers); receiving the Parks & Trails New York George W. Perkins Award for outstanding environmental leadership; having received the prestigious Commissioner Orin Lehman annual Historic Preservation Award, and too many others to list on this page. She is also a Fellow of the American College of Environmental Lawyers, a professional association of national preeminent environmental lawyers with distinguished careers.

Ms. Port is always eager to share her talents with the legal community. She served as an adjunct faculty member of Pace University School of Law, where she taught "Commercial Environmental Law." She also has written widely on a broad spectrum of environmental topics, including at many of the Environmental Law Section's Continuing Legal Education programs.

When asked what has changed within the practice of environmental law throughout her career, Ms. Port replied: "Everything. When I first started practicing law, Environmental Law was a relatively young movement, and was cutting-edge; it initially grew out of the need to stop or temper the negative effects of large-scale development projects. Now the practice is multi-faceted." Ms. Port's practice, while once almost exclusively consumed by land use and SEQRA cases, has developed into a largely transactional practice. Many of the environmental laws and regulations that we worked hard to get enacted have now become bogged down and some have ballooned into wasteful burdens. The Superfund program, for example, needs to be reexamined and reformed. Similarly, the Resource Conservation and Recovery Act (RCRA) and the Clean Water Act have become mind-numbingly complex. Everyone is highly specialized in the practice of law these days, and the practice of environmental law is no exception.

From the above, you might think that Gail is all work and no play. A better aphorism to describe her life, however, is "work hard, play hard." Ms. Port has a passion for travel, and made this author jealous when she told me about her visit to Antarctica (with former NYSBA Environmental Law Section Chair, the late Alice Kryzan, and Alice's family), and about her trip to Costa Rica and the Galapagos (an Environmental Law Section-sponsored trip with former Section Chair Joel Sachs and other Section members). She also appreciates the fine arts, which New York City has to offer, and maintains several subscriptions to ballet and theater companies.

All in all, Gail Port embodies the spirit of the Environmental Law Section through her dedication to the practice of environmental law, her innumerable and impressive successes, and her desire to give back to the legal community. Thanks, Gail.

Justin Birzon

New Member: Jillian Kasow



Our new member for this issue is Jillian Kasow. Before preparing this write-up, I knew Jill only by her reputation as an engaged and competent rising star. When speaking with her, I was struck by her enthusiasm. Jillian is an asset to the bar and the Section and we welcome her leadership.

Jillian had an interest in pursuing energy and environmental law as a law student. She participated in environmental appeals whenever possible, interning at the NYS DEC (focusing on SEQRA issues), the Appeals and Opinions Division at the Office of the Attorney General, and the law firm of Young Sommer LLC. After graduating from Albany Law School in 2010, Jillian became the Wiebe Fellow in the NYS Senate, where she was assigned to the Energy and Telecommunications and Environmental Conservation Committees.

As a Wiebe Fellow, one of her first projects was to take an active role in negotiating the new Public Service Law Article X, called the Power NY Act of 2011, which establishes power plant siting procedures. The previous version of the law had expired in 2003, and many prior negotiations had stalled. Before the new law was adopted in 2011, any newly sited power plants would be required to follow SEQRA procedures prior to obtaining site approval, which would become a several-years-long process and effectively halt any new siting in the State. After her work on this legislation and upon the end of the fellowship program, Jillian was hired as Assistant Counsel to the Office of Majority Counsel in the NYS Senate. She was then additionally assigned to the Agriculture Committee and became lead on preparation for all appointments confirmed by the Senate.

Jillian subsequently served as an Attorney at Harris Beach PLLC in the Energy Industry Team. While there, she gained experience in administrative law and focused on preparing applications to submeter residential properties

and establishing their HEFPA compliance procedures. She also worked with the firm's Government Investigations and Compliance group and was an active participant within the firm's NY MuniBlog. She has recently transitioned to the position of Director of the NYS Legislative Commission on Rural Resources, where she leads policy development and legislative proposals.

Since joining the Environmental Law Section's Environmental Committee (upon the recommendation of member and my friend, Andrew Wilson), Jillian immediately put her mind to the task of leadership. She now serves as co-chair to the Legislation Subcommittee and plans the annual Legislative Forum in Albany with Co-chair John Parker. She commented on her pride in serving as a member of the Committee and participating in such an esteemed network of noteworthy attorneys. She also expressed ample humility at the opportunity to play such an active role in the Committee.

In contrast to the typical legal practice—navigating adopted laws and regulations—Jillian's legal expertise is in the critical, prospective analysis of regulatory and legislative proposals. Given her experience, it is important to recognize her insight that "the greatest issue facing environmental law and policy in New York State is largely systemic and not specific to one issue area." She reports, "New York State is unique in that there is a very polarized field within which to build energy and environmental policy. With this polarization can come an unwillingness to achieve shared goals. Where multiple efficiencies are possible—whether in energy production, waste and toxin management, or financial efficiencies in the public and private spheres—everyone stands to benefit." To Jillian, this was a valuable lesson learned as a Fellow during the Article X negotiations. It is also within this mindset that she believes upcoming legislative priorities—such as the extension of the brownfields program or needed amendments to SEQRA—may be most successful.

Keith Hirokawa

Member News

Birth announcement

On April 21, 2014, member Marla E. Wieder and her fiancé Martin F. Kahn welcomed the arrival of Ari Asher Kahn to the Upper West Side. Ari weighed in at a respectable 7 lbs. 7 ozs at birth and soon blossomed into a giant, happy, energetic boy. His current interests include food (of any variety), his cats, and waking up his parents several times a night. Congratulations, Marla and Martin!



In Memoriam

Frank Grad

The Section is very sorry to report that **Frank Grad**, one of the early pioneers in environmental law, passed away on October 14, 2014, at 90. Below is the obituary issued by Columbia Law School, where he taught for 42 years, recounting his remarkable career.

Professor Emeritus Frank Grad '49 LL.B., Pioneering Public and Environmental Law Attorney, Dies

New York, October 15, 2014—Frank P. Grad '49 LL.B., a pioneering public and environmental law scholar who was called upon by New York City mayors and members of Congress for his expertise in legislation on issues ranging from air pollution to the Human Genome Project, died Oct. 14. He was 90.

Grad, an alumnus who most recently served as the Joseph P. Chamberlain Professor Emeritus of Legislation, was a dedicated New Yorker, a prolific scholar and practitioner, and a beloved professor. Teaching a variety of courses, he served as a mentor for legions of Columbia Law School students, including many who went on to become leaders in the profession. In addition, he was a sought-after expert for the media on matters relating to local law and environmental legal issues.

"Frank was a consummate colleague, modest, and always supportive to new members of the faculty and his students," said Peter L. Strauss, the Betts Professor of Law.

Grad's influence extended well beyond the classroom. In 42 years at Columbia Law School, he published more than 20 books and numerous articles in his chosen fields. At the helm of the Law School's renowned Legislative Drafting Research Fund (LDRF), he was responsible for crafting legislation on a wide variety of issues. He had a hand in shaping the New York City Health Code, the New York City Air Pollution Control Code, the New York City Housing Maintenance Code, the Model State Constitution, the Model State and Regional Planning Law, the Model State Campaign Finance Law, and the Model State Conflict of Interest and Financial Disclosure Law. At LDRF, Grad enlisted the help of six to 10 student research assistants each year, giving dozens of aspiring attorneys an entry into public law.

Born in Austria in 1924, Grad immigrated to the United States in 1939 to escape Nazism. He and his sister left Austria on the Kindertransport, and Grad lived with a family in England before coming to the U.S. The papers that recorded his arrival in this country list him as "stateless," but Grad wasted no time in making New York City his home. Although as a child he witnessed the horrors of anti-Semitism under Hitler, he rarely spoke of this experience, wanting instead to look forward to the promise of a bright future in America.

Grad attended Brooklyn's Eastern District High School and Brooklyn College before enrolling at Columbia Law School. He graduated in 1949 and was called back in 1953 after just a few years in private practice to serve as associate director of the LDRF under John M. Kernochan '48.

"I was expected to be a rainmaker," said Kernochan, who later went on to help establish intellectual property protections for artists, at a 1996 dinner celebrating Grad's retirement. "Plainly, I was going to need someone very capable to draft bills while I made rain. Who else but Frank?"

Columbia Law School had been the first law school to teach a formal course in legislation in 1926 and, under Grad's direction, the LDRF made some of its most significant contributions to public law. In 1959, Grad was given the task of revising the New York City Health Code, including provisions relating to water pollution and its prevention, control of sewage fallouts, and the control of toxic substances and poisons. The code also included numerous provisions relating to the protection of food and water supplies against contamination by pollutants.

"He shepherded the Legislative Drafting Research Fund through the most important years of its contribution to the city and state," Strauss said.

In 1969, Grad became director of the LDRF and a full-time faculty member. He chose to take on classes in an emerging area in which his expertise would prove invaluable: environmental law. Grad was the first to teach the subject at Columbia Law School and, when he couldn't find any materials to teach with, he wrote one of the earliest books on the subject.

"Frank Grad was one of the true pioneers in the study and teaching of environmental law," said Michael B. Gerrard, the Andrew Sabin Professor of Professional Practice and director of the Law School's Sabin Center for Climate Change Law. "The field's seminal year was 1970 (when President Nixon created the EPA and signed the first major laws of the modern era), and Frank was out of the box with one of the first casebooks in 1971, and then one of the first treatises in 1973. He trained generations of environmental lawyers."

According to a December 20, 1969, article in *The New York Times*, "Environmental Law Is Attracting Students," 69 students applied to be in Grad's 18-seat first course. "The school, in an unusual relaxation of its rules, will permit 30 students to take the course," the *Times* wrote.

In the late 1960s, then-Columbia University President Michael I. Sovern '55, the Law School's Chancellor Kent Professor of Law, called upon Grad to help lead the University through a time of student unrest.

"Professor Grad was one of Columbia's great citizens," Sovern said. "He successfully led the research and drafting team that recommended the then-new University Senate that opened the University's governance to greater student and faculty participation."

More than one New York City mayor relied on Grad's expertise to help solve problems. Grad served as a close adviser to Mayor John Lindsay and is credited with establishing the Housing Court in the city. Later, when Mayor Ed Koch asked Sovern for help revising New York City's Charter, Sovern tapped Grad to take the reins of the project.

Grad's work spanned decades and major developments in science and the law. In 1980, he became the reporter for a federal project established by Congress to make recommendations relating to personal injuries resulting from the dissemination of hazardous waste subject to regulation under the Superfund law. In one of his final projects for LDRF, he spearheaded a study of the ethical, legal, and social implications of the Human Genome Project.

"Professor Grad was a leader in environmental law long before there was a field called environmental law," said Edward Lloyd, the Evan M. Frankel Clinical Professor in Environmental Law. "He was an inspiration and mentor to generations of students and faculty who now grapple with the complex area of law that he pioneered. He will be sorely missed."

When Grad retired from the full-time faculty in 1995, his fellow professors passed a resolution in his honor to record their "deep affection and high regard" for their colleague. Professor Emeritus Arthur W. Murphy '48 LL.B. read a poem written about Grad earlier in his career by Professor Harry W. Jones '39:

*How gallantly hath Frank P. Grad
I pause now for your cheers
Wrought marvels at the Drafting Fund
These Five and Twenty years.
Moses on Sinai found the law.
Marshall at most applied it.
Greater by far is Frank P. Grad
For he hath codified it.
Justinian left a single code.
Napoleon? What was he?
Frank P. Grad has drafted a dozen codes
Since 1953.*

Richard Briffault, who assumed the Joseph P. Chamberlain Professor of Legislation title and directorship of the LDRF when Grad retired, said his predecessor was a "truly lovely man."

"Frank Grad educated generations of Columbia Law students in the mysteries and distinctive skills required for legislative research and drafting," Briffault said. "Over more than four decades, Frank demonstrated how much his mastery of legislation could accomplish outside the classroom."

Grad was preceded in death by his sister and by his son, David Anthony Grad, who died in 1997. He is survived by his wife Lisa, his daughter Catharine A. Grad '84, and Catharine's two sons, Samuel Grad Oliver and James Grad Oliver.

In Memoriam

Ernest J. Ierardi

It is with great sadness that we share the news that **Ernie Ierardi** passed away on October 14, 2014. Ernie was one of the early chairs of the Environmental Law Section, a wonderful environmental lawyer, and a great man. We will all miss him. John Greenthal, his partner at Nixon Peabody, was kind enough to provide the following obituary:

Pittsford: October 14, 2014—Ernest J. Ierardi is survived by his wife, Roberta “Ginger”; sons, Michael (Gretchen Umholtz), Stephen (Erica); daughter Marguertie (David Bird); grandchildren, Daphne Mir, Westo Lerardi; sisters, Nina (Nicholas) Timar, Mary (John) O’Brien, sister-in-law Justine Matthews and many loving nieces, nephews and friends.

Ernie was born in Boston, Massachusetts, November 14, 1936. He attended Yale University, where he studied economics and political science and participated in the Navy ROTC program. Upon graduation in 1958, he received his commission as ensign, USN and married his high school sweetheart, Roberta Hackett. The young couple moved to his post at Pearl Harbor. After military service, Ernie entered Yale Law School in the fall of 1961 and upon graduation moved to Rochester, NY to become an associate with the firm then known as Nixon Hargrave Devans & Doyle, now Nixon Peabody. As partner by the 1970s, he was respected for his work in the merging fields of environmental and utility law. His numerous contributions to the Public Utility Section of the American Bar Association were recognized in 2014 with the inaugural Samuel H. Porter Service Award. He was a long-time parishioner of St. Thomas More Catholic Church and his generosity extended to many civic, cultural, and charitable organizations in the Rochester area. He was a kind, humble and gentle person and will be greatly missed by all who knew him.

Scenes from the Environmental Law Section
ANNUAL MEETING



**New York Hilton Midtown • New York, NY
January 30, 2015**

SECTION NEWS



Scenes from the Environmental Law Section **FALL MEETING**



**The Otesaga • Cooperstown, NY
September 19-21, 2014**

Hudson River Sloop Clearwater Receives State Bar's Environmental Award

The New York State Bar Association (NYSBA) has honored Hudson River Sloop Clearwater, a not-for-profit organization, with its 2015 Environmental Law Section award.

Peter A. Gross, executive director of Hudson River Sloop Clearwater, Inc., accepted the award at the NYSBA's Annual Meeting in New York City, January 29. The Section presents the award to an individual or organization with a record of significant achievement, meaningful contribution, and distinguished service to the environment.

For more than 45 years, the *Clearwater*, a replica of the historic Dutch sloops that plied the Hudson River in the 18th and 19th centuries, has been the most visible symbol of the organization's work. Founded by singer-songwriter Pete Seeger, Hudson River Sloop Clearwater has been at the forefront of the environmental movement as a champion of the Hudson River. It provides innovative educational programs, environmental advocacy, and musical celebrations in an effort to inspire and educate the public.

"The Clearwater was given the Section award for the advocacy work it has done in preserving the Hudson River and for providing the public an opportunity to experience the beauty of the river from the water rather than the shore," said Teresa M. Bakner of Albany (Whiteman Osterman & Hanna), the then Chair of the NYSBA's Environmental Law Section.

The experience of sailing on the *Clearwater* provides both a historical and environmental perspective. "By this award, we hope to draw additional attention to the work of Hudson River Sloop Clearwater and the importance of sustaining it," said Barry R. Kogut of Syracuse (Bond, Schoeneck & King), chair of the Awards Committee of the Environmental Law Section.



Scenes from the Environmental Law Section 2015 LEGISLATIVE FORUM



New York State Bar Association • Albany, NY
May 6, 2015

Committee Report on 2014 Legislative Forum

Crude Awakening: A Discussion on Oil Transportation Through New York State

By John Parker and Jillian Kasow

The New York State Bar Association's Environmental Law Section presented this year's Legislative Forum on oil transportation through the Port of Albany and beyond.¹ The event occurred on May 14, 2014, and represented another successful annual forum for the section.

The forum commenced with a presentation by representatives of the environmental leadership of the New York State Senate and Assembly, who discussed priority legislation for the 2014 legislative session. These included the upcoming sunset provisions of the brownfields program, a ban on microbeads from various products to prevent their discharge into state waterways, the reduction of harmful flame retardant chemicals in furniture, the capping of greenhouse gas emissions, a cradle-to-grave approach to green purchasing, and a pilot program for disposal of prescription drugs.

Following this presentation was the forum panel, which featured many distinguished participants, including industry representatives, business representatives, and environmental advocates. The panel focused on challenges involving oil transportation from the Midwestern United States, including the complex overlay of federal and state rules, regulations, and laws involving the transportation of oil from the Midwest through the Port of Albany by rail and down the Hudson River by barge.

New York State Senate and Assembly

2014 Environmental Legislative Priorities

Daniel Schlesinger, Counsel to Senator Mark Grisanti, who is Chair to the Senate Committee on Environmental Conservation, presented Senate priorities.² Mr. Schlesinger opened his presentation by announcing that the mercury thermostat recycling program, which was passed during the 2013 session, is currently going into effect, and manufacturers are actively preparing for the compliance start date. On a related issue, his office is now researching a new potential bill to address proper disposal of mercury found in tires.

Mr. Schlesinger further noted that Senator Grisanti is concerned about a new issue that has arisen in New York State involving microbeads found in personal care products, including face washes and toothpaste. Water treatment plants are incapable of separating microbeads from the liquid waste stream, and microbeads are now being detected in New York water bodies. His office is working with the manufacturing industry to draft a prohibition

on their use. Senator Grisanti's office is also working on a ban on chemicals found in children's products as well as amendments to legislation addressing the chemical flame retardants found in furniture.

Stephen Liss, Council to Assemblyman Robert Sweeney, who is Chair to the Assembly's Committee on Environmental Conservation, presented Assembly priorities.³ During his presentation, Mr. Liss offered a list of environmental bills that have thus far passed the Assembly, including bills that address the following issues:

1. DEC program to cap greenhouse gasses,
2. Green purchasing for "cradle to grave" products,
3. Ban on microbeads,
4. Chemicals in children's products,
5. Prohibition on use of chemical flame retardants, and
6. Pilot program for a new prescription drug disposal system.

Mr. Liss also discussed his office's interest in legislation that would require a review of climate risks associated with programs that are funded or approved by the State. The office has also been engaged in brownfields and superfund legislation, a ban on ivory in New York markets, and the transportation of crude oil through New York by rail.

Panel on Oil Transportation Through New York State

Background: Bakken Crude Oil

The U.S. Geological Survey conservatively estimates that there are over 7.4 billion gallons of oil under the fields of North Dakota and Montana.⁴ These previously unreachable Bakken crude reserves are now accessible via hydraulic fracturing and horizontal drilling.⁵ The oil production in North Dakota has dramatically changed the social, environmental, and economic landscape of that state, making it one of the largest oil producers in the United States. Despite a pipeline north to Canada, the lack of adequate infrastructure has resulted in the majority of this crude oil being transported via rail and barge to refineries and markets. Bakken crude has a lower flashpoint and is thus highly susceptible to ignition in the event of a derailment or incident, as demonstrated by the

loss of 37 lives in Quebec, Canada, when a train carrying crude oil derailed and exploded in July 2013.⁶ In April 2014, a significant Bakken crude oil spill and fire resulted from a derailment in Virginia.⁷ There are, therefore, a variety of safety concerns with the ability of rail cars to safely transport oil in the United States.⁸

In addition, there has been no final decision regarding the installation and use of the proposed Keystone XL Pipeline to transport tar sands oil mined from Canada. Whether or not the pipeline is constructed, the transportation of tar sands oil through Albany via rail and barge will likely ensue. Also, the application for a Clean Air Act Title V permit modification at the Port of Albany facility to allow the heating of petroleum products (crude residual fuel and bio-fuels) is currently pending before the New York State Department of Environmental Conservation (the "DEC"), and public comments were accepted through November 30, 2014.⁹

Between 2008 and 2013, the amount of crude oil moved by rail annually increased from 9,500 to 415,000 rail carloads.¹⁰ Currently, the Port of Albany handles approximately 40,000 rail carloads of oil per year and is authorized for up to 2.8 billion gallons in total. In response to several recent oil incidents, Governor Andrew Cuomo's Executive Order # 125 required a number of state agencies to produce a report on incident prevention and response capacity in the State by April 30, 2014.¹¹ The state agency report is now publicly available.¹²

Panelist: Paul Gallay, Esq. Riverkeeper

Paul Gallay, President of Riverkeeper, works to protect the Hudson River as well as the drinking water supplies for nine million New Yorkers.¹³ Mr. Gallay focused his comments on the risk of a spill or accidental release of oil, noting that recent catastrophic oil release accidents demonstrate the need for a real and substantive discussion on the issue. Mr. Gallay quoted Governor Andrew Cuomo as an environmentalist who once stated that "a host of horrors and emergencies could result" from the transportation of crude oil through New York State. He opined that the rail system in its current state is not ready for increased transportation of oil and that New York is facing an "utmost serious" situation. A spill or an accident, he warned, could undo forty years of environmental conservation efforts on the Hudson River.

Mr. Gallay stated that any response program would be insufficient, and that the conversation must be focused on how to reduce the overall likelihood that a spill or incident can or will occur. He referenced a spill incident along a Missouri river, where 31,000 gallons were spilled into the river and only 95 were recovered. He also advo-

cated for a reduction in overall consumption and need for fuels such as Bakken crude oil to decrease the need for its transportation via rail. Mr. Gallay is surprised that not a single environmental impact statement has been issued to date. He supports the DEC's decision to treat its recent negative declaration as an interim decision and to pose 29 additional questions to Global Partners.

During the discussion, Mr. Gallay also addressed the proposed retrofitting of DOT-111 tank cars, expressing concern that the cars involved in the Virginia incident were in fact retrofitted, were observing a speed restriction, and that the tracks had been inspected the day prior to the incident. He advocated for the removal of the "worst" cars, installation of modern braking systems, and more inspection of tracks and cars to create safer transportation.

Panelist: Alita Giuda, Esq. The West Firm, Railroads of New York

Alita Giuda is an associate attorney at The West Firm, PLLC, in its regulatory and litigation practice groups.¹⁴ In her comments, Ms. Giuda noted that, to-date, there have been no spills or accidents in New York, which is attributable to a 98.99% safety rating of its rail system and an increase in transportation that correlates with the current safety of the system. In this industry, she stated, the federal government holds preemptive regulatory power, although there is some state regulation over the industry. For this reason, the focus on changes to current requirements, protections, and procedures should be at the federal level.

In light of the Quebec accident, the federal government has adopted twelve regulatory actions. Ms. Giuda stated that the industry is now currently working with first responders and local communities for cooperative efforts and entering into voluntary agreements with responder programs by funding a \$5 million training program in New York State. Ms. Giuda also stated that the rail industry has its own environmental teams to respond in the event of a spill, and that the industry is looking to work with agencies to properly design cars, and voluntary upgrades have been occurring since 2011. The rail industry advocates for responsible regulation and supports the federal government's enactment of the same.

Ms. Giuda also discussed Canada's newly adopted phase-out of the DOT-111 cars, which were implicated in the Quebec accident and oil release. The reality, she noted, is that the replacement or retrofitting of these cars is not required until 2017. In the United States, timing is equally an issue, as the manufacturing industry does not have the capability to produce enough new cars to replace all current DOT-111s prior to 2017. There is an added need

for federal regulations to adopt a requirement in order to establish uniform compliance and a firm deadline for conversion. She also stated several other voluntary endeavors already utilized within the rail industry, including fees imposed on the use of older cars, the purchase of only new cars, and the acceptance of only new cars at certain facilities. The rail industry has taken action and been subject to emergency orders and safety alerts, and looks forward to more certainty in federal regulations in the future.

When asked about emissions resulting from flare-offs at the well sites where Bakken crude oil is retrieved, Ms. Giuda shed light that there are proposals to productively use the gas that is normally flared, and also opined that moving the product by rail altogether results in a better carbon footprint than other modes of transportation.

Panelist: Katherine Nadeau Environmental Advocates of New York

Katherine Nadeau is the Policy Director at Environmental Advocates of New York (“Environmental Advocates”), leading the organization’s advocacy efforts in the State Capitol.¹⁵ Ms. Nadeau stated that the transportation of crude oil is a larger issue and is one step away from “real catastrophe.” In New York, five derailments have occurred since December, and to date no environmental impact statement has been completed for the transportation of crude oil through the State. Ms. Nadeau stated that tar sands oil may be transported through New York in the future, which presents additional environmental concerns. She cited concern for the industry’s delays in reporting on incidents, and pointed to the Albany County legislature’s proposal to criminalize the failure to report an incident. She stated that in wake of the delayed reporting, the U.S. Environmental Protection Agency has requested that the DEC “step up” its investigation. Ms. Nadeau called on New York to use its powers under the State Environmental Quality Review Act, stating that both the state and federal governments have an opportunity to regulate the industry further.

Ms. Nadeau stated that the City of Albany collects \$144,000 in taxes from Global Partners annually, and the State collects twelve cents per transported barrel, which is dedicated to the oil spill fund. Ms. Nadeau stated that this funding is not much economic benefit to the region and insufficient to respond to a spill or accident. She noted that the Canadian train company involved in the Quebec incident has declared bankruptcy in light of the great cost of liability, resulting in the externalization of that cleanup cost. Ms. Nadeau fears that externalization of cleanup cost for any incident occurring in New York

would be similarly externalized should additional measures to prepare for an incident not be taken.

In closing, Ms. Nadeau advocated for a full environmental impact review of the proposed changes and expansion of oil transfer facilities in the Port of Albany, State fees to bolster response funds, an examination of liability issues, and improved staffing at the DEC.

Panelist: Mara Zimmerman, Esq. American Petroleum Institute

Mara Zimmerman has served as Counsel for the American Petroleum Institute for three years and focuses on environmental, energy infrastructure, and energy markets issues.¹⁶ Ms. Zimmerman gave an overview of the federal preemption issues facing the topic of rail transportation. She stated that federal preemption is very narrowly constructed in the courts pursuant to the Federal Railroad Safety Act of 1970. State regulation, therefore, may occur only where (1) there is no federal regulation on the issue, (2) the state regulation is tailored to a uniquely local safety or security hazard, and (3) there is no burden on interstate commerce. Under the Hazardous Materials Transportation Act, federal preemption is expressed and state regulation is subject to a combined dual compliance test and obstacle test. State regulation has been permitted in relation to shipping documentation, notification of releases, packaging materials, and fees imposed on transportation in the state, so long as the fees are narrowly tailored to the transportation cost. Finally, Ms. Zimmerman mentioned that the New York State Public Transportation Safety Board holds powers over the construction, operation, and abandonment of railroad tracks. There is little case law regarding the extent of that board’s powers, although there has been some activity on the topic within the Second Circuit.

Ms. Zimmerman also discussed the local safety and security threshold for federal preemption and gave an example analogous to several issues faced in New York. She stated that in a Ninth Circuit decision involving Union Pacific and the State of California, the court found that the state could not exercise regulatory powers on the grounds that transportation was occurring along an ecologically sensitive river corridor, because there were thousands of miles of railroad tracks in the United States facing a similar issue. The exception sought by the State of California was not, therefore, uniquely local.¹⁷

In closing, Ms. Zimmerman opined that the issues be addressed through a three-pronged approach: (1) prevention, (2) mitigation, and (3) response. She further supported a focus on upgrading rail cars used to transport crude oil.

Panelist: Darren Suarez The Business Council of New York State

Darren Suarez is the Director of Government Affairs at The Business Council and is responsible for advocacy on energy, environmental, and occupational safety and health issues.¹⁸ Mr. Suarez discussed economic development in relation to the use of crude oil as a commodity. In New York, there has been a gravitational shift in the transportation of fuel, and Mr. Suarez opined that the United States will need to allow for the expansion of transportation or else stand to lose up to 45% of production. He stated that there has been an increased demand for its use both domestically and internationally, resulting in increased economic activity for its sale as well as significant savings in home heating costs in New York. Thirty-two percent of energy needs are met by petroleum products, including heating, fuel, and backup generation. He stated that crude oil transportation makes up 1.4% of total rail travel.

Mr. Suarez opined that the rail industry boasts a good history of adapting to changes in transportation needs and that rail transit is an important industry for New York. Mr. Suarez concluded that there is a continued need for the product congruent to the need for expansion in the industry and regulation, to allow transportation to continue to grow in a safe manner, as done in the past.

Mr. Suarez agreed that Albany is unique in receiving such a large volume of trains carrying crude oil. He advocated that the transportation of crude oil through Albany supports jobs in refinery and transportation, as well as lowered home heating costs throughout New York and the Northeast.

Luncheon Keynote Speaker

Marc Gerstman, Esq. Executive Deputy Commissioner New York State Department of Environmental Conservation

Marc Gerstman opened his remarks by discussing several current initiatives at the DEC, including an environmental audit policy, reducing transactional costs, implementing a LEAN process, and brownfields reform. Mr. Gerstman spoke about the DEC's investigation of crude oil transportation, stating that the DOT-111 cars are substandard for the intended purpose, which poses a great issue for New York and the country. He likened the rail transportation as a virtual pipeline that has altered the energy climate in the United States. The increase in production and transportation has helped position the United States as a top crude oil exporter.

Mr. Gerstman acknowledged that transportation of crude oil by rail is subject to federal preemption, and that

the DEC has aggressively pursued increased federal presence on the issue. The DEC has also worked with community leaders in Albany to address the issue as a local concern and, although acknowledging that while the Port of Albany has received hazardous materials for shipment for the past century, the current volume is unprecedented. Mr. Gerstman stated a commitment to not allowing an incident to occur in New York. He expressed grave concern about the incident in Lynchburg, Virginia, which could have been prevented.

Mr. Gerstman found that the boon of industry has outpaced regulation, and concluded that there exists an imminent risk that future negative impacts resulting from an incident will be externalized. To establish a viable model for addressing the many issues posed by the transportation of crude oil through New York State, Mr. Gerstman offered the following report recommendations:

1. Expedite federal rules that would require replacement or retrofitting of DOT-111s.
2. Mandate voluntary railroad safety measures, brakes, track inspections, new track systems.
3. Partner with the Coast Guard and the Environmental Protection Agency to improve emergency response preparedness.
4. Expedite response contingency plans and map Hudson River and Lake Champlain for sensitive areas (such efforts are currently far behind where they should be).
5. Understand the types of risks presented for each type of crude oil being shipped.
6. Update the oil response plan for each type of oil being transported, in a manner that is informed by science and research.
7. Establish a civilian planning system in coordination with the Coast Guard.
8. Address funding cuts to the hazardous spill program.
9. Continue to increase rail inspections.
10. Determine how to most effectively deploy assets.
11. Promote synergy between government agencies in achieving these priorities.
12. Implement training exercises for response programs.

Endnotes

1. See John Louis Parker and Jillian Kasow, *Environmental Legislation Forum Focuses on NY Oil Transportation*, ENVIROSPHERE, June 16,

SECTION NEWS

2014, at http://nysbar.com/blogs/environmental/2014/06/environmental_legislation_foru_1.html.

2. Mr. Schlesinger is a graduate of Albany Law School and served previously as a Graduate Legislative Fellow at the New York State Senate. He also serves as attorney-of-counsel to the law firm of Tooher and Barone.
3. Mr. Liss previously served as Counsel to Assemblyman Harrinberg and was Trustee at the Long Island Power Authority during the decommissioning of the Shoreham Nuclear Power Plant. Mr. Liss graduated from Antioch School of Law in Washington, D.C.
4. Julie LeFever and Lynn Helms, *Bakken Formation Reserve Estimates*, North Dakota Dep't of Mineral Resources, July 27, 2006, at https://www.dmr.nd.gov/ndgs/bakken/newpostings/07272006_BakkenReserveEstimates.pdf.
5. Lenny Bernstein, *Northern plains site has twice as much oil as previously thought*, *Interior says*, WASH. POST, April 30, 2013, at http://www.washingtonpost.com/national/health-science/northern-plains-site-has-twice-as-much-oil-as-previously-thought-interior-says/2013/04/30/16e0a436-b1cf-11e2-9a98-4be1688d7d84_story.html.
6. The derailment and explosions occurred at approximately 1:00 A.M. and destroyed at least 30 buildings in the town of Lac-Mégantic.
7. Approximately 15 tanker cars derailed, prompting an hours-long evacuation of a nearby downtown community.
8. Paul L. Stancil, *DOT-111 Tank Car Design*, National Transportation Safety Board, Office of Railroad, Pipeline and Hazardous Materials Safety, at http://www.nts.gov/news/events/2012/cherry_valley/presentations/hazardous%20materials%20board%20presentation%20508%20completed.pdf.
9. *See Global Companies LLC- Albany Terminal*, at <http://www.dec.ny.gov/permits/95623.html>.
10. US Dep't of Transp., Press Release, *U.S. DOT Announces Comprehensive Proposed Rulemaking for the Safe Transportation of Crude Oil, Flammable Materials*, July 23, 2014, at <http://www.dot.gov/briefing-room/us-dot-announces-comprehensive-proposed-rulemaking-safe-transportation-crude-oil>.
11. N.Y. Exec. Order No. 125 (Jan. 28, 2014), at <http://www.governor.ny.gov/executiveorder/125>.
12. N.Y. State Office of the Governor, *Transporting Crude Oil in New York State: A Review of Incident Prevention and Response Capacity*, April 30, 2014, at <http://www.governor.ny.gov/assets/documents/CrudeOilReport.pdf>.
13. Mr. Gallay is an attorney and educator and has worked on environmental issues since 1987, when he left private practice to work for the New York State Attorney General. In 1990, Mr. Gallay began a ten-year career at the DEC, where he brought claims against hundreds of corporate and government polluters. Mr. Gallay subsequently spent a decade in the land conservation movement before becoming Riverkeeper's President in 2010. Mr. Gallay is a graduate of Williams College and Columbia Law School and has held a number of teaching positions, including a Visiting Professorship in Environmental Studies at Williams College.
14. Ms. Giuda is an attorney at The West Firm, PLLC, in the regulatory and litigation practice groups, where she advises clients on all aspects of permitting projects, including environmental review, zoning, state and federal permits and approvals, as well as remediation. She represents clients in Article 78 proceedings and commercial litigation in both New York state and Federal courts. Ms. Giuda is a member of the Railroads of New York, a trade organization made up of various regional and national freight rail

operators, and is knowledgeable regarding Federal regulation of rail safety and transportation issues, as well as federal preemption issues.

15. Ms. Nadeau joined Environmental Advocates in 2007. Prior to joining Environmental Advocates, Ms. Nadeau worked as a consultant and community organizer for the Onondaga Nation, a sovereign Native American nation whose homelands lie in Central New York. Ms. Nadeau has also worked as an organizer, community outreach director and legislative associate with the New York Public Interest Research Group, and as an organizer for the Working Families Party.
16. Ms. Zimmerman, prior to joining API, was the McCormick Legal Fellow for the Reporters Committee for Freedom of the Press, where she drafted amicus briefs to the U.S. Supreme Court. Prior to her fellowship, Ms. Zimmerman practiced environmental law with the international law firm of Vinson & Elkins. Ms. Zimmerman holds a law degree from Vanderbilt University Law School in Nashville, Tennessee, and a Bachelor of Arts degree in Russian Studies and International Studies from Rhodes College in Memphis, Tennessee.
17. *See Union Pac. R.R. Co. v. California*, 346 F.3d 851 (9th Cir. 2003).
18. Mr. Suarez came to The Business Council from Hinman Straub LLC, where he lobbied on behalf of a number of Fortune 500 companies on energy and environment issues. Before that, Mr. Suarez was the program director for environmental and economic development for the New York State Senate. Previously, he was a government affairs representative for the City University of New York and Cornell University, and worked for the New York State Department of Labor as a job services representative working with employers to meet their workforce needs. Mr. Suarez holds a degree in Political Science from UMass-Dartmouth.

John Louis Parker is an environmental attorney, advisor, and consultant. Mr. Parker is the Task Force Coordinator for the Task Force on Water Resources Management, Rockland County, NY. Currently in private practice, he was formerly the Regional Attorney for DEC Region 3, the Lower Hudson Valley-Catskill Region. Mr. Parker is a co-chair of the Section's Committee on Legislation, and was the author of the DEC Update column in *The New York Environmental Lawyer* between 2008 and 2012.

Jillian Kasow is the Director of the Legislative Commission on Rural Resources in the New York State Senate and the Chair of the Sustainability Advisory Committee for the City of Albany. Previously she was an attorney with Harris Beach PLLC, and an Assistant Counsel for the NYS Senate Office of the Majority Counsel/Program. Ms. Kasow is a co-chair of the Section's Committee on Legislation, and is the featured new member in the Member Profiles column of this issue of *The New York Environmental Lawyer*.

A special thanks is in order to participants and guests and to the Bar Association for hosting the event at the One Elk Street headquarters, and to the Bar Association team that made the event possible.

The New York Environmental Enforcement Update 2013 Annual Report

Published by the Environmental Law Section of the New York State Bar Association

Written and Compiled by Michael J. Lesser, Esq.

Edited by Samuel J. Capasso III, Esq.

The NYSBA Environmental Law Section (ELS) has published an “e-book” entitled “*NY Environmental Enforcement Update 2013 Annual Report*.” It is a compilation of the monthly 2013 NY Environmental Enforcement Update blog entries previously posted in “Envirosphere” the Section’s blog, and can be down loaded directly from the ELS website (click on title in the left margin menu) at <http://www.nysba.org/Environmental/> or directly at http://www.nysba.org/Sections/Environmental/NY_Environmental_Enforcement_Update_2013_Annual_Report.html.

The theme of the e-book and the underlying monthly blog is to collate N.Y.S.-based environmental enforcement information from disparate statewide sources to assist government attorneys, policy makers, regulators, defense counsel and the general public in evaluating the impact and effectiveness of environmental enforcement on environmental quality, public health and the economy. The items compiled represent one view of the broad topical environmental enforcement issues faced by New York’s environmental practitioners.

The e-book itself consists of monthly chapters divided by topical entries for different areas of practice. Subject titles for each monthly chapter include: general New York enforcement news; state, local and federal civil and criminal enforcement actions; state and federal administrative enforcement settlements, decisions and commissioner’s orders; and, on the lighter side, “Weird News.” A “People in the News” section is also included to follow the always

changing staff of state, local and federal agencies. While not comprehensive, the e-book is compiled using approximately 25 main online sources with primary sources such as government web sites preferred.

Finally, the e-book is published in a common Adobe 9.0 in pdf format so that it can be downloaded and used as both a monthly historical chronicle and a searchable reference work. Accordingly, the content of this e-book may be accessed in several ways including:

- Chronologically by month;
- By linking within each monthly chapter via the chapter TAGS; and,
- By key word search (via the Adobe tool bar) within the text of the document.

Of course, the original hyperlinking within the individual blog items can still be used to find the original source materials and additional information (subject to web content changes).

The e-book was compiled and written by Municipal and Environmental Law Section member Michael J. Lesser and edited by ELS member Samuel J. Capasso III. Michael Lesser is Chair of the Environmental Law Section and currently Of Counsel to Sive Paget & Riesel P.C. He was formerly an Assistant Counsel and enforcement attorney with the New York State Department of Environmental Conservation.

New York's Community Risk and Resiliency Act Addresses Climate Change

By Gene Kelly

Last fall, Governor Cuomo signed the Community Risk and Resiliency Act, requiring State agencies to consider future physical climate risks caused by storm surges, sea level rise or flooding in certain permitting, funding and regulatory decisions. The Act requires advance planning to ensure that the siting and investment in critical infrastructure is undertaken in a manner that reflects an awareness of the likely effects of climate change and resulting major storms—the so-called “new normal.” Inspired by the catastrophic effects of Tropical Storms Irene and Lee, and Superstorm Sandy, the Act’s standards apply to smart growth assessments, siting of wastewater treatment plants and hazardous waste transportation, storage and disposal facilities, design and construction regulations for petroleum and chemical bulk storage facilities and oil and gas drilling permits, and properties listed in the state’s Open Space Plan, as well as other projects.

The Act further directs the Department of Environmental Conservation (DEC) to adopt official projections for sea level rise by January 1, 2016 and to update the projections every five years thereafter. The DEC and the Department of State (DOS) are also directed to prepare model local laws to help communities incorporate measures related to physical climate risks into local laws, as well as provide guidance on the implementation of the Act, and the use of resiliency measures that utilize natural resources and natural processes to reduce risk.

The Act injects consideration of climate change adaptation into the green infrastructure programs administered by DEC, including the Clean Water and Drinking

Water Revolving Fund programs and the Environmental Protection Fund. The Act also requires DEC to consider climate change impacts in the issuance of major permits covered by the Uniform Procedures Act, which includes most major environmental permits sought by applicants, such as Clean Water Act SPDES permits, RCRA treatment, storage and disposal siting permits, and Clean Air Act permits. The requirement to consider climate adaptation would also apply in connection with any funding or permit decisions that require a review under the New York State Smart Growth Infrastructure Act, which applies to a number of state agencies, including DEC, the New York State Department of Transportation, the Thruway Authority and the Dormitory Authority of the State of New York.

To some extent, the studies required by the Act enshrine an analysis that, in recent years, has already been undertaken pursuant to existing agency policy or the requirements of SEQRA. For example, DEC considers climate change adaptation as part of its funding and permitting actions, both pursuant to the New York State Environmental Quality Review Act and pursuant to the DEC Commissioner’s Policy on Climate Change (CP-49). Thus, from the perspective of DEC, the Act merely converts an existing agency policy into a mandate required by statute.

Gene Kelly is senior counsel to Harris Beach PLLC. He formerly served as the regional director of the New York State Department of Environmental Conservation in the eastern region of the state.

Subsequent Owners of a Former Hazardous Waste Treatment, Storage, or Disposal Facility Are Not Strictly Liable to Financially Guarantee Cleanup Under RCRA

By Philip Gitlen and Robert Rosborough

Is the subsequent owner of a formerly permitted facility for the treatment, storage, or disposal of hazardous wastes¹ strictly liable for providing financial assurance guaranteeing the ongoing cleanup of the property, without regard to whether the subsequent owner ever operated the facility or owned the property during its operations? That is precisely the issue that faced the New York courts for the first time in *Thompson Corners, LLC v. New York State Department of Environmental Conservation*,² a case with undoubtedly wide-ranging implications for the marketability of former industrial sites sorely in need of redevelopment. Indeed, find strict liability, and potential purchasers, faced with the onerous requirement to financially guarantee a cleanup that could cost tens of millions of dollars without regard to their own fault, would not look twice at former industrial sites for redevelopment, leaving local municipalities with abandoned, valueless properties and no options. Hold, in contrast, that New York requires financial assurance only from those who owned or operated a TSD facility while it had an active permit, and the State could be left to foot the bill if those entities went bankrupt or were otherwise judgment proof.

Wading through what is undoubtedly a complex set of statutes and regulations, the Appellate Division, Third Department rejected the New York State Department of Environmental Conservation's³ attempt to construe a number of unrelated regulations together to seek financial assurance from even the current owners of a former TSD facility, regardless of how attenuated they were from the facility's actual permitted operations. Indeed, subsequent property owners need not fear, the Court held. Because New York's version of the federal Resource Conservation and Recovery Act (RCRA)⁴ does not expressly provide for strict liability, DEC cannot impose such a requirement by mere regulatory construction. Instead, DEC's remedy remains to require TSD facility permit holders, or those responsible parties with which DEC has entered a consent order, to post financial assurance for the cleanup in the first instance, as provided under the Environmental Conservation Law and DEC's regulations.

This article explains the statutory and regulatory basis underlying the Third Department's decision in *Thompson Corners, LLC*, which properly reads through the convoluted weave of statutes and regulations governing who is responsible for financially guaranteeing that post-closure operations and maintenance of a former TSD facility are undertaken, and determines that strict liability

cannot be extended under RCRA to mere subsequent owners of a former TSD facility solely by virtue of their ownership.⁵

I. Factual Background

It is well known that during the glory days of New York's industrial past, a great number of properties throughout the State were used for the treatment, storage, or disposal of hazardous wastes in accordance with the requirements of RCRA. One such property in East Syracuse was owned by Roth Brothers Smelting Corporation, at which it operated a metals recycling facility.⁶ In connection with those operations, Roth obtained a Part 373 permit⁷ from DEC setting forth its obligations as the owner and operator of the TSD facility. The facility at the East Syracuse site operated from 1949 to 1992, when Roth decided to close its operations.⁸ As a requirement of closure, DEC required Roth to implement "corrective action" to remediate any releases of hazardous wastes that occurred during its operations and to place the contaminated soils in a Corrective Action Management Unit, or CAMU, which it was required to monitor and maintain after the closure of the TSD facility.⁹

As a condition of terminating Roth's Part 373 permit, these post-closure obligations, including the requirement that Roth post financial assurance—a means of financially guaranteeing the cleanup by providing cash, a bond, a letter of credit, or insurance to DEC¹⁰—to ensure that the soils in the CAMU were properly monitored and maintained, were expressly set forth in a consent order between Roth and DEC.¹¹ Notably, the Roth consent order stated:

The provisions of this Order shall be deemed to bind Roth Bros., its successors and assigns, and, as provided by law, its officers and directors. Any change in ownership or corporate status of Roth Bros. including, but not limited to, *any transfer of assets or real or personal property shall in no way alter Roth Bros. [sic] responsibilities under this Order....* Roth Bros.'s officers, directors, employees, servants, and agents shall be instructed to comply with the relevant provisions of this Order in the performance of their designated duties on behalf of Roth Bros.¹²

In connection with the consent order, Roth also recorded a declaration of covenants notifying all potential purchasers of the property of Roth's obligations under the consent order, the contaminants for which corrective action was necessary, and the CAMU.¹³ Although DEC and Roth entered a valid and binding consent order expressly setting forth Roth's obligations, DEC failed to enforce the requirement that Roth, and its successors and assigns, post the necessary financial assurance.

While corrective action was ongoing at the Roth site, the property was sold in 1999 to Wabash Aluminum Alloys, LLC.¹⁴ As a part of the sale, Wabash apparently agreed to assume all of Roth's obligations under the consent order, including the requirement to post financial assurance for the corrective action.¹⁵

Thompson Corners acquired the property from Wabash in 2005.¹⁶ Unlike Wabash, however, Thompson Corners expressly disclaimed any of Wabash's environmental obligations under the Roth consent order at the time of its purchase of the property, but instead entered an access agreement granting Wabash access to the property to continue to perform the mandated corrective action.¹⁷ Metalico Syracuse Realty, Inc. purchased a portion of the former Roth site from Thompson Corners in April 2006.¹⁸ Thompson Corners and Metalico never operated a permitted TSD facility on the property at issue, never held a permit under RCRA, and were never required to hold such a permit.

Realizing that it had not secured financial assurance for the post-closure cleanup of the former Roth site from the former permittee (Roth), DEC then demanded that Wabash, Thompson Corners, and Metalico provide a financial guarantee for the cleanup, which DEC asserted would cost approximately \$400,000. When each declined to do so, DEC, in July 2007, commenced an administrative enforcement proceeding against Thompson Corners, Metalico Aluminum Recovery, Inc.—an affiliated company of Metalico—and Wabash.¹⁹

In January 2008, DEC and Wabash entered into a consent order,²⁰ in which Wabash admitted that it did not provide any financial assurance for the former Roth site, and expressly agreed to provide DEC with the necessary financial assurance for the corrective action at the property.²¹ Although this consent order should have resolved the issue, had DEC decided to enforce it, DEC inexplicably declined to do so. Instead, DEC pursued the enforcement proceeding against Thompson Corners and Metalico on the theory that even current property owners of a former TSD facility were strictly liable, jointly and severally, for providing financial assurance. Specifically, DEC asserted that Thompson Corners and Metalico were responsible for providing the financial assurance because (1) they were owners and/or operators of a facility at which ongoing corrective action was required; (2) they

were "successors and assigns" of Roth and, thus, subject to the obligations stated in the Roth order on consent; and (3) they were subject to continuing obligations under the expired permit for the facility.²²

Although an Administrative Law Judge rejected DEC's position that Thompson Corners and Metalico were successors or assigns of Roth, and further found that the obligations imposed under the facility's expired permit were not continuing, the ALJ nonetheless concluded that, as owners of a facility implementing corrective action under ECL 71-2727(3), Thompson Corners and Metalico were jointly and severally liable for providing financial assurance.²³ The ALJ reasoned that 6 NYCRR § 373-2.6(l) "requires owners or operators to institute corrective action for all releases of hazardous waste or constituents from any solid waste management unit at the facility, regardless of the time the waste was placed in such unit" and, thus, concluded that that subdivision "does not relieve later owners of the facility from the corrective action requirements."²⁴ The ALJ further determined that Part 373's financial assurance provisions, although only applicable when a party is applying for a permit, subject to a permit, or otherwise subject to an enforceable document, apply to all owners or operators of a TSD facility, whether past, present, or future.²⁵

In adopting the ALJ's report as his determination, the DEC Commissioner determined that Thompson Corners and Metalico were subject to 6 NYCRR Part 373's financial assurance requirements because they were owners and operators of a solid waste management unit under 6 NYCRR § 373-2.6(a)(1), notwithstanding that Petitioners were not seeking a permit to operate a TSD facility or otherwise subject to a TSD permit or a consent order as required under 6 NYCRR § 373-2.6.²⁶ The Commissioner further determined:

In this matter, at least three responsible parties are liable for providing financial assurance: Wabash (Connell),...Thompson, and...[Metalico]. *If one party provides the financial assurance, the other two would not have to provide it. Had Wabash (Connell) followed through on its obligation to provide financial assurance under the January 2, 2008, Order on Consent, Thompson and [Metalico] would not have to provide the financial assurance.* But Wabash (Connell) did not follow through, therefore continuing to expose all three to the requirement to provide financial assurance.²⁷

Thompson Corners and Metalico then commenced a CPLR Article 78 proceeding against DEC to annul the Commissioner's decision as contrary to the express terms of New York's version of RCRA.²⁸

II. Statutory and Regulatory Background

Under article 27, title 9 of the Environmental Conservation Law, the New York Legislature adopted a comprehensive legislative scheme governing the “management of hazardous waste (from its generation, storage, transportation, treatment and disposal) in this state.”²⁹ As the Appellate Division recognized, the Legislature’s intent was to ensure consistency between New York’s statutory hazardous waste management scheme and RCRA’s federal hazardous waste standards.³⁰

Under RCRA, financial assurance requirements for corrective action do not run to subsequent owners of a former TSD facility because the need for financial assurance is determined when an owner or operator of a TSD facility first seeks a permit. RCRA, thus, mandates “that, *in seeking a permit*, an owner or operator of such a hazardous waste facility...provide financial assurance to the EPA for liability relating to closure, postclosure, or corrective activities at the facility.”³¹

As the federal courts have uniformly recognized, “RCRA is preventative in nature—‘it attempts to deal with hazardous waste before it becomes a problem by establishing minimum federal standards for the generation, treatment, storage, transportation, and disposal of hazardous waste, and the permitting of facilities to treat hazardous waste.’”³²

New York’s scheme is consistent. The provision of the ECL applicable to “[f]inancial requirements for hazardous waste facilities” provides that “[w]ithin eighteen months after the effective date of this section, the commissioner shall promulgate regulations for hazardous waste facilities identifying financial requirements *to be included as conditions in hazardous waste facility permits*...for pre-closure and post-closure facility monitoring and maintenance.”³³ To comply with this directive, the Commissioner promulgated 6 NYCRR § 373-2.6(l), which provides, in relevant part:

(1) The *owner or operator of a facility seeking a permit* for the treatment, storage or disposal of hazardous waste must institute corrective action as necessary to protect human health and the environment for all releases of hazardous waste or constituents from any solid waste management unit at the facility, regardless of the time the waste was placed in such unit.

(2) Corrective action will be specified in the permit in accordance with this subdivision and section 373-2.19 of this Subpart. *The permit will contain* schedules of compliance for such corrective action (where such corrective action cannot be completed prior to issuance of the permit) and *assurances of financial responsibility for completing such corrective action*.³⁴

New York’s scheme for ensuring that a financial guarantee exists for corrective action thus only applies when the owner or operator seeks a TSD permit, that is, when the owner or operator was in some way engaged with the active operations of the permitted TSD facility.³⁵ Indeed, there is no express provision under RCRA, the ECL, or DEC’s regulations that extends liability for financial assurance to any subsequent purchaser of a formerly permitted TSD facility merely by virtue of his or her purchase.

In contrast to the forward-looking liability scheme under RCRA, the Comprehensive Environmental Response, Compensation, and Liability Act may, in certain circumstances, impose strict liability upon prior *and subsequent owners and operators* of a contaminated site for the unremediated releases of hazardous wastes.³⁶ Again, New York law is consistent. Specifically, ECL § 27-1313(3)(a), a provision in the State’s Superfund law—the state equivalent to CERCLA—permits DEC to hold a subsequent property owner liable for cleaning up a state superfund site, even if the owner acquired the property after hazardous wastes had been released at the property.³⁷ DEC then adopted conforming regulations, making the subsequent owner of the property responsible for cleaning up any significant threat to human health or the environment resulting from a release of hazardous wastes at such property—even if the subsequent owner or operator did not participate in the conduct that resulted in the release of hazardous wastes.³⁸

III. The Third Department’s Decision

Notwithstanding the stark legislative distinction between New York’s Superfund law, which expressly imposes strict liability on all subsequent property owners, and article 27, title 9 of the ECL, which does not, DEC, in *Thompson Corners*, attempted to construe New York’s version of RCRA as imposing strict liability for financial assurance upon all subsequent owners of a formerly permitted TSD facility, regardless of their fault. The Third Department, in a stinging rebuke of DEC’s attempt to correct the perceived inadequacy in RCRA’s statutory and regulatory scheme by mere interpretation, rejected the Commissioner’s construction of the law.³⁹

Specifically, the Third Department held, “our own analysis of the statutory and regulatory framework leads us to conclude that neither the ECL nor the regulations support the Commissioner’s determination that the financial assurance requirements apply to” subsequent property owners merely by virtue of their purchase of a formerly permitted TSD facility site.⁴⁰ Beginning with ECL article 27, title 9, the Court noted that each of the obligations set forth therein “are expressly applicable to owners and operators of a TSD facility,” which under the statutes refers to those “who were, at some time, actively involved in the treatment, disposal or storage of hazardous waste, subject to the permit requirements of 6 NYCRR part 373.”⁴¹

Indeed, the Court held, “there is nothing in the plain language of RCRA, the ECL or DEC’s enabling regulations that imposes the financial assurance requirement on subsequent owners of a former TSD facility that never had, or were required to have, a TSD permit or were parties to a corrective action order on the property in question.”⁴² Instead, under New York law, the regulatory requirements to perform corrective action at a former TSD facility following its closure and provide financial assurance to guarantee that work are “imposed as a condition of obtaining a permit to operate a TSD facility.”⁴³ Because there was no dispute that neither Thompson Corners nor Metalico ever conducted TSD activities at the site or were required to obtain a Part 373 permit, the Third Department concluded that no basis existed to extend the financial assurance requirements to all subsequent property owners, regardless of their fault.

Finally, the Third Department held that had the Legislature intended to “impose strict liability to provide financial assurance, in perpetuity, on all subsequent owners of property on which a former TSD facility was operated,” it would have done so expressly, as it did under the New York Superfund law and in other New York statutes.⁴⁴ In the absence of express language imposing strict liability on subsequent property owners under RCRA, the Court held there was “no legal basis for the Commissioner to create such a requirement,” even if it would have been consistent with “the laudatory environmental purposes of this regulatory scheme.”⁴⁵

IV. The Implications of the Third Department’s Decision

The Third Department’s clear statement that subsequent owners of a formerly permitted TSD facility need not fear strict liability for post-closure corrective action, including the requirement to provide financial assurance to guarantee the cleanup, is a win for property owners, developers, and local municipalities throughout New York. If subsequent owners of former TSD facilities had been held strictly liable for financial assurance (and/or performing corrective action) merely by virtue of their ownership, it would be tremendously difficult, if not impossible, for former TSD facilities to be sold. Prospective purchasers of these properties would be reluctant to acquire title to, or even enter a lease on, a property where they would become jointly and severally responsible for the significant cost of providing financial assurance.

Moreover, many potential purchasers simply could not obtain the financial assurance required under the DEC regulations due to cost considerations, further reducing the number of potential buyers available that could afford to buy one of these properties (even if they so desired).⁴⁶ For example, while ongoing monitoring and maintenance can cost between \$10,000 and \$15,000 on a yearly basis, the liability for financial assurance that DEC sought to imply to Thompson Corners and Metalico would have

required them to post up to 30 years of such costs, i.e., between \$300,000 and \$450,000, in cash at the outset of their ownership.

The cost of financial assurance, when added to the significant investments that purchasers would be required to make to acquire and redevelop a formerly permitted TSD facility in the first place, would have made sales of TSD facilities far less likely. Many of these properties would have sat idle, unable to attract buyers due to the significant risk of environmental liability that DEC attempted to imply.⁴⁷ It was this very concern, first arising due to CERCLA’s oppressive strict liability regime, which contributed to the rise of urban brownfields in this country during the 1980s and 1990s.⁴⁸ Each of these concerns, although not discussed by the Third Department, was remedied by the Third Department’s decision rejecting DEC’s interpretation of New York’s version of RCRA to imply strict liability on all subsequent purchasers. Indeed, had the Court held otherwise, and accepted DEC’s construction, it would have only greatly exacerbated the brownfield problem that already exists in New York, contrary to the Legislature’s overarching intent to foster redevelopment.

Most important, as the Appellate Division noted at the end of its decision, DEC is not without a remedy to ensure that corrective action is undertaken at former TSD facility sites, that financial assurance is provided for that work, and that any unremediated releases of hazardous wastes are promptly cleaned up. Section 373-2.6(l) of the DEC regulations expressly provides that DEC may require financial assurance from a party seeking a TSD facility permit from DEC, a party subject to a TSD facility permit, or a party subject to a consent order with DEC.⁴⁹ Thus, DEC has multiple opportunities under the current regulatory scheme to ensure that financial assurance is provided for corrective action at a former TSD facility site, whether from the owner or operator of the active TSD facility when it obtains a permit in the first instance or at closure of the facility upon execution of a consent order governing the post-closure corrective action period. In *Thompson Corners*, however, DEC inexplicably failed to pursue the permit holder (Roth), or the party with which it entered into a consent order (Wabash), but instead went after the current property owners attempting to impose liability where it does not otherwise exist under the ECL and DEC’s regulations.

Additionally, current property owners are still financially responsible under the State Superfund law for releases of hazardous waste on their properties that cause a significant threat to human health or the environment.⁵⁰ If such releases of hazardous waste are occurring at a former TSD facility site, DEC has clear authority under the law to transfer the property into the State Superfund program, and through ECL 27-1313 require the current owners to remediate the site and post financial assurance in connection therewith.⁵¹ Although, as the Third Depart-

ment held, that is not an option where the former TSD facility site has already been remediated,⁵² DEC certainly is not without a remedy to ensure that the environment is protected and the State does not have to foot the bill for the cleanup.

V. Conclusion

In sum, the Third Department's decision in *Thompson Corners, LLC* is a landmark decision for property owners, developers, and local municipalities alike. The mere purchase of a formerly permitted TSD facility will not automatically result in strict liability to financially guarantee any cleanup that may still be ongoing. The Court's opinion is a thoughtful analysis of a complex problem and, in the end, properly balances the State's interest in protecting the environment, the Legislature's intent to foster the redevelopment of abandoned former industrial sites that would otherwise sit idle as a potential threat to human health and the surrounding area, and subsequent owners' desire to avoid strict liability for the failure of prior owners or operators for a formerly permitted TSD facility to financially guarantee the cleanup necessitated as a result of their treatment, storage, or disposal of hazardous wastes.

Endnotes

1. A hazardous waste treatment, storage, or disposal facility will be hereinafter referred to as a "TSD facility."
2. 119 A.D.3d 81 (3d Dep't 2014), *lv. denied* __ A.D.3d __ (3d Dep't Aug. 21, 2014), *lv. pending undecided* (Ct App).
3. The New York State Department of Environmental Conservation is hereinafter referred to as "DEC."
4. See 42 U.S.C. § 6901 et seq. [hereinafter RCRA].
5. DEC sought leave to appeal to the Court of Appeals from the Third Department's decision. The Court of Appeals denied DEC's motion for leave to appeal on November 25, 2014.
6. See generally *The Alleged Violations of Articles 27 and 71 of the Environmental Conservation Law (ECL) and Title 6 of the Official Compilation of Codes, Rules and Regulations of the State of New York (6 NYCRR)*, by *Thompson Corners, LLC and Metalico Syracuse Realty, Inc.*, DEC File No. R7-20070627-35, Decision and Order of the Commissioner, Sept. 15, 2010, available at <http://www.dec.ny.gov/hearings/68626.html> [hereinafter "DEC Commissioner Decision"].
7. See N.Y. Comp. Codes R. & Regs. tit. 6, § 373-2 (N.Y.C.R.R.).
8. See DEC Commissioner Decision, ALJ Findings of Fact, ¶¶ 1-2.
9. See *id.*, ALJ Findings of Fact, ¶¶ 7-9.
10. See 6 N.Y.C.R.R. § 373-2.8(d).
11. See DEC Commissioner Decision, ALJ Findings of Fact, ¶¶ 7-12.
12. *Id.*, ALJ Findings of Fact, ¶ 14 (emphasis added).
13. See *id.*, ALJ Findings of Fact, ¶ 16.
14. See *id.*, ALJ Findings of Fact, ¶ 20.
15. See *id.*, ALJ Findings of Fact, ¶ 23.
16. See *id.*, ALJ Findings of Fact, ¶ 22.
17. See *id.*, ALJ Findings of Fact, ¶¶ 23-24.
18. See *id.*, ALJ Findings of Fact, ¶ 27.
19. See *id.*
20. The consent order was actually in the name of Wabash's sole shareholder, Connell Limited Partnerships, L.P.

21. DEC Commissioner Decision, ALJ Findings of Fact, ¶ 33.
22. *Id.*, Discussion, Financial Assurance Requirements.
23. See *id.*, Conclusions of Law, ¶ 5.
24. *Id.*, Discussion.
25. *Id.*
26. *Id.*
27. *Id.* (emphasis added).
28. See N.Y. ENVTL. CONSERV. LAW art. 27, tit. 9 (ECL).
29. ECL § 27-0900.
30. See *Thompson Corners, LLC*, 119 A.D.3d at 85; see also ECL § 27-0911(1).
31. South Carolina Dep't of Health & Env'tl. Control v. Commerce & Indus. Ins. Co., 372 F.3d 245, 250 (4th Cir. 2004) (emphasis added); see also *Delaney v. Town of Carmel*, 55 F. Supp. 2d 237, 256 (S.D.N.Y. 1999) ("[T]he fact that [defendant] came into ownership of the property years after the allegedly offending activity means it cannot be held liable under RCRA.").
32. South Carolina Dept. of Health & Env'tl. Control, 372 F.3d at 256 (quoting *Env'tl. Tech. Council v. Sierra Club*, 98 F.3d 774, 779 (4th Cir. 1996); see also *Meghrig v. KFC W., Inc.*, 516 U.S. 479, 483 (1996) ("Unlike [CERCLA], RCRA is not principally designed to effectuate the cleanup of toxic waste sites.... RCRA's primary purpose, rather, is to reduce the generation of hazardous waste and to ensure the proper treatment, storage, and disposal of that waste which is nonetheless generated, 'so as to minimize the present and future threat to human health and the environment'" (citations omitted)).
33. ECL § 27-0917(1) (emphasis added).
34. 6 N.Y.C.R.R. § 373-2.6(l)(1)-(4) (emphasis added).
35. See, e.g., *Interfaith Cmty. Org. v. Honeywell Int'l, Inc.*, 263 F. Supp. 2d 796, 831, 844-846 (D. N.J. 2003) (holding that the current owners of property could not be held liable under RCRA because there was no evidence that the owners "ever engaged in the disposal or other relevant activity related to the approximately one million tons of [hazardous waste] that [a prior owner] disposed at the... Property."), *aff'd*, 399 F.3d 248 (3d Cir. 2005), *cert. denied*, 545 U.S. 1129 (2005); *ACME Printing Ink Co. v. Menard, Inc.*, 870 F. Supp. 1465, 1477 (E.D. Wis. 1994) (declining to impose RCRA liability where there was "no evidence that Menard uses or ever used the site for disposal of hazardous waste.").
36. See 42 U.S.C. § 9607(a); see also *Commerce Holding Corp. v. Board of Assessors*, 88 N.Y.2d 724, 729 n.3 (1996) ("CERCLA is a strict liability statute that imposes liability on property owners such as Commerce without regard to fault.").
37. See ECL § 27-1313(3)(a) ("Whenever the commissioner finds that hazardous wastes at an inactive hazardous waste disposal site constitute a significant threat to the environment, he may order the owner of such site and/or any person responsible for the disposal of hazardous wastes at such site (i) to develop an inactive hazardous waste disposal site remedial program, subject to the approval of the department, at such site, and (ii) to implement such program within reasonable time limits specified in the order") (emphasis added).
38. See 6 NYCRR § 375-2.5(a)(1) ("The Commissioner may order a responsible party to develop and implement a remedial program for a site."); see also *id.* § 375-2.2(i)(1) (defining a "responsible party" as including "[a]ny person who currently owns or operates a site or any portion thereof").
39. *Thompson Corners, LLC*, 119 A.D.3d at 86.
40. *Id.* at 87.
41. *Id.* at 86.
42. *Id.* at 87.
43. *Id.* at 86.

44. *Id.* at 88–89; see also N.Y. LAB LAW § 240(1); N.Y. NAV. LAW § 181(1).
45. *Thompson Corners, LLC*, 119 A.D.2d at 89.
46. See 6 N.Y.C.R.R. § 373-2.8(d) (requiring financial assurance to be in the form of a closure trust fund, surety bond, letter of credit, or insurance).
47. See ECL § 27-1403 (“The legislature hereby finds that there are thousands of abandoned and likely contaminated properties that threaten the health and vitality of the communities they burden, and that these sites, known as brownfields, are also contributing to sprawl development and loss of open space. It is therefore declared that, to advance the policy of the state of New York to conserve, improve, and protect its natural resources and environment and control water, land, and air pollution in order to enhance the health, safety, and welfare of the people of the state and their overall economic and social well being, it is appropriate to adopt this act to encourage persons to voluntarily remediate brownfield sites for reuse and redevelopment by establishing within the department a statutory program to encourage cleanup and redevelopment of brownfield sites.”).
48. See *Lighthouse Pointe Prop. Assocs. v New York State Dep’t of Envtl. Conservation*, 14 N.Y.3d 161, 164–65 (2010) (noting the Division of Budget’s concern that strict liability for all property owners, regardless of their fault, and the inability to obtain financing contributed to the reluctance of developers to purchase possibly contaminated sites).

49. See 6 N.Y.C.R.R. §§ 373-1.2(e)(3), 373-2.6(a)(5), 373-2.6(l).
50. See ECL § 27-1313(3)(a); 6 N.Y.C.R.R. § 375-2.7.
51. *Id.*
52. See *Thompson Corners, LLC*, 119 A.D.3d at 89, n.14 (holding that nothing “in this decision prevent[s] DEC from seeking appropriate relief against petitioners under the Superfund Law, if circumstances arise in the future where that law is implicated,” but noting that DEC did not claim that Thompson Corners’ and Metalico’s property “currently presents a significant threat to public health or the environment”).

Philip Gitlen is co-managing partner of Whiteman Osterman & Hanna LLP in Albany, New York, and a member of the Environmental Practice Group. His practice includes environmental, land use, and energy-related matters.

Robert Rosborough is an associate in Whiteman Osterman & Hanna LLP’s Litigation Practice Group. The Firm represented Petitioners Thompson Corners, LLC and Metalico Syracuse Realty, Inc. in a CPLR Article 78 proceeding against the New York State Department of Environmental Conservation and its Commissioner that is described in this article.

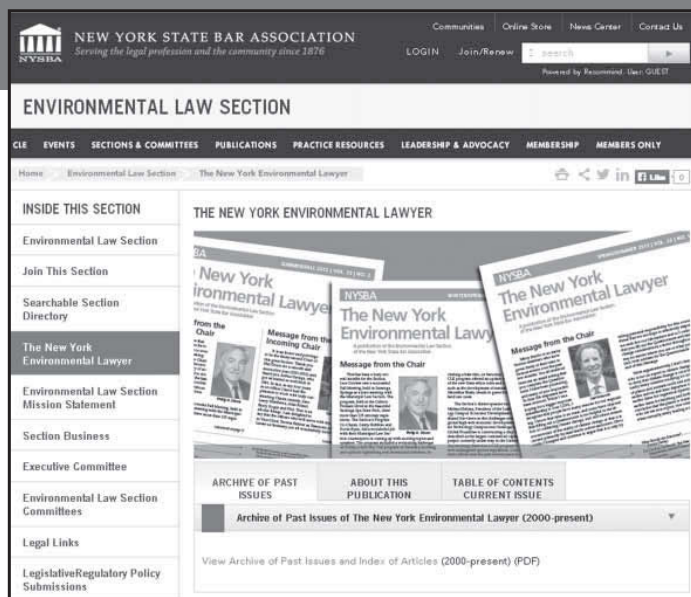
The New York Environmental Lawyer is also available online

Go to www.nysba.org/EnvironmentalLawyer to access:

- Past Issues (2000-present) of *The New York Environmental Lawyer**
- *The New York Environmental Lawyer* Searchable Index (2000-present)
- Searchable articles from *The New York Environmental Lawyer* that include links to cites and statutes. This service is provided by Loislaw and is an exclusive Section member benefit*

*You must be an Environmental Law Section member and logged in to access.

Need password assistance? Visit our Web site at www.nysba.org/pwhelp. For questions or log-in help, call (518) 463-3200.



**NEW YORK
STATE BAR
ASSOCIATION**

New Rochelle: Planning for Climate Change Impacts

By Paola Bettelli

The aim of this article is to discuss the options that New Rochelle has to reconcile some of its sustainable development objectives (e.g., increased population density, mixed uses, transit-oriented development, and greenhouse gas mitigation), with adaptation to climate change. To do so, the article examines New Rochelle's existing Comprehensive Plan, Sustainability Plan, Multi-Hazard Mitigation Plan, and the Density Bonus Overlay Zone. Recommendations will then be made to address any gaps or inconsistencies in these plans and regulations to make the city of New Rochelle more resilient to climate change impacts.

Specifically, the issue the paper discusses is whether the city of New Rochelle can reconcile the objectives of its Sustainability Plan, including placing 95% of its future residential growth within walking distance of a commuter rail or bus transit stop, with the objectives of its Multi-Hazard Mitigation Plan and with the overall objective of increasing its resiliency to climate change impacts.

Part I will discuss the background in terms of New Rochelle's City features, the importance of adaptation to climate change, and the Hyogo Framework of Action on Disaster Risk Reduction; Part II will discuss how population density can have an impact on greenhouse gas emissions, but also increase a community's vulnerability to climate change impacts; Part III will provide an overview of New Rochelle's plans and regulations related to sustainable development and climate change adaptation, including the Comprehensive Plan, the Sustainability Plan, the Multi-Hazard Mitigation Plan, and the Downtown Density Bonus (DDB) Overlay Zone; Part IV will identify and analyze the strengths, gaps, and inconsistencies in the city's current plans and regulations to reduce its vulnerability to climate change impacts and increase its resilience; Part V will discuss "PlanNYC" and "A Stronger More Resilient New York" as a best practice example of an integrated approach to sustainable development that takes into account measures to increase resilience to climate change impacts. The conclusion will include recommendations to address any gaps and inconsistencies in New Rochelle's current plans and regulations to address climate change impacts.

I. Background

1. City Features

New Rochelle is a city in Westchester County, New York, in the southeastern part of the state. It lies on Long Island Sound. The city lies 2 miles north of the New York City border (the Bronx). French settlers established the town in 1688. According to the 2010 Census, the population is 77,062.¹ The population density is 5,822.38 people

per square mile.² The median age of the population is 37 years and the racial make up of the city is 65.2% white, 27.8% Latino, 19.3% African-American, and the remainder percentage is of mixed origins.³ In 1999, the City had initiated a revitalization of its downtown.⁴ Part of downtown New Rochelle near the Metro North train station was rebuilt with a \$190 million entertainment complex.⁵ According to the United States Census Bureau's State and County May 2013 Quick Facts for New Rochelle, the median income for a household in the city between 2009 and 2013 was \$67,094 per year, and about 12.4% of the population lived below the poverty line.

New Rochelle has operated under a council-manager form of government since 1932.⁶ This means that the government is composed of the Mayor, a City Council and a City Manager.⁷

2. The Need to Prepare for Climate Change Impacts

The Intergovernmental Panel on Climate Change (IPCC) came to the conclusion that "warming of the climate system is unequivocal, and since the 1950s, many of the observed changes are unprecedented over decades or millennia."⁸ Concentrations of greenhouse gases have increased and sea level has risen because the atmosphere and oceans have warmed, causing the snow and ice to melt.⁹ The IPCC also found that 1983–2012 was likely the warmest 30-year period of the last 1400 years in the Northern Hemisphere.¹⁰ For the first time in 2012, the IPCC used more detailed data to demonstrate connections between climate change and variability of extreme weather events.¹¹ The IPCC determined that "[a] changing climate leads to changes in the frequency, intensity, spatial extent, duration, and timing of extreme weather and climate events, and can result in unprecedented extreme weather and climate events."¹²

In line with IPCC assessments, the United States is currently experiencing the threats of climate change. The year 2012 was the warmest year in the country and the 12 hottest years on record have all come in the last 15 years.¹³ In the same year, there were 11 different weather and climate disaster events with a total of estimated damages at \$110 billion, making it the second-costliest year on record.¹⁴ Communities throughout the United States are already experiencing a range of climatic changes, including more frequent and extreme rainfall and flooding, extended wildfire seasons, more frequent and intense heat waves, increasing ocean temperatures, and rising sea levels.¹⁵ This means that our adaptation to climatic and atmospheric changes is inevitable and, therefore, there is growing consensus about the importance of adaptation as a component of any climate change strategy.¹⁶

The IPCC calls for a combination of mitigation and adaptation measures to reduce the high risks of climate change.¹⁷ According to the IPCC, mitigation “includes strategies to reduce greenhouse gas sources and emissions and enhance greenhouse gas sinks.”¹⁸ Mitigation includes the following measures: improved energy supply and distribution efficiency, fuel switching from coal to gas, renewable heat and power (hydropower, solar, wind, geothermal and bioenergy), more fuel-efficient vehicles and hybrid vehicles, efficient lighting, more efficient end-use electrical equipment, improved crop grazing and land management, afforestation, reforestation, and reduced deforestation.¹⁹

Historically, the focus, both nationally and internationally, has been placed on mitigation of greenhouse gases while adaptation measures to confront the impacts of climate change had been neglected until fairly recently. However, the reality is that we need to take adaptation to climate change seriously. Hurricanes Katrina (August 2006), Irene (August 2011) and Sandy (October 2012) were stark reminders of the fact that we were not prepared to confront the loss of lives and livelihoods and the devastation wrought by extreme weather events such as these.

Adaptation to climate change encompasses a broad range of measures varying from anticipatory to reactive. Anticipatory, or proactive, adaptation measures are aimed at reducing vulnerability and increasing resiliency, and take place before impacts of climate change are observed or have occurred.²⁰ On the other hand, planned, or reactive, adaptation measures are the ones used when the impacts have already been observed or occurred, such as responses to and recovery from natural disasters.²¹ Examples of anticipatory adaptation measures include the following: adjustment of planting dates and crop variety, crop relocation, improved land management, managed retreat seawalls and storm surge barriers, dune reinforcement, land acquisition and creation of marshlands, heat-health action plans, improved climate sensitive disease surveillance and control, safe water and sanitation, design standards and planning for roads, rail and other infrastructure to cope with warming and drainage, underground cabling for utilities and diversification of commerce and tourism attractions.²² Disaster management, which is a part of anticipatory adaptation, includes the design and implementation of strategies, policies, and measures that promote and improve disaster preparedness, response, and recovery practices at different government and societal levels.²³

In this regard, the World Conference on Disaster Reduction, held in 2005 in Hyogo, Japan, adopted the Framework for Action for 2005-2015: Building the Resilience of Nations and Communities to Disasters.²⁴ The Conference sought “to promote a strategic and systematic approach to reducing vulnerabilities and risks to hazards.”²⁵ “It underscored the need for, and identified ways, of building the resilience of nations and communities to

disasters.”²⁶ The United States is a signatory to the Hyogo Framework of Action and reports on its national actions through the Subcommittee on Disaster Reduction of the Office of Science and Technological Policy under the Executive Office of the President of the United States.²⁷

The Hyogo Framework of Action states that “efforts to reduce disaster risks must be systematically integrated into policies, plans and programs for sustainable development and poverty reduction.”²⁸ One of the strategic goals of the Framework is to achieve “more effective integration of disaster risk considerations into sustainable development policies, planning and programming at all levels, with a special emphasis on disaster prevention, mitigation, preparedness and vulnerability reduction.”²⁹

The City of New Rochelle is located within the Long Island Sound Drainage Basin.³⁰ “This drainage basin covers more than 16,000 square miles... It is approximately 110 miles in length and about 21 miles across at its widest point.”³¹

“New Rochelle has approximately 87 miles of storm drains and 5,471 catch basins.”³² However, “[f]looding is a serious threat to a significant portion of the New Rochelle community, as a result of topography, inadequate storm drainage, or diminished carrying capacity of natural waterways.”³³ That is why it is important for the city to adopt strong measures to reduce its vulnerability to these hazards.

Presently, local funds are not sufficient to accomplish planned infrastructure improvements. Catch basin cleaning has been scaled back, although basins in flood-prone areas continue to achieve attention. Approximately 3,474 acres, or 56.4% of New Rochelle’s surface, are estimated to be impermeable. New Rochelle’s inland water bodies have lost much of their storage and carrying capacity because of decades of silt deposition... The total run-off from all of New Rochelle’s impermeable surfaces in a one-inch rainstorm is approximately 101 million gallons, with additional run-off generated by partially permeable surfaces.³⁴

New Rochelle is located within four watersheds (from west to east: Hutchinson River, Burling Brook, Stephenson Brook and Sheldrake River, as well as a fifth, Troublesome Brook, now entirely underground which drain to Long Island Sound). The drainage from New Rochelle passes through five significant City-owned lakes or ponds and through several streams, all in varying states of distress. Challenges include scouring and

erosion of stream banks, reduced depth, storage and carrying capacity resulting from accumulated silt, pollutants generated by point and non-point sources, proliferation of invasive species...and degraded or poorly maintained freshwater and marine shorelines.³⁵

II. Urban Population Density and Climate Change

The United Nations Population Fund (UNFPA) has acknowledged that “concentration of urban populations can increase susceptibility to disasters that are likely to become more frequent and more intense as a result of climate change.”³⁶ Cities can be seriously affected by the increase in severity and frequency of storms and many of the aspects of urban centers can suffer including the health and well-being of the population, the economy and the physical and social infrastructure.³⁷ While the UNFPA recognizes that climate change is likely to increase the number of serious injuries and deaths from disasters in urban areas, it points out that “there is no automatic link between increasing urban populations and increasing disaster risk.”³⁸ This is because the quality of planning, institutions and infrastructure can be very effective in mitigating disasters risks in densely populated areas.³⁹ In this regard UNFPA notes:

The fact that disasters often have a disproportionate impact on areas of high population density does not necessarily imply that density itself is to blame for increasing vulnerability. Rather, it is the fact that inadequate institutions and lack of infrastructure are often also concentrated in areas where there are high population densities of low-income urban residents. In and of itself, reducing density is not a solution to reducing vulnerability to climate-change related disasters.⁴⁰

As the United Nations Office for Disaster Risk Reduction points out, disaster risk reduction is about choices.⁴¹ In order for disaster risk reduction strategies to be effective, they require systematic efforts to analyze the causes of risks and to reduce the exposure to such risks.⁴² Examples of risk reduction are taking measures to reduce the vulnerability of people and property, planning adequately, managing land and natural resources wisely, and improving preparedness and early warning systems.⁴³ In this regard, the World Bank has noted that paying attention to vulnerability to climate change impacts “will help cities to reap future benefits and impart greater confidence and economic dynamism to the urban population.”⁴⁴

According to the World Bank “building resilience in a city requires a systems, or integrated, approach.”⁴⁵ As

part of this integrated approach, the World Bank recommends, among others: 1) “robust decision making involving the community”; 2) strengthening key infrastructure, including water and power supply systems; 3) social inclusion; 4) urban risk assessments; 5) emergency preparedness; 6) making information about the likelihood of risks public and 7) “greater adaptive capacity through the location, design and construction of buildings and critical infrastructure to withstand climate variability.”⁴⁶

It follows that an effective disaster risk reduction strategy requires, first and foremost, good urban planning. Disaster management in cities needs to be seen as an integral part of urban planning and management, not as a separate activity.

Unless proper urban planning and related measures are taken to reduce vulnerability to climate change risks, “global urban hazard risk will likely continue to increase even if hazard probabilities remain constant, because population exposure likely offsets gradually decreasing vulnerability that comes with rising incomes.”⁴⁷ According to the United Nations International Strategy for Disaster Reduction (UNISDR), disaster reduction is essential for achieving sustainable development:

Any effective framework for sustainable development needs to include clear prescriptions and practical applications of disaster and climate risk management.... Climate change further reinforces the urgency of adopting integrated approaches to resilient development.⁴⁸

Urban density and climate change considerations are particularly relevant for New Rochelle considering that the City is located in Westchester County that

is one of 23 counties within the New York-Northern New Jersey-Long Island Metropolitan Statistical Area, which is the most populous metropolitan area in the U.S. and the fourth most populous in the world... It is also a densely populated urbanized area in the country, with 5,309 persons per square mile.⁴⁹

New Rochelle is also vulnerable because of its exposure to sea-level rise given the extension of its waterfront and its location in a catch basin area that gathers several bodies and sources of freshwater.

III. New Rochelle’s Planning and Regulatory Framework

1. Comprehensive Plan

New Rochelle’s Comprehensive Plan was adopted on July 30, 1996. Given that this plan is 18 years old, a new one is currently being developed. The 1996 Comprehensive Plan encompasses a set of planning proposals and potential implementation programs designed to shape

the physical environment of the city within the context of redevelopment, revitalization and limited new development opportunities.⁵⁰ The development and redevelopment efforts are centered in the six main focus areas of the city where it was determined that detailed analyses and action plans would be developed. The six focus areas of the plan are:⁵¹

- Downtown
- Center City
- Waterfront/Pelham Road
- East Main Street/Echo Avenue/West New Rochelle
- Fifth Avenue

Outside of these areas, the plan emphasizes neighborhood preservation of existing residential, commercial, open space and recreation uses. Perhaps because the plan dates back to 1996, it does not contain any references to sustainability. Not surprisingly, it does not contain any references to climate change either.

The overall goal of the Plan is to

Encourage planned, orderly and attractive development and redevelopment in New Rochelle, to make the city an even more desirable place in which to work, live, and shop, and by which the city's economic base can be strengthened.⁵²

The Specific Objectives of the Plan include the following aspects:⁵³

1. Institute land development policies and procedures which secure appropriate development and redevelopment in those areas where development should take place;
2. Preserve areas where growth should be restricted;
3. Preserve and enhance the lakes, streams, waterfront, open space, historic sites and other physical and cultural amenities which make New Rochelle an attractive community, while eliminating conditions which detract from the quality of life;
4. Preserve sound and stable residential neighborhoods and commercial areas;
5. Maintain the fiscal integrity of the city government, expand job opportunities and strengthen the city's economic base by encouraging commercial and industrial development and redevelopment, where appropriate;
6. Encourage beautification, quality urban design and attractive environments through site planning guidelines and controls.

Of all of these specific objectives, the ones most closely related to adaptation to climate change would be

1 and 2 because, in the face of climate change threats, new development should take place in risk-free or reduced risk zones. On the other hand, preserving lakes, streams and open space could contribute to reducing flooding risks associated to climate change. However, as they are currently framed under the Plan, these objectives do little in terms of achieving environmental sustainability and reducing climate change related risks. These weaknesses should be addressed with a greater degree of emphasis in the Plan that is currently being developed.

2. Sustainability Plan (GreeNR)

On April 22, 2011 the Mayor of New Rochelle presented the community with GreeNR, New Rochelle's first sustainability plan.⁵⁴ The Plan strives to address challenges such as "resource depletion, climate change, and social progress."⁵⁵ To this end, it contains forty-three initiatives, each with specific goals and recommendations aimed at achieving environmental, economic and social progress during the next twenty years. The Mayor acknowledged the limitations of the planners' predictive ability when the plan was approved, and stated that "GreeNR should not be viewed as a rigid document, but rather as a framework for ongoing discussion about how New Rochelle can best shape a bright future."⁵⁶

The Plan recognizes that "[s]ustainability encompasses environmental, economic, and social policies that satisfy short-term needs, without compromising long-term living standards."⁵⁷ It also acknowledges that human activity is responsible for climate change and indicates that "any full accounting of costs and benefits must also tabulate the enormous price of inaction, including climate adaptation infrastructure, disaster relief and mitigation, scarcity-induced conflict and inevitably bigger bills for fossil fuels."⁵⁸ According to the plan, "the good news is that human beings have the tools to address these challenges."⁵⁹

Under GreeNR, the ten big goals to be achieved by 2030 are as follows:

- 1) [r]educe energy use and greenhouse gas emissions by at least 20%;
- 2) [c]ut non-recycled solid waste generations by 15% and increase recycling rate to 50%;
- 3) [p]reserve natural spaces and restore inland water bodies;
- 4) [a]bsorb or retain 25 million gallons of water per storm;
- 5) [d]ecrease sewage flow by at least 2 million gallons in peak hours;
- 6) [b]uild at least 95% of new housing near mass transit;
- 7) [o]pen at least one additional mile of the shore to the public;
- 8) [p]lant at least 10,000 new trees on public property;
- 9) [c]reate a comprehensive walking and bicycling system;
- 10) [s]ubscribe at least half of all households to the city website.⁶⁰

The overall goal on energy and climate is to “reduce local energy consumption and greenhouse gas emissions while transitioning to renewable sources of energy and adapting to probable climate changes.”⁶¹ The specific goals by 2030 in this area are to:

[a] r]educe annual per capita energy consumption by at least 20% from 125MMbtus to 100MMbtus⁶² [; b] r]educe annual per capita carbon dioxide emissions by at least 20% from 9.0 metric tons to 7.2 metric tons [; c] r]educe municipal energy use, GHG emissions, and costs for lighting by at least 40% and for buildings by at least 15% [; d] i]ncrease the average gas mileage of the municipal fleet by 50% from 10mpg to 15mpg [; e] a]llign with New York State objectives to obtain at least 30% of energy from renewable sources.⁶³

These goals are set within the context of Westchester County’s Climate Action Plan, which “sets a goal of reducing greenhouse gas emissions by 80% by 2050 with an interim target of 20% by 2015.”⁶⁴ No specific goals on adaptation to climate change are mentioned under this area of action. However, there are other action areas in GreenNR that contribute to enhancing New Rochelle’s resiliency to climate change impacts. One such action area relates to ecology, biodiversity and public health.⁶⁵

The goal under this action area is to “preserve New Rochelle’s natural beauty, stabilize vulnerable habitats, improve air and water quality, *limit or reverse the incidence of flooding and deforestation*, and promote beneficial lifestyles and practices in order to achieve a healthy ecosystem, healthy neighborhoods and healthy families.”⁶⁶ There are several initiatives under this goal that are particularly relevant to increase New Rochelle’s resilience to climate change threats, such as floods and sea-level rise. These initiatives include: 1) “restor[ing] all of New Rochelle’s estuaries, city-owned lakes and major streams to an aesthetically pleasing and ecologically healthy state, while also enhancing their natural flood control function;”⁶⁷ 2) “[a]chieve no net loss of land in substantially natural state on New Rochelle’s mainland... [and] [r]educe the incidence and severity of flooding by expanding permeable surface;”⁶⁸ 3) “increase the number of trees within New Rochelle through preservation requirements, enhanced maintenance, and an expanded planting program;”⁶⁹ 4) “reduce storm water run-off from a one-inch rain event by 25 million gallons. Achieve no net run-off from new development and construction. Achieve a net increase in community-wide permeable surface of at least 50 acres;”⁷⁰ 5) “[c]reate at least 5 acres of rain gardens throughout New Rochelle, including at least 50 rain gardens on municipal property. Absorb approximately 27,000 gallons of water that otherwise would produce flooding or sanitary system inflow and infiltration,

and also filter pollutants that would otherwise contribute to non-point source contamination of water bodies” and; ⁷¹ 6) “encourage at least 50% of New Rochelle’s single and two-family homeowners to employ sustainable lawn and garden care practices.”⁷²

Since one of the greatest safety hazards that New Rochelle confronts as a result of climate change is related to flooding, any measure directed to reduce this risk can be considered as a preventive adaptation measure. Several goals and initiatives to that end are proposed in the Plan, including reducing runoff from a one-inch rain event by 25 million gallons.

3. New Rochelle’s Multi-Hazard Mitigation Plan (MHMP)

In 2010 the City of New Rochelle decided to prepare a Multi-Hazard Mitigation Plan (MHMP).⁷³ The Plan was prepared in response to the Disaster Mitigation Act of 2000 (DMA 2000).⁷⁴ “DMA 2000 requires states and local governments to prepare all hazard mitigation plans in order to remain eligible to receive pre-disaster mitigation funds that are made available in the wake of federally-declared disasters.”⁷⁵ DMA 2000 increases hazard mitigation requirements and requires participating municipalities to “identify hazards, potential losses and mitigation needs, goals and strategies.”⁷⁶

The Federal Emergency Management Agency’s (FEMA) current regulations only require an evaluation of natural hazards. Natural hazards are natural events that threaten lives, property and many other assets.⁷⁷ Often natural hazards can be predicted when they tend to occur repeatedly in the same geographical locations because they are related to weather patterns or physical characteristics of an area.⁷⁸

The hazards that the MHMP identifies for New Rochelle are as follows: coastal and severe storms, severe winter storms, extreme cold, floods, coastal erosion and earthquakes.⁷⁹

As required by the DMA 2000, the City has informed the public about these efforts and provided opportunities for public comment and planning process.⁸⁰ In addition, numerous agencies and stakeholders were contacted and some participated as core or support members to provide input and expertise in the City’s mitigation planning efforts.⁸¹ The City of New Rochelle intends to incorporate hazard mitigation planning as an integral component of daily government operations through existing processes and programs.⁸²

As stated in MHMP, “[a] key component of a mitigation plan is the accurate identification of risks posed by a hazard and the corresponding impacts to the community.

The process of identifying hazards of concern, profiling hazard events, and conducting a vulnerability assessment is a risk assessment.”⁸³ To understand a risk, a community has to evaluate its assets and identify which ones are exposed or are vulnerable to the identified hazards of concern, in this case, climate change impacts.

The outcomes of the risk assessment, supplemented by a plan to confront them, “provide[] a basis to review past mitigation actions, future goals and appropriate local mitigation actions.”⁸⁴ Therefore, the New Rochelle Hazard Mitigation Planning Process involves the following Phases:

Phase 1: Organize Resources

Phase 2: Assess Risks

Phase 3: Develop a Mitigation Plan

Phase 4: Implement the Plan and Monitor the Process

The following are five overarching mitigation goals that summarize the hazard reduction outcomes that the city wants to achieve:

1. Protect Life and Property
2. Increase Public Awareness and Preparedness
3. Enhance Disaster Preparedness, Response and Recovery
4. Protect the Environment and Natural Resources
5. Promote Partnerships

DMA 2000 requires that Hazard Mitigation Plans consider socially vulnerable populations. These populations can be more susceptible to hazard events, based on a number of factors including their physical ability to react or respond during a hazard and the location and construction quality of their housing.⁸⁵ The Plan reported that “[t]he 2000 Census data also identified 3,944 of 26,235 households as having an annual income of less than \$15,000.” The 2000 U.S. Census data indicates a total of “7,367 persons, 10.5 percent of the total population were below the poverty level in 1999.”⁸⁶

Land-use trends can also “significantly impact exposure and vulnerability to various hazards. For example, significant development in a hazard area increases the building stock and population exposed to [the risk].”⁸⁷ However, the New Rochelle Hazard Mitigation Plan indicates that “[n]o land use trends (residential, commercial, etc.) have been noted as of this submittal date.”⁸⁸

The city participates in the National Flood Insurance Program (NFIP), which requires the adoption of a FEMA floodplain mapping and certain minimum construction standards for building within the floodplain. According to the MHMP, the city has taken a variety of actions to control flooding, including the following:

[a]pplying a recreation and open space zone to 795 acres of land, adopting stringent storm water and pollution control standards for development to ensure no net increase in run-off, adopting a tree ordinance to preserve trees on private property and to require tree planting in conjunction with permeable surface expansion, site-specific capital improvements to relieve flood conditions, and adoption of a catch basin cleaning program that addresses all basins on a 3-year rotation, with more frequent attention to catch basins in flood-prone areas.⁸⁹

In addition to this:

following extensive community flooding in the Spring of 2007, [New Rochelle] conducted an extensive investigation of the most heavily impacted areas and produced preliminary designs for infrastructure enhancement in the Halcyon Park neighborhood and along the Hutchinson River.... [The City] has [also] fully implemented the Phase II storm water management program as required by the EPA. The six program requirements for this Phase II program are: public education and outreach, public participation and involvement, illicit discharge detection and elimination, construction of site runoff control, post-construction runoff control, and reducing pollutant runoff from municipal operations.⁹⁰

4. Urban Growth Goals and the Downtown Density Bonus Overlay Zone

New Rochelle’s GreeNR sustainability goals include striving “to situate at least 65% of new housing units within ½ mile of of the New Rochelle Train Station.”⁹¹ It also strives to locate “at least 95% of new housing units at locations with convenient, no-car dependent access to the New Rochelle Train Station, defined as directly on a bus or jitney route within 750 feet of a bus or jitney bus stop.”⁹²

Since its Comprehensive Plan of 1996, New Rochelle has sought to reactivate the downtown area and to provide incentives for commuters who reside in the city to live there through a Downtown Density Bonus (DDB) Overlay Zone which was adopted on May 16, 2006 through Ordinance No. 110-2006.⁹³ In 2007 the City sought to amend the Overlay Zone “to permit additional Floor Area Ratio (FAR) and height at certain locations within the Downtown Business (DB), Downtown Mixed Use (DMU), and Downtown Mixed Use Urban Renewal (DMUR) zoning districts within the Central Parking Area.”⁹⁴ The initial DDB Overlay Zone permits a total

height not exceeding 390 feet on qualifying parcels in the DMU and DMUR.⁹⁵

The Downtown Density Bonus (DDB) Overlay Zone seeks to increase the population density in the downtown area with the purpose of promoting mixed use and planning for transit oriented development (TOD).⁹⁶ Both of these aims can also contribute to effectively reducing emissions of greenhouse gases in New Rochelle by reducing the use of private vehicles for transport purposes by residents, commuters and visitors.

Since increased population density tends to increase the risks associated with climate change impacts, the question is how can the City of New Rochelle reconcile its Downtown Density Bonus (DDB) Overlay Zone objectives with its Multi-Hazard Mitigation Plan. While both of these objectives are desirable, they may seemingly be contradictory in terms of decreasing the city's vulnerability to climate change impacts. An updated Comprehensive Plan integrating all of these objectives in a coherent manner could be the solution.

IV. Analysis of New Rochelle's Vulnerability to Climate Change Impacts

The hazards that the MHMP identifies for New Rochelle are as follows: coastal and severe storms, severe winter storms, extreme cold, floods, coastal erosion and earthquakes.

The new flood zone maps released for Westchester County by FEMA in January, 2013 show more local areas with expected flood hazards and more risks for homeowners and business already battered by Hurricane Sandy.⁹⁷ "The maps are called 'Advisory Base Flood Elevations' (ABFEs) and they can be used to help determine flood insurance rates for property owners."⁹⁸ The new flood zone map for New Rochelle shows extensive areas of the city exposed to flood risks, particularly in the areas closest to the waterfront.⁹⁹

Considering New Rochelle's high exposure to flood risks related to weather related events, the city should be taking aggressive measures to increase its resilience.¹⁰⁰ FEMA has indicated that a number of building standards and natural barriers can be used to decrease the risks related to floods, storm surge and sea-level rise.¹⁰¹ FEMA has put together a tool kit and a number of examples of best practices for use by cities that were affected by Hurricane Sandy in New York and New Jersey to increase their resilience.¹⁰² Adequate urban planning and management is an effective measure to this end.

1. The Need for a Coherent and Integrated Strategy to Confront Climate Change Impacts

Currently New Rochelle has a unique opportunity to achieve greater integration and efficacy of its sustainable development objectives, including increased resilience to climate change impacts, through the development and

adoption of an updated version of its Comprehensive Plan. While New Rochelle currently has very developed sustainability strategies through its GreeNR Plan and its Multi-Hazard Mitigation Plan, they are not sufficiently integrated to ensure a greater degree of coherence between them and cost-effectiveness in their implementation. Their integration would also contribute to more cohesive decision-making processes involving the key stakeholders for the achievement of both sets of objectives.

2. Strengthening the GreeNR Sustainability Plan for Increased Resilience to Climate Change Impacts

The GreeNR Sustainability Plan is goal and target-oriented and identifies specific actions and recommendations to improve New Rochelle's sustainability in a wide range of sectors, including biodiversity and natural resource conservation, energy efficiency, green buildings and transit-oriented development, to name a few. The format of the GreeNR is very user-friendly and easy to understand by any member of the community. It encompasses actions in the three pillars of sustainable development, namely, the environmental, social and economic fields.

While the GreeNR mentions adaptation to climate change as one of its goals under the section relating to Energy and Climate,¹⁰³ no specific actions on climate change adaptation are identified. However, under other sections of the plan, GreeNR contains actions that can serve to strengthen New Rochelle's resilience to climate change impacts. These actions include the following aspects: increasing the number of trees through preservation requirements and incentives, reducing the incidence and severity of local flooding by controlling storm water runoff, expanding permeable surface coverage, repairing existing infrastructure and using new green infrastructure models.¹⁰⁴ GreeNR also contains strong actions and initiatives on flood control and mitigation, one of the climate change related hazards that are most likely to affect New Rochelle. For example, Initiative 3.19 on Flood Control and Mitigation sets the overall goal of reducing storm-water and runoff from a one-inch rain event by 25 million gallons.¹⁰⁵ It also sets to achieve a no net runoff from new development and construction and to achieve a net increase in community-wide permeable surface of at least 50 acres.¹⁰⁶ These flood-control measures are particularly effective considering that approximately 56 percent of New Rochelle's surface is estimated to be impermeable.¹⁰⁷

All of these initiatives and actions combined are very effective measures to decrease New Rochelle's vulnerability to climate change impacts. Nonetheless, there are also goals in the GreeNR which could make New Rochelle more vulnerable to climate change because of the exposure of a greater number of people to weather related hazards. For example, under its transit-oriented smart growth initiative, GreeNR "strive[s] to situate at least 65% of new housing units within 1/2 mile of the New Rochelle Transit Station [and] strive[s] to situate at least

95% of new housing units at locations with convenient, non-car dependent access to the New Rochelle Train Station.”¹⁰⁸ The plan also seeks to “achieve balanced use patterns in the central business district and transit zone by fostering additional office and retail development, including at least 500,000 square feet of new commercial construction.”¹⁰⁹

The question is whether GreeNR’s helpful initiatives to mitigate climate change impacts are sufficient to compensate for the increased exposure to climate-change related hazards that higher urban density entails. The answer is a complex one because the degree to which the foreseeable hazards can be offset by the resiliency measures is difficult to establish. However, part of the answer lies in balancing the equation towards safety, which means that the initiative to increase urban density should be in the areas least likely to be affected by climate-related risks, such as those that statistically and historically have not been affected by flooding.

Aside from zoning the urban density away from hazard prone areas (i.e., site-location measures), the other options are to climate-proof highly vulnerable areas to the greatest extent possible by, for example, by up-grading the drainage systems, planting roof gardens, avoiding rain runoff from buildings with green roofs and/or rain-collection systems, and flood-proofing ground floors and basements.

One way of increasing New Rochelle’s resilience to climate change impacts could be through climate-proofing new buildings and retrofitting old ones under the LEED or similar green-building standards that could include enhanced resilience to climate change impacts as a criterion for certification. However, climate-proofing is not mentioned in the GreeNR. Also, local site plan regulations, adopted under municipal land use authority, could routinely require developers of new buildings to flood-proof the basements and first floors, to limit building in flood prone areas and to provide vegetative buffers on their sites.¹¹⁰ The Sustainable Sites Initiative, which incorporates 15 prerequisites for site certification, could also be used as an incentive for increasing resilience to climate change in New Rochelle.¹¹¹ This could gradually evolve to neighborhood certification for green standards, including resilience to climate change impacts.

While there is an initiative on green building standards that focuses on energy efficiency, GreeNR does not include any actions specifically addressed to increase new buildings’ resilience to climate and weather-related hazards. In this regard, Initiative 1.1 on Green Building Standards provides that new municipal construction shall “incorporate sustainable engineering and design elements, and strive to attain the highest LEED rating that is economically feasible.”¹¹²

This is an area that ought to be strengthened in GreeNR to include specific climate-proofing objectives,

particularly for neighborhoods that are highly vulnerable to floods and that are densely populated. Enhanced climate-proofing measures should be required to obtain construction and operating permits in densely populated areas or otherwise high-risk zones. Zoning ordinances can be adapted to either encourage or mandate green building. For example, New Rochelle adopted a density bonus incentive system for developers who comply with LEED standards.¹¹³

3. New Rochelle’s Multi-Hazard Mitigation Plan

Another component that is useful to increase New Rochelle’s resilience to climate change impacts is its Multi-Hazard Mitigation Plan (MHMP), which includes a risk assessment of the major hazards that the City of New Rochelle is exposed to and sets out goals to increase its resilience. The first goal of the MHMP is to protect life and property. Within this goal there are several objectives that could be effective to achieve climate-resiliency objectives such as:

Objective 1-3: Encourage the establishment of policies to help ensure the prioritization and implementation of mitigation actions and/or projects designed to benefit essential facilities, services, and infrastructure....

Objective 1-5: Better characterize flood/stormwater hazards events by conducting additional hazard studies and identify inadequate storm-water facilities and poorly drained areas.

Objective 1-6: Develop, maintain, strengthen and promote enforcement of ordinances, regulations and other mechanisms that facilitate hazard mitigation.

Objective 1-7: Integrate the recommendations of this plan into existing local programs.

Objective 1-8: Ensure that development is done according to modern and appropriate standards, including the consideration of natural hazard risk....

Objective 4-1: Protect and preserve environmentally sensitive and critical areas and promote sustainable development practices.

Objective 4-2: Protect and restore natural lands and features that serve to mitigate losses (including wetlands, floodplains, stream corridors, hillsides and ridge lines). Such lands should be clearly mapped and identified for protection.

Objective 4-3: Continue to preserve, protect and acquire open space, particularly high hazard areas. Include hazard considerations into the prioritization schema for land acquisition.¹¹⁴

These resiliency objectives under the MHMP are valuable but are general in nature because they do not identify the actions that are necessary to achieve them. This is an area where the GreenNR and the MHMP could complement each other because the GreenNR contains specific actions that could be helpful in meeting MHMP's objectives. The following chart exemplifies how MHMP objectives could be achieved through actions identified in the GreenNR.

Multi-Hazard Mitigation Plan (MHMP) Objectives	GreenNR Initiatives and Actions
<p>“Objective 1-5: Better characterize flood/storm water hazards events by conducting additional hazard studies and identify inadequate storm-water facilities and poorly drained areas.</p> <p>Objective 1-6: Develop, maintain, strengthen and promote enforcement of ordinances, regulations and other mechanisms that facilitate hazard mitigation.”¹¹⁵</p> <p>“Objective 1-8: Ensure that development is done according to modern and appropriate standards, including the consideration of natural hazard risk.”¹¹⁶</p>	<p>Initiative 3.19: “Reduc[ing] the incidence and severity of local flooding by controlling storm water run-off, expanding permeable surfaces, repairing existing infrastructure and utilizing new green infrastructure models.”¹¹⁷ Actions: “[a]ggressively seek grants to fund repair and upgrade identified deficient storm water infrastructure[;]...[w]ork with the County and other municipalities to complete the formation of a regional storm water management district [; e]xamine the local building and zoning codes with the goal of removing potential impediments to and creating incentives and/or requirements for the use of permeable surfaces,” etc...¹¹⁸</p>

Despite their obvious complementarities, the GreenNR and the MHMP do not cross-reference each other, except for a few exceptions. The integration between the two could be achieved through the updated version of the Comprehensive Plan. Greater integration between the two plans would be a cost-effective means of achieving both sustainable development and disaster reduction objectives and of involving the same set of institutions, actors and stakeholders in the decision-making processes.

V. Best Practice Example: An Integrated Approach to Sustainable Development That Also Takes into Account Resilience to Climate Change Impacts

An excellent example of the integration of sustainable development objectives with increased resilience to climate change impacts is PlaNYC.¹¹⁹ Released in 2007, PlaNYC was an unprecedented effort to prepare the city for increased population density, strengthen the city's economy and enhance the quality of life for NYC residents.¹²⁰ At the time, combating climate change was

not on the agenda of most municipal governments. The climate change objectives under PlaNYC are as follows: 1) “[r]educe and track greenhouse gas emissions”; 2) “[a]ssess vulnerabilities and risks from climate change”; 3) “[i]ncrease the resilience of the city's built and natural environments”; 4) “[i]ncrease the city's preparedness for extreme climate events and”; 5) “[c]reate resilient communities through public information and outreach.”¹²¹ Part of the actions identified to increase the city's resilience to extreme climate events include: 1) “[u]pdate regulations to increase resilience of buildings”; 2) “[w]ork with the insurance industry to develop strategies to encourage the use of flood protection of buildings”; 3) “[p]rotect New York City's critical infrastructure”; 4) “[i]dentify and evaluate citywide coastal protective measures”; 5)

“[i]ntegrate climate change projections into emergency management and preparedness” and; 6) “[w]ork with communities to increase their climate resilience.”¹²²

Despite the measures that were adopted in 2007 to enhance New York City's resilience to climate change impacts, Hurricane Sandy revealed that they had been

insufficient. Sandy's magnitude and its effects on so many parts led the city to take a bolder approach. That is why in 2013, the city adopted a much more detailed sub-plan under PlaNYC to prepare the city for climate change impacts entitled “PlaNYC: A Stronger More Resilient New York.”¹²³ The plan's overall objective is to “provide additional protection for New York's infrastructure, buildings, and communities from the impacts of climate change.”¹²⁴ With this in mind, “many vulnerable neighborhoods will sit behind an array of coastal defenses,” waves will “be weakened by offshore breakwaters or wetlands,” and in some areas “permanent and temporary floodwalls will hold back rising waters, and storm surge will meet raised and reinforced bulkheads, tide gates, and other coastal protections.”¹²⁵

The resiliency plan for New York City is fully integrated into the wider PlaNYC objectives and completely consistent with them. This is a model that ought to be followed by cities across the United States, including New Rochelle, which shares many of New York City's geographical characteristics.

Conclusions and Recommendations

New Rochelle has a very well developed Sustainability Plan and a Multi-Hazard Mitigation Plan. This is more than most communities have to prepare themselves for the challenges posed by a growing population and increased exposure to weather-related risks. Nonetheless, there are aspects that could be strengthened and improved. Considering New Rochelle's vulnerability to climate change impacts, one of its clearly defined planning objectives should be to increase its resilience to these risks. To do so, the Sustainability Plan (GreeNR) should be better integrated with the Multi-Hazard Mitigation Plan (MHMP); both could be linked through the Comprehensive Plan that the city is in the process of updating. This is an opportunity that should not be missed because integrating these sets of objectives into a coherent urban planning framework is likely to increase their overall effectiveness and cost-efficiency.

Specifically, the updated Comprehensive Plan should include climate change adaptation as one of its clearly defined goals and should link the objectives under the MHMP and the initiatives under the GreeNR to that end. Climate change adaptation actions should be identified more specifically within the GreeNR and land use trends and projections should be included in the MHMP to assess future climate-related risks in areas where an increase of population density is projected, and plan accordingly by adopting climate-resilient measures. PlaNYC is a useful model to follow to this end. All of this is consistent with the recommendations of the Hyogo International Framework for Disaster Risk Reduction, which has as one of its strategic goals "to achieve more effective integration of disaster risk considerations into sustainable development policies, planning and programming at all levels with special emphasis on disaster prevention, mitigation, preparedness and vulnerability reduction."¹²⁶

Disasters are often the consequence of poor urban planning and management. The following recommendations are particularly important to reduce New Rochelle's risks and to increase its resilience to climate change impacts: 1) updating urban risk assessments related to climate change; 2) making the information about the likelihood of risks public; 3) enhancing emergency preparedness measures; 4) hazard-proofing new buildings and urban infrastructure as a standard procedure; 5) maintaining infrastructure for provision of basic services during emergency situations; 6) using land use management techniques, such as zoning, to prevent settlement or re-building in the most hazardous areas; 7) ongoing sharing of information and decision-making that involves interested stakeholders and the community at large; and 8) protection of key ecosystems and resources as natural buffers against climate change impacts.¹²⁷

Increasing New Rochelle's resilience to climate change impacts is bound to reap many sustainable de-

velopment benefits and is likely to save lives and costs in the future. Considering its exposure and vulnerability to floods and sea-level rise, planning and allocating sufficient resources to reduce New Rochelle's exposure to climate change impacts should be a priority for the city. This is one of the lessons from Hurricane Sandy.

In terms of future urban planning and land use trends, New Rochelle should aim to develop in areas which are less likely to be affected by climate change impacts, and should strive to strengthen its resilience in the more vulnerable areas, such as the ones historically affected by floods and those with a high population density.

In conclusion, good urban planning is the key to achieving a balanced combination of seemingly divergent objectives such as increased population density and enhanced resilience to climate change impacts. It is also the best way of achieving both sets of climate change objectives: mitigation and adaptation. The city of New Rochelle could set an example for other cities to become not only sustainable communities but also more climate change resilient ones.

Endnotes

1. *New Rochelle, New York*, U.S. CENSUS BUREAU, <http://quickfacts.census.gov/qfd/states/36/3650617.html> (last updated July 8, 2014).
2. *New Rochelle, NY Population and Races*, USA.COM, <http://www.usa.com/new-rochelle-ny-population-and-races.htm#PopulationDensity> (last visited November 4, 2014).
3. U.S. CENSUS BUREAU, *supra* note 1.
4. *New Rochelle, New York*, CENTURY 21, <http://century21marciano.com/newrochelleny.htm> (last visited Nov. 4, 2014).
5. *Id.*
6. See City of New Rochelle FAQs, *available at* <http://www.newrochelleny.com/index.aspx?nid=123>.
7. See *id.*
8. LISA V. ALEXANDER ET AL., INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE, SUMMARY FOR POLICYMAKERS: IPCC FIFTH ASSESSMENT 4 (2013), *available at* https://www.ipcc.ch/pdf/assessment-report/ar5/wg1/WG1AR5_SPM_FINAL.pdf.
9. *Id.*
10. *Id.* at 5.
11. See *id.* at 15.
12. Christopher B. Field et al., Managing the Risks of Extreme Events and Disasters to Advance Climate Change Adaptation 7 (2012), *available at* https://www.ipcc.ch/pdf/special-reports/srex/SREX_Full_Report.pdf.
13. EXEC. OFFICE OF THE PRESIDENT, THE PRESIDENT'S CLIMATE ACTION PLAN 4 (2013), *available at* <http://www.whitehouse.gov/sites/default/files/image/president27scclimateactionplan.pdf>.
14. *Id.*
15. INTERAGENCY CLIMATE CHANGE ADAPTATION TASK FORCE, FEDERAL ACTIONS FOR A CLIMATE RESILIENT NATION 2 (2011), *available at* http://www.whitehouse.gov/sites/default/files/microsites/ceq/2011_adaptation_progress_report.pdf.
16. See SIMON K. ALLEN ET AL., INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE, MANAGING THE RISKS OF EXTREME EVENTS AND DISASTERS

- TO ADVANCE CLIMATE ADAPTATION: SUMMARY FOR POLICY MAKERS 2 (2012), *available at* http://www.ipcc-wg2.gov/SREX/images/uploads/SREX-SPMbrochure_FINAL.pdf.
17. *Id.*
 18. See INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE, FOURTH ASSESSMENT REPORT WORKING GROUP II: IMPACTS, ADAPTATION AND VULNERABILITY 878 (2007), *available at* <https://www.ipcc.ch/pdf/glossary/ar4-wg2.pdf> [hereinafter IPCC FOURTH ASSESSMENT REPORT].
 19. INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE, *Climate Change 2007 Synthesis Report: Adaptation and Mitigation Options*, https://www.ipcc.ch/publications_and_data/ar4/syr/en/spms4.html (last visited Nov. 4, 2014).
 20. IPCC FOURTH ASSESSMENT REPORT at 869.
 21. *Id.*
 22. INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE, *supra* note 18.
 23. *Id.*
 24. WORLD CONFERENCE ON DISASTER REDUCTION, UNITED NATIONS, HYOGO FRAMEWORK OF ACTION 2005–2015 1 (2005), *available at* http://www.unisdr.org/files/1037_hyogoframeworkforactionenglish.pdf [hereinafter HYOGO FRAMEWORK OF ACTION].
 25. *Id.*
 26. *Id.*
 27. See *United States of America*, UNITED NATIONS OFFICE FOR DISASTER RISK REDUCTION, <http://www.unisdr.org/partners/countries/usa> (last visited Nov. 4, 2014); see generally Subcommittee on Disaster Reduction, Grand Challenges for Disaster Reduction (2005), *available at* <http://www.sdr.gov/docs/SDRGrandChallengesforDisasterReduction.pdf>.
 28. HYOGO FRAMEWORK OF ACTION, at 1.
 29. *Id.* at 3.
 30. CITY OF NEW ROCHELLE, MULTI-HAZARD MITIGATION PLAN, 4-5 (2010), *available at* <http://www.newrochelleny.com/DocumentView.aspx?DID=708> [hereinafter “MULTI-HAZARD MITIGATION PLAN”].
 31. *Id.*
 32. CITY OF NEW ROCHELLE, GREENR: THE NEW ROCHELLE SUSTAINABILITY PLAN 2010-2030, 66 (2011), *available at* <http://www.newrochelleny.com/DocumentCenter/Home/View/2054> [hereinafter “GREENR”].
 33. *Id.*
 34. *Id.*
 35. *Id.* at 60.
 36. See David Dodman, *Urban Density and Climate Change*, United Nations Population Fund (UNFPA): Analytic Review of the Interaction between Urban Growth Trends and Environmental Changes, 11 (2009), *available at* <https://www.unfpa.org/webdav/site/global/users/schensul/public/CCPD/papers/Dodman%20Paper.pdf>.
 37. *Id.*
 38. *Id.*
 39. *Id.* at 12.
 40. *Id.*
 41. See The United Nations Office for Disaster Risk Reduction, *What is Disaster Risk Reduction?*, UNISDR.ORG, <http://www.unisdr.org/who-we-are/what-is-drr> (last visited Nov. 3, 2014).
 42. See *id.*
 43. *Id.*
 44. THE WORLD BANK, CITIES AND CLIMATE CHANGE: AN URGENT AGENDA, V (2010), *available at* <http://web.worldbank.org/WBSITE/EXTERNAL/TOPICS/EXTURBANDEVELOPMENT/EXTUWM/0,,contentMDK:22781089~pagePK:210058~piPK:210062~theSitePK:341511,00.html>.
 45. *Id.* at 10.
 46. *Id.* at 10–11.
 47. See Somik V. Lall & Uwe Diechman, *World Bank Research Papers, Density and Disasters: Economics of Urban Hazard Risk* 3 (2010), *available at* http://econ.worldbank.org/external/default/main?pagePK=64165259&piPK=64165421&theSitePK=469382&menuPK=64216926&entityID=000158349_20091229205549.
 48. UNITED NATIONS INTERNATIONAL STRATEGY FOR DISASTER REDUCTION, DISASTER RISK REDUCTION IN THE AMERICAS 2011 28 (2011), *available at* http://www.unisdr.org/files/32235_informefinavweb.pdf.
 49. MULTI-HAZARD MITIGATION PLAN, 4-11 (2010), *available at* <http://www.newrochelleny.com/DocumentView.aspx?DID=708>.
 50. CITY OF NEW ROCHELLE, COMPREHENSIVE PLAN (1996), *available at* <http://www.newrochelletalk.com/files/REVISED%20COMP%20PLAN.pdf>.
 51. *Id.* at I-1.
 52. *Id.* at III-2.
 53. *Id.* at III-2, III-3.
 54. GREENR, *supra* note 33.
 55. *Id.* at 5.
 56. *Id.*
 57. *Id.* at 7.
 58. *Id.*
 59. *Id.*
 60. *Id.* at 11.
 61. *Id.* at 12.
 62. According to the Energy Dictionary, “A BTU is the amount of heat required to increase the temperature of a pint of water (which weighs exactly 16 ounces) by one degree Fahrenheit. Since BTUs are measurements of energy consumption, they can be converted directly to kilowatt-hours (3412 BTUs = 1 kWh) or joules (1 BTU = 1,055.06 joules).” “MBTU stands for one million BTUs, which can also be expressed as one decatherm (10 therms). MBTU is occasionally used as a standard unit of measurement for natural gas and provides a convenient basis for comparing the energy content of various grades of natural gas and other fuels. One cubic foot of natural gas produces approximately 1,000 BTUs, so 1,000 cu.ft. of gas is comparable to 1 MBTU. MBTU is occasionally expressed as MMBTU, which is intended to represent a thousand thousand BTUs,” *available at*: [http://www.energyvortex.com/energydictionary/british_thermal_unit_\(btu\)_mbtu_mmbtu.html](http://www.energyvortex.com/energydictionary/british_thermal_unit_(btu)_mbtu_mmbtu.html).
 63. *Id.*
 64. *Id.* at 23.
 65. *Id.* at 60–72.
 66. *Id.* at 14, 59 (emphasis added) (Action Plan—Part 3: Ecology, Biodiversity and Public Health).
 67. *Id.* at 60. (Initiative 3.16: Sound, Lake and Stream Water Quality).
 68. *Id.* at 62. (Initiative 3.17: Habitat and Open Space Preservation).
 69. *Id.* at 64 (Initiative 3.18: Urban Forestry).
 70. *Id.* at 66 (Initiative 3.19: Flood Control and Mitigation).
 71. *Id.* at 68 (Initiative 3.20: Rain Gardens).
 72. *Id.* at 70 (Initiative 3.21: Green Lawn and Garden Care).
 73. MULTI-HAZARD MITIGATION PLAN, *supra* note 49.

74. Disaster Mitigation Act of 2000, 42 U.S.C. 5121 (2000).
75. MULTI-HAZARD MITIGATION PLAN, at ES-1.
76. *Id.*
77. *Id.* at ES-2.
78. *Id.*
79. *Id.* at ES-3.
80. *Id.*
81. *Id.*
82. *Id.*
83. *Id.*
84. *Id.* at ES-4.
85. *Id.* at 4-14.
86. *Id.*
87. *Id.* at 4-21.
88. *Id.*
89. *Id.* at 6-1.
90. *Id.* at 6-1-2.
91. GREENR, *supra* note 32, at 75.
92. *Id.*
93. DOWNTOWN DENSITY BONUS DRAFT SUPPLEMENTAL GENERIC ENVIRONMENTAL IMPACT STATEMENT, CITY OF NEW ROCHELLE (2007), available at <http://www.newrochelleny.com/DocumentView.aspx?DID=270>.
94. *Id.* at 1-1.
95. *Id.*
96. *Id.* at 1-2.
97. See Joyce Newman, *New Flood Zone Map Shows More Westchester Areas*, THELOOP BLOG (Jan. 30, 2013), <http://theloopny.com/blog/news/new-flood-zone-map-shows-more-westchester-areas>.
98. *Id.*
99. The flood zone map for New Rochelle can be viewed at: <http://www.region2coastal.com/bestdata>; and at: <http://fema.maps.arcgis.com/home/webmap/viewer.html?webmap=2f0a884bfb434d76af8c15c26541a545>.
100. See *New Rochelle Flooding—3*, YOUTUBE (Apr. 15, 2007), <https://www.youtube.com/watch?v=St5mP6ZM-94>.
101. See *FEMA Flood Hazard Data for New Jersey and New York*, FEMA REGION II, <http://www.region2coastal.com/bestdata>.
102. See *Mitigation Best Practice Portfolio*, FEMA (Sep. 22, 2014), <http://www.fema.gov/mitigation-best-practices-portfolio>.
103. GREENR, *supra* note 32.
104. *Id.* at 14.
105. *Id.* at 66.
106. *Id.*
107. *Id.*
108. *Id.* at 80.
109. *Id.*
110. See John R. Nolon & Patricia E. Salkin, *Land Use and Sustainable Development Law, Cases and Materials* 953 (American Casebook Series 8th ed. 2008).
111. *Id.*
112. GREENR, *supra* note 32, at 24.
113. City of New Rochelle, N.Y. Code § 331-154 (2007).
114. MULTI-HAZARD MITIGATION PLAN, *supra* note 49, at 6-4-6-5.
115. *Id.* at 6-4.
116. *Id.*
117. GREENR, *supra* note 32, at 66.
118. *Id.* at 67.
119. New York City, PlaNYC (Apr. 2011), http://nytelecom.vo.llnwd.net/o15/agencies/planyc2030/pdf/planyc_2011_planyc_full_report.pdf.
120. *Id.* at 12.
121. *Id.* at 148.
122. *Id.* at 151.
123. Michael Bloomberg, PLANYC: A STRONGER MORE RESILIENT NEW YORK, available at <http://www.nyc.gov/html/sirr/html/report/report.shtml>.
124. *Id.*, foreword from the Mayor.
125. *Id.*
126. HYOGO FRAMEWORK OF ACTION, *supra* note 24, at 3.
127. See Somik V. Lall & Uwe Diechman, *supra* note 47, at 2.

Paola Bettelli is a sustainable development professional with extensive experience with climate change issues. She headed the Climate Change Office of the government of Colombia and designed policies to achieve national climate change objectives on mitigation and adaptation. With support from the United Nations, she spearheaded the design of a national plan on adaptation to climate change, the first of its kind at the time in Latin America. She was a lead negotiator for the Colombian government at meetings of the Conference of the Parties of the UNFCCC, with a focus on adaptation issues. Ms. Bettelli worked for the United Nations Regional Commissions where she actively participated in task forces led by the UN Secretary-General on climate change issues and the Millennium Development Goals. Ms. Bettelli was admitted to the New York Bar in 2002. She was trained as an attorney in Colombia, South America, holds an LLM from Fordham Law School, and is currently pursuing a JD degree at Pace Law School.

Environmental Accidents: Prevention, Preparedness and Response: The Regulatory Landscape

By Walter Mugdan

Two terrible disasters, less than three months apart in 2013, underscored the potential for tragedy that is embodied in our modern industrial age, dependent as we are on fossil fuels and complex and often dangerous chemicals. The West, Texas fertilizer factory explosion and the Lac-Mégantic, Canada oil train explosion both caused terrible loss of life and destruction of property. They also emphasized the importance of prevention, preparedness and well informed response with respect to accidents in the chemical and oil production, transportation and storage industries. A Presidential Executive Order issued in July, 2013 charged federal agencies to better coordinate their efforts and improve their capabilities, in partnership with state, tribal and local governments, first responders, industry, and the communities that are at risk from environmental accidents. This article provides a brief summary and review of governmental authorities (primarily at the federal level) in the field of chemical and oil safety, and actions to date under the Executive Order.

The West, Texas and Lac-Mégantic, Canada Disasters

On April 17, 2013, an explosion occurred at the West Fertilizer Company facility in West, Texas. The explosion occurred while the local fire department was responding to an industrial fire at the facility. The explosion killed 15 individuals—11 of them firefighters—and injured over 200 others; more than 150 buildings were damaged or destroyed. Although the cause of the initial fire has not been determined, the cause of the explosion is certain: ammonium nitrate. This chemical is widely used as a fertilizer, but is also used as an explosive.¹

On July 6, 2013, a 74-tank car train carrying Bakken crude oil through Quebec, Canada was parked for the night while its crew rested. (The oil is named for the geologic formation from which it is extracted.) A fire occurred in one of the locomotives of the parked train. Either the fire affected the brakes, or the brakes were not properly set in the first place. The unattended train later rolled seven miles downhill until derailling in the middle of the small town of Lac-Mégantic. Some 47 people were killed and many more injured; 30 buildings (essentially half the downtown) were destroyed, and 115 businesses were destroyed or displaced.

Incidents such as these are tragic reminders that handling and storing oil and chemicals present serious risks. Fuels and chemicals, and the facilities that manufacture, store, distribute and use them, are essential to our economy. But because accidents involving these materials can cause such extraordinary damage, their prevention must

become a high priority for society. And because of the very high risks to firefighters and other first responders, preparation and proper training for emergency response are also critically important.

The West, Texas tragedy underscored certain systemic weaknesses in the nation's chemical risk management structure. Rafael Moure-Eraso, Chair of the U.S. Chemical Safety Board that investigated the West, Texas fertilizer plant blast, said the explosion "should never have occurred."² The Board's investigation concluded that the incident was "preventable," blaming the company, government regulators and other authorities.³ Among the potentially contributing issues identified by the Board are:

- lack of hazard awareness among first responders called to the scene of an unfolding chemical accident;
- shortfalls in first responder training in management of chemical events;
- weakness in regulatory enforcement, including several federal agencies as well as state and local authorities;
- lack of coordination among various regulatory agencies having jurisdiction over chemical facilities and users;
- gaps in regulatory authority (e.g., types of facilities that have been given exemptions from regulatory oversight based on factors not affecting their risk); and
- lack of an "all hazards" requirement clearly set forth in regulation.

The West Fertilizer Company was subject to federal regulation, and was also under the jurisdiction of the State of Texas and the local county, but it is not clear how much either local firefighters or the community at large genuinely understood the dangers that an industrial fire there might pose. Originally the plant was situated among farms, well outside the developed community of West. But over the past two decades West grew towards and eventually came to enclose the facility within its built-up area. In fact, the town located its three new schools within a few hundred yards of company property, and an elder care facility was also built a short distance away. The initial fire at the facility caused the detonation of several tons of ammonium nitrate. The resultant pressure wave killed many of the firefighters and emergency medical service personnel who had responded to the fire, as well as several persons off-site. Hundreds of homes

were damaged; two of the nearby schools were destroyed, and the third was severely damaged; and the elder care facility was destroyed.

The Bakken crude oil carried by the train that destroyed Lac-Mégantic comes from a formation centered under North Dakota and the Canadian provinces of Saskatchewan and Manitoba. It is the source of a major North American oil production boom, with recoverable quantities estimated at anywhere from two to twenty-four billion barrels. Modern drilling techniques (horizontal drilling and hydraulic fracturing) have enabled economically viable extraction of this oil. Production has outstripped the capacity of existing pipelines to move it to market, so large amounts are being moved by rail. Almost 234,000 carloads of crude oil traveled on U.S. railways in 2012, with an estimated 400,000 carloads in 2013—a 40-fold increase from 2008.⁴ Bakken crude has a vapor pressure almost three times greater than Louisiana crude oil, and thus presents a greater explosion risk.⁵ Most of the tank cars carrying this material today only meet what are by now outdated U.S. Department of Transportation (DOT) standards.⁶

Executive Order 13650—Improving Chemical Facility Safety and Security

The federal government has developed and implemented numerous programs aimed at reducing the safety risks and security risks associated with oil and hazardous chemicals, but tragedies like those in West and Lac-Mégantic have revealed regulatory gaps and deficiencies in prevention, preparedness and coordination. On August 1, 2013 President Obama issued Executive Order 13650, charging various federal agencies to implement improvements in the arena of chemical facility safety and security.⁷ The EO directed federal departments and agencies to—

- improve operational coordination with, and support to, state and local partners;
- enhance federal agency coordination and information sharing;
- modernize policies, regulations, and standards; and
- work with stakeholders to identify best practices.

A senior level, interagency Chemical Facility Safety and Security Working Group was established, which was co-chaired by the Department of Homeland Security (DHS), the Occupational Safety and Health Administration (OSHA) and the Environmental Protection Agency (EPA).⁸ The Departments of Justice (DOJ), Transportation (DOT) and Agriculture (USDA) are Working Group members; and the group consults with other federal offices as necessary. The group was tasked with developing a plan to improve coordination with state, local and tribal government partners in order to improve chemical facility safety.

The EO also directed that a pilot program be implemented to validate best practices and test innovative methods for collaboration. This pilot was to be aimed at leveraging the diversity of experience, capability and perspective among a range of federal, state and local agencies as well as local responders.

The ECRM2 Pilot Project

Federal Region 2 was selected to carry out the pilot project. This region includes New York and New Jersey, which were the focus of the pilot effort. The pilot—known as the Effective Chemical Risk Management Project, Federal Region 2, or “ECRM2”—helped to identify the best ways to improve our national management of chemical risk, and where resources should be targeted in order to achieve the best results. Though focused on practices in Region 2, the intent of the pilot was to identify improvements and practices that would have value to other regions nationally.

A major objective for the ECRM2 project was to enhance coordination regarding chemical facility safety and security. The project developed and deployed best practices, and innovated and tested new methods for interagency collaboration, integrating federal and state assets where appropriate. The pilot identified innovative approaches to collecting, storing and using facility information; it included coordinated inspection planning, joint inspections, and stakeholder engagement.

For administrative purposes ECRM2 was established as a subcommittee under the Region 2 Regional Response Team (RRT), which is itself organized under the National Response Team and is authorized and governed by the National Contingency Plan (NCP, 40 CFR Part 300). The ECRM2 includes representatives from RRT member agencies, as well as ad hoc members from outside the existing RRT organization. To sustain the pilot project efforts over the long term, the regulatory agencies comprising the pilot subcommittee were made members of the Region 2 RRT.

The ECRM2 team considered questions such as: What steps can be taken to provide better inspection coverage at the highest risk facilities? How can agencies better coordinate their inspections at these facilities? What mechanisms can be established to ensure sharing of inspection schedules and results? Are joint inspections feasible and would they add value? What are the challenges of or drawbacks to joint inspections? What training is required prior to undertaking a joint inspection, and how would it be organized and conducted? And so on.

The team developed and has begun implementing some 16 Standard Operating Procedures (SOP) for a unified federal, state, tribal, and local approach for identifying, communicating, and responding to risks at chemical facilities. Among other things, the team identified ways to ensure that state Homeland Security Advisors, State

Emergency Response Commissions (SERCs), Local Emergency Planning Committees (LEPCs), state regulators and first responders have ready access to key information in a format that is useful to identify and respond to risks in chemical facilities.

Project emphasis was on identifying sustainable, structural changes, especially pertaining to technological improvements in the sharing of information with responders (e.g., through smart phone “apps”). In some cases, information issues are fundamental (e.g., information about rail cars in communities and the contents of those cars, or contents of pipelines transiting communities), while in other cases concerns may center on how information is made available (e.g., available information such as Tier II Reports⁹ or Chemical Inventories may not be “user friendly” or understandable to firefighters).

The Regulatory Tapestry and the Bureaucratic Alphabet Soup

The United States does not have an “all hazards” chemical regulation, requiring owners and operators to manage every reasonably anticipated chemical risk under a unified code. We do have a “tapestry” of laws and regulations promulgated over several decades, addressing a range of risk issues, and administered by an alphabet soup of different agencies. Many of these agencies participate in ECRM2. Following is a simplified overview of their roles and authorities in this arena. (Further details about the authorities of several these agencies are provided below.)

- **EPA** oversees the management of risk arising from the *accidental* release (caused by a technical failure or natural disaster) of chemicals that acts in the atmosphere, either as a toxic or as a vapor cloud explosion risk.
- **DHS Office of Infrastructure Protection (OIP)** oversees the management of risk arising from the *intentional* release (caused by an act of malfeasance) of such chemicals; and the theft of chemicals that can be employed as a weapon (a chemical weapon or an explosive).
- **U.S. Coast Guard (USCG)** oversees the management of risk arising from the release of such chemicals within a port facility, *regardless of the cause* of an event.
- **DHS Transportation Safety Administration (TSA)** oversees the management of risk arising from the *intentional* release of such chemicals while in transportation; and risk arising from theft of a chemical that can be employed as a weapon.
- **U.S. Department of Transportation (DOT) Pipeline and Hazardous Materials Safety Administration (PHMSA)** oversees protection of people and the environment from the risk of transportation of

such chemicals, or chemicals which can damage/destroy other infrastructure or the environment, where the cause of the event is *accidental*.

- **U.S. Department of Labor (DOL) Occupational Safety and Health Administration (OSHA)** oversees the risk to employees working within a given facility or on a given infrastructure, where risk arises from a process that makes, uses or transports chemicals, *regardless of the cause* of an event.
- **U.S. Department of Justice (DOJ) Bureau of Alcohol, Tobacco, Firearms and Explosives (ATF)** oversees the handling and storage of designed explosives, *regardless of the cause* of an event.

In addition to these federal agencies, ECRM2 participants include the States of New York and New Jersey, as well as the City of New York. These governmental entities have a range of authorities under which they oversee issues such as zoning, construction, fire safety, insurance requirements, and worker safety. State and local governments generally supervise risk management activities of facilities without regard to disaster causality; however, causality can determine which element of a state/local government addresses a specific risk issue. Importantly, state level institutions are generally the first line of support to local responders, providing access to data and training, and supporting and/or facilitating mutual aid agreements and follow-on response.

Arguably the greatest benefit of the ECRM2 project was extensive discussion of safety and security issues among all of these agencies and levels of government, and with the first responder community, the regulated community and other stakeholders. Through outreach to some of the more active LEPCs, the project team identified best practices that will assist in efforts to reinvigorate other LEPCs. These practices focused on sharing Tier II and critical information to the first responders before an incident, increased meeting frequency, and updating/enhancing existing LEPC plans. Of course, adequate resources (people and funding) are critical to the success of LEPC interaction.

A Closer Look at EPA's Regulatory and Response Authorities

EPA's regulatory authorities related to risk management, preparedness, prevention and response derive from a number of different statutes and regulatory programs.

CAA Section 112(r)

In the Clean Air Act Amendments of 1990, Congress enacted Section 112(r),¹⁰ known as the General Duty Clause (GDC), which makes the owners and operators of facilities that have regulated and other extremely hazardous substances responsible for ensuring that their chemicals are managed safely. Facilities subject to the General Duty Clause are, *inter alia*, responsible for—

- knowing the hazards posed by the chemicals and assessing the impacts of possible releases;
- designing and maintaining a safe facility to prevent accidental releases; and
- minimizing the consequences of accidental releases that do occur.

EPA's Risk Management Program,¹¹ established under the Clean Air Act, is aimed at reducing chemical risk at the local level. EPA's rules require the owner and operator of a facility that manufactures, uses, stores, or otherwise handles certain listed flammable and toxic substances to develop a risk management program that includes hazard assessment (including an evaluation of worst-case and alternative accidental release scenarios), prevention mechanisms, and emergency response measures.¹² Facilities submit a Risk Management Plan (RMP) with information regarding their risk management program. RMP information helps local emergency personnel prepare for and respond to chemical accidents, and helps citizens understand chemical hazards in their communities. EPA focuses its inspection and enforcement efforts at the highest risk facilities.

EPCRA

The Emergency Planning and Community Right to Know Act¹³ was designed, *inter alia*, to promote emergency planning and preparedness at the state, local, and tribal levels. EPCRA helps ensure local communities and first responders have needed information on potential chemical hazards within their communities by requiring facilities to report hazardous chemicals present over defined thresholds. The reports assist communities in developing community emergency response plans and provide responders with information needed to prepare and respond to emergencies. Facilities with chemicals designated Extremely Hazardous Substances must notify the State Emergency Response Commission (SERC) and Local Emergency Planning Committee (LEPC), or TERC and TEPC (the tribal counterparts), and must participate in local emergency planning activities. LEPCs and TEPCs are then responsible for developing a comprehensive emergency response plan to deal with these substances if they were to be involved in a chemical emergency at a facility.¹⁴

CERCLA

The Comprehensive Environmental Response, Compensation and Liability Act (CERCLA),¹⁵ commonly known as Superfund, provides EPA with a variety of authorities for learning about and responding to releases and threatened releases of hazardous substances. The National Response System (NRS)¹⁶ is a multi-layered system of local, state, and federal agencies, industry, and other organizations that share expertise and resources to ensure that threats to human health and the environment from oil and hazardous materials releases are minimized.

At the heart of the system is the National Oil and Hazardous Substances Pollution Contingency Plan (the National Contingency Plan or NCP), which ensures that the resources and expertise of the federal government are available immediately for oil or hazardous substance releases that are beyond the capabilities of local and state responders. The NCP provides the framework for the NRS, and governs how EPA and other federal agencies respond to hazardous substances releases.

EPA is authorized under Section 104 of CERCLA¹⁷ to respond to releases or threatened releases of hazardous substances using federal funding, or require that the response be carried out by the responsible party(ies). CERCLA response actions come in two varieties named "removal" and "remedial" responses.¹⁸ Emergency response activities—including industrial fires, spills from tanks, vessels, trucks or railcars, and so on—are classified as removal actions.

During an oil or hazardous chemical emergency involving the federal government, a Federal On-Scene Coordinator (FOSC) directs on-scene response resources and efforts. The FOSC also oversees area planning, provides access to the expertise of the NRS federal member agencies, and provides support and information to the local response community. By prior standing agreement, EPA provides the FOSC for inland areas and USCG provides the FOSC for coastal areas.

The National Response Team (NRT) is comprised of the 15 federal member agencies of the NRS, each with responsibilities and expertise in various aspects of emergency response to pollution incidents. The NRT has nationwide responsibility for interagency planning, policy, and coordination with respect to pollution incidents of all sizes and kinds. Prior to an incident the NRT provides policy guidance and assistance; during an incident the NRT may be activated if needed to provide national-level advice and assistance, and access to member agency resources that could not be provided at the RRT level. EPA serves as chair of the NRT, and the USCG serves as vice chair.

Regional Response Teams (RRTs) carry out advance planning, and ensure that the resources and expertise of the NRS are available to support the FOSC as needed during a pollution incident. There are 13 RRTs—one for each of the ten EPA federal regions, plus one for Alaska, one for the Caribbean, and one for Oceania. The RRTs are comprised of representatives from the 15 Federal NRS member agencies, plus state representatives, and are co-chaired by the EPA and USCG. Each RRT develops a Regional Contingency Plan that describes the policies and procedures for a quick and effective response to pollution incidents. More detailed plans are developed at the sub-regional level by Area Committees and at the local level by LEPCs. The SERC supervises and appoints members to the LEPCs; SERCs, LEPCs, and Area Committees ensure

effective preparedness among all levels of government and between private sector and public response efforts.

CWA and OPA

Originally published in 1973 under the authority of §311 of the Clean Water Act (CWA),¹⁹ the Oil Pollution Prevention²⁰ regulation sets forth requirements for prevention of, preparedness for, and response to oil discharges at specific non-transportation-related facilities. To prevent oil from reaching navigable waters and adjoining shorelines, and to contain discharges of oil, the regulation requires these facilities to develop and implement Spill Prevention, Control, and Countermeasure (SPCC) Plans and establishes procedures, methods, and equipment requirements. In 1990, the Oil Pollution Act (OPA)²¹ amended the Clean Water Act to require some oil storage facilities to prepare detailed Facility Response Plans (FRPs).

Summary of Other Federal Agencies' Authorities

OSHA

OSHA is responsible for assuring safe and healthful workplace conditions by setting and enforcing standards and by providing training, outreach, education and compliance assistance. OSHA's Process Safety Management (PSM) Standard²² sets requirements for the management of highly hazardous substances to prevent and mitigate the catastrophic releases of flammable, explosive, reactive, and toxic chemicals that may endanger workers. The Hazard Communication Standard (HCS)²³ requires that the hazards of all chemicals produced or imported are classified, and that information concerning the classified hazards is transmitted to employers and employees by means of comprehensive hazard communication programs, including container labeling and other forms of warning, safety data sheets and employee training. The Hazardous Waste Operations and Emergency Response (HAZWOPER) Standard²⁴ contains requirements for employers whose employees are engaged in emergency response. Such employers must develop and implement an Emergency Response Plan to handle anticipated emergencies prior to the commencement of emergency response operations, including pre-emergency planning and coordination with outside parties. The Emergency Action Plans Standard²⁵ requires employers to have an Emergency Action Plan, with certain minimum elements.

DHS—National Protection and Programs Directorate (NPPD)

The NPPD is responsible for implementing Chemical Facility Anti-Terrorism Standards (CFATS),²⁶ the Federal government's primary regulatory authority for security of chemicals at stationary facilities. CFATS requires high-risk chemical facilities to develop and implement security plans that meet eighteen risk-based performance standards established by DHS. Since the program's inception, more than 3,000 facilities have voluntarily removed or

reduced the onsite quantity of chemicals of interest to the point that the facilities are no longer considered high-risk.

NPPD is also responsible for developing regulations to implement the Secure Handling of Ammonium Nitrate provisions of the Homeland Security Act,²⁷ which mandated that DHS "regulate the sale and transfer of ammonium nitrate by an ammonium nitrate facility...to prevent the misappropriation or use of ammonium nitrate in an act of terrorism."²⁸ Under this law certain purchasers and sellers of ammonium nitrate are to register with DHS and be screened against the Terrorist Screening Database. Sellers of ammonium nitrate are subject to certain record-keeping requirements and must report thefts or losses of the chemical. DHS is in the process of developing a final rule to implement the Secure Handling of Ammonium Nitrate provisions to ensure continued access by the public to ammonium nitrate for legitimate purposes while improving security.

USCG

The Coast Guard is responsible for maritime security under the Maritime Transportation Security Act (MTSA),²⁹ which includes authority over certain port facilities that use, store, or transport chemicals or engage in other chemical-related activities. A key goal is to prevent a maritime transportation security incident (TSI), defined as any incident that results in a significant loss of life, environmental damage, transportation system disruption, or economic disruptions to a particular area. Under the MTSA, the Coast Guard has established 43 Area Maritime Security Committees (AMSCs) in each Captain of the Port (COTP) zone throughout the U.S.³⁰ The AMSCs were created to enhance communication between port stakeholders in the private sector and federal, state, and local agencies. The AMSC is responsible for identifying risks and critical port infrastructure and operations, determining risk mitigation strategies, and assisting the COTP in the creation of the Area Maritime Security Plan. In 2010 Congress charged DHS to coordinate with other federal agencies to develop a national strategy for the waterside security of vessels carrying, and waterfront facilities handling, especially hazardous cargo.³¹

DHS—Federal Emergency Management Agency (FEMA)

FEMA plays a key role in the National Preparedness System, including:

- incorporation of existing infrastructure risk analysis into community threat/hazard identification and risk assessment efforts, in order to identify capability requirements;
- conduct of planning and training activities to integrate chemical facility safety and security into existing efforts;

- grant initiatives that provide the opportunity for communities to acquire the resources necessary to advance chemical facility safety and security; and
- design and execution of exercises, as well as analysis of real-world events to evaluate progress in improving chemical facility safety and security.

DOJ—ATF

ATF is responsible for enforcing federal explosives laws that govern commerce in explosives in the U.S., including licensing, storage, recordkeeping, and conduct of business.³² ATF conducts inspections of the approximately 11,000 federal explosives licensees who manufacture, import, sell or store explosives in the U.S. to ensure they are managed properly. One of ATF's strategic objectives is to partner with the explosives industry and other government agencies to ensure the safe and secure storage of explosives, while not impeding commerce.

DOT—PHMSA

PHMSA's Office of Hazardous Materials Safety (OHMS) oversees the Safety and Security Plan requirements applicable to commercial transportation of hazardous materials.³³ These plans are based on an evaluation of the safety and security threats associated with specific types and quantities of hazmat considered to be "high consequence" if stolen and used for pernicious reasons. At a minimum, safety and security plans must address personnel security, unauthorized access, and en route security. They must be based upon an assessment of transportation safety and security risks for shipments of listed hazardous materials ("hazmat"), including site- or location-specific risks associated with facilities where hazmat is prepared for transportation, stored, or unloaded, and measures to address the assessed risks.

DOT—FRA

FRA's Office of Railroad Safety³⁴ promotes and regulates safety throughout the nation's railroad industry. It develops safety rules and standards; conducts accident and employee fatality investigations and reporting; conducts training of state safety inspectors and others; and establishes partnerships among labor, management, and government. Operating out of eight regional offices, the staff includes 400 federal safety inspectors with specialized expertise in five different safety disciplines, one of which is Hazardous Materials. (Others include Motive Power and Equipment, Operating Practices, Signal and Train Control, and Track.)

Enforcement Authorities

As part of the ECRM2 pilot project, described above, the pilot agencies conducted several coordinated (joint) field inspections. In March 2014 the New Jersey Department of Environmental Protection (NJDEP) led a four-day inspection of a High Risk RMP facility that was observed by EPA inspectors. EPA conducted CAA §112(r) General

Duty Clause inspections of ammonium nitrate and toll manufacturing facilities which were observed by NJDEP, the New York State Department of Environmental Conservation (NYSDEC) and DHS (looking for potential CFATS non-filers). EPA observed an OSHA inspection of a High Risk RMP facility previously inspected by EPA.

A major ECRM2 focus was to increase compliance with EPCRA requirements, particularly Sections 302, 303, 311 and 312.³⁵ Section 302 requires that any facility that has an extremely hazardous substance (EHS) on site at or above its reporting threshold must notify the SERC and the LEPC within 60 days after first receiving that substance. Section 303 requires notification to the LEPC of the name and contact information for a facility representative who will participate in the emergency planning process as a facility emergency coordinator. Sections 311 and 312 require that subject facilities submit Tier II chemical inventory forms to the SERC, the LEPC and the relevant fire department. (Section 311 information is a one-time submittal that must be completed within 90 days, and Section 312 information is provided annually.)

Through the ECRM2 pilot NJDEP provided EPA with a listing of over 200 facilities that had previously submitted a New Jersey Worker and Community Right to Know survey (the NJ equivalent of the EPCRA Tier II Form), but did not submit that information for the 2012 reporting year (due March 1, 2013). EPA conducted inspections at approximately 30 of those facilities and identified violations at thirteen of them. Also, working with LEPCs in New York State, EPA conducted inspections at targeted facilities and identified violations at three facilities. EPA subsequently issued Notices of Violation to the thirteen New Jersey and three New York facilities.

A new annual reporting deadline was reached during the course of the ECRM2 initiative. NJDEP provided EPA with a list of 195 facilities that had previously filed but had not filed for the current reporting year (due March 1, 2014). In May, 2014 EPA wrote an informational or compliance letter to each these facilities summarizing not only the EPCRA requirements but also the New Jersey regulations under its Worker and Community Right to Know Act, in order to assist the facilities to determine if they were still required to file the annual chemical inventory surveys.

Independent of the ECRM2 pilot, EPA has focused enforcement efforts in recent years on the CAA §112(r) GDC requirements. For example, the Suiza Dairy facility in Rio Piedras, Puerto Rico, a heavily populated area, has a large ammonia refrigeration system. A release affected nearby residents—a number of people went to the emergency room, and others had to shelter in place in a restaurant across the street from the facility. A subsequent EPA inspection revealed many serious violations of the RMP regulations. EPA issued a compliance order, but the company was not responsive. EPA performed another RMP inspection at the facility and referred the case to DOJ.

Eventually a settlement was reached pursuant to which Suiza paid a civil penalty of \$275,000 and agreed to invest \$3.7 million in facility improvements. The company not only came into RMP compliance, but has also undertaken a series of drills involving the local fire department and a large nearby hospital.

In another case EPA inspected two Slack Chemical Co. facilities in Saratoga Springs and Carthage, NY. These contained large volumes of various hazardous chemicals, including incompatible chemicals, and had essentially no RMP program. Pursuant to EPA's enforcement action the facilities came into compliance, and organized storage areas considering chemical compatibilities. Slack also paid a \$90,000 penalty.

Emerging Threats

Crude Oil

North America is experiencing a boom in crude oil production, much of it from the Bakken geological formation (Montana, North Dakota, Saskatchewan and Manitoba). Much of this oil is moving by rail. Almost 234,000 carloads of crude oil traveled on U.S. Class I railways in 2012, with an estimated 400,000 carloads in 2013.³⁶ The 2013 estimate is a 40-fold increase over the 9,500 carloads originated in 2008. Crude oil often travels by unit train—a train that carries just one type of cargo in a single type of car, serving a single destination, and returning to the point of origin as soon as product is unloaded.³⁷ A unit train, consisting of 70–120 tank cars, can carry 50,000 to 90,000 barrels of crude oil.³⁸ A single unit train can be unloaded within 24 hours.³⁹

A significant fraction of this oil is coming to the northeast, including in particular the Port of Albany, NY where it is transferred to storage tanks and then loaded onto barges for shipment by water to refineries in New Jersey and elsewhere. Rail shipments of crude oil to Albany began in late 2011; by 2013 Albany received 16% of the Bakken crude production.⁴⁰ In and near Albany trains are routinely “parked” awaiting their turn to offload at the storage/transfer facilities; these parked trains are often immediately adjacent to residential areas and major highways, generating local concern. The Region 2 Regional Response Team has undertaken to update and enhance its contingency planning to account for this new or vastly expanded risk scenario.

Oil and Natural Gas Extraction: Hydraulic Fracturing

Advances in horizontal drilling and hydraulic fracturing technologies have enabled much greater access in oil- and natural gas-containing formations (typically shale). Concerns include:

- withdrawal of large volumes of water used in drilling and hydraulic fracturing;

- contamination of underground sources of drinking water and surface waters resulting from spills, faulty well construction, or by other means;
- air pollution resulting from the release of volatile organic compounds, hazardous air pollutants, and greenhouse gases; and
- impacts from discharges into surface waters or disposal into underground injection wells.

A core element of EPA's Underground Injection Control program⁴¹ under the Safe Drinking Water Act⁴² is setting requirements for proper well siting, construction, and operation to minimize risks to underground sources of drinking water. But the Energy Policy Act of 2005⁴³ excluded hydraulic fracturing for oil, gas or geothermal production from regulation under the UIC program, except when diesel fuels are used. In February, 2014 EPA published revised UIC Class II permitting guidance specific to oil and gas hydraulic fracturing activities using diesel fuels.⁴⁴ Although developed specifically for hydraulic fracturing where diesel fuels are used, many of the guidance's recommended practices are consistent with best practices for hydraulic fracturing in general, including those found in state regulations and model guidelines for hydraulic fracturing developed by industry and stakeholder.

Endnotes

1. Indeed, it is a favored constituent in improvised explosive devices (IEDs) such as the truck bomb used in the 1995 bombing of the Alfred B. Murrah Federal Building in Oklahoma City. Ammonia and related compounds, including ammonium nitrate, are involved in more incidents than any other chemical, according to a nationwide database of 8,000 incidents since 2001 compiled by the Chemical Safety Board. See Shawn Musgrave, *Chemical Safety Board: At Least 8,000 Chemical Accidents Nationwide Since 2001*, MUCKROCK/NEWS (June 18, 2013), available at <https://www.muckrock.com/news/archives/2013/jun/18/chemical-safety-board-least-8000-chemical-accident/>.
2. Statement by CBS Chairperson Rafael Moure-Eraso and Supervisory Investigator Johnnie Banks News Conference, Dallas, TX West Fertilizer Accident (Apr. 22, 2014), [http://www.csb.gov/assets/1/16/Statement_-_News_Conference_\(Final\).pdf](http://www.csb.gov/assets/1/16/Statement_-_News_Conference_(Final).pdf).
3. *Id.*
4. Association of American Railroads, “Moving Oil by Rail,” *Transportation of Crude by Rail* (Dec. 2013), available at <https://www.aar.org/keyissues/Documents/Background-Papers/Crude-oil-by-rail.pdf>.
5. Pittsburgh Defense Council, *Fact Sheet: Bakken Shale Oil*, available at http://pittsburghdc.org/?page_id=26 (last visited Nov. 4, 2014).
6. These are known as DOT-111 cars. For a general description see: http://en.wikipedia.org/wiki/DOT-111_tank_car. On July 23, 2014 DOT announced its intention to update the standards for such tank cars. See U.S. Dep't of Transportation, *U.S. DOT Announces Comprehensive Proposed Rulemaking for the Safe Transportation of Crude Oil, Flammable Materials*, U.S. DOT (July 23, 2014), available at <http://www.dot.gov/briefing-room/us-dot-announces-comprehensive-proposed-rulemaking-safe-transportation-crude-oil>. The new standard will improve crashworthiness, while also improving the cars' ability to withstand exposure to fires without catastrophic rupture, fireballs, or explosions. Additional rail safety improvements were also included in the subsequent August 1, 2014 Federal Register notice

- of proposed rulemaking. Pipeline and Hazardous Materials Safety Administration, 79 Fed. Reg. 45016 (proposed Aug. 1, 2014) (to be codified at 49 C.F.R. § 171), *available at* <http://www.gpo.gov/fdsys/pkg/FR-2014-08-01/pdf/2014-17764.pdf>.
7. The White House Office of the Secretary, *Executive Order—Improving Chemical Facility Safety and Security* (Aug. 1, 2013), *available at* <http://www.whitehouse.gov/the-press-office/2013/08/01/executive-order-improving-chemical-facility-safety-and-security>.
 8. For Working Group information and status reports see Occupational Safety & Health Admin., *Actions to Improve Chemical Facility Safety and Security—A Shared Commitment*, U.S. DEP'T OF LABOR, *available at* <https://www.osha.gov/chemicalexecutiveorder/> (last visited Nov. 4, 2014).
 9. Tier II reports submitted pursuant to EPCRA (see text below) provide information on the amounts, location and storage conditions of hazardous chemicals at facilities—critical information for responders.
 10. 42 U.S.C. § 7412(r). This provision was added to the Act largely in response to the 1984 Union Carbide disaster in Bhopal, India, arguably the world's worst industrial accident. The release of methyl isocyanate gas killed nearly 4,000 people immediately, and injured hundreds of thousands. See INGRID ECKERMAN, *BHOPAL SAGA: CAUSES AND CONSEQUENCES OF THE WORLD'S LARGEST INDUSTRIAL DISASTER* (University Press, India, 2005). The Clean Air Act GDC applies in the same manner and to the same extent as the GDC in the Occupational Safety and Health Act.
 11. 40 C.F.R. § 68. For a more detailed discussion see U.S. Env'tl. Prot. Agency, *Risk Management Plan (RMP) Rule*, U.S. EPA (Sep. 12, 2014), <http://www2.epa.gov/rmp>.
 12. On July 31, 2014 EPA issued a Request for Information seeking comment on potential revisions to the risk management program. See *Accidental Release Prevention Requirements: Risk Management Programs Under The Clean Air Act, Section 112(r)(7)*, FED. REGISTER (proposed rule, July 31, 2014), *available at*, <https://www.federalregister.gov/articles/2014/07/31/2014-18037/accidental-release-prevention-requirements-risk-management-programs-under-the-clean-air-act-section>.
 13. 42 U.S.C. §§ 11001 *et seq.*
 14. EPCRA § 303; 42 U.S.C. § 11003. For a more detailed discussion see U.S. Env'tl. Prot. Agency, *Emergency Planning and Community Right-to-Know Act (EPCRA)* (Sep. 29, 2014), *available at* <http://www2.epa.gov/epcra>.
 15. 42 U.S.C. §§ 9601 *et seq.*
 16. See U.S. Env'tl. Prot. Agency, *National Response System* (May 23, 2014), *available at* <http://www2.epa.gov/emergency-response/national-response-system>.
 17. 42 U.S.C. § 9604.
 18. When federal funds are used for a response, a remedial action requires a state cost share while a removal action is paid entirely by the federal government.
 19. 33 U.S.C. § 1321.
 20. 40 CFR Part 112.
 21. 33 U.S.C. § 2701 *et seq.* See also U.S. Env'tl. Prot. Agency, *Emergency Management: Oil Spills* (Oct. 23, 2014), *available at* <http://www.epa.gov/OEM/content/frps/index.htm>.
 22. 29 CFR § 1910.119; see also Occupational Safety & Health Administration, U.S. DEPARTMENT OF LABOR, https://www.osha.gov/pls/oshaweb/owadisp.show_document?p_table=STANDARDS&p_id=9760 (last visited Nov. 4, 2014).
 23. 29 CFR pts. 1910, 1915, 1926; see also, Occupational Safety & Health Administration: Hazard Communication, U.S. DEPARTMENT OF LABOR, <https://www.osha.gov/DCG/HAZCOM/> (last visited Nov. 4, 2014).
 24. 29 CFR pts. 1910, 1926; see also, Occupational Safety & Health Administration: Frequently Asked Questions: HAZWOPER, U.S. DEPARTMENT OF LABOR, <https://www.osha.gov/html/FAQ-HAZWOPER.HTML> (last visited Nov. 4, 2014).
 25. 29 CFR § 1910.38.
 26. 6 CFR pt. 27; see <http://www.dhs.gov/risk-chemical-facility-anti-terrorism-standards-cfats>.
 27. *Secure Handling of Ammonium Nitrate Program: Advance Notice of Proposed Rulemaking*, U.S. DEPARTMENT OF HOMELAND SECURITY (March 8, 2013), <http://www.dhs.gov/secure-handling-ammonium-nitrate-program-advance-notice-proposed-rulemaking>.
 28. 6 U.S.C. § 488a(a).
 29. 46 U.S.C. §§ 70101, *et seq.*
 30. 33 CFR § 103 (Navigation and Vessel Inspection Circular 9-02 Ch. 3).
 31. The Coast Guard Authorization Act of 2010 defined Especially Hazardous Cargo as the following bulk commodities: "anhydrous ammonia, ammonium nitrate, liquefied chlorine gas, liquefied natural gas, liquefied petroleum gas, and any other substance... that the Secretary determines by regulation poses a significant risk of creating a transportation security incident." Pub. L. No. 111-281, § 812(d). In light of EO 13650, the focus of this strategy is expected to be expanded to include all chemical substances considered by the Chemical Facility Safety and Security Working Group.
 32. *Bureau of Alcohol, Tobacco, Firearms and Explosives*, U.S. DEPARTMENT OF JUST., <https://www.atf.gov/content/explosives> (last visited Nov. 4, 2014).
 33. 49 CFR pts 100-177; see also *About Us*, U.S. DEPARTMENT OF TRANSP. PIPELINE AND HAZARDOUS MATERIALS SAFETY ADMIN., <http://www.phmsa.dot.gov/hazmat/about> (last visited Nov. 4, 2014).
 34. *Railroad Safety*, U.S. DEPARTMENT OF TRANSP. FEDERAL RAILROAD ADMIN., <https://www.fra.dot.gov/Page/P0010> (last visited Nov. 4, 2014).
 35. 42 U.S.C. §§ 11002, 11003, 11022, 11023.
 36. Association of American Railroads, *Moving Oil By Rail 3* (Sept. 2014), *available at* <https://www.aar.org/BackgroundPapers/Crude%20oil%20by%20rail.pdf>.
 37. *Id.*
 38. CONG. RESEARCH SERV., R43390, U.S. RAIL TRANSPORTATION OF CRUDE OIL: BACKGROUND AND ISSUES FOR CONGRESS (2014), *available at* <https://www.fas.org/sgp/crs/misc/R43390.pdf>.
 39. *Id.*
 40. Jad Mouawad, *Bakken Crude, Rolling Through Albany*, N.Y. TIMES, Feb. 28, 2014, at B1.
 41. *Underground Injection Control Program*, U.S. ENVIRONMENTAL PROTECTION AGENCY, <http://water.epa.gov/type/groundwater/uic/index.cfm> (last visited Nov. 4, 2014).
 42. 42 U.S.C. §§ 300f *et seq.*
 43. 42 U.S.C. §§ 13201 *et seq.*
 44. ENVIRONMENTAL PROTECTION AGENCY, EPA 816-R-14-001, PERMITTING GUIDANCE FOR OIL AND GAS HYDRAULIC FRACTURING ACTIVITIES USING DIESEL FUELS (2014), *available at* <http://water.epa.gov/type/groundwater/uic/class2/hydraulicfracturing/upload/epa816r14001.pdf>.

Walter Mugdan is the Director of the Emergency & Remedial Response Division, U.S. Environmental Protection Agency, Region 2. Mr. Mugdan is a former chair of the Environmental Law Section of the New York State Bar Association.

The author is indebted to his colleague Eric Mosher, Chief of EPA Region 2's Response & Prevention Branch, for providing much of the information contained in this article. Any errors are, however, the sole responsibility of the author.

When Every Drop Counts: Addressing Hydrologic Connectivity as a Climate Change Issue

By Max Lindsey

I Introduction

Water is the resource that sustains populations and allows for the growth and expansion of society. Across the nation, from contaminated water sources¹ to depleted reservoirs,² conflicts over water supplies are becoming increasingly common.³ One of the main drivers of these conflicts is the rapidly growing understanding of the effects of climate change on the water cycle.⁴ The fact that climate change is affecting our world⁵ and consequently our water system is an undeniable truth.⁶ The disjointed, and often uncoordinated allocation of water rights across our country⁷ is in drastic need of an overhaul in light of the evolving conditions of climate change. In order to fully appreciate all of the challenges and opportunities present in current water allocation regimes, each element of the water system needs to be independently analyzed and adapted to prepare for future changes. Some of the necessary changes and adaptations are easily recognized by the general public,⁸ and therefore have seen a more rapid response from regulators aimed at tackling the issues before they cause greater problems for water use.⁹ However, full understanding and adaptation to climate change requires an analysis of *all* elements of the water system and how they are affected by the impacts of climate change.¹⁰

This article will focus on a relatively obscure and unrecognized aspect of the water system—hydrologic connectivity.¹¹ Due to the (until recently) largely unknown properties of groundwater flow and its connection to surface waters, hydrologic connectivity has been a historically underrepresented element of water law.¹² In order to effectively govern water rights allocations, the entire water system needs to be analyzed in the context of climate change to ensure the preservation of sufficient water for our whole country. There is not enough of this precious resource to let it fall through the gaps of our management systems. We need to adopt a holistic approach to accounting for climate change impacts on every element of the water system in an environment where every drop counts.

This article will address the idea of hydrologic connectivity as a climate change issue through a multifaceted approach that looks at many impediments and advantages of adaptive management of hydrologic systems throughout the country. Part II touches on the current understanding of the impacts climate change has and will continue to have on water supplies and provides an overview of the current scope of adapting water rights to climate change. Part III provides an understanding of how hydrologic connectivity has developed as a water

management device. Part IV identifies water regimes that have included hydrologic connectivity as a part of their management system and discusses whether these take into account the impacts of climate change. Part V addresses the specific implications of hydrologic connectivity and why this element is necessary to include in the adaptive management of water rights. Finally, Part VI identifies several challenges impeding the inclusion of hydrologic connectivity in adaptive water management systems and provides possible solutions to the problem of implementing such a comprehensive policy.

II. Climate Change Impacts on the Water System

The scientific community has finally accepted the human contribution to climate change.¹³ The impacts of climate change reach well beyond the common focus of increased temperatures on Earth, and these changes on Earth will impact nearly every aspect of human society over the next century.¹⁴ Further, “[c]hanges in the global water cycle in response to the warming over the 21st century will not be uniform.”¹⁵ The changes to the water cycle will require an adaptive approach in order to evolve existing water institutions and policy to fit with climate change: “The likely hydrological effects of climate change will upset settled expectations and require water institutions to adapt.”¹⁶ While many impacts of climate change may seem like distant problems that only future generations will have to deal with, the impacts of climate change on precipitation patterns and water supplies are already very real elements of our society.¹⁷ This reality has caused urgency for the adoption of more holistic and inclusive water management in face of its growing scarcity in some regions.

“The legal system will struggle to reconcile ‘secure’ water rights and allocations...with hydrological conditions, that will differ greatly from the assumptions on which those rights and allocations were granted.”¹⁸ Rather than looking to the past, water institutions of all scales and areas need to be forward-thinking in creating new and adaptive concepts for how to best manage water rights.¹⁹ Given that there is now a lower extent of snow cover, uncertain changes to precipitation patterns, and an overall quicker rate of evaporation, the excess water that has traditionally recharged aquifers, rivers, and reservoirs may not exist to provide enough recharge in the near future.²⁰ As aquifers continue to be depleted and recharge rates are altered from the historical measurements, climate change continues to challenge water resources and existing approaches to groundwater allocations.

The days of effectively allocating water rights based on historical data of hydrologic records are over.²¹ Adaptive management is a way of addressing water institution regulation by looking forward to what is likely going to happen with regard to water supply, instead of looking back to mechanically rely on historical data of past experiences.²² Recently, many scholars and resource managers have shifted to the thought that adaptive management is the preferred method of ecosystem and watershed management systems because of its ability to tailor management decisions to the changing elements being managed.²³ Despite this recognition by the intellectual community, there is still a large disconnect in the legal community and the process for allocating water rights. The fragmentation of water allocation systems between different governments, management systems, watershed basins, and other arbitrary (in terms of water flows) boundaries presents difficulties in implementing adaptive management systems.²⁴

Most commentaries of adaptive watershed planning conclude that the best approach to water management is through an “integrated or holistic approach to the many aspects of watershed conditions and phenomena that affect water resources.”²⁵ Still, many water allocation systems in the United States “give no real attention to the uncertainties in future conditions posed by climate change or the possible impacts of climate change on water resources and watershed sustainability.”²⁶ Moreover, no water institution has yet analyzed how changing climate conditions are going to affect hydrologic connectivity.²⁷ If adaptive management is to be effectively implemented, then each aspect of the water system needs to be assessed in order to effectuate the most efficient use of water and allow for continued development without catastrophic depletion and overconsumption of our often scarce resource.²⁸

III. Development and Understanding of Hydrologic Connectivity as a Water Management Device

*Modern Hydrological innovations have permitted more accurate tracing of groundwater movement. For this reason, we feel that traditional legal distinctions between surface and groundwater should not be rigidly maintained when the reason for the distinction no longer exists.*²⁹

Several states govern groundwater and surface water through different regulatory schemes.³⁰ When groundwater and surface water are so interconnected, however, they must be analyzed as one common source for the proper allocation of water rights.³¹ This hydrologic connection is being recognized throughout the United States in water rights disputes.³² Still, the legal and scientific rationales supporting hydrogeology are not perfectly aligned, but they are moving to become more connected. As scientists

and policymakers seek to maximize the water available to our expanding communities and water management becomes a more important process in light of the strained water supply in our nation, the “intertwined relationship between law and hydrogeology, which has had a long-established history, will become even more intimate in the future.”³³

Typically, the legal system identifies “groundwater” as any water beneath the surface of the earth.³⁴ In contrast, hydrogeologists break this broad category into two distinct concepts: the zone of saturation and the zone of aeration.³⁵ The zone of aeration is the area underground that is not completely saturated with water, and the water in this zone is typically traveling downward with gravity toward the zone of saturation.³⁶ The zone of saturation, typically defined as an aquifer, is the area of groundwater in which all pores containing rock materials are saturated.³⁷ This is the area of the water table that allows water to be pumped out of the ground for human consumption.³⁸ The disconnect between law and science has joined all water under the earth into one broad regulatory scheme, making “every drop of the water beneath the surface...potentially the subject matter of an administrative regulation or a lawsuit.”³⁹ Groundwater is not a stagnant body sitting under the surface of the earth. It flows along a “hydraulic gradient,” which pushes the water from areas where it is higher to where it is lower.⁴⁰ The typical residence time for water in a groundwater system averages a few hundred years, but “[t]he velocity with which groundwater moves in any given direction will be determined by permeability, hydraulic conductivity, porosity, and the hydraulic gradient.”⁴¹ Occasionally this movement causes a link between surface and groundwater, creating a hydrologic connection.⁴² This recognized connectivity allows for a water management system to treat the two sources, both ground and surface water, as essentially the same source of water.⁴³

The connection between ground and surface water can either be in the form of “gaining streams,” where ground waters supply the surface water, or “losing streams,” where the surface streams supply the ground water.⁴⁴ In gaining streams, the bottom of the surface water is at a level below the groundwater table, resulting in the groundwater flowing into the streambed to contribute to the surface water running along the stream.⁴⁵ In these situations, a well pumping groundwater out of the aquifer that contributes to the stream causes an overall decrease in the amount of surface water that stream contains.⁴⁶ This depletion in the amount of surface water may interfere with the water rights of those allocated a portion of the surface flow in areas where the surface water of the associated stream is allocated for human use.⁴⁷ In times of changing environmental influences, such as higher evaporation and less precipitation, a gaining stream may transform into a losing stream, or vice-versa.⁴⁸ As noted, when water is drawn from an aquifer that is connected

with a gaining stream, that pumping of water infringes upon the water rights of those who have a vested right in the surface water of the gaining stream. When a change in conditions occurs, this could turn the tables so that withdrawals from the surface stream could be an infringement upon those having an interest in the connected aquifer.⁴⁹

The rate of groundwater recharge is difficult to directly measure, and the process of estimation depends on the local conditions, such as soil type, climate, and annual precipitation.⁵⁰ The United States Geological Survey (USGS) provides the most comprehensive records accounting for a given region's hydrologic information.⁵¹ Groundwater aquifers can be recharged from oversaturated surface waters, losing streams, precipitation, or from other groundwater migrating from adjacent aquifers,⁵² and are naturally recharged when excess surface water (rain, snowmelt, or surface runoff) percolates through the soil or rock to reach the groundwater table.⁵³ The ultimate impact climate change will have on groundwater supplies is still uncertain, but it is accepted that change is imminent.⁵⁴ Groundwater shortages occur in areas where the replenishment rate is less than the amount of water being pumped out, being lost to interbasin transfer, and flowing into gaining streams.⁵⁵ In order to have adaptive management of hydrologically connected ground and surface waters, a current inventory of available groundwater in an aquifer, its current replenishment rate, and its current rate of depletion—in contrast to historical levels of these elements—must be available to water management officials.⁵⁶

IV. Legally Recognized Examples of Hydrologic Connectivity and How They Address Climate Change

One constant feature in addressing any water rights issue is the fragmentation of regulatory bodies controlling this resource. The water rights federalism has traditionally allowed federal regulation of navigable waters, while “states’ rights federalism is most prominent in the area of water rights allocation....”⁵⁷ Each respective state may create its own system for allocating respective water rights for its people’s consumptive use.⁵⁸ These water allocation schemes can vary widely from region to region depending on water’s importance to the community and the scarcity or abundance of water, and do so independent from neighboring resource management.⁵⁹ Without regard for the big picture, each region’s water use affects the next.⁶⁰ Taking a closer look at two systems that incorporate hydrologic connectivity into their water allocation schemes provides an understanding of why the impacts of climate change need to be addressed in such systems and how potential problems may arise if climate change is not a part of the conversation.

A. Wyoming

Increased urban expansion leading to rising need for fertile cropland, coupled with decreased precipitation and

increased average temperatures, has produced an urgent call for the Western United States to consider adaptive management of its water resources.⁶¹ Wyoming is on the leading edge of this transition, as it has traditionally had a healthy amount of mountain snow, numerous stream systems, and a high amount of agricultural irrigation at its disposal.⁶² In order to protect these resources, Wyoming has codified hydrologic connectivity by stating: “[W]here underground waters and the waters of surface streams are so interconnected as to constitute in fact one source of supply, priorities of rights to the use of all such interconnected waters shall be correlated and such single schedule of priorities shall relate to the whole common water supply.”⁶³ The legislature recognized the need to include this concept in its water planning, noting that “[t]he use of underground water is approaching a use equal to the current recharge rate...[and g]round water levels are declining or have declined excessively....”⁶⁴ This recognition is an important first step in preserving the full value of Wyoming’s precious water resources, but this task has proven a difficult challenge. Importantly, this statute recognizes that the State’s groundwater resources are in jeopardy, even when judged by historic levels and not accounting for the future impacts that climate change is likely to have.

The Wyoming statutes have been interpreted through cases⁶⁵ as well as administrative actions.⁶⁶ Perhaps the most definite description of hydrologic connectivity has been in court proceedings regarding the North Platte Decree in 1984: “A hydrologically connected groundwater well is one that is so located and constructed that if water were intentionally withdrawn by the well continuously for 40 years, the cumulative stream depletion would be greater than or equal to 28% of the total groundwater withdrawn by that well.”⁶⁷ This so-called “28/40 standard” has been used to assess new groundwater developments in the North and South Platte Basins of Wyoming, which may not be granted if they would lead to increased depletion of those rivers.⁶⁸

An obvious problem with the North Platte Decree’s 28/40 standard is that it is measured based on current and historic data of water availability and aquifer regeneration.⁶⁹ As precipitation levels change, regeneration rates of aquifers also change along with the water availability to wells and streams.⁷⁰ Relying on a presumption that a given aquifer and surface water source will have the same hydrologic connection for a forty-year period is not a likely scenario with the imminent impacts of climate change.⁷¹ For example, if a well is dug near a river that has a maximum water level below the water table due to high amounts of precipitation and snowmelt, and is thus a gaining stream, such a well will not diminish the water levels in the nearby river.⁷² However, if the precipitation and snowmelt patterns of the area are altered as a result of climate change and the aquifer is not replenished to its historical levels, the water table may drop below the level

of the river, turning it into a “losing stream.”⁷³ This potential change in the water table level would consequently cause the pumping from the well to diminish the amount of water in the river.⁷⁴ Wyoming recognizes this potential for change and allows an appropriator of surface water to file a complaint alleging interference to its water rights,⁷⁵ thus prompting a new investigation to determine if the ground and surface water withdrawals are connected.⁷⁶ This option for reopening the investigation of a well’s impact on surface water at times other than when it is first dug allows for some adaptation to changing climate factors, but the reconsideration still relies on measurements of current water conditions and fails to look forward to the likely changes coming to the water systems.⁷⁷

Even with this statutory recognition of hydrologic connectivity, the presumption in Wyoming is that no interconnection exists unless it has been previously shown or the water is being pumped from an obvious alluvial well.⁷⁸ The presumption that ground water is not connected with surface water favors the consumptive use of ground water since it would not be subject to surface water regulations absent proof of such connection.⁷⁹ The presumption, however, does not lead to the most efficient use of the available water supply.⁸⁰ This presumption against connectivity can lead to over-allocation of a region’s water resources. If an unknown connection does exist, then the water would be allocated as a groundwater resource and again through surface water allocation, thus hastening the use of the area’s water supply.⁸¹ Even absent a presumption against connectivity, over-allocation can also occur from different approaches to addressing hydrologic connectivity, as seen in New Mexico.⁸²

B. New Mexico

The New Mexico Supreme Court recognized the concept of hydrologic connectivity in *Templeton v. Pecos Valley Artesian Conservancy District*,⁸³ and thus established the *Templeton* doctrine.⁸⁴ The *Templeton* doctrine

defines a specific hydrologic circumstance where junior wells intercept groundwater that previously discharged to the surface, thereby depriving a senior appropriator of their water right. To address this circumstance, [the] Court in *Templeton* fashioned an equitable remedy to allow senior surface water appropriators, impacted by junior wells, to timely reassert their priority by drilling a supplemental well. Through the well, the senior surface right owner can supplement existing surface supply, if any, by drawing upon groundwater that originally fed the surface water supply. Although the New Mexico prior appropriation doctrine theoretically does not allow for sharing of water shortages, the *Templeton* doctrine

permits both the aggrieved senior surface appropriator and the junior to divert their full share of water.⁸⁵

In *Templeton*, the drilling of a junior well transformed the stream from a gaining stream to a losing stream.⁸⁶ In order to compensate the senior well owner for this loss of surface water, the court allowed for the drilling of a new well to supplement the surface water allocation with groundwater withdrawals.⁸⁷ This construction of rights places a firm importance on prior appropriations and little to no importance on adapting to changing hydrologic conditions.

The results from applying the *Templeton* doctrine may lead to over-allocation of water resources.⁸⁸ In applying this rule, the State Engineer has required well owners to retire existing rights to consumptive use of surface water in order to counter the stream depletion caused by its wells.⁸⁹ Thus, this system may allow “tributary groundwater appropriators to buy their way out of their stream depletion” and could dry up a stream if tributary groundwater withdrawals are not limited beyond the influences of the market.⁹⁰ Although this doctrine has been applied sparingly,⁹¹ the preference it places on existing appropriations and inflexibility in dealing with changing hydrologic conditions shows a vulnerability to adapting to the impending realities of climate change, and therefore places a dangerous and unhealthy strain on the natural system.⁹² Just as the recognition of hydrologic connectivity was seen as a necessary, albeit slowly accepted, concept to implement in water management, the same can be said about addressing hydrologic connectivity through a climate change lens.

V. Why Adapt Hydrologic Connectivity to Climate Change?

Even though the amount of water that is applicable to management by hydrologic connectivity may seem relatively small compared to other problems facing water resource managers, every drop counts in this time of water shortages and looming uncertainties. In fact, about thirty percent of all fresh water on Earth, and around twenty-three percent of fresh water used in the United States, is in the form of groundwater.⁹³ As noted earlier, nearly all groundwater is eventually connected to surface water.⁹⁴ Thus, in order to effectively manage all available water, hydrologic connectivity must be included in the equation. Looking into the future, nearly all environmental management decisions must be made in the context of climate change and include both mitigation and adaptation measures.⁹⁵ Even with hydrologic connectivity being recognized across the nation as an aspect of the water system, this understanding needs to evolve with the impacts of climate change because “[q]uantifying one aspect of a resource a single time does not provide enough information regarding the effects of changing conditions on water resources to enable good management decisions.”⁹⁶

As our population continues to expand, development occurs in places that may not naturally be able to provide necessities such as water to the human population. Tensions between conflicting water rights are constantly increasing, and the law needs to adapt to allow the most efficient use of water possible.⁹⁷ The disjointed approach to allocating water rights throughout the nation has left gaps in water rights that lead to wasteful water use.⁹⁸ The explosion of human development stretching outside of urban areas has placed increasing demand on water institutions with low-density housing developments (sprawl), leading to many problems with water allocation.⁹⁹ The majority of these developments are chosen for their proximity to urban centers and often disregard the necessities that are required to support the growing populations.¹⁰⁰ Many areas of sprawl have developed beyond the capacity of the water supply, and in several instances the existing water supply cannot even support water allocations for every resident to receive a supply of water for reasonable use.¹⁰¹ Scholars have been pushing for a movement to center new development in areas that have ample resources and infrastructure to support the growth.¹⁰² As the push for adaptive water management emphasizes, *all* aspects of the water system must be understood and evaluated in order to sustain growth in accordance with our limited natural resources.¹⁰³

VI. How to Effectively Implement the Idea of Addressing Hydrologic Connectivity Through Climate Change

Implementing water planning regimes that address hydrologic connectivity through a climate change lens “may be challenged as unauthorized by law, may fail to be implemented effectively or even at all, or may lack necessary accountability and assessment measures.”¹⁰⁴ The amount of time and knowledge required to implement adaptive water regulation institutions makes it difficult for regulators to keep up with evolving science and information while still looking toward the future.¹⁰⁵ Further, the fact that human use of water does not generally differentiate between using ground or surface water, other than the comparative availability of one over the other, is an impediment to understanding each independent aspect of water supply and its connection to climate change.¹⁰⁶

The previously discussed examples of legal recognition of hydrologic connectivity, while taking a step to manage the entire water system as a whole, utterly fail to allow adaptive planning in preparing for and reacting to the effects of climate change.¹⁰⁷ The Wyoming statute fails to define “so interconnected” in relating ground and surface waters.¹⁰⁸ Even relying on the 28/40 standard established in the North Platte Decree, this evaluation relies heavily on calculations based on water flows being consistent with historical data.¹⁰⁹ Moreover, the presumption against connectivity places an importance on maintaining traditional appropriation levels instead of working to

properly allocate and make the most of every drop in the water cycle.¹¹⁰ Requiring well applicants to test proposed ground water withdrawals for connection to surface water would provide for a real time, instead of historically based, evaluation of a proposed well’s impact on surface water flows.¹¹¹ While this requirement may put an initial burden on the development of water systems, if a comprehensive collection of hydrologic information were established, then such determinations could be made by inputting data into an established inventory.¹¹²

The adaptive management of water resources requires a holistic approach to identifying and understanding each element of the water system, from precipitation amounts to evaporation rates to relative rates of local aquifer recharge. Since independent water systems are unique throughout the country, there must be a movement to work locally on water issues and collaborate ideas and examples with other regions.¹¹³ Gaining an understanding of the underlying hydrogeology of an area can help provide the necessary information required to most efficiently use water resources. Having an entity, such as the USGS, to amass and assess the requisite information to make fully informed decisions on water management is a necessity.¹¹⁴ Such an inventory would allow regular updating of water allocations based on the local recharge, evaporation, and precipitation amounts.¹¹⁵

If a substantial inventory of necessary water table information were readily accessible, then water allocation amounts could be more easily tailored to adapt to current conditions and predict future shortages and surpluses. For example, if the relative recharge rate and extent of recharge area of an aquifer were well-known and available, water resource management could combine that data with the measured precipitation in the aquifer recharge basin to determine how much water is actually available. In water-stricken areas such as the Desert West, this would mean allowing water withdrawals in accordance with the amount of recharge in a given year.¹¹⁶ This would allow aquifers to remain at constant levels, and in periods of higher precipitation and quicker recharge, this deeper understanding of the hydrogeology would allow planning in advance to save water in times when it may not be prudent to allocate every drop of water in an aquifer.¹¹⁷ Including areas with a known hydrologic connection in such an inventory would further allow a more precise computation of how much water was available in an aquifer. As the USGS points out:

Assessing water availability involves understanding the storage and movement of water through the cycle, and this understanding can be achieved only through a robust system of observation networks and basic assessment tools that allow users to quantify each component of the cycle and assess trends in those components through time.¹¹⁸

If a connection exists, then as precipitation and evaporation rates change the amount of gain or loss from an aquifer to surface water will be affected.¹¹⁹ If an extensive inventory is available with the necessary information on record about the hydrogeology of a given region, then simple observations and calculations will be able to determine the appropriate amount of water in a given basin to be safely appropriated in order to respond and react to the uncertainties of climate change.

Just as the USGS already maps many aspects of subterranean geology,¹²⁰ a mapping of hydrologic connectivity and relative aquifer recharge rates in water basins throughout the country would be an essential addition to the knowledge base for water allocation. This increased base of knowledge is necessary to effectively predict the likely impacts of climate change because “[p]rediction relies on mathematical or physical models that capture the essential elements of the water-resources system.”¹²¹ The USGS mapping program coupled with subsidiary state geologic surveys strive to fully achieve several listed objectives.¹²² The priorities of the federal mapping program are focused on serving areas that have single- and multiple-issue needs for mapping; areas “where mapping is required to solve critical earth science problems,” and to aid the needs of the Department of the Interior and other land management agencies.¹²³ In connection with the broader priorities of the federal program, the state component serves priorities that are more narrowly tailored to the individual geologic resources and interests of the State.¹²⁴ Establishing an inventory of local and regional hydrologic data is not beyond the scope of current technology and mapping equipment.¹²⁵

Certain water basins have already taken the opportunity to map groundwater flow in their given districts, illustrating the possibility of having important hydrologic data available for all areas.¹²⁶ The Portland River Basin conducted one of the most inclusive assessments of hydrogeology, with many of the elements previously mentioned.¹²⁷ This study included analysis of geologic setting; groundwater systems such as well inventory, spring inventory, and streamflow measurements; classifications of different hydrogeologic units in the basin; hydraulic characteristics of each unit; relative aquifer recharge rates; groundwater movement; discharge from springs, streams, pumpage from wells and evapotranspiration; and site specific water-level fluctuations.¹²⁸ Despite this being one of the most inclusive collections of hydrogeologic data, the study concluded that even more data would be required for a full understanding of the water basin:

The work done in this study has allowed the identification of several types of data that will be required for future groundwater studies. Development and improvement of ground-water flow models for the aquifer system in the basin will

require temporal and spatial water-level and pumpage data. A summary of data needs follows:

(1) A long-term observation-well network could be established and maintained to provide data for future studies. This network could document changes in water levels with respect to time. Short-term water-level data collected during this study indicate that water levels may be declining in large areas of southern Clark County, Washington, and in Clackamas County, Oregon. Wells in the network could be selected with regard to areal distribution, appropriate well construction, historic record, and representation of all aquifers.

(2) Synoptic water-level measurements, similar to those made in this study, could be made to document changes in the ground-water flow directions.

(3) Pumpage data, especially for public-supply and industrial users, could be collected so that yearly ground-water use estimates could be facilitated.¹²⁹

Given that this compilation of data is one of the most complete listings of hydrogeologic data and the authors still recognize that more information is necessary, this illustrates that the traditional, bare-bones approach to hydrogeology inventorying is not adequate for effective adaptive management of entire water basin systems.

The USGS surveys of underlying formations already indicate whether an area is overlain with an impervious natural soil or formation, such as clay.¹³⁰ These inventories should also include impervious land due to construction, paving, and other human-created impediments to aquifer recharge.¹³¹ While the underlying composition of the geology of an area is relatively unchanging and thus an analysis will remain pertinent and effective for several years, an inventory of human created impervious land would need to be continuously updated to respond to development changes. This could be applied to the underlying geologic maps as an overlay that allows for a fuller understanding and calculation of actual groundwater recharge rates.¹³² Updating this periodically would provide for a more comprehensive understanding of the resources actually available in aquifers. Information and understanding of the entire hydrologic system is the key to providing the most comprehensive understanding and efficient use of available water.¹³³

This comprehensive hydrologic data collection must then be analyzed in conjunction with ongoing water withdrawal and consumption. Using all available information regarding the number of wells in a given aquifer and the

rate at which these wells are being pumped would allow water management to adapt to changes in the relative consumptive use/recharge rate of a given aquifer.¹³⁴ The adaptive management of our precious water resource is a necessary approach to continuing effective and beneficial use for those who depend on water.¹³⁵

VII. Conclusion

As more knowledge about the implications of climate change on our water system becomes available, it is more evident that such effects need to be managed in order to save our water system.¹³⁶ This process will need to include historical climate and hydrologic data, as well as a forward looking approach to dealing with future issues.¹³⁷ This process needs to be a comprehensive approach to evaluating every element of the water system, including hydrologic connectivity, in a climate change light.¹³⁸

The adaptation to climate change is a long road that requires a multifaceted approach to each of the individual elements present in the water system. While there have already been significant advancements in several states' water management systems to adapt to climate change,¹³⁹ there are still a significant number of states that do not recognize any elements of climate change in their water regimes and even fewer that are inclusive enough to understand geologic connectivity through such a lens.¹⁴⁰ Through implementing a program to inventory several aspects of important hydrologic and geologic aspects in addition to the existing topology, bedrock, and soil analysis that the USGS already has in place, it will be possible to understand the interworkings of independent water basins in a comprehensive manner. After this understanding is established, precipitation, water usage, and other aspects of water supply can be applied to existing hydrologic data to provide a moldable water allocation system that can effectively react to annual and future changes to supply instead of mechanically relying on historical data that has left us high and dry. In developing policies recognizing the impacts that climate change plays on the connection between "groundwater and surface water, our springs will bubble and our rivers will flow" long into the future.¹⁴¹

Endnotes

1. See Trip Gabriel, *Thousands Without Water After Spill in West Virginia*, N.Y. TIMES, Jan. 11, 2014, at A9.
2. See Michael Wines, *Colorado River Drought Forces a Painful Reckoning for States*, N.Y. TIMES, Jan. 6, 2014, at A1.
3. See Michael Wines, *West's Drought and Growth Intensify Conflict Over Water Rights*, N.Y. TIMES, Mar. 17, 2014, at A1.
4. See Robin Kundis Craig, *Adapting Water Federalism to Climate Change Impacts: Energy Policy, Food Security, and the Allocation of Water Resources*, 5 ENVTL. & ENERGY L. & POL'Y J. 183, 209, 211 (2010); Wines, *supra* note 2, at A1.
5. See INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE, CLIMATE CHANGE 2013: THE PHYSICAL SCIENCE BASIS 4 (2013), available

at http://www.climatechange2013.org/images/report/WG1AR5_SPM_FINAL.pdf ("Warming of the climate system is unequivocal, and since the 1950s, many of the observed changes are unprecedented over decades to millennia. The atmosphere and ocean have warmed, the amounts of snow and ice have diminished, sea level has risen, and the concentrations of greenhouse gases have increased.").

6. See Michelle Bryan Mudd, *A Next, Big Step for the West: Using Model Legislation to Create a Water-Climate Element in Local Comprehensive Plans*, 3 WASH. J. ENVTL. L. & POL'Y 1, 17 (2013) ("Climate change is water change." Indeed, water resource administrators identify 'planning for and adapting to the uncertainty that climate change brings' as the most significant water challenge of this century. 'Climate change alters the hydrological cycle, changing the background conditions in which natural and man-made systems function'" (footnotes omitted) (quoting U.S. ENVTL. PROT. AGENCY, DRAFT CLIMATE CHANGE ADAPTATION PLAN 16 (2012), available at <http://epa.gov/climatechange/pdfs/EPA-climate-change-adaptation-plan-final-for-public-comment-2-7-13.pdf>; John T. Andrew et al., *California Water Management: Subject to Change*, 14 HASTING W.-NW. J. ENVTL. L. & POL'Y 1463, 1463 (2008); Brad Udall, Director of the Getches-Wilkinson Center for Natural Resources, Energy, and the Environment, University of Colorado School of Law, Address at the Sixteenth Institute for Natural Resources Law Teachers (May 31, 2013))).
7. The regulatory schemes across the United States for water allocation vary widely depending on region. See Craig, *supra* note 4, at 193 ("With regard to surface water, the eastern states inherited from England the doctrine of riparianism, which ties the right to use water to ownership of the land adjoining the water source—i.e., the riparian landowners. Even so, many eastern states have since realized that the legal connection of consumptive use rights to riparian land ownership limits non-riparian development and have transitioned to 'regulated riparianism' and administrative permitting. In contrast, the perpetually water-limited and drought-threatened western states generally rejected riparianism in favor of the prior appropriation doctrine" (footnotes omitted)).
8. This is evidenced by the decreased snowpack levels in mountainous states and increased demand on water systems with the development of new communities. See Wines, *supra* note 3, at A1.
9. In Texas, the Commission on Environmental Quality has cut off water deliveries to rice farmers for the past three years in an effort to avoid water scarcity for its larger urban areas. Neena Satija, *Irrigation Water Cut, but Central Texans Worry Over Supply*, TEX. TRIB. (Feb. 26, 2014), <http://www.texastribune.org/2014/02/26/water-rice-cut-central-texas-still-angry/>.
10. See Craig Anthony (Tony) Arnold, *Adaptive Watershed Planning and Climate Change*, 5 ENVTL. & ENERGY L. & POL'Y J. 417, 440–49 (2010) (describing the features of adaptive planning in water management).
11. Hydrologic connectivity is defined by instances where there is a recognizable connection between groundwater aquifers and surface waters such as streams. See James H. Davenport, *Less Is More: A Limited Approach to Multi-State Management of Interstate Groundwater Basins*, 12 U. DENV. WATER L. REV. 139, 155 (2008).
12. See A. DAN TARLOCK ET AL., WATER RESOURCE MANAGEMENT: A CASEBOOK IN LAW AND PUBLIC POLICY 478–91 (4th ed. 1993) (providing a brief history of the slow evolution of the understandings of hydrologic geology and explaining the extent to which this has interfered with "sound policymaking").
13. INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE, *supra* note 5, at 17 ("It is extremely likely that human influence has been the dominant cause of the observed warming since the mid-20th century.").
14. See generally HARI M. OSOFSKY & LESLEY K. MCALLISTER, CLIMATE CHANGE LAW AND POLICY 4–12 (2012) (outlining several impacts

- of climate change and discussing the scientific tools used to understand and evaluate climate change).
15. INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE, *supra* note 5, at 20.
 16. Arnold, *supra* note 10, at 417.
 17. See *As Drought Persists, 17 California Communities Almost Out of Water*, HUFFINGTON POST (Jan. 29, 2014), http://www.huffingtonpost.com/2014/01/29/california-drought-water-shortage_n_4689106.html (“Seventeen rural communities in drought-stricken California are in danger of a severe water shortage within four months....”).
 18. Arnold, *supra* note 10, at 418–19.
 19. *Id.* at 419–20 (“The effects of climate change will be felt at multiple hydrological, geographic, and institutional scales that transcend specific water sources or political and legal jurisdictions.”); see also Mudd, *supra* note 6, at 20 (“Ultimately, climate data calls into question historic assumptions about water availability, signaling that our water rights system and the land uses developed around it are especially vulnerable.... Without integrated water-climate-land use planning, communities will continue to develop beyond the capacity of the landscapes and resources that support them” (footnote omitted)).
 20. See INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE, *supra* note 5, at 9, 22–23; 1 WATERS AND WATER RIGHTS § 4A.03(b)(1) (Amy K. Kelly ed., 3rd ed. 2014) (“Climate change in general, and decreased snowpack in particular, necessitates preserving natural water storage capabilities.”).
 21. Arnold, *supra* note 10, at 434 (“[E]xperts have warned that we are facing the ‘no-analog future’: a future of changing conditions, including climate change, for which we have no analogies to understand, model, or predict.”).
 22. See *id.* at 420 (“Adaptive ecosystem management embraces ad hoc experimentalism that responds to changing conditions, emerging knowledge, and feedback processes.”).
 23. See *id.* at 431–32.
 24. See Mudd, *supra* note 6, at 7–9. The allocation of water rights has traditionally been left to the power of the state or municipality. Linda A. Malone, *The Necessary Interrelationship Between Land Use and Preservation of Groundwater Resources*, 9 UCLA J. ENVTL. L. & POL’Y 1, 4 (1990). Because a single water source, both surficial and subsurface, often bridges between multiple regulatory jurisdictions, true comprehensive management requires a high degree of cooperation between agencies and government. See Craig, *supra* note 4, at 195 (explaining that the Clean Water Act explicitly states that federal agencies “shall co-operate with State and local agencies” in creating comprehensive approaches to managing water resources).
 25. See, e.g., Arnold, *supra* note 10, at 452.
 26. *Id.* at 478.
 27. See, e.g., SANTA ANA WATERSHED PROJECT AUTH., ONE WATER, ONE WATERSHED (2010), available at <http://www.sawpa.org/owow-1-0-2/> (noting the impact that climate change will have on several water-resource areas, including snowpack and streamflows, increased evaporation and transpiration, and reduced ability for groundwater replenishment, but not addressing how these changes will impact hydrologic connectivity).
 28. See ENVTL. LAW INST., WET GROWTH: SHOULD WATER LAW CONTROL LAND USE? 106 (Craig Anthony (Tony) Arnold ed., 2005). The earth has now passed the point of no return in climate change and future approaches to resource allocation need to implement both mitigation efforts to limit continuing changes as well as adaptation efforts to respond to the already existing realities of climate change. See OSOFSKY & MCALLISTER, *supra* note 14, at 45.
 29. Perkins v. Kramer, 423 P.2d 587, 591 (Mont. 1966) (emphasis added).
 30. See, e.g., *In re Gen. Adjudication of All Rights to Use Water in the Gila River Sys. & Source*, 9 P.3d 1069, 1073 (Ariz. 2000) (noting Arizona’s bifurcated system of allocating surface water by the doctrines of prior appropriation and beneficial use and limiting groundwater use to the overlying landowner but subject to the doctrine of reasonable use).
 31. See Davenport, *supra* note 11, at 155–56; Barton H. Thompson, Jr., *Beyond Connections: Pursuing Multidimensional Conjunctive Management*, 47 IDAHO L. REV. 273, 279 (2011).
 32. See, e.g., Chatfield E. Well Co. v. Chatfield E. Prop. Owners Ass’n, 956 P.2d 1260, 1267 (Colo. 1998) (recognizing connection between aquifer and stream); see also Lawrence J. MacDonnell, *Integrating Use of Ground and Surface Water in Wyoming*, 47 IDAHO L. REV. 51, 62 & n.96 (2010) (noting that it is a given that groundwater and surface water are connected, but focusing on the extent to which increases in groundwater use reduces water available through surface water sources). But see Baumler v. Town of Newstead, 604 N.Y.S.2d 372, 374 (App. Div. 1993) (declining to credit an expert in hydrogeology’s affidavit that a connection existed between stream and aquifer).
 33. 3 WATERS AND WATER RIGHTS, *supra* note 20, § 18.02.
 34. *Id.*
 35. *Id.*
 36. *Id.*
 37. *Id.*
 38. *Id.*
 39. See *id.*
 40. Davenport, *supra* note 11, at 155.
 41. *Id.*
 42. *Id.*
 43. For example, Wyoming treats hydrologically connected ground and surface water as a whole water system. See WYO. STAT. ANN. § 41-3-916 (2014).
 44. Davenport, *supra* note 11, at 156.
 45. See *Rivers Contain Groundwater*, U.S. GEOLOGICAL SURVEY, <http://water.usgs.gov/edu/rivers-contain-groundwater.html> (last modified Mar. 17, 2014).
 46. See *Groundwater Flow and Effects of Pumping*, U.S. GEOLOGICAL SURVEY, <http://water.usgs.gov/edu/earthgwdecline.html> (last modified Mar. 17, 2014) (“Water pumped from the groundwater system causes the water table to lower and alters the direction of groundwater movement. Some water that flowed to the stream no longer does so and some water may be drawn in from the stream into the groundwater system, thereby reducing the amount of streamflow.”).
 47. See, e.g., *Herrington v. State ex rel. Office of the State Eng’r*, 2006-NMSC-014, ¶ 7, 133 P.3d 258, 261 (recognizing that the plaintiff’s water allocation granted on a prior appropriation basis had been “diminished by local groundwater wells”).
 48. Davenport, *supra* note 11, at 156; see also *Rivers Contain Groundwater*, *supra* note 45 (“Rivers can be gaining and losing at different locations; they can be gaining one time of the year and losing in another time of year.”).
 49. See Thompson, *supra* note 31, at 279; *Groundwater Flow and Effects of Pumping*, *supra* note 46 (explaining the effects that lower stream levels have on water availability to hydrologically connected groundwater wells).
 50. Mary P. Anderson, *Hydrogeologic Framework for Groundwater Protection*, in *PLANNING FOR GROUNDWATER PROTECTION* 1, 9 (G. William Page ed., 1987).
 51. See ERIC J. EVENSON ET AL., U.S. GEOLOGICAL SURVEY, U.S. GEOLOGICAL SURVEY WATER SCIENCE STRATEGY—OBSERVING, UNDERSTANDING, PREDICTING, AND DELIVERING WATER SCIENCE TO

- THE NATION 7 (2013) (“The USGS operates and maintains national hydrologic monitoring networks consisting of more than 8,000 streamgages, 1,900 continuous water-quality monitoring stations, and 250 precipitation monitoring stations, and monitors 20,000 groundwater observation wells.”).
52. Davenport, *supra* note 11, at 156.
 53. 3 WATERS AND WATER RIGHTS, *supra* note 20, § 4A.03(b)(3).
 54. *See id.*; Craig, *supra* note 4, at 211.
 55. TARLOCK ET AL., *supra* note 12, at 489.
 56. *See* Arnold, *supra* note 10, at 420 (explaining how adaptive management decisions are forward looking instead of historically based).
 57. Craig, *supra* note 4, at 188–89, 211–33 (describing the traditional role of state and federal government in addressing water rights and how this dichotomy is likely to change in adapting water management to the impacts of climate change).
 58. *See id.* at 192.
 59. *See id.* at 193 (“[T]he exact principles and requirements governing the withdrawal and consumptive use of water var[ies] considerably from location to location.”).
 60. *See id.*
 61. *See* Christina Hoffman & Sandra Zellmer, *Assessing Institutional Ability to Support Adaptive, Integrated Water Resources Management*, 91 NEB. L. REV. 805, 842 (2013).
 62. *See* Wyoming Surface Water, WYO. ST. GEOLOGICAL SURV., <http://www.wsgs.uwyo.edu/Research/Water-Resources/Surface-Water.aspx> (last visited Nov. 3, 2014).
 63. WYO. STAT. ANN. § 41-3-916 (2014).
 64. *Id.* § 41-3-912(a).
 65. *See* Wyo. State Eng’r v. Willadsen, 792 P.2d 1376, 1378–79 (Wyo. 1990) (reviewing a decision of the Wyoming State Board of Control’s under *Wyoming Statutes Annotated* section 41-3-911 for an abuse of discretion); Willadsen v. Christopoulos, 731 P.2d 1181, 1184 (1987) (reviewing a decision of the Wyoming State Board of Control’s under *Wyoming Statutes Annotated* section 41-3-911 for an abuse of discretion).
 66. *See* MacDonnell, *supra* note 32, at 57–61 (noting language of hydrologic connectivity in the Bear River Compact and the North Platte Decree).
 67. *Id.* at 59 (quoting Proposed Joint Settlement at 108, *Nebraska v. Wyoming*, 534 U.S. 40 (2001) (No. 108)) (internal quotation marks omitted).
 68. MacDonnell, *supra* note 32, at 60–61. Our increasingly dry climate will likely further deplete those rivers, making groundwater developments even less likely in the North and South Platte Basins.
 69. *See* Proposed Joint Settlement, *supra* note 67, at 179–80.
 70. *See* Groundwater Flow and Effects of Pumping, *supra* note 46; Rivers Contain Groundwater, *supra* note 45.
 71. *See* INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE, *supra* note 5, at 16–17 (discussing the imminent but uncertain impacts climate change will have on precipitation patterns).
 72. *See* Groundwater Flow and Effects of Pumping, *supra* note 46 (explaining how streams can convert from gaining to losing when water-levels decline); Rivers Contain Groundwater, *supra* note 45 (explaining the flow of water in a gaining stream).
 73. *See* Groundwater Flow and Effects of Pumping, *supra* note 46; Rivers Contain Groundwater, *supra* note 45.
 74. *See* Groundwater Flow and Effects of Pumping, *supra* note 46; Rivers Contain Groundwater, *supra* note 45.
 75. WYO. STAT. ANN. § 41-3-911(b) (2014).
 76. *See* Wyo. State Eng’r v. Willadsen, 792 P.2d 1376, 1378–79 (Wyo. 1990) (“After an appropriator of surface water files a complaint alleging interference, the State Engineer must conduct an investigation to determine if interference exists and issue a report to all interested parties.”).
 77. The statute fails to establish a requirement for the method of testing surface water depletion and such determinations are traditionally made on observations of current water conditions. *See* WYO. STAT. ANN. § 41-3-911(b); Willadsen, 792 P.2d at 1379 (“[P]umpage of the well in question did not have a measurable or observable effect on Cottonwood Creek.”). If such determinations of connectivity could be based on geologic mapping and climatic modeling, it would allow the state engineer’s decision to be more adaptive to the future impacts of climate change. *See infra* Part VI (explaining the potential benefits of a comprehensive hydrogeological inventory). *But see* EVENSON ET AL., *supra* note 51, at 7 (“The USGS provides data, information, and tools that are useful to predicting long- and short-term changes within the water cycle.”).
 78. MacDonnell, *supra* note 32, at 61 n.86.
 79. *Id.* at 61 (“A non-interconnected assumption probably encourages use of ground water. The applicant does not have to provide information about possible impacts to surface users....”).
 80. *See id.* at 62 (noting that states such as Colorado and Idaho are using models of potential effects of hypothetical well operations in order to find the most effective use of water supplies).
 81. *See id.* (“It is widely acknowledged that, sooner or later, most ground water uses will reduce water available in surface water sources.”).
 82. *See* Templeton v. Pecos Valley Artesian Conservancy Dist., 332 P.2d 465, 466 (N.M. 1958) (noting a decrease in the amount of water in the Rio Felix in recent years).
 83. *See id.* at 470 (“Any appropriator of water from the central channel is entitled to rely and depend upon all the sources which feed the main stream above his own diversion point, clear back to the farthest limits of the watershed.... Also, no one can interfere with the source of supply of this stream, regardless of how far it may be from the place of use, and whether it flows on the surface or underground, in such a manner as will diminish the quantity or injuriously affect the quality of the water of these established rights.”).
 84. *See* Herrington v. State *ex rel.* Office of the State Eng’r, 2006-NMSC-014, ¶ 11, 133 P.3d 258, 262 (noting the applicability of the Templeton Doctrine).
 85. *Id.* (footnote omitted) (citations omitted) (citing Templeton, 332 P.2d at 471; N.M. Stat. Ann. § 72-1-2 (West 2014)).
 86. J. David Aiken, *The Western Common Law of Tributary Groundwater: Implications for Nebraska*, 83 NEB. L. REV. 541, 577 (2004).
 87. *See id.* at 577–578 (“To protect streamflows, as opposed to simply protection senior surface appropriations, stream depletions caused by tributary wells must be reduced.”).
 88. *Id.* *But see* Templeton, 332 P.2d at 472 (“[T]he State Engineer can only grant permits to appropriate waters which are not already appropriated.”).
 89. *See* City of Albuquerque v. Reynolds, 379 P.2d 73, 78 (N.M. 1962).
 90. Aiken, *supra* note 86, at 578.
 91. *See* Herrington v. State *ex rel.* Office of the State Eng’r, 2006-NMSC-014, ¶ 23, 133 P.3d 258, 264.
 92. *See generally* Aiken, *supra* note 86, at 577–78 (discussing the drawbacks of the Templeton doctrine).
 93. TARLOCK ET AL., *supra* note 12, at 480; Groundwater Discharge—The Water Cycle, U.S. GEOLOGICAL SURVEY, <http://water.usgs.gov/edu/watercyclegwdischarge.html> (last modified Apr. 15, 2014).
 94. *See* Groundwater Discharge—The Water Cycle, *supra* note 93.

95. See J.B. Ruhl, *Climate Change Adaptation and the Structural Transformation of Environmental Law*, 40 ENVTL. L. 363, 370–371 (2010). We must use proactive strategies to anticipate climate change impacts in order to implement environmental measures that “will reduce harm or harness benefits in the future.” *Id.* at 383.
96. EVENSON ET AL., *supra* note 51, at 32.
97. See ENVTL. LAW INST., *supra* note 28, at 8 (advocating for development of urban areas that is consistent with aquatic ecosystems and water resources).
98. See *id.* at 9; Robert Glennon, *Water Scarcity, Marketing, and Privatization*, 83 TEX. L. REV. 1873, 1902 (2005) (positing that current laws regarding water allocation lead to “wasteful irrigation and mind-numbing sprawl”); V. Lane Jacobson, Note, *Snake River Basin Adjudication Issue 10: Partial Forfeiture for Non-Use of a Water Right in Idaho*, 35 IDAHO L. REV. 179, 184 (1998); see also Mudd, *supra* note 6, at 20 (“By this time, one would expect water-climate planning to feature more prominently in state comprehensive planning statutes, much like topics such as fire and emergency response, transportation, and housing. But that is not the case. Even in the few states that have mentioned climate change in their local planning statutes, the focus has been on climate mitigation through emissions reductions and energy conservation, with little or no mention of water supply adaptation. To the extent climate-driven water conservation is mentioned in comprehensive planning, it is generally limited to the context of green building design.”).
99. See ENVTL. LAW INST., *supra* note 28, at 3–4.
100. See *id.* In the western United States, the growing population and continuing drought have led to water shortages that could potentially lead to conflicts between states regarding interstate water basins. See Wines, *supra* note 2 (“Reclamation officials say there is a 50-50 chance that by 2015, Lake Mead’s water will be rationed to states downstream.”).
101. See Adam Nagourney & Ian Lovett, *Severe Drought has U.S. West Fearing Worst*, N.Y. TIMES, Feb. 2, 2014, at A1 (“The deteriorating situation would likely mean imposing mandatory water conservation measures on homeowners and businesses.”).
102. See ENVTL. LAW INST., *supra* note 28, at 6. The movement known as “smart growth” is centered around developing higher-density residential areas that allow for the most efficient use of resources and land. See *id.*; Stephanie Ramia, Note, *Smart Growth: The Toolbox for Addressing Sprawling Development in Coastal South Carolina*, 19 SOUTHEASTERN ENVTL. L.J. 173, 186 (2010). There has been recent scholarship on “wet growth,” which is the idea that development sprawls should occur where there are ample water resources to support the growing population and infrastructure. ENVTL. LAW INST., *supra* note 28, at 7–8.
103. See Arnold, *supra* note 10, at 452–53.
104. *Id.* at 479.
105. See *id.* at 475 (“Some watershed institutions are merely in the phase of identifying the likely effects that climate change may have on water resources and watershed functions, the need for additional data and modeling, and the importance of altering their watershed plans for adaptation to these impacts.”).
106. 3 WATERS AND WATER RIGHTS, *supra* note 20, § 18.03.
107. Arnold, *supra* note 10, at 478 (arguing that water allocations traditionally do not give respect to climate change); see *supra* Parts IV.A–B.
108. MacDonnell, *supra* note 32, at 63.
109. See Proposed Joint Settlement, *supra* note 67, at 179–80; MacDonnell, *supra* note 32, at 63.
110. MacDonnell, *supra* note 32, at 61.
111. See *id.* at 62–63.
112. The USGS recognizes the importance of developing a comprehensive and integrated scientific understanding and cataloging of hydro-geologic data. See EVENSON ET AL., *supra* note 51, at 11 (noting that improved integration, science planning, and collaboration is a priority action for water policy).
113. See *id.* at 11–12 (calling for expanded and enhanced water-resource monitoring networks); Mudd, *supra* note 6, at 24 (discussing the potential benefits of addressing water issues at the local level through comprehensive planning).
114. See Keith Hirokawa & Max Lindsey, *Law and the Value of Rocks: Addressing Geosystem Services As if Our Lives Depend on It* 15 (unpublished manuscript) (on file with authors).
115. An effective inventory of geologic systems would include, among others, bedrock porosity, hydraulic gradient, and aquifer recharge rates. Mudd, *supra* note 6, at 33 (“Using best available data and science, local governments must conduct a water resources-climate inventory that includes: the hydrologic features of the jurisdiction, including both natural and artificial infrastructure, along with floodplains, wetlands, and other critical water resources; interrelationships between ground and surface water supply, including the impacts of exempt wells; interrelationships between water quantity and water quality; differentiation between actually available versus legally available ‘paper’ water; and a long term evaluation of climate impacts and supply variability over hydrologic time. Where data uncertainties exist, those must be disclosed.”).
116. While this is perhaps more pertinent to arid regions experiencing a lack of water supplies, it is also important to areas that may receive increased precipitation amounts due to climate change. Since the general expectation for precipitation patterns associated with global climate change is that dry areas will get drier and wet areas will get wetter, aquifers in dry areas may start to become replenished at a greater rate than is allocated. See INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE, *supra* note 5, at 20 (“Changes in the global water cycle in response to the warming over the 21st century will not be uniform. The contrast in precipitation between wet and dry regions and between wet and dry seasons will increase, although there may be regional exceptions.”). This uncertainty regarding changes of precipitation patterns further illustrates the need for adaptive management of water regimes to include all aspects of the water system to be moldable to regionally specific responses to climate change.
117. While common sense and reasonable expectations tell us that all water in a water district should not be allocated for human use, several water basins’ allocations are based on historical water supply levels and are over-allocated considering the actual conditions that exist. See U.S. DEP’T OF THE INTERIOR, BUREAU OF RECLAMATION, COLORADO RIVER BASIN WATER SUPPLY AND DEMAND STUDY: EXECUTIVE SUMMARY – PRE-PRODUCTION COPY 1 (2012), available at http://www.usbr.gov/lc/region/programs/crbstudy/finalreport/Executive%20Summary/Executive_Summary_FINAL_Dec2012.pdf (“Apportioned water in the [Colorado River] Basin exceeds the approximate 100-year record (1906 through 2011) Basin-wide average long-term historical natural flow....”). The fact that the Colorado River Basin is over-allocated from the 100 year average, precipitation changes are likely to cause more drought in the West, and the rapid population growth of the area dependent on the Colorado River all illustrate that a re-examination of existing water-rights regimes is needed. *Id.* (“Looking ahead, concerns regarding the reliability of the Colorado River system to meet future Basin resource needs are even more apparent, given the likelihood of increasing demand for water throughout the Basin coupled with projections of reduced supply due to climate change.”). This problem of changing availability requires changes to the way in which we determine how much water is available to allocate, which requires including influences of climate change and hydrologic connectivity in such measurements. This over-allocation of the Colorado River Basin is even more disturbing given that a significant number of agricultural irrigation operations in the basin draw their water from underground aquifers that are not analyzed as the same water source, even

- though depletion from aquifers results in depletion of surface waters where connectivity exists, thus increasing the over-allocation problem. See John B. Carter, *Montana Groundwater Law in the Twenty-First Century*, 70 MONT. L. REV. 221, 226 (2009) (“Historically, groundwater was viewed as a stand-alone resource used and managed as an independent substance without regard to surface water. For example, Colorado distinguishes between groundwater that is ‘underflow,’ ‘tributary,’ and ‘nontributary’ to surface water.”).
118. EVENSON ET AL., *supra* note 51, at 18.
 119. See *supra* Part III (discussing the concept of “gaining streams” and “losing streams”).
 120. See 43 U.S.C. § 31a(a)(2) (2013) (“[G]eologic maps are the primary data base for virtually all applied and basic earth-science investigations, including—(A) exploration for and development of mineral, energy, and water resources; (B) screening and characterizing sites for toxic and nuclear waste disposal; (C) land use evaluation and planning for homeland and environmental protection; (D) earthquake hazards reduction; (E) identifying volcanic hazards; (F) design and construction of infrastructure requirements such as utility lifelines, transportation corridors, and surface-water impoundments; (G) reducing losses from landslides and other ground failures; (H) mitigating effects of coastal and stream erosion; (I) siting of critical facilities; (J) recreation and public awareness; and (K) basic earth-science research.”).
 121. EVENSON ET AL., *supra* note 51, at 32.
 122. See 43 U.S.C. § 31c(a), (c).
 123. *Id.* § 31c(d)(1)(B).
 124. See *id.* § 31c(d)(2)(B).
 125. See Mudd, *supra* note 6, at 33.
 126. See, e.g., WILLIAM D. MCFARLAND & DAVID S. MORGAN, U.S. DEP’T OF THE INTERIOR, DESCRIPTION OF THE GROUND-WATER FLOW SYSTEM IN THE PORTLAND BASIN, OREGON AND WASHINGTON 15 (1996), available at <http://pubs.er.usgs.gov/publication/wsp2470A> (“A detailed quantitative analysis of any ground-water system requires that the hydraulic characteristics of the system be mapped and described.”).
 127. See *id.*
 128. *Id.* at iii.
 129. *Id.* at 42–43.
 130. See *id.* at 43.
 131. See EVENSON ET AL., *supra* note 51, at 28 (explaining the need for a comprehensive understanding of the role human interactions play on water availability).
 132. See Hirokawa & Lindsey, *supra* note 114, at 31 (discussing the need to return affected water systems to pre-mining levels).
 133. See EVENSON ET AL., *supra* note 51, at 25 (“Knowledge about interactions of geology, climate, humans, and ecosystems with the water cycle is critical to understanding and optimizing water availability.”).
 134. See Arnold, *supra* note 10, at 440–41 (discussing the importance of adaptive management in water regulation); see also Brian Clark Howard, *California Drought Spurs Groundwater Drilling Boom in Central Valley*, NAT’L GEOGRAPHIC (Aug. 15, 2014), <http://news.nationalgeographic.com/news/2014/08/140815-central-valley-california-drilling-boom-groundwater-drought-wells/> (discussing the explosion of private well drilling in California and noting that California’s approach of unregulated well withdrawals from private land has led to unprecedented depletion of their aquifers).
 135. See Arnold, *supra* note 10, at 440 (discussing the benefits of adaptive planning).
 136. The 2013 USGS water science strategy contains an objective of “Comprehensive Understanding of the Effects of Climate Variation on Water Availability at Multiple Spatial and Temporal Scales.” EVENSON ET AL., *supra* note 51, at 28.
 137. *Id.* (“[The USGS will u]se data and studies of hydrological variability on historic and prehistoric (geologic) time scales, along with data and models of human effects on watersheds, to improve understanding and anticipation of climate effects on water availability.”).
 138. *Id.* at 42 (“The National Water (Availability) Census has recognized that its methods and findings will need to accommodate and address the potential influences of climate changes and variations in the 21st century in designing and interpreting its investigations and findings.”).
 139. See, e.g., Jason Dearen & Juliet Williams, *California Drought Prompts Unprecedented Water Conservation Efforts*, HUFFINGTON POST (Jan. 31, 2014), http://www.huffingtonpost.com/2014/01/31/california-drought-reserv_n_4706344.html (identifying measures that California has taken to protect its water resources from challenges faced by an unprecedented drought).
 140. See Arnold, *supra* note 10, at 478–79 (discussing states that do not mention or give attention to climate change as it relates to their water resources).
 141. Robert Glennon, *Pinching Straws: Reforming Groundwater and Surface Water Law to Protect the Environment*, 49 ROCKY MTN. MIN. L. INST. 7A, 7A.05 (2003).

Max Lindsey is a J.D. Candidate, Albany Law School, 2015. Mr. Lindsey won second place in the NYSBA Environmental Law Section’s 2014 Professor William R. Ginsberg Memorial Essay Contest for this article. The author would like to express appreciation to Professor Keith Hirokawa for his inspiration and helpful comments, the Albany Law Review Editorial Board, and his wife, Kelsey, for her encouragement.

The Efficiency and Management of the International Trade in Electronic Waste: Is There a Better Plan Than a Ban?

By Jennifer Chen

Introduction

Two modern trends contribute to a serious international electronic waste (“e-waste”) problem: the growing turnover of electronics and an increase in global trade. Specifically, electronics become obsolete quickly, and as electronics become smaller and more powerful, consumers upgrade before the end of the gadget’s useful life.¹ This desire for cutting-edge technology generates mountains of waste that is both toxic and expensive to properly recycle.² And with global free trade, the e-waste routinely finds its way to the lowest cost method of recycling and disposal: burning and dumping in countries with little or no environmental and worker protections.

From a purely economic perspective, there is nothing wrong with exporting e-waste to other countries for reuse or lower-cost recycling if costs are not foisted on non-parties to the trade. The trade provides developing countries with reusable secondhand goods and cheaper raw materials (while reducing the need to mine raw materials and saving landfill space). Free trade has been extolled for its ability to maximize efficiency by eliminating the barriers that reduce the gains from trade, but this efficiency calculation is only as good as the accuracy and completeness of its inputs, which should include social costs not reflected in trade prices. In the international trade of e-waste, the apparent gains from trade are likely derived from an incomplete accounting of costs or risks, particularly those related to human health and the environment.³

Journalists and advocacy organizations have documented e-waste processing in developing countries where workers (including children) sort hazardous waste without protective gear, extract metals through open burning acid baths, and dump refuse into swamps, irrigation channels, and rivers.⁴ Burning electronics releases dioxins and other carcinogens; dumping e-waste into water contaminates it with lead, mercury, cadmium, and other heavy metals.⁵ People live, eat, raise livestock, and work in these e-waste villages,⁶ and exposure to these contaminants has measurable effects. For example, children in the e-waste village of Guiyu, China have blood lead levels 50 percent higher than the limit set by the U.S. Centers for Disease Control; such elevated levels are not seen in children from nearby villages where e-waste is not processed.⁷ As discussed in Part I, these are some of the costs and risks to human health and the environment that appear not to be factored into deciding whether to trade e-waste.

Despite the horrendous conditions at e-waste processing villages, the e-waste trade arguably has upsides for workers. The trade provides jobs to poor workers, and erstwhile farmers have chosen to sort e-waste instead be-

cause it is more lucrative.⁸ Nevertheless, better regulation of the e-waste processing industry could improve human health and environmental protections while still allowing these workers an alternative livelihood.

This article explores international e-waste trade efficiency and governance as well as potential improvements, and focuses on the problematic aspects of exporting broken or obsolete electronics and electronic parts to countries not equipped to recycle or dispose of them in a safe and environmentally responsible manner. In this article, the term “e-waste” refers to electronic equipment that is near or at the end of its useful life. The trade in high-value used electronics (such as refurbished smartphones) or commodity scrap (such as sorted metals derived from electronics) between developed countries has not presented the same human health and environmental concerns,⁹ and thus these types of goods will not be considered “e-waste” for the purposes of this article.

Part I discusses the economic efficiency of the international e-waste trade in light of unaccounted costs, risks, and benefits; whether the trade could be more efficient; and the regulatory response necessary to improve efficiency. Part II discusses the lack of incentives and capacity to enforce current e-waste trade bans and proposes that a responsible and efficient trade could be established by allowing the trade and then redistributing the gains from trade. For example, e-waste importing countries could charge a tariff to fund development of governance and infrastructure necessary for responsible e-waste processing. Part III highlights some of the relevant World Trade Organization law and suggests that an e-waste tariff could be designed and implemented in a manner that is compatible with it.

Part IV discusses efforts in the United States to address the e-waste export problem, specifically, those undertaken by the Environmental Protection Agency (EPA) and the states, as well as the difficulties encountered. In particular, the EPA’s regulatory authority for e-waste exports stems from the Resource Conservation and Recovery Act (RCRA),¹⁰ which has a definition of “waste” that may not cover e-waste that is purportedly reused. Part IV also discusses constitutional limits on the states’ power to control transboundary movement of e-waste.

The article concludes that in light of the potential efficiency gains and fairness considerations, imposing a tariff on the e-waste trade to fund development of responsible e-waste management in developing countries is a better option than a ban. And because the EPA may have limited statutory authority to regulate e-waste purportedly ex-

ported for reuse, and the states are constitutionally limited in regulating e-waste exports, they are hindered from effectively addressing the international e-waste problem without U.S. legislation or treaty ratification.

I. The Efficiency of the International E-Waste Trade

While economic efficiency is not dispositive as to whether a trade or decision is good policy, it is a principle useful in decision-making.¹¹ In particular, under Kaldor-Hicks efficiency (which is often considered the basis of cost-benefit decision-making),¹² a trade or decision is desirable if those who gain do so by an amount sufficient to compensate those who lose.¹³ Essentially then, the trade is desirable if its total benefits exceed its total costs.

Although e-waste traders may obtain net benefits from trade (otherwise, they would rationally decide not to trade), this does not mean that the trade is Kaldor-Hicks efficient because there may be externalities—costs and benefits not reflected in the market price of the transaction that are borne by non-parties to the transaction.¹⁴ The externalities of the e-waste trade include the costs of harm to human health and the environment not compensated by the traders. Not factoring these costs into the efficiency analysis could lead to trades where the total costs exceed the total benefits from trade. A thorough accounting of all externalities would need to include costs that are difficult to quantify (e.g., environmental damage) and data that are currently unavailable (e.g., the volume of e-waste that is being smuggled into developing countries). Absent this information, this article takes a qualitative approach in discussing costs, risks, and benefits and exploring potential ways to ameliorate the e-waste trade problem. Further, whether the trade as reformed is efficient should depend on the cost of preventing damage to human health and the environment, not the cost of remedying the harm after the fact (which may be more). Thus, if the goal is to reform the e-waste trade, lacking some information on the trade as it exists will not greatly hinder the analysis as to whether the trade can be made efficient.

A. High E-Waste Demand from Developing and Industrializing Countries

Currently, developed countries export e-waste that is costly to recycle or dispose of domestically to developing countries with lax or nonexistent environmental, health, and safety regulations, and poor labor forces.¹⁵ There is demand in developing countries for e-waste, either as a source of raw materials or as reusable electronics,¹⁶ and the cheap labor and lax regulations lower the visible costs of e-waste processing in these countries.¹⁷ Direct data on e-waste movements are unavailable, but the U.S. International Trade Commission (ITC) estimated that in 2011, the United States exported about 325,000 tons of used electronic products (UEPs)¹⁸ to India, China, Hong Kong, Sub-Saharan Africa, and unaccounted destinations.¹⁹

African and Asian markets differ in their demands for e-waste. Industrializing Asian countries, where most electronics are manufactured, primarily need raw materials extractable from e-waste.²⁰ They generally have access to new electronics and are increasingly generating significant amounts of their own e-waste.²¹ In fact, China has reportedly constructed recycling centers and tightened enforcement against illegal e-waste imports.²² Nevertheless, there still appears to be demand for foreign e-waste for its recoverable materials.²³

In contrast, African countries with little access to new electronics have a demand for reusable or repairable units and less of a need for recyclable scrap because there are no nearby markets for these commodities.²⁴ But because e-waste exporters are interested in disposing of junk, and African importers can do this cheaply by dumping and burning it in the open environment, African buyers are willing to accept unrepairable junk as long as there are enough functioning units to make a profit.²⁵ According to one source, a shipment can contain up to 75 percent junk and still be profitable.²⁶

If African buyers incurred the cost of proper disposal for irreparable units (e.g., if dumping or burning in the open environment were illegal), they might be willing to pay more to receive less junk. Thus, if the importing country were to enact and enforce laws requiring proper disposal of e-waste so that these costs were imposed on e-waste buyers accepting junk, these laws could incentivize better sorting prior to shipping and lead to less dumping and burning of junk. Buyers would also need information on exactly what they are getting in order to properly value the goods and negotiate a lower price to take into account any disposal costs they might incur. This could be accomplished with the help of third party certification programs, such as e-Stewards, which only permit working electronics that have been tested in the United States and non-toxic commodity materials to be exported to countries outside the Organization for Economic Cooperation and Development (OECD).²⁷

B. Large E-Waste Supply from Developed Countries

The United Nations Environment Programme estimated in 2006 that around 22 to 55 million tons of e-waste are generated worldwide every year.²⁸ The EPA estimated that 2.37 million tons of electronic products were ready for end-of-life management in 2009 in the United States, of which 25 percent was collected for recycling.²⁹ The quantity of end-of-life electronics is expected to grow since Americans are consuming more electronics and have stockpiled electronics awaiting disposal.³⁰ Once e-waste is ready for end-of-life management, its fate can be disposal in a landfill (or incinerator), recycling, or export. As described below, domestic disposal and recycling currently impose costs on consumers or the government, and export generates revenue for the exporter.

Electronics can contain around sixty different elements, some of which are hazardous as waste under U.S.

law³¹ and can contaminate soil and water if disposed of in municipal landfills not designed to accept hazardous waste.³² In the United States, e-waste is estimated to account for 70 percent of the heavy metals found in municipal landfills.³³ Proper hazardous waste disposal requires a landfill that meets certain requirements under RCRA.³⁴

Recycling is another option for e-waste, but the cost of domestic recycling currently exceeds the revenue received from selling the processed materials.³⁵ This is because electronic device disassembly and sorting is complicated by the fact that electronics are not uniform in content or assembly and contain unidentified materials.³⁶ Recycling is therefore highly labor-intensive; in California, the cost of recycling passed on to the consumer is \$6 to \$10 per item.³⁷ Further, once a unit has been broken down into its component parts, facilities with the capacity to recycle those components are limited. For example, few American facilities are capable of processing flame-retardant plastic or leaded glass from computer monitors, or of recovering metals from circuit boards.³⁸ Some recyclers simply export entire units overseas where labor is cheaper.³⁹

In light of the costs of recycling and disposal, and the fact that most markets for raw materials derived from e-waste are overseas, it is no surprise that much of American e-waste is exported. Indeed, a 2008 report estimated that 77 to 89 percent of the end markets for televisions and computer monitors were outside the United States.⁴⁰

C. Summary of Costs and Benefits

The existence of willing sellers and buyers of e-waste implies that both sides of the transaction derive net benefits. But the costs and benefits not seen by the parties to the transaction must also be accounted for in assessing the overall efficiency of the trade. If negative externalities could be eliminated through regulation, the relevant costs and benefits to consider would include those associated with proper recycling. Thus, the costs and benefits differ somewhat for the trade as it currently stands and for a reformed e-waste trade. These are discussed below.

1. Benefits of Trading

The accounted costs of the e-waste trade include savings in recycling costs as well as new job opportunities and a supply of secondhand electronics. To the extent that the trade allows for reuse and recycling that would not have otherwise occurred if e-waste were domestically confined, the resulting environmental benefits may also be attributed to the trade.

Lower labor costs abroad reduce the cost of recycling e-waste,⁴¹ which is composed of heterogeneous materials that require a great deal of labor to disassemble and sort.⁴² Dismantling by hand produces more reusable components and less contamination⁴³ and is done more cheaply abroad. In addition, recycling and reuse save hazardous-waste landfill space in exporting countries, which is another form of cost savings.

Importing resources that need processing creates employment alternatives.⁴⁴ For example, Chinese farmers choose to sort e-waste because it is more lucrative than farming,⁴⁵ and banning the trade would eliminate this choice of livelihood. In addition, reuse provides second-hand electronics to developing countries that have little access to new units.

Recycling provides a source of raw materials and reduces the need to mine.⁴⁶ E-waste has a higher concentration of gold and copper than natural ores; for example, a ton of recycled computer scrap produces as much gold as 17 tons of ore.⁴⁷ A ton of used mobile phones (which constitutes 0.0006 percent of annual global production of mobile phones) contains about 3.5 kilograms of silver, 340 grams of gold, 140 grams of palladium, and 130 kilograms of copper.⁴⁸

Some cost savings of recycling over mining may be priced into transactions, but environmental benefits are not factored in unless environmental regulations impose compliance costs on the mining industry. For example, recycling could result in lower environmental costs than mining since e-waste contains lower concentrations of arsenic, mercury, and sulfur than that commonly found in ores.⁴⁹ But ecological and aesthetic benefits of not having to mine are likely unaccounted for (unless they are protected by regulation).

Recycling saves energy, some of which is accounted for (such as the energy bill savings). Recovering aluminum via recycling, for example, uses no more than 10 percent of the energy required for primary production and has the environmental benefit of reducing carbon dioxide and sulfur dioxide emissions⁵⁰ (which may be priced in depending on what regulations are in place).

Reuse could also save energy and other resources by extending the life of electronics and thus saving or delaying new units from being manufactured. These savings can be significant because manufacturing electronics is energy intensive: of the total energy spent in the lifecycle of a product, the manufacturing process makes up 81 percent.⁵¹ For example, a computer takes at least 530 pounds of fossil fuels, 48 pounds of chemicals, and about 1.5 tons of water to manufacture.⁵² Thus, to the extent that continuing to use an old product saves a new one from being manufactured, energy is saved in manufacturing fewer products over time.⁵³

2. Costs of Trading

The accounted costs of the e-waste trade include those associated with collection, transportation, labor, supplies, and basic infrastructure. Unaccounted costs of the trade currently include harm to workers and the environment, and these costs increase when hazardous waste is moved from countries with relatively strong worker and environmental protections to countries with weaker protections. Quantifying these costs requires an estimate of how importing countries value human health and clean

air and water, but even lacking this information, the fact that many importing countries have e-waste import bans (albeit poorly enforced ones)⁵⁴ implies that these values are not being taken into account. Thus, the costs to human health and the environment are not part of the e-waste bargain between traders and are not factored into the transaction price.

Under the current system, e-waste workers typically handle hazardous materials with no protective gear or training. They may not have adequate information about health risks when they decide to sort waste over other occupations, such as farming.⁵⁵ If regulations were to require hazardous waste training, protective equipment, or health care, they would introduce compliance or liability costs but would eliminate the hidden costs that are currently being externalized.

Dumping e-waste into bodies of water contaminates the water with heavy metals, and open burning of the e-waste pollutes the air and releases carcinogens.⁵⁶ Developing countries with lax environmental standards may eventually adopt laws that require pollution prevention or clean-up, which would transform externalized environmental costs into compliance or liability costs (e-waste traders faced with the choice of preventing pollution or cleaning it up will probably choose the cheaper option). For developing countries accumulating waste from both domestic and global sources, hazardous waste sites are likely to be even more expensive to clean up than U.S. Superfund sites.⁵⁷

D. Improving the Efficiency of Trade

From the available information, it appears that trade in e-waste could be made more efficient by correcting for externalities and by using better technology and processes. Requiring that the trading parties internalize (that is, price into the transaction) negative externalities would incent them to avoid these negative outcomes at the lowest cost, e.g., by taking preventive measures to cause less environmental damage. Adopting better processes (such as sorting or specializing), better technology, and leveraging economies of scale may also improve efficiency. Process and technology improvements could enable sorters to extract more value while generating less waste and to do so in a manner that results in less harm to their health and the environment.

1. Preventive Measures

Improper e-waste disposal tends to create Superfund-like sites that likely will cost more to clean up than to prevent, because clean-up involves the extra expense of removing hazardous waste from soil and water (in addition to the cost of proper hazardous waste disposal). Similarly, harm to human health generally incurs greater medical costs (if medical care is available) than prevention⁵⁸ and decreases the productivity of the workforce. While requiring that parties to the trade undertake preventative measures may increase their costs, doing so could decrease the

overall costs of trade (when those imposed on non-parties are factored in).

2. Sorting

Sorting e-waste by units destined variously for reuse and recycling prior to shipment could decrease the amount of e-waste being disposed, increase gains from trade, and thus improve efficiency. Sending non-reusable units to Africa generates unnecessary shipping costs and harms workers and the environment. It may be that exporters, who are in a sense operating a disposal service, are interested in quickly eliminating the waste, and do not properly sort because the cost of testing, sorting, and holding inventory is greater than the benefits from any increased revenue generated from sorting. Enacting and enforcing laws protecting worker health and the environment in developing countries would change this calculation by eliminating the cheap disposal-by-dumping option. No longer able to externalize the cost of disposal, importers would become more discerning in what they buy, which would pressure exporters to sort.

3. Innovation, Specialization, and Economies of Scale

Trade in waste (electronic or otherwise) may be advantageous if there is innovation, specialization, or economies of scale in disposal techniques or comparative advantages based on geological and transportation access.⁵⁹ None of these elements, however, appear to characterize the e-waste trade; overseas transportation adds to the cost, and recycling in developing countries is done through basic techniques.⁶⁰ There appears to be potential to improve efficiency through innovation and economies of scale, but overseas transportation is necessary to take advantage of cheap labor and markets for recycled materials.

Innovation and specialization already enable state-of-the-art facilities to recycle a large percentage of certain e-waste. While most smelters and refineries specialize in extracting certain metals from disassembled and sorted electronic parts, Umicore of Belgium reportedly can extract 20 types of metals from whole units, such as phones and laptops.⁶¹ Major electronics companies, such as IBM, can recycle more than 90 percent of their own products.⁶² Plastics may be used as a fuel for cement kilns in the smelting process, conserving landfill space and decreasing the use of coal.⁶³ But the variety of plastics used and a lack of labeling hinder effective recycling of plastics from computers. Sorted plastics can fetch from \$265 to \$900 per ton, depending on the type of plastic, but a load of mixed plastics has little value.⁶⁴ Cathode ray tubes (CRTs), the glass and metal components of obsolete computer and TV monitors, may also be recycled. CRTs are about 10 to 13 percent copper, which can be recovered and converted into salable metal.⁶⁵

High-tech recycling facilities that can handle these types of end-of-life products have high startup costs (some reportedly as high as \$2 billion) and are located in OECD countries.⁶⁶ While industrializing Asian countries are

beginning to build recycling facilities, hand dismantling is still prevalent because it more completely separates materials, resulting in higher quality materials than mechanical methods, and because labor is cheap in these countries.⁶⁷ Developing African countries appear to not have these facilities, likely due to their high costs, and investment is not likely to happen where dumping is essentially free. Moreover, high-tech electronic scrap recycling facilities appear to benefit from scale and are not widespread even in developed countries. The United States does not have large-scale smelters capable of recycling circuit boards and instead sells much of its electronics recycling abroad.⁶⁸ Export provides free electronics disposal for consumers, whereas proper domestic recycling and disposal imposes a cost on consumers (as seen in California's recycling program, discussed below, where consumers must pay a fee to cover the cost of recycling⁶⁹).

Modern technology, however, does not completely eliminate the labor needed to sort through the various types of e-waste for recycling,⁷⁰ and locating recycling plants in countries where labor is cheap and allowing for trade in e-waste could increase efficiency. In addition, if recycled raw materials are ultimately shipped to Asia where new electronics are manufactured, these shipping costs would have to be incurred regardless of where the recycling is done. Asian countries, which are beginning to generate significant amounts of their own e-waste,⁷¹ could take advantage of economies of scale by investing in recycling infrastructure. They are beginning to invest or attract foreign investment in recycling plants,⁷² but apparently not to the extent necessary to fully process all of the e-waste.

E. Considerations Beyond Economic Efficiency

The disparities in negotiating power between those involved in the e-waste trade weigh in favor of looking beyond the economic efficiency of a negotiated transaction to achieve a fair result. These disparities can lead to inequities: various industry players taking advantage of poor e-waste sorters and wealthy exporting countries taking advantage of developing importing countries.

First, supposing the e-waste trade is efficient, that determination does not ensure an equitable result because Kaldor-Hicks efficiency does not require that the winners in a transaction compensate the losers. The winners in the e-waste trade include the importers and exporters (who presumably would not reach a negotiated agreement unless both parties gain), and the losers include those who gain nothing from the trade but live in environments polluted by e-waste operations and e-waste workers who may unknowingly expose themselves to risks for which they are not compensated. Thus, even if the total benefits exceed the total costs of the trade, the trade would be inequitable so long as the losers are not made whole. Poor laborers may not have the bargaining power necessary to achieve a fair result without outside intervention. Further, even if worker and environmental regulations were to

be adopted, externalities are difficult to fully eliminate in practice, so some redistribution of the gains from trade would be needed to make whole those who lose more than they benefit.

Second, assuming trade is currently inefficient, but could be made efficient, the importing (usually developing) countries may not be able to overcome financial and political costs associated with making a transition to a more efficient trade. There may be regulatory uncertainty, capital markets may not be functioning, upfront costs may be high, and traders and recyclers may not be organized enough to pool resources or invest. Importing countries may need outside assistance, and fairness suggests that exporting countries benefiting from cheap e-waste disposal should help.

II. International E-Waste Trade Management

Ideally, e-waste trade regulation should be informed by whether the trade is efficient, but there is insufficient information to make this determination. For example, the acceptable level of risk to human health or of environmental pollution differs by country, and the efficiency of different trades between different trading partners varies. To simplify the analysis, the rest of this article considers two possibilities for managing the international e-waste trade: (A) banning trade if it is not and cannot be made efficient or (B) allowing trade but redistributing the gains from trade if it is or could be made efficient.

If the trade cannot be made efficient, it should be banned or other measures should be taken to stem the flow. Developed countries may currently be benefitting from the trade's inefficiency by externalizing costs to importing countries; they should internalize these costs by dealing with e-waste domestically. While developing countries are beginning to generate significant amounts of e-waste domestically, a ban may still help as a stopgap until their e-waste recycling governance and infrastructure improve. Because this governance and infrastructure are not yet in place, many developing countries are in favor of e-waste trade bans, as discussed in the next part.

The factors discussed above, however, hint that the e-waste trade, with improvements, could become efficient. If the e-waste trade is allowed and there are net gains from trading even when externalities are internalized, there is a potential win-win solution for exporting and importing countries. Developed countries seeking to export e-waste could help developing countries build the necessary infrastructure to safely manage e-waste and train workers. This would provide economic opportunity and employment alternatives in developing countries, and a source of reusable electronics and raw materials. Establishing an e-waste recycling infrastructure also would be beneficial for countries needing to manage their own growing domestic e-waste streams, such as China and India.⁷³

In light of imperfect information on e-waste trade efficiency, a tariff set at a level to help fund responsible recy-

clinging would be better than a blanket ban; any trade where the gains do not offset the tariff would not proceed. Thus, a tariff would work like a ban on the least efficient trades. A tariff set too high would ban some of the efficient trades, but that would still be better than a blanket ban stopping all of the efficient trades.

A. Stemming the Flow of E-Waste Through an E-Waste Trade Ban

China, Thailand, Vietnam, and Uganda have imposed import bans,⁷⁴ and certain African states have agreed to adopt hazardous waste import bans.⁷⁵ But despite these measures, the illegal e-waste industry appears to be robust in both China and Africa.⁷⁶

Bans also play a significant role in the main international agreement on trade in hazardous waste, the Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal (Basel Convention).⁷⁷ The Basel Convention's objective is to "protect, by strict control, human health and the environment against the adverse effects which may result from the generation and management of hazardous wastes."⁷⁸ The parties' obligations under Article 4 include minimizing the generation and movement of hazardous waste, ensuring that human health and the environment are protected from the adverse effects of the transboundary movement of hazardous waste, abiding by the import bans of certain countries,⁷⁹ preventing the import of wastes if there is reason to believe that the wastes will not be managed in an environmentally sound manner⁸⁰ and not permitting wastes to be exported or imported to or from a non-party.⁸¹ This non-party ban provision has an exception: parties may arrange to move wastes across boundaries with non-parties provided that it is done in an environmentally sound manner.⁸² In an attempt to prevent abuse of this exception, the parties adopted an amendment to ban all transboundary movements of hazardous wastes from OECD member states destined for disposal in non-OECD states.⁸³ This ban, known as the Basel Ban Amendment,⁸⁴ currently does not have enough support to enter into force.⁸⁵

It appears that e-waste bans are generally ineffective. This could be due to the fact that the developing countries desiring bans lack the resources to enforce them,⁸⁶ and that developed countries do not have an incentive to help enforce bans.⁸⁷ In fact, developed countries disfavor bans, likely because bans eliminate a means of waste management.⁸⁸

B. International Measures for Managing E-Waste Trade and Processing

E-waste import bans have been ineffective, likely because bans forgo gains from trade, and importing countries generally have not been able to enforce them. It is thus worthwhile to consider responsible, less trade-restrictive alternatives that allow gains from trade and that incentivize developed countries to help develop and support the trade measures. Efforts relevant to building respon-

sible trade are now under way: Africa⁸⁹ and China⁹⁰ are developing e-waste governance, and India has issued guidelines for managing e-waste⁹¹ and has required industry to clean up hazardous waste.⁹²

Improving e-waste trade efficiency requires an overhaul in governance and recycling infrastructure, a difficult task for importing countries to accomplish alone. Principles of efficiency and fairness suggest that some of the gains from trade should be allocated to help importing countries acquire proper recycling technology, train e-waste workers and government officials and fund monitoring and enforcement programs. Ideally, the gains from trade would be distributed so that developing countries would find it worthwhile to give up their bans.

If allowing the e-waste trade is desirable, how much in funds should be transferred and how should these funds be collected and distributed? Ideally, the exporting country should transfer funds to the importing country equal to the cost of the exported e-waste's proper disposal (perhaps receiving a price adjustment for the value extractable from the e-waste).⁹³ This could be a tariff paid by exporters, who may collect the money from consumers who are disposing of the waste.

The importing country could also be paid through funds from taxing purchased electronics (which consumers would pay) or hazardous components used in products (which producers would pay). This way, consumers disposing of e-waste or producers responsible for its hazardous content would directly pay for proper disposal.⁹⁴ But at the time the tax would be collected from the consumer or producer, the disposal destination would be unknown, and this contribution would not necessarily be proportionate to the e-waste transferred between countries. These funds, however, could form the basis of an international funding mechanism (perhaps supplemental to a tariff). An international entity could collect such funds and disburse them to importing countries, like the Least Developed Countries Fund under the United Nations Framework Convention on Climate Change, where developed nations pledge money and developing countries apply for the funds.⁹⁵ The importing countries would be held accountable for effectively using funds and might have to accept outside monitoring and assistance as a condition for receiving funding.

Returning to the tariff, it appears that a key benefit is that it can be set at a level to internalize the externalities of the trade (i.e., pay for proper disposal). It could be an import or export tariff, and agreements between the exporting and importing countries could help ensure that the funds are used properly.⁹⁶ If the importing country were to impose the tariff, it would be able to determine the level of the tariff and retain more control over the funding.⁹⁷ Managing the import tariff and its use would require that the importing country have governance capability for implementing the overhaul. A disadvantage of the importing countries individually imposing the tariff is that the

e-waste could preferentially go to countries with no tariff or a lower one. If the exporting country were instead to impose an export tariff, it could then transfer the funds to the importing country or to a third party implementing the e-waste recycling program. Theoretically, who collects the funds should not matter, but an exporting country would likely face internal political difficulty in adopting and maintaining a tariff for the benefit of another country, and it may never get done. This weighs in favor of an import tariff as the most viable option.

Another issue is that a tariff is a trade-restricting measure subject to challenge at the World Trade Organization (WTO). It is therefore crucial to design and implement the tariff in compliance with relevant WTO law.

III. Compatibility of an E-Waste Tariff with WTO Law

An e-waste tariff is a restriction on trade and may be challenged under WTO law. However, the following analysis suggests that a tariff-funded e-waste program may be designed and implemented in a manner that is consistent with WTO law.

The relevant WTO agreements for an e-waste tariff are the General Agreement on Tariffs and Trade (GATT)⁹⁸ and the General Agreement on Trade in Services (GATS).⁹⁹ Whether e-waste is a good or its disposal is a service would determine which agreement applies. E-waste likely would be considered a good governed by the GATT since it has monetary value and is traded.¹⁰⁰ But if the waste is not reused or recycled into raw materials but is instead disposed of, this would be considered a service governed by the GATS.¹⁰¹ Analyses under the GATT and the GATS would be similar because they have analogous provisions (except for GATT Article XX(g) as noted below), so little is lost by focusing on the GATT.

A. Some Relevant GATT Obligations

Assuming the e-waste trade is governed by the GATT and the trading countries are WTO members, an e-waste import tariff would need to be designed and implemented consistently with GATT obligations. Of these, Article III, which requires that imported products be treated no less favorably than like domestic products,¹⁰² is likely problematic if a country imposes an e-waste import tariff but cannot impose a similar tax on domestically generated e-waste.¹⁰³ If the importing country could tax domestically generated e-waste similarly to imported e-waste, the tax on imported e-waste could qualify as a border tax adjustment under Article II:2 and avoid a conflict with Article III.¹⁰⁴ Article II:2 also allows for fees for costs of services (which could perhaps include proper disposal services).¹⁰⁵

1. United States—Taxes on Petroleum and Certain Imported Substances

A WTO Panel report, *United States—Taxes on Petroleum and Certain Imported Substances*,¹⁰⁶ illustrates relevant aspects of Articles II:2 and III. There, the United States had

levied a tax on imported petroleum products at a higher rate than crude oil received by U.S. refineries,¹⁰⁷ and imposed a tax on imported substances produced using chemical feedstock domestically taxable under the Superfund Act.¹⁰⁸ The tax on petroleum was deemed inconsistent with Article III:2¹⁰⁹ because the tax on the imported product (petroleum products) was higher than that on the like domestic product (crude oil), and Article III:2 applies whether or not trade is adversely affected.¹¹⁰ However, it was determined that the tax on imported substances produced using domestically taxable chemical feedstock was border tax adjustment eligible.¹¹¹ This is because the tax on the imported substances equaled, in principle, the Superfund tax that would have been imposed on the chemicals used in producing the imported substance, had these chemicals been sold in the United States.¹¹²

Thus, an importing country could impose an e-waste import tariff in conjunction with a similar tax on domestically generated e-waste; however, without the domestic e-waste tax, the import tariff would likely be deemed inconsistent with Article III, even if trade is not affected.

B. GATT Article XX(b) and (g) Exceptions

If a trade measure is inconsistent with GATT obligations, the measure could still be allowed if excepted under Article XX. This involves a two-tiered analysis. First, the measure must qualify for an enumerated exception under Article XX, as determined by its design and content.¹¹³ Second, the measure cannot be applied in a discriminatory manner between similarly situated countries or be a disguised restriction on trade, as required by the introductory paragraph of Article XX (known as the “chapeau”).¹¹⁴

There are two exceptions under Article XX relevant to health and environmental concerns associated with e-waste: Article XX(b) (which excepts measures necessary to protect life or health) and Article XX(g) (which excepts measures relating to the conservation of exhaustible natural resources). Supposing that an e-waste tariff is found to be inconsistent with GATT obligations, the following subparts discuss how these exceptions are applied.

1. Article XX(b) Exception for Measures Necessary to Protect Life or Health

Article XX(b) of the GATT provides that, subject to the requirements in the chapeau, “nothing in this Agreement shall be construed to prevent the adoption or enforcement by any contracting party of measures...necessary to protect human, animal or plant life or health.”¹¹⁵ Its application and the meaning of “necessary” are discussed in *Brazil—Measures Affecting Imports of Retreaded Tyres* (*Retreaded Tyres*).¹¹⁶

In *Retreaded Tyres*, Brazil had banned the import of retreaded tires, which are used tires with worn treads replaced by new material.¹¹⁷ Retreaded tires have a shorter lifespan than new tires and contribute to the accumulation of waste tires.¹¹⁸ Waste tire accumulation, like e-waste

accumulation, poses health and safety risks,¹¹⁹ and the objective of the import ban was to reduce these risks arising from the accumulation of waste tires to the “maximum extent possible.”¹²⁰ The European Communities alleged that the import ban violated a number of GATT provisions.¹²¹ Brazil defended the measures as being justified under Article XX(b).¹²²

For the import ban to qualify under Article XX(b), the measure must be necessary to protect human, animal, or plant life or health: it must contribute to the realization of its stated objective, and there cannot be a reasonably available alternative to the measure.¹²³ Brazil’s import ban satisfied this test.¹²⁴ Notably, it was unnecessary for the ban to eliminate waste tire accumulation, and it was unnecessary to quantify the risk reduction (a qualitative analysis sufficed).¹²⁵ While a ban is deemed to be the most trade-restrictive measure, the ban does not have to be “indispensable” to be “necessary”; it must be “apt to make a material contribution to the achievement of its objective.”¹²⁶ It was noted that the contribution did not have to be immediately observable, as “certain complex public health or environmental problems may be tackled only with a comprehensive policy” that “can only be evaluated with the benefit of time.”¹²⁷

Alternatives proposed by complaining WTO members must be less trade restrictive than the measure at issue while preserving the desired level of protection, and they also must be “reasonably available.”¹²⁸ An alternative (such as landfilling or incineration) is not reasonably available if associated risks (such as that from toxic leaching from landfilling or toxic emissions from incineration) would not arise from the measure at issue (an import ban).¹²⁹ Further, complementary measures to the measure at issue are not alternatives; better management of the waste or better disposal techniques would not be an alternative to the ban, but instead part of a comprehensive strategy to achieve the objective of the ban.¹³⁰

Like retreaded tires, e-waste poses health and environmental risks, and one objective of a tariff would be to reduce these risks by funding ways to safely process e-waste. The Article XX(b) analysis in *Retreaded Tyres* could apply to an e-waste tariff with a few differences. Compared to a ban, a tariff is less trade restrictive, but the connection between a tariff and the objective of reducing risks from improperly managed e-waste is less direct than that of a ban (because a tariff is only a funding mechanism and requires complementary programs to achieve the objective). Since the Appellate Body has recognized the need for comprehensive policies with interacting measures to address health and environmental problems, and the difficulty in isolating the contribution of a particular measure to the objective,¹³¹ a tariff that funds measures that reduce harm from e-waste could fit in the “comprehensive policy,” especially given that funding materially contributes to achieving this objective. This, together with the tariff being less trade restrictive than a ban, suggests

that an e-waste tariff could be provisionally justified under this exception.

2. Article XX(g) Exception for Measures Relating to the Conservation of Exhaustible Natural Resources

Article XX(g) provides that (subject to the chapeau’s requirements) nothing in the GATT shall be construed to prevent members from adopting or enforcing measures “relating to the conservation of exhaustible natural resources if such measures are made effective in conjunction with restrictions on domestic production or consumption.”¹³² The “relating to” clause requires an inquiry into the connection between the measure and the objective, and “made effective in conjunction with” is meant to ensure evenhanded imposition of restrictions on imported and domestic products.¹³³ *United States—Standards for Reformulated and Conventional Gasoline (US—Gasoline)*¹³⁴ and *United States—Import Prohibition of Certain Shrimp and Shrimp Products (US—Shrimp)*¹³⁵ illustrate this exception.

At issue in *US—Gasoline* were the baseline establishment rules, a part of a pollution control regulation promulgated under the 1990 Clean Air Act.¹³⁶ The baselines were set at a statutory level for foreign gasoline refiners, while domestic refiners were allowed to individually establish baselines.¹³⁷ This was determined to be inconsistent with Article III:4, but justifiable under Article XX(g).¹³⁸ The baseline establishment rules were “related to” the conservation of clean air in the United States because some kind of baseline was needed for monitoring compliance, and the objective of the regulation would be “substantially frustrated” without the baseline establishment rules.¹³⁹

Adding to the “related to” analysis, *US—Shrimp* explained that the “substantial relationship” between the baseline establishment rules in *US—Gasoline* and the conservation of clean air in the United States was a “close and genuine relationship of ends and means.”¹⁴⁰ Further, it held that the measure at issue must be “fairly narrowly focused” in scope with respect to the conservation objective.¹⁴¹

The second clause, which requires that the measure at issue is “made effective in conjunction with restrictions on domestic production or consumption,” means that the measure must evenhandedly impose restrictions on foreign and domestic production or consumption of exhaustible natural resources for conservation purposes.¹⁴² The baseline establishment rules in *US—Gasoline* satisfied this requirement.¹⁴³ Identical treatment of domestic and imported products was unnecessary; inconsistency with Article III:4 would not arise in the first place if treatment was identical. However, it was noted that if restrictions were imposed on imported products alone and not on like domestic products, the measure would simply be discrimination and not designed for implementing conservationist goals.¹⁴⁴

For an e-waste tariff to qualify under Article XX(g), it must relate to the conservation of exhaustible natural

resources, such as clean air or water (which are polluted by e-waste dumping and incineration), and it must work in conjunction with domestic conservation measures for air or water. The tariff could be “related to” conservation because without the tariff (which funds responsible e-waste processing in a country that could not otherwise afford it) the conservation of clean air or water would be substantially frustrated. Note that this requires the importing country to have domestic conservation measures in place that could be substantially frustrated. The tariff also must be “narrowly focused,” which could mean that it may only cover e-waste participating in the program funded by the tariff.

The evenhandedness requirement means that the tariff must work in conjunction with domestic conservation-related restrictions. The appropriate domestic restriction would likely be a tax on domestically generated e-waste, which could be a problem if the importing country were seeking an Article XX exception because it could not adopt a domestic tax in the first place to satisfy Article II:2. While domestic and imported products need not be treated identically, according to *US—Gasoline*, it appears that a domestic tax cannot be entirely absent. But because WTO cases are highly fact specific, there is the possibility that a future panel or Appellate Body would determine that the evenhandedness requirement is not necessarily the same for developed and developing countries. If a developing country does not impose a tax on domestic e-waste in conjunction with an import tariff, this disparity in treatment may be due to inability rather than protectionism, which was the concern articulated in *US—Gasoline*.

3. Article XX Chapeau

A trade-restricting measure provisionally justified under an Article XX exception must also satisfy the chapeau, which concerns the measure’s application.¹⁴⁵ Satisfying the chapeau is a “heavier task” than showing that the measure fits within one of the exceptions, because the member seeking the exception must show that the measure is not applied in an abusive manner.¹⁴⁶ Indeed, none of the provisionally justified measures in the Article XX cases discussed above satisfied the chapeau.¹⁴⁷

In *US—Gasoline*, the United States was deemed not to have adequately explored means of mitigating problems associated with imposing the same baseline establishment rules on foreign and domestic refiners, because it should have pursued cooperative agreements with the complaining WTO members.¹⁴⁸ This deficiency of process was deemed “unjustifiable discrimination” and a “disguised restriction on international trade.”¹⁴⁹ Similarly, the United States was found not to have sufficiently engaged all of the members selling it shrimp “in serious, across-the-board negotiations with the objective of concluding bilateral or multilateral agreements” before banning imports from them.¹⁵⁰ This was especially important in light of the fact that the objective of the measure, protecting migratory sea turtles, required cooperation from many countries.¹⁵¹ The

United States was found to have negotiated seriously with some but not all members selling it shrimp, and to have endeavored to transfer turtle-protecting technology unequally among the countries.¹⁵² Because the “cumulative effect” of the measure’s application to various members is considered, the differences in treatment were deemed to constitute “unjustifiable discrimination.”¹⁵³

In *Retreaded Tyres*, Brazil was found to have applied its import ban in a manner constituting arbitrary or unjustifiable discrimination¹⁵⁴ because it granted an exception to the ban to Mercosur¹⁵⁵ members for remolded tires.¹⁵⁶ Even though this exception arose out of a decision by a Mercosur arbitral tribunal, it was determined that despite the fact that discrimination may arise from a rational decision, it still can be “arbitrary or unjustifiable” because its underlying rationale is not related to the objective of the measure seeking Article XX exception.¹⁵⁷

While treating similarly situated WTO members differently is expressly disfavored,¹⁵⁸ treating differently situated members the same has also been deemed unacceptable. In *US—Shrimp*, the United States was faulted for imposing “essentially the same” policy on countries importing shrimp into the United States as that enforced on American shrimp trawlers; for applying a “rigid and unbending standard” for certifying countries that may export shrimp to the United States; and for not accounting for different conditions that may occur in other members’ territories.¹⁵⁹

The Appellate Body decisions discussed above indicate that the chapeau, as interpreted, imposes a high standard. While a defect in a measure’s application under the chapeau may be cured by a serious, good faith attempt to negotiate a multilateral agreement with all involved members, prolonging discourse increases the cost of delay in implementing a measure.¹⁶⁰ Nevertheless, this process may be necessary in implementing an e-waste tariff that can satisfy the chapeau.

C. GATT Provisions Aimed at Facilitating Economic Development

For developing countries implementing tariffs, there are a number of GATT provisions available to aid their development. For example, Article XVIII:4 allows qualifying countries “to deviate temporarily from the provisions of the other Articles” of the GATT.¹⁶¹ Article XXVIII *bis* provides that tariff negotiations should consider “the needs of less-developed countries for a more flexible use of tariff protection to assist their economic development and the special needs of these countries to maintain tariffs for revenue purposes,” as well as “all other relevant circumstances,” including fiscal, developmental, and strategic needs.¹⁶² Thus, Article XVIII:4 could provide temporary relief from GATT obligations for an e-waste tariff, and Article XXVIII *bis* could help with e-waste tariff negotiations and potentially negotiations needed to satisfy the chapeau.

In summary, an e-waste import tariff adopted in conjunction with a tax on domestic e-waste likely could qualify as a border tax adjustment under Article II:2. If the domestic tax is infeasible, the provisions facilitating development in Article XXVII may still allow the tariff to stand temporarily despite Article III obligations. Otherwise, the importing country would have to ensure that the process of adopting and implementing the tariff and its substance will enable it to be justified as an Article XX exception.

To be provisionally justified under Article XX(b) or (g), the importing country must articulate the tariff's objective as one that protects human, animal, or plant life or health; or conserves exhaustible natural resources, such as clean air or water. To qualify under Article XX(g), the importing country must also have domestic conservation laws (e.g., for clean air or water) with which the tariff would work. This could be an issue if the importing country does not have these environmental laws or if the laws are not sufficient to justify the tariff.

As discussed above, the tariff is likely to be necessary under Article XX(b), as it is apt to make a material contribution to protecting human life or health. Also, the tariff could be related to the conservation of clean air or water under Article XX(g), and in countries that otherwise have little funding for conservation, conservation efforts associated with e-waste processing would be substantially frustrated without the tariff. To qualify for this exception, the tariff would have to be narrowly focused (e.g., it probably could not cover imports that would not be processed through the program funded by it).

Article XX(g)'s evenhandedness requirement may be difficult to satisfy because it requires that the tariff work in conjunction with domestic conservation-related restrictions. *US—Gasoline* did not require that the domestic restriction be identical to that imposed on the imported product, but it could not be entirely absent. For an e-waste import tariff, the appropriate domestic restriction would likely be a tax on domestically generated e-waste. This could be a problem if the importing country had to seek an Article XX exception because it could not adopt a domestic tax that satisfies Article II:2 in the first place. For this reason and because of the potential inadequacy of domestic conservation laws, the case for an Article XX(b) exception may be stronger than that for Article XX(g).

Once the tariff is provisionally justified under one of the exceptions, it still needs to satisfy the chapeau. From the cases discussed above, there appears to be very little tolerance for discrimination in the measure's application. However, a WTO member seeking to impose a tariff that is applied in a discriminatory way may be able to overcome invalidity under the chapeau by making a serious, good faith attempt to negotiate a multilateral agreement with all involved members. In this way, an importing country could unilaterally impose a tariff absent international cooperation after a lengthy process.

A problem that is fundamentally international is likely best addressed at the international level, but piecemeal measures at the national and state levels could also help. On the national level, the e-waste problem could be addressed by importing countries enacting and enforcing laws protecting against the hazards of e-waste processing. But unless all of the importing countries take action, e-waste will end up in the countries that do not have adequate and enforced regulations. Ideally, this would lead to a race to the top, where every country adopts and enforces laws to avoid becoming the global dumping ground. But this has not occurred to the extent necessary, whether due to political failure, lack of capacity, or desire for a short-term gain from trade at the expense of costs likely to be borne in the future. Exporting countries could also adopt laws prohibiting exports to countries without adequate protections for human health and the environment, but this has not happened to the extent necessary either, likely because developed countries do not have an incentive to eliminate the option to cheaply dispose of e-waste, or because it is politically infeasible. The United States' efforts in regulating e-waste exports are discussed in the first part of Part IV. Individual state efforts are discussed in the second part. While states may regulate some e-waste recycling and disposal activities, they are constitutionally limited in regulating export and thus cannot fully address a problem involving international trade.

IV. U.S. E-Waste Regulation

Apart from participating in a tariff scheme, the United States could help address the e-waste problem on multiple levels. It could ratify the Basel Convention and the Ban Amendment; legislate to address the e-waste export problem or allow explicitly for states to do so; and promulgate, amend, and enforce federal export regulations related to e-waste.

The United States has signed but has not ratified the Basel Convention, and ratification would help in several ways. For example, ratification would require the United States to expand the scope of waste that it regulates to be consistent with Basel Convention definitions. The United States would have to be aware of what it cannot export to certain countries, ensure that the wastes would be handled and disposed of in an environmentally sound manner abroad, and take back exports of hazardous waste refused by the importing country.¹⁶³

A. Federal Legislation and Regulations

There is currently no federal legislation governing e-waste recycling and export, despite attempts in 2010 and 2011 to pass a bill banning certain e-waste exports.¹⁶⁴ The most applicable statutory framework related to e-waste is RCRA,¹⁶⁵ a statute governing solid and hazardous waste. While some electronics can be considered hazardous under RCRA,¹⁶⁶ the EPA has exempted some e-waste from hazardous waste handling requirements to facilitate

recycling and reuse.¹⁶⁷ However, there is no regulatory mandate to recycle e-waste under RCRA.

As to e-waste export, the EPA regulates only CRTs,¹⁶⁸ which are typically hazardous due to high lead content.¹⁶⁹ The EPA recognized that the “unfettered export of CRTs for recycling could lead to environmental harm,” and that CRTs are “sometimes managed so carelessly that they pose possible human health and environmental risks from such practices as open burning, land disposal, and dumping into rivers.”¹⁷⁰ Thus, the EPA requires exporters of CRTs for recycling to comply with requirements similar to those for hazardous waste exports,¹⁷¹ but the EPA’s CRT export rules for recycling exclude CRTs from the definition of solid waste under RCRA if certain requirements are satisfied.¹⁷² An exporter for recycling must notify the EPA and obtain consent from the destination country, provide shipping route information, and provide information on the manner in which the CRTs will be handled and recycled abroad.¹⁷³

The EPA’s rule for CRT exports for reuse requires less from exporters than for recycling because the EPA does not have the same RCRA authority over reuse (even though CRTs exported for reuse are often similarly treated once abroad).¹⁷⁴ An exporter for reuse need only send a one-time notification to the EPA and maintain records demonstrating that each shipment of exported CRTs will be reused.¹⁷⁵ But the rule does not require exporters to provide the date and destination of the export or the nature of the reuse, and nothing in the rule explicitly enables the EPA to request records demonstrating reuse. This makes it difficult for the EPA to determine whether these exporters should have followed the rules for recycling or for disposal. Consent from the receiving country is not required before CRTs are exported for reuse, and this is especially problematic in cases where there is a ban on the import of used CRTs. Because notice does not have to be given in advance or indicate the destination country, it is difficult to identify and intercept problem shipments before they leave the United States. Further, “reuse” and “recycling” are not defined for the purposes of CRT exports. Lacking definitions, CRTs that should be exported pursuant to the rules for recycling are sometimes exported under the rules for reuse.¹⁷⁶ The CRT export rules are therefore easily circumvented by exporters,¹⁷⁷ and lacking export restrictions on other forms of e-waste, e-waste exports from the United States are virtually unimpeded.¹⁷⁸

While the EPA could promulgate stronger regulations for e-waste export under RCRA, there are challenges with regulating e-waste purportedly exported for reuse under RCRA. For e-waste to fall within the scope of RCRA, it has to be “solid waste.”¹⁷⁹ Solid waste is defined to be “discarded material,” among other things.¹⁸⁰ Discarded material includes that which is abandoned, and abandonment includes disposal, burning, incineration, or accumulation.¹⁸¹ Much of the e-waste shipped abroad is disposed of, burned, incinerated, or accumulated and would fit

within the definition of solid waste. But material that is actually reused is not solid waste,¹⁸² and an exporter may assert that its e-waste is being exported for reuse and escape regulation. Thus, RCRA’s scope makes it difficult to regulate e-waste that is purportedly intended for reuse, but is in fact shipped abroad for disposal or recycling.

Incorporating waste intended for reuse within the meaning of “solid waste” under RCRA has been difficult. Industry has successfully challenged the EPA’s definition of solid waste in the past with respect to reuse: the DC Circuit held that the EPA exceeded its authority “in seeking to bring materials that are not discarded or otherwise disposed of within the compass of ‘waste.’”¹⁸³ The Court held that Congress used the term “discarded” in its ordinary sense, to mean “disposed of” or “abandoned” and that the term “discarded materials” under RCRA section 1004(27) could not include materials “destined for beneficial reuse...in a continuous process by the generating industry itself.”¹⁸⁴ Since Congress had directly spoken to this issue,¹⁸⁵ the EPA’s definition was not entitled to *Chevron* deference.¹⁸⁶

In light of this history, the EPA may have difficulty bringing e-waste purportedly intended for reuse directly within the meaning of “solid waste,”¹⁸⁷ but this situation could be distinguished from the aforementioned case. Note that e-waste purportedly destined for reuse is not part of “a continuous process by the generating industry itself.”¹⁸⁸ It is shipped to another end user overseas, so it is difficult to monitor and verify that the e-waste will be reused. Indeed, courts have found that material, presumably reusable, could be solid waste if it is not clear that the material will actually be reused or sold.¹⁸⁹

B. State E-Waste Recycling Programs

The EPA establishes minimum waste management standards under RCRA, but states may adopt requirements that are more stringent or broader in scope.¹⁹⁰ About half of the states have enacted e-waste recycling legislation, which comes in two types: advance recovery fee (ARF) and extended producer responsibility (EPR).¹⁹¹

The ARF system, adopted by California, requires that consumers pay a disposal fee when they purchase certain electronics (discussed further below). An advantage of this system is that it is visible to consumers and could help raise awareness of e-waste disposal issue and incentivize them to generate less waste. California is the only state to have adopted the ARF system.¹⁹²

EPR programs vary and may require that manufacturers pay all or a portion of end-of-life management costs, take possession of their products after consumer discard, label products with component or materials lists to reduce the cost of third-party recycling, or be financially liable for environmental damage and clean-up costs from hazardous waste disposal.¹⁹³

An advantage of EPR is that it could incent producers to minimize hazardous components¹⁹⁴ and design products that are easier to recycle, but only if producers see the costs of proper disposal.¹⁹⁵ If e-waste can be cheaply disposed of out of state or abroad, producers in EPR schemes will do just that. Some form of international measure, such as a trade ban or tariff system, could work with domestic measures to put disposal responsibility on those taking back the waste. A ban would force these actors to recycle the waste domestically, and a tariff system that takes into account the cost of proper disposal would incent producers to design products with lower hazardous content to minimize the tariff.

Incenting consumers to generate less waste and dispose of it responsibly would also be helpful. Although consumers do not directly see the disposal fee in EPR, they may pay these costs through higher product prices passed on by the manufacturer. Higher prices may drive consumers to be more discerning in their purchases, use the products longer and, in doing so, consume fewer resources, and generate less hazardous waste.

Any e-waste recycling scheme also would need to incent consumers to actually turn in the e-waste—otherwise, even with ARF or EPR schemes in place, consumers might not expend the effort to turn e-waste in for recycling and simply throw it in the dumpster instead. An incentive scheme could take the form of a deposit-refund system,¹⁹⁶ where consumers pay a deposit upon purchase and retrieve the deposit upon proper disposal.

To illustrate some of the challenges faced by state e-waste recycling programs, it is useful to discuss California's program as an example. California was the first state to enact an e-waste recycling law, the Electronic Waste Recycling Act of 2003. The two primary objectives are to limit the amount of toxic substances in certain electronic products sold in California and to establish a funding system for their collection and recycling.¹⁹⁷ Under the first objective, manufacturers of covered electronic devices must provide information demonstrating their efforts in reducing toxic substances and increasing recyclable materials in their electronics.¹⁹⁸ The funding system established under the second objective requires that retailers collect a fee from consumers purchasing covered electronic devices.¹⁹⁹ This fee is deposited into a state-managed account, and payments are transferred to approved recyclers based on the weight of covered electronics recycled.²⁰⁰

From 2005 to 2012, California's program diverted more than a billion pounds of e-waste from landfills.²⁰¹ But the program has not stopped the export of its e-waste to developing countries, and by paying recyclers for processed e-waste by weight, the state has "built a magnet for fraud totaling tens of millions of dollars, including illegal material smuggled in from out of state."²⁰² Because California regulations stipulate that recyclers and collectors can only receive payments for in-state generated waste,²⁰³ the state must verify that every piece of waste submit-

ted for a claim is associated with a California address,²⁰⁴ which can be a resource-intensive process. But the program is structured in this way to ensure that it fits within the market participant exception to withstand dormant Commerce Clause challenges.

The dormant Commerce Clause is the negative implication of the Constitutional grant to Congress of the power to "regulate Commerce with foreign Nations, and among the several States."²⁰⁵ Because the federal government, and not the states, was explicitly delegated this power, the states are impliedly preempted from exercising this authority.

Whether a state law violates the dormant Commerce Clause depends on whether it discriminates against interstate commerce. "Discrimination" means "differential treatment of in-state and out-of-state economic interests that benefits the former and burdens the latter."²⁰⁶ Discriminatory laws motivated by "simple economic protectionism" are subject to a "virtually per se rule of invalidity."²⁰⁷ This can be overcome by showing that there is no other means to advance a legitimate local purpose²⁰⁸ or by invoking the market participant exception: a state law that discriminates against out-of-state waste may be valid if the state is acting as a purchaser, seller, or subsidizer.²⁰⁹ The exception allows states to engage in certain discriminatory practices so long as the state is "acting as a market participant, rather than as a market regulator."²¹⁰

California declared in its Electronic Waste Recycling Act that it is a market participant²¹¹ and designed its program as a subsidy in order to fit within this exception.²¹² Thus, California subsidizes voluntary e-waste recycling and does not at the same time mandate recycling in order to avoid engaging as a regulator.

Should California's program hypothetically fall outside the market participant exception, the program would not necessarily be invalid. If the state regulation is not considered discriminatory in intent, the balancing test under *Pike v. Bruce Church* would apply.²¹³ The *Pike* court held that the challenged statute did not have a discriminatory intent because it was a fraud prevention statute and did not mean to treat differently "in-state and out-of-state economic interests that benefit[] the former and burdens the latter."²¹⁴ Arguably, California's statute is similarly nondiscriminatory in intent because its objective is to promote e-waste recycling, which is funded by its own residents.²¹⁵ Under the *Pike* test, a court should uphold a nondiscriminatory statute "unless the burden imposed on [interstate] commerce is clearly excessive in relation to the putative local benefits."²¹⁶ But California's program does not bar out-of-state e-waste from being recycled in California (it merely refrains from authorizing state funds to pay for its recycling). Therefore, the e-waste recycling law does not affect out-of-state e-waste, and thus arguably does not burden it. It would be even harder to argue further that the law imposes a burden on interstate commerce "clearly excessive in relation to the putative local benefits."²¹⁷

Operating a recycling subsidy program to take advantage of the market participant exception is one way to avoid invalidity under the dormant Commerce Clause, but it is resource intensive because the state must verify that each piece of e-waste recycled under its program originated from within the state. And while processing hazardous e-waste domestically could ensure that it is not dumped on developing countries, doing so has a similar effect as a ban by forgoing a more efficient alternative for responsible e-waste recycling elsewhere. To take advantage of such a possibility, the state might be able to collect e-waste as part of a voluntary program and sell it to responsible recyclers overseas. Whether this would pass muster under the dormant Foreign Commerce Clause is unclear, as the U.S. Supreme Court has not formally decided whether the dormant Foreign Commerce Clause has a market participant exception.²¹⁸ But to stay within the market participant exception, the state would not be able to mandate participation in the e-waste collection program, as doing so would be to engage as a regulator.²¹⁹

Since the EPA does not allow states to administer their own export provisions,²²⁰ California e-waste export regulations largely follow the EPA's CRT export rules. California law differs, however, in that it more broadly concerns "covered electronic wastes"²²¹ and "covered electronic devices."²²² But these categories do not extend to electronic scrap that has been processed by recyclers.²²³ California law therefore does not inhibit the export of processed but still hazardous e-waste scrap; an estimated 160 million to 210 million pounds²²⁴ of e-waste that cannot be profitably recycled in California are exported per year.²²⁵

While the states are making progress in e-waste recycling, the constraints on California's ability to regulate e-waste illustrate the limits of state power with respect to the transboundary movement of e-waste.²²⁶ Ultimately, the federal government is best positioned to address problems involving interstate and international commerce.

Conclusion

This article considered the economic efficiency of the international e-waste trade and how it should inform international trade and U.S. e-waste management practices. The trade as it currently stands imposes costs on human health and the environment that are not accounted for by the parties to the trade. It is unknown whether internalizing these costs would make the trade prohibitively expensive. If it would, then the trade's costs exceed its benefits, and halting the trade would increase social welfare. If the trade is or can be made efficient, the importing country could adopt an e-waste import tariff that prices in the costs of protecting its workers and environment from the hazards of the trade.

From an economic efficiency perspective, a tariff scheme that could fund responsible trade appears to be more appealing than a trade ban. Blanket bans forgo potential gains from trade, which disincentivizes compli-

ance with the bans and could explain why current e-waste import bans are generally not well enforced. Tariffs that price in the cost of proper recycling and disposal could filter out inefficient trades while allowing gains from efficient trade. These tariffs could help fund responsible e-waste recycling in developing countries, and governments in these countries are more likely to enforce schemes that generate revenue. Meanwhile, developed countries are more likely to agree to international e-waste management that enables them to enjoy relatively inexpensive—but also responsible—disposal of waste (which a tariff does but a ban does not).

An e-waste import tariff could be formulated to be consistent with WTO law. The tariff would have to be adopted in conjunction with a domestic e-waste tax in order to qualify as a border tax adjustment under the GATT. If the domestic tax is infeasible, the tariff could be deemed discriminatory under the GATT, and the importing country would have to ensure that the tariff's substance, as well as the process of negotiating and implementing it, satisfies the criteria allowing for exception under the GATT.

Turning to how the e-waste problem is being addressed domestically, the United States has not been a leader in this arena and is the only developed country withholding ratification of the Basel Convention. On the federal level, the EPA has promulgated limited e-waste export rules, but in practice, e-waste exports from the United States are essentially unimpeded. While the EPA could employ RCRA authority to promulgate stronger rules, a potential difficulty is that the scope of RCRA only covers waste, which typically does not include materials destined for reuse. The states are also attempting to regulate e-waste, but their power to control the transboundary movement of e-waste is constitutionally limited. Given these constraints on the EPA and the states, Congress may need to step in and coordinate with the international community in addressing this international problem.

Coordinating U.S. and international measures could also indirectly encourage electronics manufacturers to design and make products with less hazardous material. A trade ban or a tariff working together with a domestic producer take-back program could produce such an incentive. If trade is banned, and producers must recycle their own products, lowering the hazardous content in their products would reduce their recycling costs. Similarly, if trade is allowed, but with a tariff internalizing the cost of proper disposal, producers paying disposal costs would have an incentive to reduce that cost by reducing the amount of hazardous materials in their electronics.

Endnotes

1. See, e.g., *Electronic Hazardous Waste (E-Waste)*, CAL. DEP'T OF TOXIC SUBSTANCES CONTROL, <http://www.dtsc.ca.gov/hazardouswaste/ewaste> (last visited May 5, 2014) ("Due to ongoing technological advancement, many of [sic] electronic products become obsolete within a very short period of time, creating a large surplus of

- unwanted electronic products...."). As a result, "[e]-waste is one of the fastest growing waste streams in the world." 2 U.N. ENV'T PROGRAMME, E-WASTE MANAGEMENT MANUAL 2 (2007).
2. E-waste is highly toxic because it contains heavy metals and plastics treated with flame retardants that produce carcinogens when burned. *See, e.g.*, U.N. ENV'T PROGRAMME, SUSTAINABLE INNOVATION & TECH. TRANSFER INDUS. SECTOR SERIES, RECYCLING—FROM E-WASTE TO RESOURCES 12 (July 2009) [hereinafter UNEP, StEP]. Many states, therefore, have laws against discarding electronics in normal landfills, which are not equipped to accept hazardous waste. *See, e.g.*, *States Where You Can't Throw E-Waste into the Trash*, ELECS. TAKEBACK COAL., http://www.electronicstakeback.com/wp-content/uploads/Disposal_Ban_Bills.pdf (last visited May 5, 2014).
 3. *See* Jack Caravanos, Edith Clark, Richard Fuller & Calah Lambertson, *Assessing Worker and Environmental Chemical Exposure Risks at an E-Waste Recycling and Disposal Site in Accra, Ghana*, 1 J. HEALTH & POLLUTION 16, 17 (2011), available at <http://www.journalhealthpollution.org/ojs/ojs2.2.4/index.php/journalhealthpollution/article/view/22/31> (documenting the impact of e-waste on human health and the environment in Ghana).
 4. U.S. GOV'T ACCOUNTABILITY OFFICE, GAO-08-1044, ELECTRONIC WASTE: EPA NEEDS TO BETTER CONTROL HARMFUL U.S. EXPORTS THROUGH STRONGER ENFORCEMENT AND MORE COMPREHENSIVE REGULATION 16 (2008) [hereinafter GAO]; U.S. INT'L TRADE COMM'N, USED ELECTRONIC PRODUCTS: AN EXAMINATION OF U.S. EXPORTS 1-3, 2-13 (2013) [hereinafter ITC].
 5. *See, e.g.*, ITC at 5-11, 5-12; LINDA LUTHER, CONG. RESEARCH SERV., R40850, MANAGING ELECTRONIC WASTE: ISSUES WITH EXPORTING E-WASTE 3 (2010).
 6. For documentaries and photographs that convey human health and environmental atrocities more forcefully than academic text, see, for example, *Frontline/World: Ghana, Digital Dumping Ground* (PBS broadcast June 23, 2009), http://www.pbs.org/frontlineworld/stories/ghana804/video/video_index.html; 60 Minutes: *Following the Trail of Toxic E-Waste* (CBS broadcast Nov. 9, 2008), http://www.cbsnews.com/8301-18560_162-4579229.html; Chris Carroll, *High-Tech Trash*, NATIONAL GEOGRAPHIC (Jan. 2008), available at <http://ngm.nationalgeographic.com/2008/01/high-tech-trash/carroll-text>.
 7. GAO, *supra* note 4, at 18 (citing Xia Huo et al., *Elevated Blood Lead Levels of Children in Guiyu, an Electronic Waste Recycling Town in China*, 115 ENVTL. HEALTH PERSP. 1113 (2007)).
 8. *See, e.g.*, BASEL ACTION NETWORK, EXPORTING HARM: THE HIGH-TECH TRASHING OF ASIA (2002), available at <http://www.ban.org/E-waste/technotrashfinalcomp.pdf>; Adam Minter, *How China Profits from Our Junk*, THE ATLANTIC (Nov. 1, 2013), available at <http://www.theatlantic.com/china/archive/2013/11/how-china-profits-from-our-junk/281044/>.
 9. Developed countries tend to have the capacity to manage the hazardous components in electronics. *See, e.g.*, Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal, Mar. 22, 1989, 1673 U.N.T.S. 57, pmbl [hereinafter *Basel Convention*].
 10. 42 U.S.C. §§ 6901–6992k (2006).
 11. *See, e.g.*, RICHARD REVESZ & MICHAEL LIVERMORE, RETAKING RATIONALITY 12 (2008); Matthew D. Adler & Eric A. Posner, *Rethinking Cost-Benefit Analysis* 1 (John M. Olin Law & Econ. Working Paper No. 72, 2d series), available at http://www.law.uchicago.edu/files/files/72.EPosner.CBA_.pdf.
 12. *See, e.g.*, Adler & Posner, *supra* note 11, at 3 (stating that the Kaldor-Hicks principle is a traditional economic defense of cost-benefit analysis).
 13. *See, e.g.*, Adler & Posner, *supra* note 11, at 27. Hereinafter, "efficiency" will refer to Kaldor-Hicks efficiency.
 14. *See, e.g.*, SCOTT J. CALLAN & JANET M. THOMAS, ENVIRONMENTAL ECONOMICS & MANAGEMENT: THEORY, POLICY, AND APPLICATIONS 62 (5th ed. 2010).
 15. Luther, *supra* note 5, at 10–11 (discussing the costs of domestic recycling and disposal and the economic incentive to export e-waste); *see also* GAO, *supra* note 4, at 19–20 (discussing testimony from Indonesian, Cambodian, and Indian officials that local environmental controls do not sufficiently protect people working in e-waste recycling and disposal).
 16. The GAO observed that over a three-month period, brokers in developing countries made 230 requests for about 7.5 million used cathode ray tubes on two e-commerce websites. About 70 percent of the requests came from developing countries in Asia, mostly from China and India, and the remaining requests came largely from Africa. GAO, *supra* note 4, at 16.
 17. *See supra* notes 7–9.
 18. UEPs, as defined in the ITC report, are electronic products no longer useful to the original owner, and thus include more than what is commonly considered e-waste. ITC, *supra* note 4, at 1-3. For example, a refurbished smartphone selling for hundreds of dollars in the United States would fit within this definition. The ITC acknowledges that products at the end of their useful life are often referred to as "e-waste" due to the risks posed by improper handling of the potentially hazardous materials that they contain and considers e-waste to be a subset of UEPs. *Id.*
 19. *See* ITC, *supra* note 4, at 2-13. This export estimate is further broken down: India, Hong Kong, China, and unaccounted destinations receive UEPs in the tens of thousands of tons, while Africa is reported to receive about seventy-eight tons from the United States. *Id.* However, there are a number of reasons why the latter figure could be especially underreported. The ITC obtained this data through surveys because there is no official trade data on U.S. exports of UEPs, and no quantitative data on the informal, unregulated trade of e-waste. *Id.* at 1-2, xviii, 3-11. However, surveyed exporters are unlikely to report questionable or illegal activity to a government agency. Unlike Asia, Africa has very little formal recycling. *Id.* at 5-3. Thus, unless shipments to Africa are entirely working or repairable electronics (which is unlikely), any junk in the shipments is likely dumped irresponsibly. This is in contrast to shipments to Asia, where formal recycling exists, and there is a better chance that the trade may be legitimate. Also, the ITC survey excluded firms with fewer than ten employees. *Id.* at 1-7 n.25. This may have significantly affected the survey results as small firms may be numerous and potentially exporting to problematic destinations. *Statement from the Electronics TakeBack Coalition and the Basel Action Network on the new ITC report on exports of electronic waste*, ELECS. TAKEBACK COAL (2013), <http://www.electronicstakeback.com/wp-content/uploads/Comments-on-report-from-ITC-report-March-2013.pdf>.
- As acknowledged by the ITC report, another study that included such small firms indicated that they represented about half of the respondents. ITC, *supra* note 4, at 1-10. Lastly, it should be stressed that these estimates are for U.S. exports alone. The ITC report suggests that UEPs entering Africa from the United States accounted for only about 5 percent of observed UEP imports into Nigeria and 8 percent of those into Ghana, and thus seventy-eight tons would be just the tip of the iceberg of UEPs imported into Africa. *Id.* at 5-3.
20. *Id.* at 2-15, 3-2. GAO, *supra* note 4, at 21. "Malaysia...not only recycles CRT [(cathode ray tube)] glass but also manufactures new CRT televisions containing as much as 50 percent recycled-glass content." *Id.* at 15.
 21. China generates around 2.3 million tons of e-waste for disposal annually. ITC, *supra* note 4, at 5-12. "[T]he volume of obsolete PCs generated in developing regions will exceed that of developed regions by 2016–2018." Jinglei Yu et al., *Forecasting Global Generation of Obsolete Personal Computers*, 44 ENVTL. SCI. TECHNOL. 3232 (2010).
 22. ITC, *supra* note 4, at 5-13.

23. *Id.* at 5-12.
24. GAO, *supra* note 4, at 21 (“Recycling is not as prevalent in West Africa as it is in Southeast Asia, in part because West Africa is farther from markets where recycled commodities are sought.”); see also ITC, *supra* note 4, at 5-3.
25. Charles W. Schmidt, *Unfair Trade e-Waste in Africa*, 114 ENVTL. HEALTH PERSP. 232, 234 (2006). For example, functioning cathode ray tube television and computer monitors are considered obsolete in developed countries, but are apparently still used in Africa. ITC, *supra* note 4, at 3-10. Exporters mix broken cathode ray tubes into shipments to avoid incurring their disposal costs in developed countries, and importers can dump these at no cost. *Id.* at 3-12.
26. A functional computer can fetch about \$130, and shipping from the United States to Africa costs around \$5,000 for a forty-foot container holding about eight hundred computers. Thus, it only takes about forty salable computers to pay to ship the entire container, which is only 5 percent of eight hundred computers. Even accounting for other costs, a container with up to 75 percent junk (the high end of what Nigerian experts estimate to be useless from incoming shipments of e-waste) likely still leaves a comfortable margin. 114 ENVTL. HEALTH PERSP. at 233-34.
27. ITC, *supra* note 4, at 6-10.
28. Press Release, U.N. Env’t Programme, Basel Conference Addresses Electronic Wastes Challenge (Nov. 27, 2006), *available at* <http://www.unep.org/Documents.Multilingual/Default.asp?DocumentID=485&ArticleID=5431&l=en>. Global trade data on e-waste are unreliable, however, partly because there is no single accepted definition of e-waste. See, e.g., Rolf Widmer et al., *Global Perspectives on E-Waste*, 25 ENVTL. IMPACT ASSESSMENT REV. 436, 439 (2005); ITC, *supra* note 4, at 1-3.
29. U.S. ENVTL. PROT. AGENCY OFFICE OF RES. CONSERVATION & RECOVERY, ELECTRONICS WASTE MANAGEMENT IN THE UNITED STATES THROUGH 2009 5 (May 2011), *available at* <http://www.epa.gov/wastes/conserves/materials/ecycling/docs/fullbaselinereport2011.pdf>.
30. In 2009, there were approximately 5 million tons of electronic products in storage. *Id.*
31. For example, some of the metals contained in computers are listed as hazardous waste under the RCRA, including antimony, arsenic, cadmium, chromium, cobalt, lead, mercury, and selenium. DONALD BLEIWAS & THOMAS KELLY, U.S. DEP’T OF THE INTERIOR, U.S. GEOLOGICAL SURVEY, FACT SHEET FS-060-01, OBSOLETE COMPUTERS, “GOLD MINE,” OR HIGH-TECH TRASH? RESOURCE RECOVERY FROM RECYCLING (2001), *available at* <http://pubs.usgs.gov/fs/fs060-01/>. Other common metals include aluminum, barium, beryllium, copper, gallium, gold, iron, manganese, palladium, platinum, silver, and zinc. *Id.* For the definition of hazardous waste, see 42 U.S.C. § 6903(5) (2006) and 40 C.F.R. § 261.3 (2013).
32. Claire Veuthey, *Importing Electronics, Exporting E-Waste: Financial, Human Costs of Electronics Disposal Spread Worldwide*, RISKMETRICS GRP. (Aug. 6, 2010, 3:05 PM), <http://blog.issgovernance.com/esg/2010/08/e-waste-trade.html>. For municipal solid waste landfills criteria, see 40 C.F.R. pt. 258 (2012).
33. Op-Ed., *Time to Deal with E-Waste*, N.Y. TIMES, Dec. 9, 2007, http://www.nytimes.com/2007/12/09/opinion/nyregionopinions/Clewaste.html?_r=1.
34. RCRA section 3004(k); 42 U.S.C. § 6924(k) (2006); 40 C.F.R. Parts 264–265, Subpart N (2012).
35. See Luther, *supra* note 5, at 9–10. California’s e-waste recycling program illustrates the cost of domestic recycling. See *infra* Part IV.B. However, the profitability of domestic recycling could change, depending on collection methods, the quality of the collected e-waste, whether processing is automated or done by hand, market factors, and regulatory requirements. See, e.g., Hai-Yong Kang & Julie M. Schoenung, *Economic Analysis of Electronic Waste Recycling: Modeling the Cost and Revenue of a Materials Recovery Facility in California*, 40 ENVTL. SCI. & TECH. 1672, 1677, 1679 (2006). An increase in commodity prices may help make domestic recycling cost effective. ITC, *supra* note 4, at 3-7.
36. See Luther, *supra* note 5, at 9-10; U.S. ENVTL. PROT. AGENCY, Automated Identification and Sorting of Rare Earth Elements in an E-Waste Recycling Stream, <http://cfpub.epa.gov/ncer/abstracts/index.cfm/fuseaction/display.abstractDetail/abstract/10019/report/0> (last visited May 5, 2014).
37. CAL. CODE REGS. tit. xiv, § 18660.40(a)-(c) (West 2014).
38. Luther, *supra* note 5, at 11.
39. See, e.g., *Do you know where your electronic waste goes?*, 89.3 KPCC SOUTHERN CALIFORNIA PUBLIC RADIO (Dec. 21, 2010), <http://www.scpr.org/news/2010/12/21/22070/do-you-know-where-your-electronic-waste-goes/>. Exporters can export units, claiming they are for reuse when they are in fact taken apart overseas. See *infra* Part III on the lax U.S. export rules for reuse.
40. EPA OFFICE OF SOLID WASTE, ELECTRONIC WASTE MANAGEMENT IN THE UNITED STATES (2008), *available at* <http://www.epa.gov/epawaste/conserves/materials/ecycling/docs/app-1.pdf>. Industry experts estimate that up to 200 million pounds of used electronics leave the country each year. See, e.g., KPCC SOUTHERN CALIFORNIA PUBLIC RADIO, *supra* note 39.
41. The 2010 average hourly labor compensation in manufacturing is almost 20 times higher in the United States than in China and India. See ITC, *supra* note 4, at 6-14.
42. GREEN ELECTRONICS COUNCIL, CLOSING THE LOOP: ELECTRONICS DESIGN TO ENHANCE REUSE/RECYCLING VALUE 5–7 (Jan. 2009), *available at* <http://www.electronicrecycling.org/public/UserDocuments/Design%20for%20End%20of%20Life%20Final%20Report%20090208.pdf>.
43. GAO, *supra* note 4, at 18 n.16; ITC, *supra* note 4, at 3-7.
44. The benefits offered by these employment alternatives, however, may be diminished if the workers are not fully aware of the health risks to themselves and their children, and thus are not making informed decisions. Enforced health and safety regulations could ameliorate these risks, but that would increase the costs associated with hiring workers, which would likely reduce the number of these jobs available.
45. See BASEL ACTION NETWORK, *supra* note 8.
46. Adam Minter, *How China Profits From Our Junk*, THE ATLANTIC (Nov. 1, 2013), *available at* <http://www.theatlantic.com/china/archive/2013/11/how-china-profits-from-our-junk/281044/>.
47. BLEIWAS & KELLY, *supra* note 31.
48. *Set World Standards for Electronics Recycling, Reuse to Curb E-Waste Exports to Developing Countries*, U.N. UNIV. (Sept. 15, 2009), http://www.eurekalert.org/pub_releases/2009-09/unu-sw091009.php (last visited May 31, 2012).
49. BLEIWAS & KELLY, *supra* note 31 (Electronic scrap “contains much lower levels of deleterious elements common to ores, such as arsenic, mercury, and, especially, sulfur.”).
50. U.N. UNIV., *supra* note 48.
51. Eric Williams, *Energy Intensity of Computer Manufacturing: Hybrid Assessment Combining Process and Economic Input-Output Methods*, 38 ENVTL. SCI. & TECH. 6166, 6166 (2004).
52. S. Schwarzer et al., *Environment Alert Bulletin, E-Waste: The Hidden Side of IT Equipment’s Manufacturing and Use*, U.N. ENV’T PROGRAMME (Jan. 2005), *available at* www.grid.unep.ch/products/3_Reports/ew_ewaste.en.pdf.
53. If, however, the used product is sold to someone who would not have been able to afford a new product, reuse generates no energy savings.
54. See *infra* Part II.A.
55. Even if the workers perceive a risk, they might systematically underestimate it because the risks associated with e-waste

- processing, such as lead poisoning, are not readily apparent. *See, e.g.*, BASEL ACTION NETWORK, *supra* note 8, at 16.
56. UNEP, StEP, *supra* note 2.
 57. BASEL ACTION NETWORK, HAZARDOUS WASTE RECYCLING: NO JUSTIFICATION FOR TOXIC TRADE (2008), available at http://www.ban.org/library/BP07_June_2008.pdf (“Historically, hazardous waste recycling has proven to be an environmental nightmare even in rich developed countries. For example, a full 11 percent of U.S. Superfund priority sites that were required to be cleaned up at enormous costs were caused by recycling operations.”).
 58. Dean Ornish, *Health: Prevention Is Worth the Money*, NEWSWEEK, <http://www.newsweek.com/health-prevention-worth-money-86075> (last updated Mar. 13, 2010, 4:57 PM).
 59. Richard B. Stewart, *International Trade and Environment: Lessons from the Federal Experience*, 49 WASH. & LEE L. REV. 1329, 1338 (1992) (“Free trade in wastes should promote joint welfare for reasons similar to those that justify free trade in ordinary goods and services: economies of scale in disposal techniques, comparative advantage based on geology and transportation access, and innovation through specialization.”) (internal citation omitted).
 60. *See supra* Introduction, Part I.A.
 61. ITC, *supra* note 4, at 5-9; GAO, *supra* note 4, at 14-15.
 62. BLEIWAS & KELLY, *supra* note 31.
 63. *Id.* (citing NAT’L SAFETY COUNCIL, ELECTRONIC PRODUCT RECOVERY AND RECYCLING BASELINE REPORT, RECYCLING OF SELECTED ELECTRONIC PRODUCTS IN THE UNITED STATES 47 (1999) (stating that one ton of plastic can replace nearly 1.3 tons of coal)).
 64. *Id.*
 65. *Id.* Note, however, that CRT glass is expensive to recycle and there is not much of a market for it. ITC, *supra* note 4, at 2-10. Firms must typically pay to dispose of CRTs, which are often exported. *Id.* at 3-9, n.33, 3-12.
 66. ITC, *supra* note 4, at 3-8, 5-9.
 67. *Id.* at 3-7, 5-13, n.55, 6-14.
 68. *See* Luther, *supra* note 5, at 10-11; ITC, *supra* note 4, at 1-6, n.21, 3-7, 3-8.
 69. *See* CAL. CODE REGS. tit. xiv, § 18660.40(a)-(c) (West 2014).
 70. *See* Luther, *supra* note 5, at 7, 10-11.
 71. By 2020, China and South Africa are expected to increase e-waste generation from computers by 200 to 400 percent compared to 2007 levels. UNEP, StEP, *supra* note 2, at 50.
 72. ITC, *supra* note 4, at 5-13 n.55.
 73. This does not imply that these countries should also manage other countries’ waste streams, but once the infrastructure is established, economies of scale could help make it profitable for them to recycle foreign waste. Further, the manufacturers that use these recycled materials are located in some of these countries.
 74. ITC, *supra* note 4, at 6-18; GAO, *supra* note 4, at 37.
 75. Most African states have adopted their own ban on the import of hazardous waste. Bamako Convention on the Ban of the Import Into Africa and the Control of Transboundary Movement and Management of Hazardous Wastes Within Africa, Jan. 30, 1991, 2101 U.N.T.S. 177.
 76. *See supra* notes 4-7.
 77. *Basel Convention*, *supra* note 9. Some agreements overseen by the World Trade Organization are also relevant, as discussed in Part III.
 78. *Id.* at pmb1.
 79. Aside from the Basel Ban Amendment (see below), countries can impose import bans through the Convention itself, which allows parties to prohibit the import of hazardous waste. *Id.* at art. 4, 13.
 80. *Id.* art. 4.1(b), 4.2(a), (d), (e), (g).
 81. *Id.* art. 4.5.
 82. *Id.* art. 11.1.
 83. *Basel Convention*, Second Conference of the Parties, Mar. 25, 1994, Decision II/12(1).
 84. The Basel Ban Amendment, Third Conference of the Parties, Decision III/1 and Annex VII, Sept. 22, 1995, <http://www.basel.int/pub/baselban.html>.
 85. As of this writing, only 74 of the 179 parties to the Ban Amendment have ratified it. Ban Amendment to the Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal Geneva, Sept. 22, 1995, <http://www.basel.int/Countries/StatusofRatifications/BanAmendment/tabid/1344/Default.aspx>; Parties to the Basel Convention, <http://www.basel.int/Countries/StatusofRatifications/PartiesSignatories/tabid/1290/Default.aspx>. Notably, non-ratifiers include Japan, Canada, and the United States (which has not even ratified the Basel Convention).
 86. BASEL ACTION NETWORK *supra* note 8, at 23.
 87. According to the U.S. Government Accountability Office, the EPA does very little to prevent exports of e-waste going to countries that ban its imports, even when the EPA is aware of the problem. GAO, *supra* note 4, at 7.
 88. Developed countries typically do not favor bans in waste trade. *See* Nina Bomber, *The Basel Convention’s Complete Ban on Hazardous Waste Exports: Negotiating the Compatibility of Trade and the Environment*, 7 J. ENVTL. L. & PRACTICE. 325, 334 (1997). Canada and Japan have not ratified the Ban Amendment. BASEL ACTION NETWORK, *supra* note 8. The European Communities fought to lift the import ban in *Brazil—Retreaded Tyres*, a case concerning the import of used tires that pose human health and environmental hazards. Appellate Body Report, *Brazil—Measures Affecting Imports of Retreaded Tyres*, WT/DS332/AB/R (Dec. 3, 2007) [hereinafter *Appellate Body Report, Brazil—Retreaded Tyres*]. The U.S. Congress has twice introduced a bill unsuccessfully that would limit e-waste exports. *Infra* Part IV.A. The Institute of Scrap Recycling Industries opposed it, claiming that “the legislation could hurt U.S. businesses and backfire against efforts to improve overseas recycling operations” and “would ‘stifle’ a growing market for U.S. exports and increase costs in the growing e-waste industry in the U.S., because U.S. companies would be shut off from using foreign recycling facilities.” Grant Gross, *Congress Weighs Rules on E-Waste*, IDG NEWS SERV. (June 26, 2011, 1:33PM), http://www.pcworld.com/article/231072/congress_weighs_rules_on_ewaste.html.
 89. *E-Waste Africa Project*, BASEL CONVENTION, <http://www.basel.int/Implementation/TechnicalAssistance/EWaste/EWasteAfricaProject/tabid/2546/Default.aspx> (last visited May 5, 2014) (The e-waste Africa project coordinated by the Secretariat of the Basel Convention is working on e-waste environmental governance in Africa’s recycling sector. This includes gathering information, increasing the capacity of certain countries to manage e-waste, investigating the feasibility of establishing environmentally sound materials recovery operations and enhancing the capacity to monitor and prevent illegal traffic.).
 90. China recently promulgated regulations that establish a fund to subsidize e-waste recycling, to which electronics manufacturers and consignees of electronics imports must contribute. Further, disposal enterprises must have an environmental monitoring system for waste product treatment and report the data to the local environmental agency. Liability provisions penalize the failure to supply information on hazardous substance content, engaging in e-waste disposal without requisite qualifications, applying obsolete e-waste disposal technology and processes, and causing environmental pollution through e-waste disposal. Wendy Zeldin, *China: Regulations on Electronic Waste*, GLOBAL LEGAL MONITOR (Apr. 24, 2009), http://www.loc.gov/lawweb/servlet/lloc_news?disp3_1205401235_text; *see also* Wendy Zeldin, *China: Surcharge on Electronic Waste Takes Retroactive Effect*, GLOBAL LEGAL MONITOR (Sept. 12, 2012), http://www.loc.gov/lawweb/servlet/lloc_news?disp3_1205403322_text.

91. CENT. POLLUTION CONTROL BD., MINISTRY OF ENV'T & FORESTS, GUIDELINES FOR ENVIRONMENTALLY SOUND MANAGEMENT OF E-WASTE (2008) (India).
92. Frederick Noronha, *India's Supreme Court Panel Cracks Down on Hazardous Waste*, ENV'T NEWS SERV. (Nov. 19, 2004), <http://www.ens-newswire.com/ens/nov2004/2004-11-19-01.asp>. See also UNEP, StEP, *supra* note 2, at 59 (identifying India and China "as having a significant potential for the introduction of pre- and end-processing technologies with a strong support in capacity building in the informal sector").
93. The disposal fee might have to be adjusted each time the e-waste is processed so that as more of the high-value components are extracted, the fee transmitted properly reflects the cost of disposal less the value of the e-waste.
94. Taxing producers based on the hazardous content of their electronics directly incents them to minimize hazardous materials in designing and manufacturing electronics.
95. See *Least Developed Countries Fund*, U.N. FRAMEWORK CONVENTION ON CLIMATE CHANGE, http://unfccc.int/cooperation_support/least_developed_countries_portal/ldc_fund/items/4723.php (last visited Jan. 30, 2013).
96. If tariff proceeds were not used for e-waste related programs, the tariff could be challenged under World Trade Organization law as a barrier to trade. See *infra* Part III.
97. An import tariff for e-waste would be analogous to the Superfund tax, which the United States imposes on certain imported substances, such as petroleum, to fund Superfund site clean-up. Such a tariff would also be similar to a carbon border tax adjustment, where the importing country with a price on carbon imposes a tariff on the foreign goods to take into account the carbon emitted in the production of those goods.
98. General Agreement on Tariffs and Trade 1994, Apr. 15, 1994, 1867 U.N.T.S. 190 [hereinafter GATT].
99. General Agreement on Trade in Services 1993, in the Uruguay Round Final Act, Dec. 15, 1993, Annex 1B, 33 I.L.M. 1167 (1994).
100. The European Court of Justice (ECJ), for example, considers "goods" to be "products which can be valued in money" and that are "the subject of commercial transactions." Case 7/68, Comm'n v. Italy, E.C.R. 428 (1968). The ECJ has in fact specifically stated that waste is a "good" in the context of the European Economic Community Treaty. Case C-2/90, Comm'n v. Kingdom of Belgium, 1992 E.C.R. I-04431 ¶ 23.
101. See, e.g., U.S. INT'L TRADE COMM'N, SOLID AND HAZARDOUS WASTE SERVICES: AN EXAMINATION OF U.S. AND FOREIGN MARKETS, PUB. NO. 3679, app. D, tbl. D-1 (2004), available at <http://www.usitc.gov/publications/332/pub3679.pdf> (listing refuse disposal commitments under GATS).
102. Imported products "shall be accorded treatment no less favourable than that accorded to like products of national origin in respect of all laws, regulations and requirements affecting their internal sale, offering for sale, purchase, transportation, distribution or use." GATT, *supra* note 98, at art. III, para 4. The purpose of Article III is to avoid protectionism of domestic production and to ensure that imported products are treated in the same way as like domestic products once they have cleared customs. Appellate Body Report, *Japan—Taxes on Alcoholic Beverages*, WT/DS11/AB/R, p.16 (Oct. 4, 1996).
103. A tax on domestically generated e-waste could be akin to a disposal fee, which may be financially challenging for some citizens in developing countries. China has a rule which requires manufacturers to pay a fee that goes toward disposal and recycling costs, but it is not obvious that this would qualify as a similar internal tax under Articles II and III. UNEP, StEP, *supra* note 2. If the internal tax is too onerous, the government could theoretically tax and then subsidize domestic e-waste generators (i.e., disposers of e-waste) who cannot afford to pay an e-waste disposal tax. Article III provides that the "provisions of this Article shall not prevent the payment of subsidies exclusively to domestic producers, including payments to domestic producers derived from the proceeds of internal taxes." GATT, *supra* note 98, at art. III, para 8(b).
104. Article II:2(a) provides that parties may impose on the importation of any product: "a charge equivalent to an internal tax imposed consistently with the provisions of paragraph 2 of Article III in respect of the like domestic product or in respect of an article from which the imported product has been manufactured or produced in whole or in part." GATT, *supra* note 98, at art. II, para 2(a). Article III:2 provides that imported products shall not be subject to internal taxes in excess of those applied to like domestic products. *Id.* at art. III, para 2.
105. Article II:2(c) provides that parties may impose on the importation of any product: "fees or other charges commensurate with the cost of services rendered." *Id.* at art. II, para 2(c).
106. Report of the Panel, *United States—Taxes on Petroleum and Certain Imported Substances*, L/6175 (June 17, 1987), GATT B.I.S.D. (34th Supp.) at 136 (1988) [hereinafter *US—Superfund*]. The dispute panel is the fact finder and interprets WTO law, while the Appellate Body decides legal issues on appeal. It is important to note that dispute panel and Appellate Body reports are case-specific and do not bind other disputes, even if the issues are the same. Interpretations of the rules are persuasive, however, in that future panel and Appellate Body decisions may follow them. *Dispute Settlement System Training Module: Chapter 7.2 Legal Status of Adopted/Unadopted Reports in Other Disputes*, WORLD TRADE ORG., http://www.wto.org/english/tratop_e/dispu_e/dispu_settlement_cbt_e/c7s2p1_e.htm (last visited Nov. 19, 2013).
107. *US—Superfund*, *supra* note 106, ¶ 2.2.
108. *Id.* ¶ 2.4.
109. Imported products cannot be subject to internal taxes or other internal charges of any kind in excess of those applied to like domestic products. GATT, *supra* note 98, at art. III, para 2.
110. *US—Superfund*, *supra* note 106, ¶¶ 5.1.1, 5.1.12. The Panel decided that an evaluation of the trade impact of the tax was not relevant to the inquiry of whether the petroleum tax at issue was consistent with Article III. *Id.* ¶ 5.1.12.
111. *Id.* ¶¶ 5.2.7, 5.2.10.
112. *Id.* ¶ 5.2.8.
113. Appellate Body Report, *United States—Import Prohibition of Certain Shrimp and Shrimp Products*, ¶ 118, WT/DS58/AB/R (Oct. 8, 1998) [hereinafter *US—Shrimp*] (citing Appellate Body Report, *United States—Standards for Reformulated and Conventional Gasoline*, p. 22, WT/DS2/AB/R (Apr. 29, 1996) [hereinafter *US—Gasoline*]).
114. See GATT, *supra* note 98, at art. XX.
115. *Id.* at art. XX(b) (emphasis added).
116. Appellate Body Report, *Brazil—Retreaded Tyres*, *supra* note 88.
117. *Id.* at n.2., ¶ 1.
118. *Id.* ¶ 121.
119. The risks associated with waste tire accumulation include mosquito-borne diseases, toxic chemicals, and fire hazards. *Id.* ¶ 119.
120. *Id.* ¶ 134.
121. *Id.* ¶ 2.
122. *Id.* ¶ 3.
123. *Id.* ¶ 146.
124. *Id.* ¶¶ 134, 144, 183.
125. *Id.* ¶¶ 147–49.
126. *Id.* ¶ 150 (noting that a ban is the most trade-restrictive measure implicitly acknowledges that an import tariff would be less trade-restrictive than a ban).
127. *Id.* ¶ 151.

128. *Id.* ¶ 156.
129. *Id.* ¶ 174.
130. *Id.* ¶ 172.
131. *Id.* ¶ 151.
132. See GATT, *supra* note 98, at art. XX(g) (Article XX(b) in GATT corresponds to GATS XIV(b), but there is no GATS analog to GATT Article XX(g)).
133. See, e.g., *US—Gasoline*, *supra* note 113, at 20–21.
134. *Id.*
135. *US—Shrimp*, *supra* note 113.
136. *US—Gasoline*, *supra* note 113, at 2, 4–5.
137. *Id.* at 5, 6.
138. *Id.* at 21–22.
139. *Id.* at 19.
140. *US—Shrimp*, *supra* note 113, ¶ 136.
141. *Id.* ¶ 138.
142. *US—Gasoline*, *supra* note 113, at 20–21.
143. *Id.* at 20.
144. *Id.* at 21.
145. *US—Shrimp*, *supra* note 113, ¶ 116. To run afoul of the chapeau, the measure would have to be applied in manner that results in discrimination, the discrimination would have to be arbitrary or unjustifiable in character, and this discrimination would have to occur between countries where the same conditions prevail. *Id.* ¶ 150. *US—Gasoline* clarified that such discrimination could occur between exporting and importing members as well as between different exporting members. *US—Gasoline*, *supra* note 113.
146. *US—Gasoline*, *supra* note 113, at 22–23.
147. Appellate Body Report, *Brazil—Retreaded Tyres*, *supra* note 88, ¶ 252; *US—Shrimp*, *supra* note 113, ¶¶ 142, 145, 186; *US—Gasoline* *supra* note 113, at 29.
148. *US—Gasoline*, *supra* note 113, at 25, 26, 28.
149. *Id.* at 29.
150. *US—Shrimp*, *supra* note 113, ¶ 166.
151. *Id.* ¶ 168.
152. *Id.* ¶ 175.
153. *Id.* ¶ 176. The rigid and inflexible application of the measure was also deemed to constitute “arbitrary discrimination between countries where the same conditions prevail.” *Id.* ¶ 177.
154. Appellate Body Report, *Brazil—Retreaded Tyres*, *supra* note 87, ¶¶ 232–33.
155. Mercosur, or the Mercado Común del Sur (Southern Common Market), is a regional trade agreement between Brazil, Argentina, Uruguay, and Paraguay. See, e.g., Appellate Body Report, *Brazil—Retreaded Tyres*, *supra* note 88, at vi.
156. Remolded tires are a subcategory of retreaded tires. *Id.* at n.8.
157. *Id.* ¶¶ 228, 232.
158. GATT Article I attempts to minimize discrimination based on a product’s country of origin by extending preferential treatment granted to any one country to all countries. GATT, *supra* note 98, at art. I.
159. *US—Shrimp*, *supra* note 113, ¶¶ 163, 164. The Appellate Body stated that “discrimination results not only when countries in which the same conditions prevail are differently treated, but also when the application of the measure at issue does not allow for any inquiry into the appropriateness of the regulatory program for the conditions prevailing in those exporting countries.” *Id.* ¶ 165.
160. The United States revised its guidelines in response to the Appellate Body’s decision in *US—Shrimp* to introduce flexibility in the application of the measure at issue and made “serious, good faith efforts” to negotiate an international agreement. This effort was sufficient, and the Appellate Body clarified that an international agreement need not be concluded. *United States—Import Prohibition of Certain Shrimp and Shrimp Products*, Recourse to Article 21.5 of the DSU by Malaysia, WT/DS58/AB/RW (Oct. 22, 2001) ¶¶ 6–7, 134. Note, however, that this decision to uphold the import ban came three years after the Appellate Body decision to strike it down.
161. GATT, *supra* note 98, at art. XVIII, para. 4.
162. *Id.* at art. XXVIII bis, para. 3.
163. See GAO, *supra* note 4, at 34–35.
164. The Responsible Electronics Recycling Act was introduced to prohibit the export of certain electronics whose improper disposal may create environmental, health or national security risks. Reps. Green and Thompson Introduce Electronic Waste Recycling Bill, H.R. 2284, *The Responsible Electronics Recycling Act of 2011* (June 23, 2011), <http://green.house.gov/press-release/ reps-green-and-thompson-introduce-electronic-waste-recycling-bill>. Senator Whitehouse sponsored companion legislation, S. 1270. S. 1270 (112th): Responsible Electronics Recycling Act, GOVTRACK.US, <http://www.govtrack.us/congress/bills/112/s1270>. Both bills died after being referred to Committee. *Id.*; H.R. 2284 (112th): Responsible Electronics Recycling Act, GOVTRACK.US, <http://www.govtrack.us/congress/bills/112/hr2284>. In opposition was the Institute of Scrap Recycling Industries. Gross, *supra* note 88. The 2010 e-waste bill was similar to the 2011 bill. *Id.*
165. 42 U.S.C. §§ 6901–6992k (2006).
166. Resource Conservation and Recovery Act section 1004(5) defines “hazardous waste” as a “solid waste” that may significantly contribute to an increase in mortality or serious illness; or pose a substantial hazard to human health or the environment when improperly treated, stored, transported, disposed of or otherwise managed. 42 U.S.C. § 6903(5) (2006). Hazardous waste is more specifically defined in 40 C.F.R. § 261.3 (2013). Once a material is determined to be “solid waste,” it can be “hazardous waste” if it is listed under 40 C.F.R. §§ 261.3(a)(2)(ii), 261.31–33 (2013), or if it exhibits ignitability, corrosivity, reactivity or toxicity. 40 C.F.R. §§ 261.3(a)(2)(i), 261.21–24 (2013).
167. *Wastes – Resource Conservation – Common Wastes & Materials – eCycling*, U.S. EPA, <http://www.epa.gov/osw/conservation/materials/ecycling/rules.htm> (last updated Nov. 7, 2013). Other exemptions and exclusions from RCRA include conditionally exempt small quantity generators, 40 C.F.R. § 261.5(2013), and the Household Waste Exclusion, which excludes from federal hazardous waste management requirements all waste generated by normal households, hotels, campgrounds, and other facilities offering residential services, 40 C.F.R. § 261.4(b)(1)(2013). Thus, the source of the e-waste is partially determinative of whether it is hazardous waste.
168. See GAO, *supra* note 4, at 6. A CRT is the vacuum-sealed glass and metal unit found in obsolete computer monitors and televisions. *Id.* at 12.
169. Each CRT contains up to seven pounds of lead. See, e.g., KPCC SOUTHERN CALIFORNIA PUBLIC RADIO, *supra* note 39. Color CRTs sampled as entire units will almost always fail the Toxicity Characteristic Leaching Procedure, 40 C.F.R. § 261.24(a), for lead. TIMOTHY G. TOWNSEND ET AL., RCRA TOXICITY CHARACTERIZATION OF COMPUTER CPUs AND OTHER DISCARDED ELECTRONIC DEVICES x, 5-1, 5-2 (2004).
170. Modification of the Hazardous Waste Program; Cathode Ray Tubes, 71 Fed. Reg. 42928, 42938 (July 28, 2006).
171. *Id.*
172. 40 C.F.R. §§ 261.39–40 (2013).
173. 40 C.F.R. §§ 261.39(a)(5)(i), (v) (2013).
174. See BASEL ACTION NETWORK, *supra* note 8, at 7.
175. 40 C.F.R. § 261.41(a) (2013).
176. The EPA recognizes that “some CRTs allegedly exported for reuse are actually recycled in the receiving country, sometimes under unsafe conditions.” Revision to the Export Provisions of the

- Cathode Ray Tube (CRT) Rule, 77 Fed. Reg. 15336, 15339 (proposed Mar. 15, 2012). *See also* GAO, *supra* note 4, at 17.
177. GAO, *supra* note 4, at 23 (“43 U.S. companies that responded to our fictitious requests were willing to export nonworking CRTs to us, in apparent violation of the CRT rule.”).
 178. *Id.* at 6. The EPA is in the process of revising the CRT export rules to collect more information from exporters. Revision to the Export Provisions of the Cathode Ray Tube (CRT) Rule, 77 Fed. Reg. 15336, 15339 (proposed Mar. 15, 2012). The final rule was expected in July 2013, but has yet to be promulgated. Revision to the Export Provisions of the Cathode Ray Tube (CRT) Rule, <http://www.regulations.gov/#/docketDetail;D=EPA-HQ-RCRA-2011-1014>.
 179. *See* 42 U.S.C. § 6901(a) (discussing Congressional findings with respect to solid waste); 42 U.S.C. § 6902(a) (discussing the statute’s objectives with respect to solid waste). In the Ninth Circuit, whether material is “waste” under RCRA depends on: “(1) whether the material is destined for beneficial reuse or recycling in a continuous process by the generating industry itself, *Am. Mining Cong. v. EPA*, 824 F.2d 1177 (D.C. Cir., 1987) at 1186; (2) whether the materials are being actively reused, or whether they merely have the potential of being reused, *Am. Mining Cong. v. EPA*, 907 F.2d 1179 (D.C. Cir., 1990) at 1186; (3) whether the materials are being reused by its original owner, as opposed to use by a salvager or reclaimer, *U.S. v. ILCO*, 996 F.2d 1126 (11th Cir., 1993) at 1131.” *Safe Air for Everyone v. Meyer*, 373 F.3d 1035, 1043 (9th Cir. 2004) (internal quotation omitted).
 180. Resource Conservation and Recovery Act of 1976 § 1004(27), 42 U.S.C. § 6903 (2006). EPA regulations define solid waste to be “any discarded material,” that is not excluded under 40 C.F.R. §§ 261.5(a), or granted a variance under §§ 260.30–31. 40 C.F.R. § 261.2(a)(1) (2013).
 181. 40 C.F.R. § 261.2(a)(2)(i)(A), (b) (2013).
 182. “Materials are not solid wastes when they can be shown to be recycled by being...[u]sed or reused as effective substitutes for commercial products,” 40 C.F.R. § 261.2(e)(1)(ii) (2013). But the definition of discarded material does include recycled materials that are used in a manner constituting disposal. 40 C.F.R. § 261.2(a)(2)(i)(B), (c)(1) (2013).
 183. *Am. Mining Cong. v. EPA*, 824 F.2d 1177, 1178 (D.C. Cir. 1987).
 184. *Id.* at 1186, 1188–90.
 185. *Id.* at 1193.
 186. *Chevron U.S.A., Inc. v. Natural Res. Def. Council, Inc.*, 467 U.S. 837 (1984).
 187. The EPA has proposed revisions to the CRT export rule which would require that the reuse and recycling of solid waste be legitimate as specified in 40 C.F.R. § 260.43, which describes the conditions for the legitimate recycling of hazardous secondary materials. Definition of Solid Waste, 76 Fed. Reg. 44094, 44150, 44153 (proposed July 22, 2011). A hazardous secondary material includes spent material or byproduct that would be hazardous waste under 40 C.F.R. pt. 261 when discarded. But hazardous secondary materials are not necessarily solid waste until discarded. *See id.* at 44096, n.1. Thus, the proposed rule would not bring e-waste purportedly destined for reuse within the definition of solid waste until it is discarded. As of this writing, the final rule has not been promulgated. *See Docket Folder Summary: Revisions to the Definition of Solid Waste*, REGULATIONS.GOV, <http://www.regulations.gov/#/docketDetail;D=EPA-HQ-RCRA-2010-0742> (last visited May 5, 2014).
 188. 824 F.2d at 1186.
 189. *See Am. Mining Cong. v. EPA*, 907 F. 2d 1179, 1185–86 (D.C. Cir. 1990) (The 1987 *American Mining Congress* “holding concerned only materials that are ‘destined for immediate reuse in another phase of the industry’s ongoing production process’” and that “have not yet become part of the waste disposal problem.” Potential reuse of a material does not prevent EPA from classifying it as “discarded.”) (citing *Am. Petroleum Inst. v. EPA*, 906 F.2d 729, 740–41 (D.C. Cir. 1990)); *Owen Elec. Steel Co. v. EPA*, 37 F.3d 146, 150 (4th Cir. 1994) (finding that slag held untouched for six months before sale for use as road bed could constitute solid waste).
 190. RCRA § 3009, 42 U.S.C. § 6929 (2006); 40 C.F.R. § 271.1(i) (2008).
 191. *See, e.g., State Legislation*, ELECS. TAKEBACK COAL, <http://www.electronicstakeback.com/promote-good-laws/state-legislation> (last visited May 5, 2014). A benefit of state action in the e-waste arena is that patchwork state regulation may drive industry to lobby Congress for federal legislation that creates a more uniform framework.
 192. *See id.*
 193. *See, e.g., Noah Sachs, Planning the Funeral at the Birth: Extended Producer Liability in the European Union and the United States*, 30 HARV. ENVTL. L. REV. 51, 63 (2006); Hannah G. Elisha, Note, *Addressing the E-Waste Crisis: The Need for Comprehensive Federal E-Waste Regulation Within the United States*, 14 CHAP. L. REV. 195, 213 (2010).
 194. In conjunction with the ARF, California has required that manufacturers of certain electronic devices demonstrate their efforts to reduce toxic substances and increase recycled content in their devices. *See* CAL. PUB. RES. CODE § 42465.2(a)(1)(B) (West 2004).
 195. Consumers can pressure producers to design and manufacture products with lower hazardous content; a tax on consumer purchases proportional to the hazardous content of the products purchased would incent consumers to exert this type of purchasing power. Consumers may not, however, be able to achieve this through purchasing decisions because consumers buy products based on bundled factors and may not select products based on hazardous content. Regulations that encourage innovative waste reduction are another option. For example, requiring manufacturers to incorporate modular design would enable consumers to easily disassemble their electronic devices and replace certain parts (rather than the entire unit) as they break or become obsolete. This would generate less waste and save money for consumers. Further, the component parts could be designed to be easily disposed of by making them small enough to mail. *Electronic Waste: Garbage In, Garbage Out*, ECONOMIST (Apr. 24, 2011), [available at](http://rss.economist.com/blogs/babbage/2011/04/electronic_waste) rss.economist.com/blogs/babbage/2011/04/electronic_waste.
 196. *See, e.g., NAT’L CTR. FOR ENVTL. ECON., U.S. EPA, EPA-240-R-01-001, THE UNITED STATES EXPERIENCE WITH ECONOMIC INCENTIVES FOR PROTECTING THE ENVIRONMENT*, 57 (Jan. 2001), [available at](http://yosemite.epa.gov/ee/epa/eerm.nsf/vwAN/EE-0216B-13.pdf/$file/EE-0216B-13.pdf) [http://yosemite.epa.gov/ee/epa/eerm.nsf/vwAN/EE-0216B-13.pdf/\\$file/EE-0216B-13.pdf](http://yosemite.epa.gov/ee/epa/eerm.nsf/vwAN/EE-0216B-13.pdf/$file/EE-0216B-13.pdf).
 197. *E-Waste More Information*, CAL. DEP’T TOXIC SUBSTANCES CONTROL, <http://www.dtsc.ca.gov/HazardousWaste/EWaste/MoreInfo.cfm> (last visited July 21, 2014). *See generally* CAL. PUB. RES. CODE § 42461 (West 2014) and CAL. PUB. RES. CODE § 42463(e) (West 2014) (The electronic devices covered are video display devices as specified in the regulations.).
 198. CAL. PUB. RES. CODE § 42465.2 (West 2014).
 199. CAL. CODE REGS. tit. xiv, § 18660.40(a)–(c) (West 2014).
 200. CAL. PUB. RES. CODE § 42476(a)(2) (West 2014).
 201. CALRECYCLE, UPDATE ON CALIFORNIA’S COVERED ELECTRONIC WASTE RECYCLING PROGRAM IMPLEMENTATION OF THE ELECTRONIC WASTE RECYCLING ACT OF 2003 (2012), [available at](http://www.calrecycle.ca.gov/electronics/CEW/ProgramStats.pdf) <http://www.calrecycle.ca.gov/electronics/CEW/ProgramStats.pdf>.
 202. Tom Knudson, *Recycling E-Waste Yields Unexpected Byproduct: Fraud*, PORTLAND PRESS HERALD, Aug. 1, 2010, http://www.pressherald.com/business/recycling-e-waste-yields-unexpected-byproduct_2010-08-01.html (“Faulty and fraudulent claims of \$1.9 million the first year climbed to \$6.8 million in 2008 and to \$9.8 million last year; the state has rejected payment on 6.5 percent of all claims—\$22.6 million out of \$347 million.”).
 203. CAL. CODE REGS. tit. xiv, § 18660.6(c) (West 2014). Waste collectors must certify that they “shall make reasonable efforts to ensure that any [covered electronic wastes] for which payment is claimed originate from a California source.” CAL. CODE REGS. tit. xiv, § 18660.12(a)(3)(A) (West 2014). In submitting payment claims, recyclers must certify that the weights include “the adjustments

- for [covered electronic wastes] from non-California sources.” CAL. CODE REGS. tit. xiv, § 18660.22(7)(A)(3).
204. See Knudson, *supra* note 202.
 205. U.S. CONST. art. I, § 8.
 206. *Or. Waste Sys., Inc. v. Dep’t of Env’tl. Quality of Or.*, 511 U.S. 93, 99 (1994).
 207. *Philadelphia v. New Jersey*, 437 U.S. 617, 624 (1978) (striking down a statute that stated “[n]o person shall bring into this State any solid or liquid waste which originated or was collected outside the territorial limits of the State.” N.J. Stat. Ann. § 13:11-10 (West Supp. 1978)).
 208. The law would have to meet the strict scrutiny standard, as in *Maine v. Taylor*, 477 U.S. 131, 138 (1986). But note that this is the only case that has met this standard. Benjamin J. McCracken, *Combating Canadian Trash Under the Guise of Dormant Commerce Clause*, 82 U. DET. MERCY L. REV. 59, n.77 (2004).
 209. See, e.g., *South-Central Timber Dev., Inc. v. Wunnicke*, 467 U.S. 82, 93 (1984).
 210. *Id.* at 93 (“Our cases make clear that if a State is acting as a market participant, rather than as a market regulator, the dormant Commerce Clause places no limitation on its activities.”). The issue in *Wunnicke* was whether Alaska could require that locally harvested timber be “partially processed” in-state before leaving the state. The Court held that this made Alaska a regulator, taking it outside of the scope of the market participant exception.
 211. See generally CAL. PUB. RES. CODE § 42476(f)(4) (West 2014) (“The board declares that the state is a market participant in the business of the recycling of covered electronic waste for all of the following reasons: (A) The fee is collected from the state’s consumers for covered electronic devices sold for use in the state.... (C) The recycling system funded by the fee ensures that economically viable and sustainable markets are developed and supported for recovered materials.”).
 212. A state can directly subsidize the primary-processing industry within the state. See, e.g., *Hughes v. Alexandria Scrap Corp.*, 426 U.S. 794 (1976) (upholding a Maryland statute that differentiates between in-state and out-of-state scrap processors in terms of the needed documentation in order to receive a subsidy for the processed scrap).
 213. *Pike v. Bruce Church Inc.*, 397 U.S. 137, 142 (1970).
 214. *Or. Waste Sys., Inc. v. Dep’t of Env’tl. Quality of Or.*, 511 U.S. 93, 99 (1994).
 215. *In United Haulers Association Inc. v. Oneida-Herkimer Solid Waste Management Authority*, 550 U.S. 330 (2007), the Supreme Court decided that county ordinances requiring that all solid waste generated within the county be delivered to the county’s publicly owned solid waste processing facility do not violate the dormant Commerce Clause. The plurality upheld the ordinance under the *Pike* balancing test, pointing out “that the most palpable harm imposed by the ordinances—more expensive trash removal—is likely to fall upon the very people who voted for the laws. Our dormant Commerce Clause cases often find discrimination when a State shifts the costs of regulation to other States.... Here, the citizens and businesses of the Counties bear the costs of the ordinances.” *Id.* at 345. Similarly, the citizens of California, under its program, bear the costs of e-waste recycling.
 216. *Pike v. Bruce Church Inc.*, 397 U.S. 137, 142 (1970).
 217. The Supreme Court struck down a flow control ordinance that forced haulers to deliver waste to a particular private processing facility in *C & A Carbone, Inc. v. Clarkstown*, 511 U.S. 383, 386 (1994). But this precedent is inapplicable to California’s e-waste recycling program, which does not force anyone to deliver waste to a particular private processing facility. California’s recycling program is voluntary and does not favor any particular business.
 218. The Supreme Court has hinted that the exception could apply to the dormant Foreign Commerce Clause by analyzing whether it applied in *Wunnicke*, which concerned foreign commerce. *South-Central Timber Development, Inc. v. Wunnicke*, 467 U.S. 82, 93 (1984).
 219. This article does not develop the possibility of state e-waste export measures. If the constitutional hurdles to a state banning or taxing the export of e-waste to foreign countries could be overcome, the exporter could export from the next state that does not have export regulations.
 220. Revision to the Export Provisions of the Cathode Ray Tube Rule 77 Fed. Reg. 15336-01, 15340 (proposed Mar. 15, 2012) (“Because of the Federal Government’s special role in matters of foreign policy, EPA does not authorize States to administer Federal import/export functions in any section of the RCRA hazardous waste regulations. This promotes national coordination, uniformity and the expeditious transmission of information between the United States and foreign countries.”).
 221. See CAL. PUB. RES. CODE § 42463(f) (West 2014) (“‘Covered electronic waste’ or ‘covered e-waste’ means a covered electronic device that is discarded.”).
 222. See CAL. PUB. RES. CODE § 42463(e)(1) (West 2014) (“Except as excluded in paragraph (2), ‘covered electronic device’ means a video display device containing a screen greater than four inches, measured diagonally, that is identified in the regulations adopted by the department....”).
 223. The provisions in 22 C.C.R. § 66273.1 do not cover scrap. See 22 C.C.R. § 66273.9 (2013) for definitions.
 224. Tom Knudson, *Where’s Most of That Toxic E-Waste Going? Overseas*, SACRAMENTO BEE, Nov. 28, 2010, <http://www.mcclatchydc.com/2010/11/28/104396/wheres-most-of-that-toxic-e-waste.html> (“State records do not clearly reflect how much is exported, but industry officials put the number at 160 million to 210 million pounds a year. That is enough to fill more than 4,500 shipping containers.”).
 225. *Id.* (“Domestically, California’s program is doing just what officials intended: It has outlawed e-waste from landfills and jump-started a multimillion-dollar state industry to recycle televisions, computer monitors and other video display devices, paid for with public money. But there is a blind spot: The program provides no money for anything else, meaning large volumes of low-value, hazardous electronic waste that are difficult to recycle at a profit in California are instead being exported, a consequence the state did not anticipate. Much of it is flowing to developing nations where it is picked apart by workers exposed to a high-tech cocktail of contamination.”).
 226. Note that EPR programs face even greater difficulties under the Commerce Clause: if manufacturers are only required to take back waste, and not required to recycle it in-state, they could simply ship the waste to another state or country that does not have e-waste laws.

Jennifer Chen received her J.D. in 2012 from New York University School of Law. Ms. Chen placed first in the New York State Bar Association Environmental Law Section’s 2012 Professor William R. Ginsberg Memorial Essay Contest with this essay. The author is grateful to Professors Richard Stewart and Michael Livermore for their encouragement and helpful comments. She is also indebted to the N.Y.U. *Environmental Law Journal* editors for their helpful suggestions and hard work in preparing this manuscript for publication.

This article has previously been published in the St. John’s University *Environmental Law Journal*, Vol. 21, No. 1, 2014.

Navigating Treacherous Waters: The Navigation Law and Private Petroleum Cleanup Costs

By Michael Kettler

I. Introduction

New York's Oil Spill Prevention, Control, and Compensation Law, codified as article 12 of the New York Navigation Law (the "Navigation Law"), empowers the state to clean up oil spills and impose strict liability for the cleanup costs on those responsible for the discharge. The law also creates a private right of action for recovery of petroleum cleanup costs.¹ Unlike many state statutory and common law claims often asserted along with CERCLA claims, the Navigation Law scheme is similar to CERCLA, imposing strict liability on an expansive class of responsible parties and permitting a private right of action for cleanup costs.²

The Navigation Law typically has been applied to relatively small-scale events, such as leaks from residential fuel tanks³ or gas station USTs.⁴ However, the Second Circuit upheld Navigation Law claims to recover CERCLA cleanup costs at a multi-party site implicating both petroleum and non-petroleum industrial operations.⁵ Thus, the Navigation Law may be used to recover CERCLA cleanup costs that address petroleum contamination even when those costs are not recoverable under CERCLA itself.

This article discusses the structure of liability under the Navigation Law: who is liable, who can recover, and what damages are available. The article also notes situations where Navigation Law remedies are more limited than CERCLA. Then, the article discusses ways in which the Navigation Law provides relief not available under CERCLA. The Navigation Law imposes strict liability for cleanup costs that otherwise might not be recoverable due to CERCLA's petroleum exclusion. The statute of limitations is longer and accrues later under the Navigation Law than under CERCLA in certain circumstances. Finally, unlike CERCLA, the Navigation Law imposes liability on previous landowners who did not discharge petroleum themselves but failed to act to remediate known petroleum contamination. And, unlike many state law environmental remedies that might be used in place of CERCLA, the Navigation Law creates a similarly aggressive cleanup scheme for petroleum contamination in New York that CERCLA created for hazardous substances nationwide.

Thus, companies with historic or current petroleum operations in New York should be aware of the further source of liability the Navigation Law presents. On the other hand, the Navigation Law creates an opportunity for parties adverse to petroleum operators at multi-party cleanup sites to recover costs that might not be available in other states.

II. Structure of Navigation Law Liability

A. Liable Parties Under the Navigation Law

The Navigation Law imposes strict liability on any person who discharges petroleum.⁶ "Discharge" and "petroleum" are the key terms establishing the reach of liability. As befitting an environmental statute, these terms are defined broadly.⁷

A person's status as a "discharger" depends on the person's *ability to control* the release of petroleum regardless of that person's role in the activities that led to the discharge. Thus, a landowner whose lessee owned and maintained a leaking above-ground kerosene tank was a discharger.⁸ Similarly, even where a previous owner caused the discharge, the current landowner is a discharger if he knows about the discharge but does nothing in response.⁹

The Navigation Law applies to discharges to both groundwater and surface water.¹⁰ Furthermore, petroleum need not actually contaminate surface water or groundwater. A release of petroleum onto land is a discharge if it "*might* flow or drain into" the waters of the state.¹¹ Thus, courts permit Navigation Law claims for petroleum cleanups that do not address water impacts.¹²

The statute's broad definition of petroleum extends liability beyond gas stations, underground storage tanks, oil terminals, and other obvious petroleum suspects. Petroleum need not be the substance that actually triggers the cleanup obligation as long as some petroleum was discharged. For example, the Navigation Law allowed recovery of costs to clean up PCBs that were contained in mineral oil when disposed.¹³

Although the Navigation Law's definition of "petroleum" is broad, it does not apply to many common CERCLA contaminants such as dry-cleaning solvents or metals. The advantages of the Navigation Law for parties conducting cleanups that are discussed in this article thus would be unavailable if the opposing PRP released only dry-cleaning solvents, for example.

B. Damages Claims vs. Contribution Claims

The statute provides two different mechanisms by which private parties can recover costs of petroleum cleanups: a "damages" claim pursuant to Navigation Law § 181(5) and a "contribution" claim pursuant to Navigation Law § 176(8). In general terms, "innocent" parties can bring damages claims under § 181(5),¹⁴ and parties who have themselves discharged petroleum should bring contribution claims under § 176(8).¹⁵

Defendants face joint and several liability in damages actions.¹⁶ Thus, at a multi-contaminant, multi-defendant site that also has multiple petroleum dischargers, a PRP that did not discharge petroleum could impose all petroleum cleanup costs on one discharger. In contrast, liability in a contribution claim to allocate liability among multiple petroleum dischargers should be several, not joint and several. Analogous state and federal contribution statutes support this conclusion. New York's general contribution statute apportions liability among joint tortfeasors based on each tortfeasor's equitable share of the damages, which is determined by each tortfeasor's relative culpability.¹⁷ Similarly, CERCLA's contribution provision allocates costs among multiple PRPs with several liability, not the joint and several liability created by CERCLA's cost recovery section.¹⁸

It is uncertain whether the same strict liability standard for damages claims applies to contribution claims. The Navigation Law permits contribution claims against "any responsible party" whereas damages liability attaches to a "discharger." In *Dora Homes, Inc. v. Epperson*, the Eastern District held that a "responsible party" under § 176(8) must bear some higher level of responsibility than a mere "discharger": "Plaintiff must establish that Defendants are 'dischargers'...and are a responsible party."¹⁹ Under the *Dora Homes* approach, a "responsible party" under § 176(8) must have caused the petroleum contamination.²⁰ However, other cases applying § 176(8) ignore the distinction made in *Dora Homes* between damages and contribution claims.²¹ Thus, a landowner whose knowing indifference to petroleum contamination makes it a discharger²² who is liable to a non-discharger in a damages action may nonetheless not be liable for contribution to another discharger because the landowner did not cause the contamination.

C. Cleanup Costs Recoverable Under the Navigation Law

Both damages and contribution claims permit recovery of petroleum "cleanup and removal costs."²³ Parties to EPA-supervised CERCLA cleanups²⁴ and DEC-supervised CERCLA cleanups²⁵ can recover the costs of those cleanups from petroleum dischargers. Voluntarily incurred cleanup and removal costs can also be recovered.²⁶ The requirement that DEC approve petroleum cleanup costs, the limited retroactive application of the Navigation Law, and the statute's cap on liability are potential limitations on the recovery of petroleum cleanup costs. CERCLA does not share these limitations on recovery of costs.

1. DEC Approval of Costs Required

Parties seeking recovery of voluntary or EPA-supervised cleanup costs must show that DEC approved their cleanup costs.²⁷ This requirement presents no obstacle for parties to DEC cleanups, since presumably DEC approves of those costs. New York district courts have applied this requirement more or less strictly. On the liberal end,

the Southern District held that MTBE remediation undertaken by regulated utility companies has the implied approval of DEC if "DEC was notified of the...remediation efforts and took no action."²⁸ On the more restrictive side, the Western District held that DEC must approve the cleanup specifically associated with oil contamination and that DEC and EPA's involvement with the site cleanup generally was insufficient.²⁹ Any party contemplating a claim for recovery of petroleum cleanup costs should keep DEC apprised to avoid this potential pitfall.

In contrast, private parties conducting CERCLA cleanups do not need EPA approval to recover costs from other PRPs.³⁰ CERCLA only requires that private response costs be "necessary" and consistent with the national contingency plan.³¹

2. Retroactivity Limited to Groundwater Contamination

The Navigation Law applies to some, but not all, discharges of petroleum that occurred before its effective date of April 1, 1978. The statute applies retroactively "[f]or purposes of cleanup and removal of any public or private ground water supply system contaminated by a discharge."³² Clearly, then, the statute applies to any discharge that contaminates wells used for drinking water.³³ Similarly, recovery under the Navigation Law will be denied for a soil rather than a groundwater remediation when the discharge occurred before 1978.³⁴ It is less clear whether the "ground water supply system" must be used for drinking water. Conceivably, a groundwater supply system could be used for commercial or industrial purposes; in fact, case law may not require that groundwater be put to any current use.³⁵

It is well settled that CERCLA applies retroactively, imposing liability for all releases that occurred before its passage.³⁶ For the Navigation Law, on the other hand, its applicability depends on what environmental medium the pollutant happened to be discharged into if the contamination occurred before 1978.

3. Liability Cap

Like the federal Oil Pollution Act, the Navigation Law caps liability. For a "major facility,"³⁷ liability is capped at either \$350 million or \$50 million for each incident.³⁸ The higher cap applies to onshore facilities subject to OPA's liability cap, and the lower cap applies to any other major facility.³⁹ Given the extraordinarily high caps, apparently they have never been invoked.

The lack of case law interpreting the term "incident" under the Navigation Law's liability cap is a source of uncertainty. A spill from an oil tanker clearly is one incident for which liability would be capped at \$350 million at most. Applying the cap to a petroleum tank that leaked over many years is less clear. The hole itself could be considered one incident, or each instance of leakage from the tank could be one of many incidents. Similarly, consider

an industrial process that entailed regular releases of petroleum from a pipe. The process could be considered a single incident, or each release from the pipe could be one of many incidents. If a court adopted the second option in each of these scenarios, the Navigation Law liability cap essentially would be nullified.

In contrast to the Navigation Law, there is no cap on CERCLA liability, which can saddle its targets with costs in the billions. As noted above, the Navigation Law's \$350 million cap has never been invoked, but it could come into play in a massive CERCLA cleanup.

D. Navigation Law Statute of Limitations for Recovering Cleanup Costs

The limitations period for a claim for reimbursement of petroleum cleanup costs is six years regardless of whether that claim is a damages claim brought by an innocent party under § 181(5)⁴⁰ or a contribution claim under § 176(8).⁴¹ A claim for cleanup cost reimbursement accrues when the plaintiff makes payments for petroleum cleanup, and a new and separate claim accrues for each payment.⁴²

III. Navigation Law Remedies That Are Broader Than CERCLA

CERCLA usually permits parties conducting CERCLA cleanups to recover the equitable shares of those costs from other responsible parties under CERCLA itself. But some parties manage to slip through CERCLA's net. The Navigation Law, which permits recovery of petroleum cleanup costs incurred under CERCLA,⁴³ provides broader remedies than CERCLA in some circumstances. Navigation Law claims could allow private parties remediate contaminated sites to increase their recoveries and hold on to those slippery adversaries. For example, in *Emerson Enterprises, LLC v. Kenneth Crosby New York, LLC*,⁴⁴ the defendant obtained summary judgment on CERCLA and RCRA claims, but could not defeat a Navigation Law claim. This section discusses the following areas where the Navigation Law provides broader relief: (1) the petroleum exclusion; (2) a more permissive statute of limitations for certain costs; and (3) holding parties liable for passive migration. It also discusses preemption issues that might arise if a party attempts to use the Navigation Law to recover CERCLA cleanup costs.

A. Petroleum Exclusion

CERCLA's definition of "hazardous substances" excludes "petroleum, including crude oil or any fraction thereof."⁴⁵ An oft-cited 1987 EPA memorandum interpreting the petroleum exclusion concludes that hazardous substances naturally found in crude oil, such as benzene, or normally added to petroleum during refining, such as the lead added to leaded gasoline, are outside CERCLA's coverage.⁴⁶ But the petroleum exclusion does not protect generators of waste petroleum that results from an industrial process.⁴⁷ Subsequent case law indicates that oil

refineries⁴⁸ and facilities storing crude oil,⁴⁹ as opposed to refined products like gasoline, are more likely subject to CERCLA liability. But facilities storing only refined petroleum products can usually avail themselves of the petroleum exclusion.⁵⁰

For a multi-contaminant site, a PRP responsible for non-petroleum hazardous substances could be held liable for petroleum cleanup due to CERCLA's joint and several liability. Yet the petroleum exclusion could prevent that PRP from obtaining CERCLA contribution from the party responsible for the petroleum.⁵¹ A California case, *Chubb Custom Insurance Co. ex rel. Taube-Koret Campus for Jewish Life v. Space Systems/Loral, Inc.*, exemplifies the difficulties faced by PRPs that might be compelled to clean up another party's petroleum contamination. A satellite manufacturer faced joint and several CERCLA liability for contamination that included petroleum originating from an adjacent gas station. The court granted a motion to dismiss by the former operator of the adjacent gas station, holding that the gas station operator was not liable under CERCLA because of the petroleum exclusion.⁵²

Parties cleaning up petroleum in New York, however, can avoid this unfortunate fate because the Navigation Law preserves a strict liability cause of action against petroleum dischargers even when the petroleum exclusion defeats CERCLA claims.⁵³ In states whose petroleum cleanup laws are less robust than the Navigation Law, parties cleaning up petroleum must fall back on common law claims, which usually require a showing of negligence⁵⁴ and which have more restrictive statutes of limitations.⁵⁵

B. Statutes of Limitations

As discussed above,⁵⁶ Navigation Law claims for recovery of cleanup costs have a six-year statute of limitations that accrues when the money is spent, regardless of whether it is a damages action by an "innocent" party or a contribution action by a fellow discharger. Developments in CERCLA case law unexpectedly barring claims for costs expended pursuant to a settlement with the government have made the Navigation Law an attractive option for settling parties to obtain contribution from other PRPs.

Both the Sixth and Seventh Circuits have barred CERCLA contribution claims for cleanups conducted pursuant to a settlement with the government that were filed more than three years after the settlement.⁵⁷ Accepting two premises leads to this result. First, CERCLA § 113(f)(3)(B)⁵⁸ provides the exclusive avenue for parties who have resolved their CERCLA liability with the government to proceed against other PRPs. The Second Circuit also adopted this rule.⁵⁹ Thus, parties settling with the government cannot bring a CERCLA cost recovery action under § 107. Second, the settling party is subject to the shorter three-year limitations period found in CERCLA § 113(g)(3)(B) rather than the more forgiving periods of §

113(g)(2).⁶⁰ New York courts have also held that CERCLA § 113(g)(3)(B) provides the statute of limitations for contribution claims by parties who have resolved their CERCLA liability with New York State and barred CERCLA claims filed more than three years after the settlement.⁶¹

The Southern District's recent opinion in *HLP Properties, LLC v. Consolidated Edison Co. of New York, Inc.* is even more restrictive. The court required a settling plaintiff to proceed under CERCLA § 113 rather than § 107 even for costs that were not part of the settlement agreement: "Because claims under §§ 107 and 113 provide mutually exclusive remedies, and the...plaintiffs are eligible to proceed under § 113, they are not permitted to proceed under § 107, even if certain costs might be recoverable only under that provision."⁶² Other cases, notably *Bernstein v. Bankert*, focus on the reason for expending the particular cleanup costs, not whether the party paying the costs has entered into any settlement with respect to any cleanup costs. In *Bernstein*, the Seventh Circuit permitted the same party whose claims based on one administrative order were untimely to bring § 107 cost recovery claims for costs under a second administrative order because the second order had not resolved that party's CERCLA liability.⁶³ In addition, *HLP Property's* reliance on the Sixth Circuit's *Hobart* opinion is misplaced, as *Hobart* was only seeking to recover money it spent under its settlement.⁶⁴ *Bernstein's* approach is more faithful to the statute, which bestows contribution protection only for "matters addressed in the settlement"⁶⁵ and which prohibits a contribution action brought "more than three years after...a judicially approved settlement with respect to such costs or damages."⁶⁶

Given the uncertainty about the statute of limitations for CERCLA claims of parties that have settled with the government, the Navigation Law could give some comfort, as its limitations periods are not tied to the date of the settlement. A party cleaning up petroleum has six years after spending its money to bring a Navigation Law claim against a discharger, and a new claim accrues for each payment for petroleum cleanup. Thus, the Navigation Law could preserve a case that would be untimely under CERCLA.

C. Liability for Passive Migration

CERCLA does not impose liability on previous site owners for "passive migration," the continued movement of hazardous substances into the environment without human intervention after the initial disposal. Passive migration might implicate previous landowners either when an earlier owner disposed a hazardous substance on the same property or when a neighbor released a hazardous substance that migrated to an adjoining property. The Second Circuit rejected CERCLA liability for passive migration in both instances. Passive migration is not "disposal," so a prior owner that did not release its own hazardous substances is not a CERCLA covered person regardless of where the contamination was originally

released.⁶⁷ Thus, previous owners must have disposed a hazardous substance to face CERCLA liability. On the other hand, a site's current owner is liable under CERCLA regardless of whether the current owner disposed of any hazardous substances.⁶⁸ The current landowner could assert CERCLA's third party, innocent landowner, contiguous property, and bona fide prospective purchaser defenses,⁶⁹ but these safe harbors have proved difficult to take advantage of.⁷⁰

The Navigation Law does not share CERCLA's disparate treatment of previous owners and current owners. The test to determine whether a landowner is a discharger is the same for previous owners and the current owner. A landowner is a discharger if it knew about the presence of petroleum but did nothing to address it.⁷¹ Although current owners are not liable automatically, previous owners are still liable for knowing inaction.

Whether an innocent owner whose attempt to remediate petroleum contamination was ineffective would be liable under the Navigation Law is an open question. The state decisions finding that an innocent landowner is a discharger deal with landowners who both knew about the petroleum discharge and *did nothing* to address it.⁷² However, the Southern District's opinion in *White Plains Housing Authority v. Getty Properties Corp.*⁷³ indicates that an ineffective cleanup may not overcome a Navigation Law claim. The complaint alleged that petroleum leaked from a gas station closed decades earlier. The former gas station owner had operated a remediation system on the property for several years with the cooperation of subsequent property owners.⁷⁴ The court denied the current landowner's motion to dismiss the Navigation Law claims. Although remediation continued after the current owner acquired the property in 2011, the current owner did not implement any new efforts. "[W]hile the complaint does allege that certain remediation efforts have taken place, presumably through access [the current owner] granted, the efforts allegedly were ineffective.... [The current owner] arguably should have done something more proactive to clean up the contamination."⁷⁵ The *White Plains* holding puts each subsequent landowner in a difficult position. It must implement further remediation efforts rather than relying on an ongoing remediation program when it purchases the property in order to avoid the inference that it did nothing to address petroleum contamination.

Parties conducting cleanups in New York can recover their costs from a wider range of other parties. Using CERCLA and the Navigation Law together, a party could recover cleanup costs both from a current owner that did not itself dispose a hazardous substance and from a previous owner that did not dispose of petroleum.⁷⁶

D. Preemption Concerns

Attempting to recover CERCLA cleanup costs under state law raises the specter of federal preemption. New

York cases imply that CERCLA does not preempt the Navigation Law. CERCLA does not preempt common law claims for “damages which are not available under CERCLA.”⁷⁷ The possibility that the petroleum exclusion would bar recovery of certain cleanup costs under CERCLA defeats preemption, as those costs would be “outside” of CERCLA according to the Second Circuit’s *Niagara Mohawk* formulation.⁷⁸

This reasoning may not suffice to defeat preemption where the Navigation Law is used to preserve an untimely CERCLA claim for contribution of cleanup costs expended under a settlement.⁷⁹ Unlike costs subject to the petroleum exclusion and liability based on passive migration of contaminants, these costs would not be “outside” of CERCLA but for the plaintiff’s delay in filing its CERCLA claim.

A line of cases declining to preempt state common law claims in CERCLA cost recovery actions may help tardy plaintiffs rest easier, however. When the state has brought CERCLA cost recovery claims under § 107, concurrent state law claims for indemnification and restitution were not preempted.⁸⁰ The court concluded that it did not “obstruct[] the goals of Congress and the purposes of CERCLA to allow the State to bring common law claims when it would be time-barred from bringing a CERCLA claim for the same response costs.”⁸¹ And a case considering CERCLA’s preemptive effect on state law claims by a private plaintiff also seeking CERCLA cost recovery held that *Hickey’s Carting* resolved the question of “whether state-law statutes of limitations conflict with CERCLA’s statute of limitations (they do not).”⁸²

A preemption proponent might argue that the *Hickey’s Carting* line of cases is inapplicable when a CERCLA contribution claim is untimely, as those cases involved CERCLA cost recovery claims under § 107.⁸³ After all, the Second Circuit held that state law contribution, indemnification, and unjust enrichment claims “conflict with CERCLA contribution claims and therefore are preempted.”⁸⁴

However, the rationale courts have given for preempting common law claims based on CERCLA § 113’s contribution provision does not apply to a settling party whose pursuit of other responsible parties is barred by CERCLA’s statute of limitations. Courts preempting state law have relied on CERCLA § 113(f)’s “carefully crafted settlement system,” which rewards settling parties with contribution protection and punishes non-settling parties by subjecting them to disproportionate liability.⁸⁵ The Second Circuit’s *Bedford* decision and cases following it preempt state law claims that would allow non-settling defendants to make an end run around CERCLA contribution protection and obtain contribution from settling defendants.⁸⁶ In contrast, preempting Navigation Law claims brought by settling defendants whose CERCLA claims are time-barred would discourage settlement of CERCLA liability. Settling defendants would bear a disproportionate share of the ultimate cleanup cost if Navi-

gation Law claims are preempted, a result that is contrary to CERCLA’s carefully crafted settlement system.

IV. Conclusion

New York’s Navigation Law imposes CERCLA-like strict liability for petroleum releases. If CERCLA recovery for a petroleum cleanup is frustrated, the Navigation Law could fill the gap in the federal statute’s coverage. Furthermore, a creative plaintiff can apply the Navigation Law to non-petroleum hazardous substances carried in an oil medium. This reasoning has been applied to PCBs, which were embedded in oil to insulate transformers.⁸⁷ Similar oil spill statutes in other states lack the characteristics that make the Navigation Law such a congenial companion to CERCLA. Other states’ laws require a showing of negligence rather than imposing strict liability,⁸⁸ provide a cause of action for property damage but not for petroleum cleanup costs,⁸⁹ or do not cover groundwater contamination.⁹⁰

Although cases discussed in this article address the interaction of Navigation Law and CERCLA on the issue of liability, courts have not addressed the crucial issue of apportionment and allocation of Navigation Law and CERCLA cleanup costs. When petroleum commingles with non-petroleum hazardous substances, how will the cleanup costs be distributed among Navigation Law dischargers and CERCLA PRPs?

If the Navigation Law discharger is not also liable under CERCLA, the court must apportion the costs attributable to petroleum from those attributable to CERCLA hazardous substances.⁹¹ The Navigation Law applies only to petroleum, and the Navigation Law discharger in this scenario is not legally responsible for CERCLA hazardous substances like a jointly and severally liable CERCLA PRP would be. Given the difficulty of this task, it would not be surprising for a court to follow the lead of *Emerson Enterprises, LLC v. Kenneth Crosby New York, LLC*, which imposed Navigation Law liability for a PCB cleanup because the PCBs were within mineral oil when they were dumped.⁹² A court might reason that the Navigation Law discharger is responsible for remediating any mixture containing petroleum, like the PCBs mixed with oil in *Emerson Enterprises*. This would collapse the Navigation Law discharger into CERCLA’s equitable allocation inquiry with all the other PRPs. But if the petroleum discharger can show that petroleum is not a remedy driver for the cleanup, a court might equitably allocate zero liability for petroleum contamination.⁹³

Companies with current petroleum-related operations or shuttered petroleum facilities in New York should be aware that, unlike in some other states, avoiding CERCLA liability may not suffice to avoid environmental cleanup costs. Conversely, parties conducting cleanups in New York involving petroleum have a powerful tool to increase their recoveries.

Endnotes

1. N.Y. Navigation Law § 181(5); *see also* Nav. Law § 176(8) (providing contribution cause of action for petroleum cleanup costs).
2. *See* Angela M. Demerle, *New York's Navigation Law Gets CERCLA'd: Trend or Misstep?*, NYSBA N.Y. ENVTL. LAW., Spring 2003, at 5.
3. *State v. Green*, 96 N.Y.2d 403, 729 N.Y.S.2d 420 (2001).
4. *White v. Long*, 85 N.Y.2d 564, 626 N.Y.S.2d 989 (1995).
5. *Niagara Mohawk Power Corp. v. Chevron U.S.A., Inc.*, 596 F.3d 112, 118, 137 (2d Cir. 2010).
6. Nav. Law § 181(1) ("Any person who has discharged petroleum shall be strictly liable, without regard to fault, for all cleanup and removal costs and all direct and indirect damages, no matter by whom sustained, as defined in this section.").
7. A "discharge" is "any intentional or unintentional action or omission resulting in the releasing, spilling, leaking, pumping, pouring, emitting, emptying or dumping of petroleum into the waters of the state or onto lands from which it might flow or drain into said waters." Nav. Law § 172(8). "Petroleum" is defined as "oil or petroleum of any kind and in any form including, but not limited to, oil, petroleum, fuel oil, oil sludge, oil refuse, oil mixed with other wastes and crude oils, gasoline, and kerosene." Nav. Law § 172(15).
8. *State v. Green*, 96 N.Y.2d 403, 407, 729 N.Y.S.2d 420, 423 (2001).
9. *State v. Speonk Fuel, Inc.*, 3 N.Y.3d 720, 724, 786 N.Y.S.2d 375, 379 (2004); *Emerson Enters., LLC v. Kenneth Crosby N.Y., LLC*, 781 F. Supp. 2d 166, 180 (W.D.N.Y. 2011).
10. Nav. Law § 172(18) (defining "waters" as "the ocean and its estuaries to the seaward limit of the state's jurisdiction, and all lakes, springs, streams and bodies of surface or groundwater, whether natural or artificial, within the boundaries of this state") (emphasis added).
11. Nav. Law § 172(8) (emphasis added).
12. *Merrill Transp. Co. v. State*, 94 A.D.2d 39, 42–43, 464 N.Y.S.2d 249, 251 (3d Dep't 1983) (applying Navigation Law to oil spill on highway); *Schenectady Indus. Corp. v. Upstate Textiles, Inc.*, 689 F. Supp. 2d 282, 289, 292–93 (N.D.N.Y. 2010) (applying Navigation Law to cleanup of hazardous waste in buildings).
13. *Emerson Enters., LLC*, 781 F. Supp. 2d at 170–71, 180; *see also Town of Halfmoon v. Gen. Elec. Co.*, ___ F. Supp. 3d ___, 2015 WL 2229236, at *13 (N.D.N.Y. May 12, 2015) (whether PCB-containing dielectric fluid used in capacitors was "petroleum" under Navigation Law was issue of fact for trial); *Schenectady Indus. Corp.*, 689 F. Supp. 2d at 288–89, 292–93 (applying Navigation Law to discharges of various substances from former textile operation, including adhesives, solvents, dyes, pigments, powders, grease, oil, and waste oil).
14. Any injured person can bring a damages "claim...directly against the person who has discharged the petroleum." Nav. Law § 181(5). A "claim" is a cause of action to recover cleanup costs or property damages brought by "any injured person, who is not responsible for the discharge." Nav. Law § 172(3) (emphasis added). Although an "innocent landowner" who purchased property contaminated by a previous owner may be deemed a discharger, innocent landowners can bring damages claims against prior owners because the innocent landowner is not "responsible for" the discharge under § 172(3)'s definition of "claim." *White v. Long*, 85 N.Y.2d 564, 569, 626 N.Y.S.2d 989, 991 (1995).
15. Section 176(8) of the Navigation Law allows petroleum dischargers to seek contribution from other dischargers: "every person providing cleanup, removal of discharge of petroleum [sic]...shall be entitled to contribution from any other responsible party."
16. *Niagara Mohawk Power Corp. v. Consol. Rail Corp.*, 291 F. Supp. 2d 105, 117 (N.D.N.Y. 2003); *State v. Passalacqua*, 19 A.D.3d 786, 791, 797 N.Y.S.2d 576, 580 (3d Dep't 2005).
17. CPLR 1402.
18. 42 U.S.C. § 9613(f)(1); *see United States v. Atl. Research Corp.*, 551 U.S. 128, 140 (2007) ("[A] PRP could not avoid § 113(f)'s equitable distribution of reimbursement costs among PRPs by instead choosing to impose joint and several liability on another PRP in an action under § 107(a).").
19. 344 F. Supp. 2d 875, 892 (E.D.N.Y. 2004) (emphasis added).
20. *Id.* at 892–93 (granting summary judgment for defendant when petroleum discharges in evidence occurred after defendant sold the property).
21. *Niagara Mohawk Power Corp. v. Chevron U.S.A., Inc.*, 596 F.3d 112, 137 (2d Cir. 2010) (upholding § 176(8) contribution claim without making distinction between "discharger" and "responsible party"); *Sunoco, Inc. (R & M) v. 175-33 Horace Harding Realty Corp.*, 969 F. Supp. 2d 297, 308 (E.D.N.Y. 2013) ("liability depends upon whether one is considered to be a 'discharger'" in action brought under § 176(8) or § 181(5)).
22. *See supra* note 9 and accompanying text.
23. Nav. Law § 181(5) ("Any claim by any injured person for the costs of cleanup and removal and direct and indirect damages based on the strict liability imposed by this section may be brought directly against the person who has discharged the petroleum"); Nav. Law § 176(8) ("every person providing cleanup, removal of discharge of petroleum [sic]...shall be entitled to contribution from any other responsible party").
24. *Cooper Indus., Inc. v. Agway, Inc.*, 987 F. Supp. 92, 97, 105 (N.D.N.Y. 1997).
25. *Niagara Mohawk Power Corp.*, 596 F.3d at 137; *Volunteers of Am. of W. N.Y. v. Heinrich*, 90 F. Supp. 2d 252, 255, 259 (W.D.N.Y. 2000).
26. *See* Nav. Law §§ 176(7)–(8), 181(5).
27. Nav. Law § 172(5) (defining "cleanup and removal costs" as costs incurred by "any person with the approval of the department").
28. *In re Methyl Tertiary Butyl Ether (MTBE) Prods. Liab. Litig.*, MDL 1358, 2007 WL 1601491, at *18 n.152 (S.D.N.Y. June 4, 2007).
29. *Atl. Richfield Co. v. Current Controls, Inc.*, No. 93-CV-0950E(H), 1996 WL 528601, at *11 (W.D.N.Y. Sept. 6, 1996).
30. *New York v. Shore Realty Corp.*, 648 F. Supp. 255, 263–64 (E.D.N.Y. 1986); *City of New York v. Exxon Corp.*, 633 F. Supp. 609, 616–17 (S.D.N.Y. 1986).
31. 42 U.S.C. § 9607(a)(4)(B).
32. Nav. Law § 190-a.
33. *State v. Cities Serv. Co.*, 180 A.D.2d 940, 940–41, 580 N.Y.S.2d 512, 513–14 (3d Dep't 1992).
34. *Z & H Realty, Inc. v. Office of the State Comptroller*, 259 A.D.2d 928, 930, 686 N.Y.S.2d 900, 902 (3d Dep't 1999).
35. *Compare Cities Serv. Co.*, 180 A.D.2d at 940–41, 580 N.Y.S.2d at 513–14, with *Bologna v. Kerr-McGee Corp.*, 95 F. Supp. 2d 197, 200, 203 (S.D.N.Y. 2000) (applying Navigation Law retroactively to groundwater contamination in Port Chester without discussing whether groundwater was used currently for drinking water or for any other purpose).
36. *United States v. Hooker Chems. & Plastics Corp.*, 680 F. Supp. 546, 556 (W.D.N.Y. 1988).
37. "Major facilities" include refineries, storage terminals, pipelines, and deep water ports but do not include facilities with petroleum storage capacity less than 400,000 gallons. Nav. Law § 172(11).
38. Nav. Law § 181(3)(a)(iv)–(v).
39. *Id.*
40. *Bologna v. Kerr-McGee Corp.*, 95 F. Supp. 2d 197, 204 (S.D.N.Y. 2000).
41. *See State v. Griffith Oil Co., Inc.*, 299 A.D.2d 894, 896, 750 N.Y.S.2d 685, 687 (4th Dep't 2002); *Grossjahn v. Geo. B. Wilkins & Sons, Inc.*, 244 A.D.2d 808, 810, 666 N.Y.S.2d 271, 273 (3d Dep't 1997).

42. *In re Methyl Tertiary Butyl Ether (MTBE) Prods. Liab. Litig.*, MDL 1358, 2007 WL 1601491, at *18 (S.D.N.Y. June 4, 2007).
43. See *supra* notes 24–25 and accompanying text.
44. 781 F. Supp. 2d 166 (W.D.N.Y. 2011).
45. 42 U.S.C. § 9601(14). A complete analysis of the petroleum exclusion is outside the scope of this article. For somewhat outdated but still illuminating discussions of the petroleum exclusion, see Daniel L. McKay, *RCRA's Oil Field Wastes Exemption and CERCLA's Petroleum Exclusion: Are They Justified*, 15 J. ENERGY NAT. RESOURCES & ENVTL. L. 41, 69–81 (1995); Christopher D. Knopf, *What's Included in the Exclusion: Understanding Superfund's Petroleum Exclusion*, 5 FORDHAM ENVTL. L.J. 3, 11–25 (1993).
46. Memorandum from Francis S. Blake, Gen. Counsel, U.S. Env'tl. Prot. Agency, to J. Winston Porter, Assistant Adm'r for Solid Waste & Emergency Response, U.S. Env'tl. Prot. Agency 6 (July 31, 1987), available at <http://www2.epa.gov/sites/production/files/2013-09/documents/petro-exclu-mem.pdf>.
47. *Id.*; see also *City of New York v. Exxon Corp.*, 766 F. Supp. 177, 185–88 (S.D.N.Y. 1991) (petroleum exclusion does not apply to waste oil byproduct of aluminum production containing metals which are hazardous substances).
48. *Tosco Corp. v. Koch Indus., Inc.*, 216 F.3d 886, 893–94 (10th Cir. 2000) (declining to apply petroleum exclusion to refinery whose releases of non-petroleum hazardous substances commingled with petroleum); cf. *Atl. Richfield Co. v. Current Controls, Inc.*, No. 93-CV-0950E(H), 1996 WL 528601, at *5 (W.D.N.Y. Sept. 6, 1996) (stipulated that successor to oil refinery was responsible party under CERCLA).
49. Storing crude oil produces “tank bottoms,” a waste containing hazardous substances that is discarded before refining. *Cose v. Getty Oil Co.*, 4 F.3d 700, 705–07 (9th Cir. 1993).
50. *White Plains Housing Auth. v. Getty Props. Corp.*, No. 13-cv-6282, 2014 WL 7183991, at *7–10 (S.D.N.Y. Dec. 16, 2014) (citing *Wilshire Westwood Assocs. v. Atl. Richfield Corp.*, 881 F.2d 801, 810 (9th Cir. 1989)).
51. *Atl. Richfield Co.*, 1996 WL 528601, at *10–11; see also *Chubb Custom Ins. Co. ex rel. Taube-Koret Campus for Jewish Life v. Space Sys./Loral, Inc.*, No. 5:09-cv-04485 JF/PVT, 2010 WL 5069827, at *11 (N.D. Cal. Dec. 7, 2010).
52. *Chubb Custom Ins. Co.*, 2010 WL 5069827, at *1, *8–11.
53. *White Plains Housing Auth.*, 2014 WL 7183991, at *7–10, *13; see also *Emerson Enters., LLC v. Kenneth Crosby N.Y., LLC*, 781 F. Supp. 2d 166, 176, 180 (W.D.N.Y. 2011) (upholding Navigation Law claim and dismissing CERCLA claim, not due to petroleum exclusion, but based on passive migration defense).
54. Courts generally conclude that storing petroleum is not an abnormally dangerous activity triggering strict liability under the common law. *Arlington Forest Assocs. v. Exxon Corp.*, 774 F. Supp. 387, 389–93 (E.D. Va. 1991). But see *In re Tutu Wells Contamination Litig.*, 846 F. Supp. 1243, 1269 (D.V.I. 1993) (operating gas station underground storage tanks above island aquifer was abnormally dangerous activity).
55. *Chubb Custom Ins. Co.*, 2010 WL 5069827, at *16–17 (statute of limitations barred common law claims because plaintiff had been on notice of petroleum contamination for more than three years).
56. See *supra* Section II.D.
57. *Hobart Corp. v. Waste Mgmt. of Ohio*, 758 F.3d 757, 766–76 (6th Cir. 2014), cert. denied, 135 S. Ct. 1161 (2015); *Bernstein v. Bankert*, 702 F.3d 964, 978–81 (7th Cir. 2012), as amended, 733 F.3d 190 (7th Cir. 2012).
58. 42 U.S.C. § 9613(f)(3)(B).
59. *Niagara Mohawk Power Corp. v. Chevron U.S.A., Inc.*, 596 F.3d 112, 127–28 (2d Cir. 2010).
60. Compare 42 U.S.C. § 9613(g)(3)(B) (action for contribution for response costs must be brought within three years of an administrative order under CERCLA § 122(g) or § 122(h) or the entry of a judicially approved settlement), with 42 U.S.C. § 9613(g)(2) (statute of limitations is three years from the completion of removal action or six years from the initiation of physical on-site construction of a remedial action).
61. *Chitayat v. Vanderbilt Assocs.*, 702 F. Supp. 2d 69, 82–83 (E.D.N.Y. 2010); see also *HLP Props., LLC v. Consol. Edison Co. of N.Y., Inc.*, No. 14 Civ. 01383 (LGS), 2014 WL 6604741, at *6 (S.D.N.Y. Nov. 21, 2014) (claims by party who resolved CERCLA liability to state under brownfield program were governed by § 113(g)(3)(B) statute of limitations but were timely due to tolling agreement).
62. 2014 WL 6604741, at *5 (citing *Hobart Corp. v. Waste Mgmt. of Ohio*, 758 F.3d 757, 767–68 (6th Cir. 2014)).
63. *Bernstein v. Bankert*, 733 F.3d 190, 207 (7th Cir. 2012).
64. *Hobart Corp. v. Waste Mgmt. of Ohio*, 923 F. Supp. 2d 1086, 1089 (S.D. Ohio 2012) (plaintiff paid for RI/FS under consent order and asserted contribution claim “related to the RI/FS”), *aff'd*, 758 F.3d 757 (6th Cir. 2014).
65. 42 U.S.C. § 9613(f)(2).
66. 42 U.S.C. § 9613(g)(3)(B) (emphasis added).
67. *Niagara Mohawk Power Corp. v. Jones Chem., Inc.*, 315 F.3d 171, 178 (2d Cir. 2003) (contamination originating on neighboring property); *ABB Indus. Sys., Inc. v. Prime Tech., Inc.*, 120 F.3d 351, 357–58 (2d Cir. 1997) (contamination originating on same property).
68. 42 U.S.C. § 9607(a)(1); see also Jasmine M. Starr, Note, *Making Good Neighbors: Liability for Passive Migration of Hazardous Waste Under CERCLA*, 31 ECOLOGY L.Q. 435, 452–53 (2004) (comparing current and previous owners’ liability for passive migration).
69. 42 U.S.C. § 9607(b)(3) (third party); 42 U.S.C. § 9601(35) (innocent landowner); 42 U.S.C. § 9607(p) (contiguous property); 42 U.S.C. § 9601(40) (bona fide prospective purchaser).
70. See Kenneth A. Hodson & Charles A. Oldham, *Defenses to Liability Under CERCLA*, 46 ARIZ. ST. L.J. 459 (2014).
71. See *supra* notes 8–9 and accompanying text.
72. *State v. Speonk Fuel, Inc.*, 3 N.Y.3d 720, 724, 786 N.Y.S.2d 375, 378 (2004); *State v. C.J. Burth Servs., Inc.*, 79 A.D.3d 1298, 1301, 915 N.Y.S.2d 174, 177 (3d Dep’t 2010).
73. No. 13-cv-6282, 2014 WL 7183991 (S.D.N.Y. Dec. 16, 2014).
74. *Id.* at *5.
75. *Id.* at *13.
76. See *Emerson Enters., LLC v. Kenneth Crosby N.Y., LLC*, 781 F. Supp. 2d 166, 175–76, 180 (W.D.N.Y. 2011) (CERCLA passive migration defense succeeded, but previous owner still liable under Navigation Law because it failed to act on its knowledge of discharges occurring before its ownership).
77. *Volunteers of Am. of W. N.Y. v. Heinrich*, 90 F. Supp. 2d 252, 258 (W.D.N.Y. 2000); accord *Niagara Mohawk Power Corp. v. Chevron U.S.A., Inc.*, 596 F.3d 112, 138–39 (2d Cir. 2010) (common law claims preempted where plaintiff “did not incur costs outside of CERCLA”).
78. *Town of Halfmoon v. Gen. Elec. Co.*, __ F. Supp. 3d __, 2015 WL 2229236 at *13 (N.D.N.Y. May 12, 2015); *Volunteers of Am. of W. N.Y.*, 90 F. Supp. 2d at 258.
79. See *supra* Section III.B.
80. *New York v. Hickey's Carting, Inc.*, 380 F. Supp. 2d 108 (E.D.N.Y. 2005); *New York v. West Side Corp.*, 790 F. Supp. 2d 13 (E.D.N.Y. 2011).
81. *Hickey's Carting, Inc.*, 380 F. Supp. 2d at 118–19.
82. *MPM Silicones, LLC v. Union Carbide Corp.*, 931 F. Supp. 2d 387, 402 n.19 (N.D.N.Y. 2013).

NYSBA's CLE Online

))) ONLINE | iPod | MP3 PLAYER

Bringing CLE to you... anywhere, anytime.

NYSBA is proud to present the most flexible,
"on demand" CLE solutions you could ask for.

With **CLE Online**, you can now get the valuable
professional learning you're after

...at your convenience.

- > Get the best NY-specific content from the state's **#1 CLE provider**.
- > Take "Cyber Portable" courses from your laptop, at home or at work, via the Internet.
- > Download CLE Online programs to your iPod or MP3 player.
- > Everything you need to obtain full MCLE credit is included **online!**



Come click for CLE credit at:
www.nysbaCLEonline.com



Features

Electronic Notetaking allows you to take notes while listening to your course, cut-and-paste from the texts and access notes later – (on any computer with Internet access).

Audio Seminars complement the onscreen course texts. You control the pace, and you can "bookmark" the audio at any point.

Bookmarking lets you stop your course at any point, then pick up right where you left off – days, even weeks later.

MCLE Credit can be obtained easily once you've completed the course – the form is part of the program! Just fill it out and mail it in for your MCLE certificate.

83. *See West Side Corp.*, 790 F. Supp. 2d at 22 ("the *Bedford* [preemption] holdings...are not apposite...since the dispute here does not arise under CERCLA § 113").
84. *Niagara Mohawk Power Corp. v. Chevron U.S.A., Inc.*, 596 F.3d 112, 138–39 (2d Cir. 2010) (emphasis added); *see also HLP Props., LLC v. Consol. Edison Co. of N.Y., Inc.*, No. 14 Civ. 01383 (LGS), 2014 WL 6604741, at *8 (S.D.N.Y. Nov. 21, 2014).
85. *Bedford Affiliates v. Sills*, 156 F.3d 416, 427 (2d Cir. 1998), *abrogation on other grounds recognized by W.R. Grace & Co.-Conn. v. Zotos Int'l, Inc.*, 559 F.3d 85, 90 (2d Cir. 2009).
86. *West Side Corp.*, 790 F. Supp. 2d at 22.
87. *See Emerson Enters., LLC v. Kenneth Crosby N.Y., LLC*, 781 F. Supp. 2d 166, 170–71, 180 (W.D.N.Y. 2011).
88. Connecticut's law requires negligence. Conn. Gen. Stat. Ann. § 22a-452 (imposing liability for cleanup of oil or petroleum "if such oil or petroleum...resulted from the negligence or other actions" of the defendant); *Conn. Resources Recovery Auth. v. Refuse Gardens, Inc.*, 642 A.2d 762, 765 (Conn. Super. Ct. 1993) ("culpability is an element of § 22a-452(a)").
89. Maryland's law only permits recovery of property damage caused by petroleum, so a CERCLA PRP could not obtain contribution for CERCLA cleanup costs under Maryland's law. Md. Code Ann., Envir. § 4-409(a) ("The person responsible for the oil spillage shall be liable to any other person for any damage to his real or personal property directly caused by the spillage.").
90. California's Lempert-Keene-Seastrand Oil Spill Prevention and Response Act does not apply to discharges to groundwater. Cal. Gov't Code § 8670.3(ag) ("Waters of the state...does not include groundwater").
91. *Cf. Niagara Mohawk Power Corp. v. Consol. Rail Corp.*, 291 F. Supp. 2d 105, 131 (N.D.N.Y. 2003) (application of CERCLA petroleum exclusion to asphalt facility "would go to separability of harm").
92. 781 F. Supp. 2d 166, 180 (W.D.N.Y. 2011).
93. *Cf. New York v. Solvent Chem. Co., Inc.*, 685 F. Supp. 2d 357, 448–49 (W.D.N.Y. 2010) (allocating zero liability for one CERCLA PRP).

Michael S. Kettler is an associate at K&L Gates LLP in New York City. He graduated from Columbia Law School and the University of Pennsylvania. Mr. Kettler would like to thank B. David Naidu for encouraging him to pursue this article and for his incisive comments during its preparation. For the avoidance of doubt, this article does not constitute legal advice and should not be relied on as such.

Tribal Water Codes—Their Administration and Enforcement

By David L. Ganje

“Written laws are like tracks in the snow. They are evidence of tribal activity.”

Will Mayo, Past President of Tanana Chiefs Conference

Introduction

Codification of a Tribal Water Code, like the drafting of all laws, is the act of anticipation, not the act of prediction. Codification of a Tribal Water Code should be distinguished from quantification of water rights. Codification of reserved water rights is an essential act of sovereignty. Because each tribe will have to individualize the reasoning for regulation of water quality and water management and because jurisdictional issues on a tribe's reserved water rights will never be the same twice, existing case law *will not* clearly or fully answer the question of a Tribal Water Code's enforceability. Each tribe should undertake the process of laying the groundwork and establishing the need and purpose of its existing or new water code. A discussion of some relevant case law on the matter of Tribal Water Codes follows.

Part I

Historical and Legal Context and Some Relevant Case Law Affecting Tribal Water Codes

1. *Winters v. United States*, 207 U.S. 564 (1908)

The doctrine of federal reserved water rights is derived from *Winters v. United States*, 207 U.S. 564 (1908). The U.S. Supreme Court ruled that when the United States creates an Indian reservation, it impliedly reserves sufficient water to fulfill the purposes of the reservation, *with the water claim priority date* established as of the date of the reservation. The Supreme Court held that the right to use waters flowing through or adjacent to the Fort Berthold Indian Reservation was reserved by the treaty establishing the reservation. Although the treaty did not mention water rights, the Court ruled that the federal government, when it created the reservation, intended to deal fairly with American Indians by preserving for them waters without which their lands would have been useless. Later decisions, citing *Winters*, established that courts can find federal rights to reserve water for particular purposes if (1) the land in question lies within an enclave under exclusive federal jurisdiction, (2) the land has been formally withdrawn from federal public lands—i.e., withdrawn from “inventory” lands available for private use under federal land use laws—and set aside or reserved, and (3) the circumstances reveal the government intended to reserve water as well as land when establishing the reservation. The Supreme Court in *Winters* stated Indians “had command of the lands and the waters—command

of all their beneficial use, whether kept for hunting, and grazing roving herds of stock, or turned to agriculture and the arts of civilization.”

2. *Arizona v. California*, 373 U.S. 546 (1966)

This important case explains that **non-use** of a *Winters* water right reserved **does not lead to a loss of that right**. Congress did not create an Indian Reservation “without intending to reserve waters necessary to make the reservation livable.” The Court held that the United States did in fact “reserve the water rights for the Indians effective as of the time the Indian Reservations were created.” The Court ruled that water rights are “present perfected rights” and as such are entitled to priority and may not be ceded or taken away.

3. *Montana v. United States*, 450 U.S. 544 (1981)

In *Montana*, the Court in an important declaration of “water” jurisdiction held that a tribe may “exercise civil authority over the conduct of non-Indians on fee lands within its reservation when that conduct threatens or has some direct effect on the political integrity, the economic security, or the health or welfare of the tribe.” This is the so-called Montana “**second exception**.”

4. *Brendale v. Confederated Tribes and Bands of Yakima Nation*, 492 U.S. 408 (1989)

The Court ruled that the Tribe in *Brendale* did not have the power to apply its zoning laws to property owned by non-Indians in areas of the reservation that had lost their Indian character—the population in the disputed areas was largely white. The Yakima Nation could, however, apply its zoning laws to those areas of the reservation that retained their essentially Indian character. Although there was no majority opinion in *Brendale*, the result of the Court's several opinions was to eliminate the power of tribes to exercise civil jurisdiction over the activities of non-Indians on the reservation, even where those activities implicate an important tribal interest. But see the water code decisions in paragraphs 5, 6, 7, 9, 10, and 11 of these comments. Importantly, the North Dakota Supreme Court, in discussing *Brendale*, stated, “Although there was no majority consensus on the rationale to support the result reached in *Brendale*, **the decision underscores the importance of particular facts in determining whether a state may regulate non-Indian activities within an Indian reservation.**” *Application of Otter Tail Power*, 451 N.W.2d 95.

5. *Strate v. A-1 Contractors*, 520 U.S. 438 (1997)

Tribal jurisdiction over a highway accident case on a highway running through the reservation was not upheld. But the Court in *Strate* also stated, “Neither regulatory nor adjudicatory authority over the state highway accident at issue is needed to preserve the right of reservation Indians to make their own laws and be ruled by them. *Williams*, 358 U. S., at 220.” The general *Montana* ruling, therefore, and not the important second *Montana* exception, applied to the *Strate v. A-1* case.

6. *South Dakota v. Yankton Sioux Tribe*, 522 U.S. 329 (1998)

In *Yankton*, because the Tribe did not establish on the record at the trial that the challenged landfill on a non-Tribal member’s fee land would compromise the “political integrity, the economic security, or the health or welfare of the tribe,” the Supreme Court concluded that the Tribe could not invoke its inherent sovereignty under the exceptions in *Montana*.

7. *In re General Adjudication of All Rights*, 195 Ariz. 411, 989 P.2d 739 (1999)

This case was a series of several cases and opinions decided by the Arizona Supreme Court on reserved water rights. The Arizona Court held, among other matters, that implied rights to water include sufficient waters to satisfy the future as well as the present needs of the Reservations and also **extend to groundwater** to the extent that the groundwater is necessary to satisfy the needs or purpose of the activity on a reservation, and established that a **homelands principle** of water quantification should be used. The court stated that federal water law supersedes state law if state law frustrates the purpose or goal of protecting or securing reserved water rights. The Arizona Court held that holders of federal reserved rights enjoy greater protection from groundwater pumping than do holders of state law rights to the extent necessary to accomplish the purpose of water-related activities on the reservation.

The Arizona Supreme Court in the first *Gila River* opinion held that the federal reserved water rights doctrine applies to groundwater. Previously, in 1989, the Wyoming Supreme Court had refused to recognize a reserved water right to groundwater. *In re Gen. Adjudication All Rights to Use Water in the Big Horn River Sys. (Big Horn II)*, 753 P.2d 76, 99–100 (Wyo. 1988), *aff’d without opinion sub nom.*, *Wyoming v. United States*. Two other courts have also followed the Arizona Supreme Court’s lead and have held that tribes may claim reserved rights to **groundwater** that underlies their reservation lands. *Confederated Tribes of the Salish and Kootenai Tribes of the Flathead Reservation v. Stulz*, 59 P.3d 1093 (Mont. 2002); and *United States v. Washington Department of Ecology*, No. C01-0047Z (W.D. Wash. Feb. 24, 2003). In the *Salish and Kootenai* case, the Montana Supreme Court ruled that the Montana Department of Natural Resources and

Conservation may not grant new permits for the appropriation of water within the Flathead Reservation until the reserved rights of the Flathead Tribes are quantified. The Arizona Supreme Court concluded in the second *Gila River* opinion that the **practically irrigable acreage standard** is **not** assumed to be the appropriate criterion for the quantification of tribal water rights on all reservations. Several years later a U.S. District Court addressed the Arizona water cases. In *United States v. Washington Department of Ecology*, 375 F. Supp. 2d 1050 (W.D. Wash. 2005), the Court held that the Treaty at issue applies both to surface and groundwater within the Reservation. Although the irrigable land within the Reservation in the Washington Department case was not large, the judge concluded that agriculture nevertheless was the primary purpose of the 1855 Treaty. The judge rejected, however, the United States’ and the Tribe’s request that he adopt the homelands theory of reserved rights articulated by the Arizona Supreme Court in the *Gila River* cases. The judge stated in his opinion, “The appropriate inquiry under federal law requires a primary purpose determination based on the intent of the federal government at the time the Reservation was established. *Winters*, 207 U.S. at 577. These implied *Winters* rights are necessarily limited in nature.”

On the issue of **groundwater as a reserved water right**, both Montana and Washington followed suit. The Montana Supreme Court held in 2002 there was “no reason to limit the scope of our prior holdings” by excluding groundwater from the Tribes’ federally reserved water rights. It also recognized the appropriate role of the state in quantifying and negotiating Indian reserved water rights, noting that quantifying the amount of groundwater available to the Tribes is simply another component of that inquiry. In 2005, a federal district court in Washington State affirmed an earlier decision that held that reserved *Winters* rights extend to groundwater, and that the Reservation holds rights to the groundwater on the Reservation. Groundwater in hydrology is connected to surface water; it is only logical to have both treated the same.

8. *Confederated Salish and Kootenai Tribes v. Clinch*, 336 Mont. 302, 158 P.2d 377 (2007)

The majority in this Montana Supreme Court case authorized the state’s Department of Natural Resources and Conservation to process applications for changes of water uses by non-Indians on the Reservation, even though **the Tribe’s water rights have not yet been quantified**. The Montana Supreme Court remanded the case directing the trial judge to determine whether the state had authority to process applications, given the Supreme Court’s line of cases dealing with state regulatory and taxing jurisdiction over non-Indians on reservations. The court’s stated concern was whether the proposed changes in water use would adversely affect the Tribes’ reserved water rights and have an impact on the Tribes’ political integrity, eco-

conomic security, health, or welfare. The Montana Supreme Court stated that even if the trial judge finds in favor of state jurisdiction, under Montana law the non-Indian applicants will still have to prove that the “proposed change in appropriation right will not adversely affect the use of the existing water rights of other persons,” including the Tribes’ rights. The Montana Court is suggesting that the unquantified nature of a Tribes’ water rights does not preclude a decision by a Montana court when a “change of use” is at issue.

9. *Plains Commerce Bank v. Long Family Land & Cattle Co.*, 554 U.S. 316 (2008)

In *Plains* the Supreme Court discussed the limits on the Tribal Court’s adjudicatory powers over non-Indians. Justice Roberts held that the tribal court lacked jurisdiction to hear the tribal member’s discrimination claim because the court lacked the civil authority to regulate the non-member creditor Bank’s sale of its fee land. Roberts stated that tribal tort law “operates as a restraint on alienation” because it sets limits on how nonmembers may engage in commercial transactions, and therefore it is a form of regulation. Roberts centered the case on whether the Cheyenne River Tribe can regulate the sale of fee land. But the limitations on tribal jurisdiction discussed in the case **do not apply** to the Tribe’s legislative and administrative act in creating and enforcing a Tribal Water Code. Justice Roberts for the majority (perhaps unknowingly) stated, “The tribe is able fully to vindicate its sovereign interests in protecting its members and preserving tribal self-government by regulating nonmember *activity* on the land, within the limits set forth in our cases of reserved water rights” (*italics in original*).

10. *Bugenig v. Hoopa Valley Tribe*, 266 F.3d 1201 (2001)

The Ninth Circuit held in the *Bugenig* case that it would be “difficult to imagine how serious threats to water quality could not have profound implications for tribal self-government.”

The issue in *Bugenig* was whether the Hoopa Valley Indian Tribe has authority to regulate logging by a non-Indian on fee land that the non-Indian owns, located wholly within the borders of the Tribe’s Reservation, in order to protect tribal lands of cultural and historic significance. The district court held that Congress expressly delegated such authority to the Tribe. The Ninth Circuit Court of Appeals in a full en banc decision agreed.

“This case involves the regulation of a non-Indian’s conduct on land owned by a non-Indian wholly within the boundaries of a reservation. As in *Mazurie*, the ordinance at issue affects ‘the internal and social relations

of tribal life,’ a subject as to which the Tribe retains at least some independent authority. 419 U.S. at 557; *see also Brendale*, 492 U.S. at 441 (holding that an Indian tribe retained inherent authority to zone land held in fee by a non-member in a closed area of a reservation); *Montana*, 450 U.S. at 566 (noting that Indian tribes retain inherent power to exercise civil authority over the conduct of non-Indians on fee lands within the reservation ‘when that conduct threatens or has some direct effect on the...health or welfare of the tribe’).”

11. *Montana v. EPA*, 137 F.3d 1135 (9th Cir.), *cert. denied*, 119 S. Ct. 275 (1998)

This case **upheld** the determination of **tribal inherent authority over water quality** under the Clean Water Act. In *Montana v. EPA*, the Ninth Circuit upheld water quality regulations by the Tribe as validly reflecting the Supreme Court’s delineation of the scope of inherent tribal authority. The Court cited three reasons for its determination that EPA had properly found the authority to promulgate water quality standards as falling within the scope of the Salish and Kootenai Tribes’ inherent sovereign authority.

First, the court noted that in requiring the impacts on tribal health and welfare to rise to a level of “serious and substantial,” the EPA properly accounted for the Supreme Court’s comments on inherent authority in *Brendale*. The State of Montana argued that *Brendale* in fact has repudiated the *Montana v. U.S.* standard of inherent authority. The Ninth Circuit rejected that argument, noting instead that *Montana v. U.S.* was recently “reaffirmed” by the Supreme Court in *Strate v. A-1 Contractors*. **Second**, the Ninth Circuit noted that EPA’s finding of serious and substantial threats to tribal health and welfare is supported by Ninth Circuit precedent holding that threats to water rights may invoke inherent authority. **Third**, the court stated that its decision was “fully consistent” with the Tenth Circuit’s recent decision in *City of Albuquerque v. Browner*. In the *Browner* case, the Tenth Circuit recognized the authority of the Pueblo Tribe to establish water quality standards more stringent than federal standards, finding such authority to be “in accord with powers inherent in Indian tribal sovereignty.” In *Montana v. EPA* the court distinguished the impact to a Tribe from water pollution emanating from nonmember-owned fee lands in the *Strate v. A-1* highway case by stating, “[T]he conduct of users of a small stretch of highway has no potential to affect the health and welfare of a tribe in any way approaching the threat inherent in impairment of the quality of the principal water source.” *Montana v. EPA*, 137 F.3d at 1141.

12. Moratorium on Tribal Water Codes. See attached letter dated July 7, 2014.

Stephen G. Levy,
Of Counsel
Certified as an Elder Law Attorney
by the National Elder Law
Foundation of Counsel

DAVID L. GANJE
ATTORNEY AT LAW
GANJE LAW OFFICES

Law Clerks:
Debra Roseth
Piko Mbolekwa
Michael Fleming
Joseph C. Smith

1830 West Fulton Street, Suite 201
Rapid City, South Dakota 57702
Phone: (605) 385-0330
Website: <http://www.ganjelaw.com>

21 Everett Road Extension
Albany, New York 12205
Phone: (518) 437-9000
Website: <http://www.ganjelaw.com>

July 7, 2014

Michael S. Black, Director
And

Wayne Stone Esq., Water Rights Specialist
Bureau of Indian Affairs
Great Plains Regional Office
115 4th Avenue Southeast, Suite 400
Aberdeen, South Dakota 57401

via email and Fax (605) 226-7446

Re: Tribal Water Code moratorium under the Memorandum of Rogers C.B. Morton, Secretary of the Interior (Interior), to the Commissioner of Indian Affairs, (Jan. 15, 1975)

Gentlemen:

I have been invited to speak on the topic of Tribal Water Codes at the upcoming Tribal Water Alliance water rights conference sponsored by the Great Plains Tribal Water Alliance. This program is to be held in Rapid City SD on the 23rd and 24th of July. In preparation for my presentation I would appreciate your providing me with the information requested in this letter.

I write concerning the longstanding moratorium (moratorium) which has been in place for several decades now establishing an official policy by Interior and the Bureau of refusing to approve applications by Indian tribes when submitting tribal water codes and ordinances for agency approval. This moratorium is based upon the memorandum of Rogers C.B. Morton, Secretary of the Interior, to the Commissioner of Indian Affairs, (Jan. 15, 1975). The moratorium to my knowledge is not in effect by promulgated regulation or by submitted and passed legislation. Final rules supporting the moratorium have not been issued. I am unaware of any current or recent rulemaking to establish the moratorium as a rule. If such has occurred would you please provide this information?

My additional questions are found in two general topics as follows:

1. What is the current BIA and Interior position and policy relative to this 1970s informal moratorium? What is the legal basis under which the BIA and Interior continues the moratorium? Do the BIA and Interior take the position that the moratorium is still in place? I have been unable to locate any current policy statements or findings. Information regarding the preceding matters, if it exists, is relevant to my presentation considering the length of time that the moratorium has allegedly been in effect. I would appreciate your providing this information and supporting authority so that I might use it in the upcoming presentation.
2. How has the BIA and Interior addressed the moratorium under the mandate of Executive Order (EO) 13175? The moratorium is a 'policy statement' or 'agency action' subject to EO 13175 which Executive Order was issued and dated November 6th 2000. Did the *designated tribal consultation official* formulate a policy under Section 2 and 3 of EO 13175 to support the moratorium? Did the BIA and Interior designated tribal consultation official consult with the affected tribes regarding the moratorium pursuant to EO 13175? If the preceding were undertaken, did the agency also provide certification of compliance to OMB pursuant to the Executive directive under the subsequent Memorandum of the Executive Office of the President, Office of Management and Budget, issued and dated July 30th 2010 (Memorandum)? The Memorandum, published at 74 Fed Reg. 57879, is applicable in that the moratorium under Section 2 of the Memorandum has a direct effect on one or more Indian tribes as well as on the distribution of power and responsibilities between the Federal Government and Indian tribes. The Memorandum requires all agencies to create a detailed plan of action that documents agency steps taken to implement the directives of EO

13175. On and after August 2nd 2010, and annually thereafter, agencies are also required to submit to the Director of OMB a progress report on the status of each matter that is subject to EO 13175 and the Memorandum. Would you please provide the last most recent progress report?

I would therefore appreciate your sharing with me answers to the foregoing questions as well as the requested information and reports for the purpose of my presentation at the upcoming Water Alliance Workshop. If you have any questions concerning my requests please do not hesitate to contact me. I look forward to your anticipated cooperation and response, and again thank you for your immediate attention to these requests.

Sincerely,

/s/

David L Ganje

Part II

Issues, Strategy and Recommendations for Writing and Maintaining Successful Tribal Water Codes

Writing and Enforcing the Tribal Water Code—Some Considerations:

- A. **Tribal Needs.** Which system and water code language better serves community needs and matches existing Tribal law and customary uses of water? Which system and water code language better anticipates all future water uses and is best for long-term Tribal interests?
- B. **Enforcement.** Which system and water code language would be more successful in its enforcement? Does the code fully describe actual as well as possible uses of water? Agricultural, municipal, industrial, mixed, other?
- C. **Defense.** Which system and water code language can be defended against challenges by a state or others? How does a Tribe, through its code, maximize their ability to maintain jurisdiction over water?
- D. **Neighboring Systems.** Does the system and water code match or differ from a state's system? What are the advantages and disadvantages in adopting procedures similar to a state's?

Some Additional Considerations—Making the Record

Constitution of the United States

- Would the Code violate any provisions of the Constitution (e.g., encroach on the enumerated powers of the federal government, contract clause, etc.)? If yes, which provisions?

Constitution of the Tribe

- Would the Code violate any provisions of the Constitution? If yes, what provisions?
- Does the tribal constitution require any special action be taken on the Code? If yes, please specify the action.

General Laws

- Would the Code create an amended or new General Law? If yes:
 - What is the proposed new chapter number?
 - Has the proposed number/version of the General Law ever been previously repealed?
- Would the Code amend any existing tribal laws? If so, please list and answer the following:
 - What is the history of the section of the law being amended (when was it enacted, last amended, etc.)?
 - Have there been any court decisions based on the section of the law which would be impacted?
- Does the Code include references to other statutes (treaty, federal, state, special acts)? If yes, are the references correct?
- Does the Code include an effective date or an emergency preamble and, if not, does it need to include an effective date or an emergency preamble?

Case Law

- Is the Code the result of a federal, tribal or state court action (e.g., was it filed in response to coverage of a perceived statutory deficiency, filed in response to a specific court reference of a statutory deficiency, etc.)?

General

1. How widely should the Code apply? For instance, should it cover both individuals and corporations?
2. How are the terms to be defined?
3. Who will administer the Code? Will any changes to the law, such as the creation of positions or an appropriation, follow from that decision?
4. Are penalties or other enforcement mechanisms appropriate; see, for example, the Holly case?

David L. Ganje, Ganje Law Offices, is a natural resources law, commercial law, and commercial litigation attorney. He practices in South Dakota, North Dakota, and New York.

Recent Decisions and Legislation in Environmental Law

Recent Decisions

***Cedar & Washington Assocs., LLC v. Port Auth. of N.Y. & N.J.*, 751 F.3d 86 (2d Cir. 2014)**

Facts

Cedar & Washington Associates, LLC began renovations on a 12-story downtown office building and were thereafter required by the New York State Department of Environmental Conservation and the U.S. Environmental Protection Agency to perform remediation measures due to the presence or possible presence of “WTC Dust,” which could include concrete, asbestos, silicon, fiberglass, benzene, lead and mercury.¹

Appellants Cedar & Washington brought suit against the Port Authority of NY and NJ and others in the Southern District of New York for damages incurred citing liability under The Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) which “imposes strict liability for hazardous waste clean-up on owners and facility operators, on certain persons who arrange for the disposal or treatment of hazardous waste, and on certain persons who transport hazardous waste.”² The District Court denied the claim on statute of limitations grounds and for Cedar & Washington “failing to allege a necessary element of a CERCLA cost of recovery claim: either a ‘release’ or a ‘disposal’.”³

The U.S. Court of Appeals for the Second Circuit denied an initial appeal, refusing to resolve controversial issues of interpretation.⁴ On remand the District Court found for Defendants allowing the affirmative defense under CERCLA that the attack on the World Trade Center constituted an “act of war.”⁵

The case was further appealed to The U.S. Court of Appeals for the Second Circuit where the judgment of the District Court was affirmed.⁶ The court stated that “although CERCLA’s strict liability scheme casts a wide net, an ‘act of war’ for defense avoids ensnarement of persons who bear no responsibility for the release of harmful substances” and that “this attack comes within this defense.”⁷

Procedural History

The petitioners appealed the 2013 decision by the U.S. District Court for the Southern District of New York, which denied their claim for CERCLA indemnification for remediation costs they incurred following the September 11, 2001 attack. The court found that “the attack constituted and ‘act of war’ for which CERCLA provides an affirmative defense.”⁸

Issue

Whether appellees were liable for the costs associated with remediation measures incurred directly from debris

and toxic dusts caused by the September 11, 2001 attacks or adversely whether the September 11, 2001 attacks constituted an “act of war” under the CERCLA affirmative defenses.

Rationale

Both the District Court and the U.S. Court of Appeals agreed that although the “act of war” defense is meant to be narrowly interpreted, the September 11, 2001 attack did constitute an “act of war” taken within the context of the event, and additionally because both the President of the United States and Congress announced repeatedly and acted on the idea that the event was an “act of war.”⁹ Both Courts agreed that this event was atypical of the normal events which may fall under the CERCLA affirmative defense umbrella and may not necessarily set precedent for future decisions.¹⁰

Conclusion

The court denied Cedar & Washington Associates’ appeal and affirmed the District Court opinion that the September 11, 2001 attack was an “act of war” and the Port Authority of New York & New Jersey, along with the other named appellees, did not bear responsibility for the remediation measures incurred by the appellants.¹¹

Jacqueline Goralczyk
Albany Law School ‘15

Endnotes

1. Cedar & Washington Assocs., LLC v. Port Auth. of N.Y. & N.J., 751 F.3d 86, 89 (2d Cir. 2014).
2. 42 U.S.C.S. § 9607 (a)(1)-(4).
3. Cedar & Washington Assocs., 751 F.3d at 89.
4. *Id.*
5. *Id.*
6. *Id.* at 86.
7. *Id.*
8. *Id.*
9. *Id.*
10. *Id.* at 91.
11. *Id.* at 94.

* * *

***Ivory v. International Bus. Machines Corp.*, 116 A.D.3d 121, 983 N.Y.S.2d 110 (3d Dep’t 2014)**

Facts

Defendant owned a machine manufacturing facility in Endicott, New York between 1924 and 2002. Defendant used trichloroethylene (TCE) in its manufacturing for decades. In 1979, defendant found solvents, including TCE, migrating in groundwater beneath the facility. Remedial efforts began and are ongoing. Defendant undertook an

investigation to determine whether the contaminated groundwater migrating from the facility was causing a vapor intrusion issue in Endicott.

Procedural History

In 2008, a class action was filed against defendant for negligence, private nuisance, and trespass. The claims of two families were severed from the class action to be tried first. Plaintiffs Thomas H. Ivory and Timothy Ivory allege they developed non-Hodgkin's lymphoma and kidney cancer, respectively, as a result of their exposure to TCE. The five other plaintiffs did not allege present physical injuries related to their exposure to significant levels of TCE. Defendant moved for summary judgment dismissing the claims for negligence, trespass, private nuisance, medical monitoring damages, and exposure to chemicals other than TCE and exposure to TCE at locations other than plaintiffs' homes. The trial court granted defendant's motions regarding medical monitoring damages and other chemicals and locations and partially denied the other three motions. Plaintiffs appealed all five orders and the judgment. Defendant cross-appealed from three of the orders.

Issue

Whether the trial court properly partially granted defendant's motion for summary judgment to dismiss plaintiffs' claims.

Rationale

The court found the trial court's order for summary judgment dismissing plaintiffs' claims relating to TCE exposure at locations other than their homes was properly granted. Plaintiffs failed to provide an expert's testimony showing plaintiffs' exposure levels at any location other than their homes. The trial court's denial of defendant's motion for summary judgment dismissing the negligence claims of Thomas H. Ivory and Timothy Ivory was proper. Plaintiffs' evidence raised questions of fact as to whether defendant acted within the standard of care. The court found an ordinary layperson may conclude that the pool formed due to defendant's failure to meet the standard of care. Further, plaintiffs' expert physician concluded TCE exposure was a "significant contributing factor" to plaintiffs' cancers.¹

The court found that the trial court partially erred in denying defendant's summary judgment motion to dismiss the trespass claims of Grace Odom, Thomas H. Ivory, and Shawn Stevens based on vapor intrusion, air emissions, and groundwater contamination. The elements of trespass include an intentional entry onto another's land without permission.² A defendant is liable for trespass involving toxic chemicals if "he had good reason to know or expect that subterranean and other conditions were such that there would be passage [of the toxins] from defendant's to plaintiff's land."³ The court found questions of fact regarding defendant's intent as defen-

dant knew of the solvent pool and contaminated groundwater migration. Plaintiffs have no trespass claims for vapor intrusion and air emissions because odor intrusions are generally considered nuisance, not trespass. The court upheld plaintiffs' claims for trespass regarding contaminated soil, but claims regarding contaminated groundwater could not survive summary judgment, as groundwater is a natural resource entrusted to the state. Defendant was not entitled to summary judgment on Timothy Ivory's claims for medical monitoring damages because he may recover consequential damages related to his negligence action for his alleged TCE-related injuries. Thomas H. Ivory forfeited his right to claim for trespass damages as he participated in defendant's Voluntary Property Benefit Program by signing a general release for all trespass claims and accepting \$10,000.

Conclusion

The Third Department partially modified the trial court's orders reversing the summary judgment order dismissing plaintiffs Timothy Ivory and Grace Odom's claims for medical monitoring, as well as reversing the trial court's denial of summary judgment on the trespass claims of Thomas H. Ivory, Shawn Stevens, and Grace Odom.

Kelly E. Moynihan
St. John's University School of Law '15

Endnotes

1. *Id.* at 128.
2. *Id.* at 129 (citing *Phillips v. Sun Oil Co.*, 307 N.Y. 328, 331 (1954); *Hand v. Stray Haven Human Soc'y. & S.P.C.A., Inc.*, 21 A.D.3d 626, 628 (2005)).
3. *Id.* at 129 (quoting *Phillips*, 307 N.Y. at 331).

* * *

League of Wilderness Defenders/Blue Mts. Biodiversity Project v. Connaughton, 752 F.3d 755 (9th Cir. 2014)

Facts

In 2008, the U.S. Forest Service (USFS) began planning a logging project in the Whitman-Wallowa National Forest (Forest) known as the Snow Basin project.¹ As part of the project, the Forest's Travel Management Plan (TMP) was created to regulate off-road vehicles and limit the number of roads within the forest, as well as address a number of environmental issues that would develop from the logging project. After drafting and adopting a final environmental impact statement (FEIS) in March 2012, the Forest Supervisor withdrew the TMP, which contained information relating to the project's impact on the local elk population.² The USFS then issued a notice stating that an additional 130 acres of forest, which were not included in the FEIS, would be part of a "group selection"

treatment where the decision to log would be decided at a later time.³

Procedural History

The petitioners appealed the district court's denial of preliminary injunction against the USFS's logging project.⁴

Issue

Whether the district court's decision to deny the plaintiff's National Environmental Policy Act (NEPA) and Endangered Species Act (ESA) claims was an abuse of discretion where the plaintiffs were able to prove that they were likely to succeed on the merits of any of their claims.

Rationale

Petitioners raised multiple challenges to the FEIS under the NEPA and the ESA: (1) without the TMP or a supplemental environmental impact statement (EIS), the FEIS is invalid as it fails to discuss the environmental impacts on the elk and ways to mitigate harm to the elk habitat that would be caused by the logging project; (2) the USFS did not meet the standards for an identified proposal when it failed to consider the effects of logging the 130 acres mentioned in the notice; (3) the FEIS failed to analyze the effects of logging on stream temperatures and stress on fish in the streams; (4) the FEIS failed to analyze the effects of logging on bull trout.⁵

The NEPA "requires agencies to prepare a supplemental environmental impact statement when 'there are significant new circumstances or information relevant to environmental concerns and bearing on the proposed action or its impacts.'"⁶ When drafting an EIS, agencies must also "consider cumulative impacts of the action under consideration."⁷ The ESA requires agencies to "insure that any [agency] action...is not likely to jeopardize the continued existence of any endangered species or threatened species or result in the destruction or adverse modification of critical habitat of such species."⁸

In applying the NEPA requirements to the first challenge, the court reasoned that without a supplemental EIS or the withdrawn TMP, the public would be unaware of the extent to which the area would be impacted by logging. Without that knowledge, the public would be unable to make an informed decision, which is the purpose of the NEPA.⁹ For this reason, the court concluded that the USFS must prepare a supplemental EIS to review the impacts of logging and how to mitigate the damage.¹⁰ To meet this goal, "agencies must ask the United States Fish and Wildlife Service if any endangered or threatened species 'may be present' in the area of the proposed action."¹¹

In applying the NEPA requirements to the second challenge, the court concluded that a mere goal does not require an EIS to be completed.¹² Although the USFS stated in the correction notice that the 130 acres of forest

would be subject to "group selection," at no time was the decision to move forward with the goal made.¹³ Without a decision to log the area, no EIS is required.

In applying the NEPA requirements to the third challenge, the court reasoned that the logging project would not lead to thermal stress on the fish in the creeks.¹⁴ The FEIS discussed the temperatures of the creeks located in the Forest, stating that temperatures were higher than what was desired and logging would lead to minor amounts of sedative being added to the streams.¹⁵

In applying the both NEPA and EAS requirements to the fourth challenge, the court concluded that "there was no reliable evidence" that bull trout were in the area to be affected by logging.¹⁶ A study by the Oregon Department of Fish and Wildlife, cited in the FEIS, indicated that bull trout were not present in the streams located within the project area. While the study was more than 15 years old, the court reasoned that there was no evidence that the bull trout had returned to the area.

The court also relied on *Alpine Lakes Prot. Soc'y v. Schlappfer*,¹⁷ and *Sierra Forest Legacy v. Rey*,¹⁸ in its analysis of the public interest related to the logging project. In doing so, the court reasoned that logging the Forest created a permanent "irreparable environmental injury" to the petitioners that outweighed a temporary delay of economic benefits, in the form of 300 jobs and \$275,000 in revenue.¹⁹ The USFS also argued that logging would lower the risk of forest fires and insect infestation and the preliminary injunction, if granted, would harm the public interest.²⁰ However, the court concluded that a temporary stay in logging outweighed any potential risks, as no evidence of an imminent threat was provided.²¹

Conclusion

The court affirmed the district court's decision in part, and reversed the district court's decision in part, holding that the petitioners are entitled to a preliminary injunction upon their first claim although they are not likely to succeed on other claims.²² The court remanded to the district court to determine how narrowly the preliminary injunction should be crafted.

Sarah Valis
Albany Law School '16

Endnotes

1. League of Wilderness Defenders/Blue Mts. Biodiversity Project v. Connaughton, 752 F.3d 755, 758 (9th Cir. 2014).
2. *Id.*
3. *Id.*
4. *Id.*
5. *Id.* at 759.
6. *Id.* at 757 (quoting 40 C.F.R. § 1502.9(c)(ii)).
7. *Id.* (quoting 40 C.F.R. § 1508.7).
8. *Id.* at 763 (quoting 16 U.S.C. § 1536(a)(2)).

9. *Id.*
10. *Id.* at 758.
11. *Id.* at 759 (quoting 16 U.S.C. § 1536(c)(1)).
12. *Id.* at 759.
13. *Id.*
14. *Id.*
15. *Id.*
16. *Id.* at 759.
17. 518 F.2d 1089 (9th Cir. 1975).
18. 577 F.3d 1015 (9th Cir. 2009).
19. *Id.* at 760.
20. *Id.*
21. *Id.*
22. *Id.* at 761.

* * *

Matter of Hart Family, LLC v. Town of Lake George, 974 N.Y.S.2d 154 (N.Y. App. Div. 3d Dep't 2013)

Facts

Petitioner owned a parcel of land (hereinafter “Lot No. 9”) in the Trinity Rock Estates subdivision in the Town of Lake George, New York. Lot No. 9 possessed nearly 200 feet of shorefront space on Lake George. Additionally, when the subdivision was first established in 1925, multiple easements were granted to numerous other lot owners, which allowed them to launch and store their boats, as well as swim along Lot No. 9’s shorefront. At the time of this action, “at least 45 lots now benefit from these easements, which are subject to petitioner’s right to maintain and erect shorefront structures and docks that do not ‘occupy or obstruct more of the [shorefront]...than is occupied or obstructed by the present dock.’”¹ The dock in existence when the easements were granted was 75 feet wide, but, subsequently, was destroyed by storms. When this lawsuit commenced, the petitioner had two docks occupying the shorefront “that extended from a concrete bulkhead on the shore into the lake in a ‘U’ configuration about 21 feet wide”; in addition, there was an open beach area, which was located just south of these docks.²

In October of 2008, the Lake George Park Commission granted petitioner a permit “to construct a new E-shaped dock with an open-sided boat cover and sundeck that incorporates the existing northernmost pier, replaces the southernmost pier, and measures 31 feet wide.”³ Upon obtaining this permit, petitioner applied for a site plan approval from respondent, the Lake George Town Planning Board; after several meetings and a public hearing, the Board denied petitioner’s application, stating that the reasons for its denial included “health and safety concerns, among other things.”⁴ Thereafter, petitioner commenced this CPLR article 78 proceeding “seeking to annul the Board’s determination on the sole ground that it lacked jurisdiction to review or deny the proposed site

plan.”⁵ The Supreme Court granted petitioner’s application, and respondents appealed the Warren County Supreme Court’s decision, contending that petitioner waived “this jurisdictional challenge.”⁶ The Appellate Division, Third Department, affirmed the Warren County Supreme Court decision.

Procedural History

This case was an appeal from a judgment of the Supreme Court in Warren County, where the court granted petitioner’s application, in a proceeding pursuant to CPLR article 78, to annul a determination of respondent Lake George Town Planning Board, which had denied petitioner’s request for site plan approval.⁷

Issue

Whether the Town of Lake George lacked authority to deny proposed site plan for dock on state-owned land?

Rationale

The Third Department, Appellate Division, agreed with the Supreme Court in ruling that the Board lacked jurisdiction to grant or deny petitioner’s application because “when the state owns land under navigable water in its sovereign capacity, its exclusive authority preempts local land use laws and extends beyond the regulation of navigation ‘to every form of regulation in the public interest.’”⁸ Moreover, because the state owns title to the lands under Lake George in its sovereign capacity,⁹ it “has sole jurisdiction over construction in the lake’s navigable waters provided it has not delegated this authority to a local government.”¹⁰ The court significantly noted that absent these delegations, municipalities “bordering or encompassing such waters...have no authority to issue such regulations.”¹¹ Furthermore, the Third Department rejected respondent’s argument that the state had delegated authority to regulate the docks in Lake George, for “the Town is not included among the local governments enumerated in Navigation Law § 46-a(2),” and the court found “no such delegation in any other source.”¹² The court further reasoned that “although the statutory authority of towns to enforce the State Uniform Fire Prevention and Building Code includes structures in navigable waters,”¹³ the Town “has never claimed that petitioner’s dock system violated the Code, and further, has delegated Code enforcement to Warren County.”¹⁴ In this instance, the Adirondack Park Agency “did not delegate the requisite authority by adopting a land use plan for the Adirondack Park and approving the Town’s local land use plan, as state-owned lands are exempt from the agency’s land use program.”¹⁵

Lastly, the court found that the language in petitioner’s permit granted from the Lake George Park Commission stating that petitioner “was not relieve[d]... of the responsibility of obtaining any other...permit... from [a] local government which may be required” does not constitute a “clear and explicit” delegation of regu-

latory authority to the Town.¹⁶ Furthermore, the Court stated that the language in the permit simply “warns that the Commission’s regulatory authority to issue or deny permits [] does not supplant authority that may also have been delegated to other agencies.”¹⁷

Conclusion

The Third Department, Appellate Division, found that the State had not delegated authority to respondents to regulate or review petitioner’s construction of a dock within Lake George, and, accordingly, the Court held that the Supreme Court of Warren County had properly annulled the Board’s determination.¹⁸

Caroline Thompson
Albany Law School ‘15

Endnotes

1. *Matter of Hart Family, LLC v. Town of Lake George*, 974 N.Y.S.2d 154, 156 (3d Dept. 2013).
2. *Id.*
3. *Id.*
4. *Id.*
5. *Id.*
6. *Id.*
7. *Id.* at 155–56.
8. *Id.* at 157 (quoting *Town of N. Elba v. Grimditch*, 98 A.D.3d 183, 188 (3d Dep’t 2012)).
9. *See People v. System Props.*, 2 N.Y.2d 330, 344 (1957).
10. *Matter of Hart Family, LLC*, 974 N.Y.S.2d at 157 (citing *Town of N. Elba*, 98 A.D.3d at 188–89); *see also* *Town of Alexandria v. MacKnight*, 281 A.D.2d 945, 945 (4th Dep’t 2001).
11. *Matter of Hart Family, LLC*, 974 N.Y.S.2d at 157 (citing *Town of N. Elba*, 98 A.D.3d at 195); *see* *Langdon v. Mayor of City of N.Y.*, 93 N.Y. 129, 155–156 (1883).
12. *Matter of Hart Family, LLC*, 974 N.Y.S.2d at 157.
13. *See* Executive Law § 371; *see also* *Beneke v. Town of Santa Clara*, 36 A.D.3d 1195, 1198 (3d Dep’t 2007).
14. *Matter of Hart Family, LLC*, 974 N.Y.S.2d at 157.
15. *Id.*; *see* Executive Law § 805(1)(a); Lake George Town Code §§ 175-5, 175-11.
16. *Matter of Hart Family, LLC*, 974 N.Y.S.2d at 157 (citing *DJL Rest. Corp. v. City of New York*, 96 N.Y.2d 91, 95 (2001)).
17. *Id.*; *see* 6 N.Y.C.R.R. 646-1.6(m); *see generally* ECL 43-0117(4); 6 N.Y.C.R.R. 646-1.1(a)(1).
18. *Matter of Hart Family, LLC*, 974 N.Y.S.2d at 155–57.

* * *

North Oyster Bay Baymen’s Assoc. Inc. v. Town of Oyster Bay, 977 N.Y.S.2d 668 (N.Y. Sup. Ct. 2013)

Facts

The town of Oyster Bay (the “Town”) has title to a piece of underwater land within the Oyster Bay and Cold Springs Harbor Complex.¹ The clam population in this

area supports commercial and recreational shellfisheries.² Historically, the Town has leased part of this underwater area to Frank M. Flower and Son, Inc. (“Flower”).³ In 1994, Flower received a lease for thirty-two percent of the land for a thirty-year period.⁴ However, because of a town statute, underwater land cannot be leased where there is “an indicated presence of shellfish in sufficient quantity and quality as to support significant hand raking and/or tonging and harvesting.”⁵ In order to comply with this ordinance, the Town had to make a finding that this condition was not met before leasing the land to Flower.

Procedural History

The plaintiffs in this case are permitted hand clam diggers.⁶ In 1991, they tried to void the respondent’s lease, but their action was discontinued because of a stipulation in a settlement that required the town to come up with a new map of the leased shellfish land.⁷ The plaintiffs brought this action in 2011 stating eleven causes of action.⁸ The Court dismissed all the claims where the State of New York was the defendant. The Court dismissed the sixth claim for lack of standing, and claims three, four, five and seven were dismissed on the grounds that relief was not available under a CPLR article 78 proceeding.⁹

Issue

Based upon conditions within four months of June 22, 2011, was the Town’s finding that there was not significant hand raking or tonging uninformed?

Rationale

On January 11, 2012, the Town prepared a clam density survey. A barge went to different stations within the harbor, except on the leased land, and measured clams at each station for size.¹⁰ One hundred twenty grabs were taken at sixty different locations.¹¹ The density of clams was found to be 10.29 clams per square meter.¹² This was an increase in clam density since the previous survey, in 2007.¹³ The density of clams in uncensored water, however, was twenty-eight per square meter, another increase since 2007.¹⁴ This was the Town’s first report since 1994.¹⁵ The court wrote that the “right to extract clams from the Town’s waters may be proprietary, [but] the power to monitor the presence of shellfish in the Bay is clearly a non-delegable governmental function.”¹⁶ Furthermore, the court wrote that, in 1994, it is likely that there was insufficient quality and quantity of shellfish to permit hand raking, but environmental conditions change quickly.¹⁷ The court foresaw a time during a lease where this condition is met and hand raking could be permitted.¹⁸

The court held that a long-term lease must retain a right to cancel if the clam density should increase in order to fulfill town obligations.¹⁹ Therefore, “the Town of Oyster Bay’s failure to conduct a clam density survey on land leased to Flower renders the Town’s continuation

of the long term lease to Flower arbitrary.”²⁰ The court held that the Town must perform a clam density survey on the leased land to determine whether there is sufficient quality or quantity of shellfish to support hand raking or tonging.²¹

Sarah Smith
St. John’s University School of Law ‘16

Endnotes

1. North Oyster Bay Baymen’s Assoc. Inc. v. Town of Oyster Bay, 977 N.Y.S.2d 668 (N.Y. Sup. Ct. 2013).
2. *Id.*
3. *Id.*
4. *Id.*
5. *Id.*
6. *Id.*
7. *Id.*
8. *Id.*
9. *Id.*
10. *Id.*
11. *Id.*
12. *Id.*
13. *Id.*
14. *Id.*
15. *Id.*
16. *Id.*
17. *Id.*
18. *Id.*
19. *Id.*
20. *Id.*
21. *Id.*

* * *

Protect the Adirondacks! Inc. v. Adirondack Park Agency, 2014 WL 2972808 (N.Y. App. Div. 3d Dep’t 2014)

Facts

In 2004, a group of developers submitted an application to respondent, Adirondack Park Agency (APA), for approval of the largest project ever proposed for the Adirondack Park.¹ The project was to develop a club and resort, located on privately owned land, consisting of over 600 residential units, a hotel, and multiple recreational amenities.² After several amendments and public hearings, the APA approved the application in January 2012.³

Procedural History

In March 2012, petitioners commenced this case, seeking to annul the APA’s approval of the developers’ application. Petitioners alleged twenty-nine causes of action, including violations of the Adirondack Park Agency Act (“the Act”).⁴ After appearing before the Supreme Court,

the matter was transferred to the New York Appellate Division, Third Department.⁵

Issue

Whether the APA exceeded its authority by granting the developers’ project application?

Rationale

The APA’s authority comes from the Adirondack Park land use and development plan. This plan requires the APA to determine that proposed projects “would not have an undue adverse impact upon the...park,” and the APA must also consider the burden that the development would place on public services.⁶ Petitioners had five main concerns regarding approval of the project. The first was the potential impact of drawing water from Cranberry Pond for snowmaking operations.⁷ The court dismissed this concern, citing strict conditions imposed in the permit providing the APA with continuing oversight and assessment of the pond levels.⁸ The second concern was the impact on the habitats of rare and endangered species, but the court noted that site investigations did not find any rare plant communities or rare species on-site.⁹ The third concern was that the residential development would not comply with the Act.¹⁰ The court found that “single-family dwellings fall under the category of compatible secondary uses on resource management lands” and noted that approximately 86% of the total project site would be kept as open space.¹¹ The fourth concern was that the use of a valet service at a nearby state-owned boat launch would have an adverse impact on the public facility.¹²

The court did not find any evidence suggesting that an adverse impact would result, and noted that the boat launch had not been used to its full capacity recently.¹³ The final concern was that the developers’ projected real estate sales would not actually occur, and that the project may have an adverse fiscal impact on local governments. Again, the court was not persuaded, citing evidence that the project was viable, that the real estate market was recovering, and that the developers planned to fully fund the project, including infrastructure costs.¹⁴

Conclusion

Overall, the court found that since the APA had thoroughly explored the potential effects of the project and planned on monitoring it closely, it had not exceeded its authority in approving the project application.¹⁵

Graham Gibbs
St. John’s University School of Law ‘15

Endnotes

1. Protect the Adirondacks! Inc. v. Adirondack Park Agency, 2014 WL 2972808, *1 (N.Y. App. Div. 3d Dept. 2014).
2. *Id.*
3. *Id.*
4. *Id.* at *2.

5. *Id.*
6. *Id.* at *2–3 (quoting McKinney’s Executive Law § 809(10)(e)).
7. *Id.* at *3.
8. *Id.*
9. *Id.* at *4.
10. *Id.* at *4–5.
11. *Id.* at *4–5 (quoting Executive Law § 805(3)(g)(4)).
12. *Id.* at *5.
13. *Id.*
14. *Id.* at *6.
15. *Id.* at *6–7.

* * *

***Sherman v. Town of Chester*, 752 F.3d 554 (2d Cir. 2014)**

Facts

When in the process of buying and developing a 400-acre parcel of land for \$2.7 million, plaintiff Steven M. Sherman applied for subdivision approval from his local town zoning board based in Chester, New York.¹ Sherman submitted his application to the Town of Chester’s Planning Board for subdivision approval since he planned on developing his newly acquired property, known as “MareBrook.”² Sherman’s proposed development project included 385 units of housing as well as “an equestrian facility, baseball field, tennis courts, clubhouse, onsite restaurant, and a golf course that wove through the property.”³ The property was already zoned for residential use, but had not yet been zoned for Mr. Sherman’s intended purposes.⁴ In 2003, the Town passed a new zoning ordinance, which mandated Sherman to redraft his proposed development plan.⁵ When Sherman redrafted his subdivision proposal in 2004, the Town once again altered its zoning regulations.⁶ And in 2005, Sherman revised his development plans yet again in accordance with other newly enacted zoning regulations; time and time again, this same cycle of Sherman accommodating the Town’s obstacles continued. Sherman kept meeting each obstacle until nearly ten years had passed when Sherman decided to commence this lawsuit against the Town of Chester.⁷ After ten years had passed, Sherman became “financially exhausted—[even] forced to spend \$5.5 million on top of the original \$2.7 million purchase.”⁸

Procedural History

In 2008, Sherman filed suit against the town in federal court; the Town of Chester moved to dismiss, contending that Sherman’s takings claim was not “ripe” because plaintiff had not sought compensation from the state.⁹ As a result, Sherman “voluntarily dismissed the case and then filed the case now before us in state court.”¹⁰ The Town of Chester filed a motion to remove to federal court, where again the Town moved to dismiss for failure to state a claim under FRCP 12(b)(6).¹¹ District Court Judge Edgardo Ramos of the Southern District of New York

concluded that Sherman’s claim was not ripe under the Takings Clause or under the case law established by *Williamson County Regional Planning Commission v. Hamilton Bank of Johnson City* and granted Defendant’s motion for dismissal.¹² Sherman then timely appealed the matter to the Second Circuit Court of Appeals.¹³

Issues

- (1) Whether Sherman’s claim was ripe under the Takings Clause and under the precedent established by *Williamson County*?
- (2) Whether plaintiff stated a claim under section 1981?

Rationale

District Court Judge Edgardo Ramos of the Southern District of New York ruled that Sherman’s claim was neither ripe under the Takings Clause nor under the case law established by *Williamson County Regional Planning Commission v. Hamilton Bank of Johnson City*¹⁴ since plaintiff’s claim was unable to pass the first prong of the two-part test established by the precedent in *Williamson County*.¹⁵ In *Williamson County*, the Supreme Court established a two-prong test for ripeness. The Court ruled that, for a claim to be ripe, the plaintiff must “show that (1) the state regulatory entity has rendered a ‘final decision’ on the matter, and (2) the plaintiff sought just compensation by means of an available state procedure.”¹⁶ Here, Sherman conceded that the Town had not reached a final decision with regard to his subdivision proposal but further contended that he did not need to meet this requirement “because seeking a final decision would be futile” since there are two exceptions to the finality requirement.¹⁷ The principle behind the final decision requirement originates from the principle that “only a regulation that ‘goes too far’ results in a taking under the Fifth Amendment.”¹⁸ Here, Sherman was not challenging one single regulation but rather “the repeated zoning changes and other roadblocks—the ‘procedure he had to endure’—constituted a taking,” thus rendering a final decision unnecessary to evaluate whether that obstruction itself constituted a taking.¹⁹ Similar circumstances arose in a 9th Circuit case where a final decision was also rendered futile.²⁰ In that case, the Court ruled that “the property owner did not need to meet the final decision prong of *Williamson County*,” reasoning that “requiring [the owners] to persist with this protracted application process to meet the final decision requirement would implicate the concerns about disjointed, repetitive, and unfair procedures expressed in *MacDonald*”²¹....²²

In *Sherman*, however, the District Court employed a stricter interpretation of futility than the Ninth Circuit, stating that “while ‘the ripeness doctrine does not require litigants to engage in futile gestures such as to jump through a series of hoops, the last of which is certain to be obstructed by a brick wall, the presence of that brick

wall must be all but certain for the futility exception to apply.”²³ The District Court applied that standard to this case and found “the inference that there is a brick wall at the end is hard to establish, and it is not established here, though it is a close case.”²⁴

In contrast, the Second Circuit held that the District Court’s analysis did “not account for the nature of the Town’s tactics.”²⁵ The Second Circuit further reasoned that “the Town will likely never put a brick wall in between Sherman and the finish line. Rather, the finish line will always be moved just one step away until Sherman collapses.”²⁶ Significantly, the Court noted that:

[a]t no point could Sherman force the Town to simply give a final “yay or nay” to his proposal. When asked at argument, the Town’s counsel could not name one way Sherman could have appealed any aspect of the Town’s decade of maneuvers in order to obtain a final decision.²⁷

The Court further stated “when the government’s actions are so unreasonable, duplicative, or unjust as to make the conduct farcical, the high standard [of futility] is met.”²⁸ Moreover, the Court stated that the standard was indeed met in this case and reasoned that:

Seeking a final decision would be futile because the Town used—and will in all likelihood continue to use—repetitive and unfair procedures, thereby avoiding a final decision... The final decision requirement ensures that a court knows how far a regulation goes before it is asked to determine whether that regulation “goes too far.” In this case, we are not dealing with any one regulation but the Town’s decade of obstruction. A final decision is not necessary to evaluate whether that obstruction was itself a taking.²⁹

Thus, the Second Circuit concluded that under these circumstances, Sherman was not required to obtain a final decision from the Town in order for the circumstances to be ripe under the law and found that Sherman’s claim was “ripe and adequately alleged.”³⁰ As a result, the Second Circuit Court reversed this part of the District Court’s decision, which dismissed the takings claim, and remanded the case accordingly for further proceedings.³¹ In addition, the Court significantly noted that “when a defendant removes a takings claim from state court to federal court, the second prong of *Williamson County* is satisfied,” thereby making Sherman’s takings claim ripe, enabling the Court to address the merits.³²

The District Court also dismissed some of Sherman’s claims for failure to state a claim; these claims were “(A) claims under 42 U.S.C. §§ 1981 and 1982; and (B) a proce-

dural due process claim based on the Town’s consultants’ fee law.”³³ The Second Circuit stated “those claims were properly dismissed” because the District Court concluded that Sherman “did not state a claim based on § 1981, and it denied as futile Sherman’s request to add a claim under 42 U.S.C. § 1982 for the same reasons it dismissed the § 1981 claim.”³⁴ The Court continued: “for both claims, Sherman must allege facts supporting the Town’s intent to discriminate against him on the basis of his race.”³⁵ Additionally, “Jews are considered a race for purposes of §§ 1981 and 1982.”³⁶ Sherman’s allegations that the Town discriminated against him because he was Jewish were insufficient because Sherman stated that “municipal Defendants’ knew that he was Jewish, and that at a Town Board meeting, he heard Town citizens express fear that MareBrook might become a ‘Hassidic Village.’”³⁷ Additionally, Sherman alleged that a “model home was vandalized with a spray-painted swastika.”³⁸ The Second Circuit significantly noted, however, “none of this [was] linked to any Town official. Nor does he allege that any similarly situated non-Jews were treated differently. Therefore, the District Court correctly dismissed the § 1981 claim and correctly denied Sherman leave to add the § 1982 claim.”³⁹

Conclusion

Furthermore, the Second Circuit found that because of the way the Town handled Sherman’s MareBrook development project proposals and subsequent litigation, Sherman’s claims became ripe.⁴⁰ The Court acknowledged that “the Town employed a decade of unfair and repetitive procedures, which made seeking a final decision futile. The Town also unfairly manipulated the litigation of the case in a way that might have prevented Sherman from ever bringing his takings claim.”⁴¹ Moreover, the Second Circuit decided that “the *Williamson County* ripeness requirement [was] satisfied,” and thereby vacated the District Court’s decision “to the extent it dismissed Sherman’s federal non-takings claims solely based on ripeness grounds.”⁴² Additionally, the Second Circuit affirmed the District Court’s decision to “(1) dismiss Sherman’s § 1981 claim; and (2) to deny Sherman leave to amend to add a § 1982 claim.”⁴³ The Second Circuit remanded the case to the District Court for further proceedings consistent with its opinion.⁴⁴

Caroline Thompson
Albany Law School ‘15

Endnotes

1. Sherman v. Town of Chester, 752 F.3d 554, 557 (2d Cir. 2014).
2. *Id.*
3. *Id.*
4. *Id.* at 558.
5. *Id.*
6. *Id.* at 558–59.
7. *Id.* at 558.

8. *Id.*
9. *Id.* at 560.
10. *Id.* at 559.
11. *Id.* at 560.
12. *Id.* at 557.
13. *Id.* at 560.
14. *Williamson Cnty. Reg'l Planning Comm'n v. Hamilton Bank of Johnson City*, 473 U.S. 172 (1985).
15. *Id.* at 559.
16. *Id.* at 561 (quoting *Dougherty v. Town of N. Hempstead Bd. of Zoning Appeals*, 282 F. 3d 83, 88 (2d Cir. 2002)).
17. *Id.* ("The finality requirement is not mechanically applied. A property owner, for example, will be excused from obtaining a final decision if pursuing an appeal to a zoning board of appeals or seeking a variance would be futile. That is, a property owner need not pursue such applications when a zoning agency lacks discretion to grant variances or has dug in its heels and made clear that all such applications will be denied.").
18. *Id.* at 562 (quoting *Suitum*, 520 U.S. at 734).
19. *Id.*
20. *In Del Monte Dunes at Monterey, Ltd v. City of Monterey*, property owners repeatedly submitted a proposal to develop their property and were consistently denied by the local planning commission.
21. *MacDonald, Sommer & Frates v. Yolo Cnty.*, 477 U.S. 340, 350 n. 7 (1986).
22. *Id.* (quoting *Del Monte Dunes at Monterey, Ltd v. City of Monterey*, 920 F.2d 1496, 1506 (9th Cir. 1990)).
23. *Sherman*, 2013 WL 1148922, at *9.
24. *Id.*
25. *Sherman*, 752 F.3d at 563.
26. *Id.*
27. *Id.*
28. *Id.*
29. *Id.*
30. *Id.* at 559.
31. *Id.*
32. *Id.* at 564.
33. *Id.* at 567.
34. *Id.*
35. *Id.*
36. *Id.* (quoting *United States v. Nelson*, 277 F.3d 164, 177 (2d Cir. 2002)).
37. *Id.*
38. *Id.*
39. *Id.*
40. *Id.* at 567.
41. *Id.* at 568–69.
42. *Id.* at 569.
43. *Id.*
44. *Id.*

* * *

***Sierra Club v. Village of Painted Post*, 115 A.D.3d 1310, 983 N.Y.S.2d 380 (4th Dep't 2014)**

Facts

The Village of Painted Post ("Village"), through a resolution, authorized the sale and export of excess water

from the municipal water supply to the state of Pennsylvania.¹ As a result, the Village permitted the construction of a transloading facility utilized to expedite the shipment of water.² Village residents ("Petitioners") brought suit against the Village alleging that the resolution violated the State Environmental Quality Review Act (SEQRA).³

Procedural History

Petitioners originally brought an article 78 proceeding against the Village pursuant to SEQRA before the Supreme Court, Steuben County.⁴ The Village ("Respondents") filed a motion to dismiss the case for lack of standing pursuant to CPLR 3211 and 3212.⁵ Judge Fisher denied the Village's motion to dismiss with respect to the first cause of action and granted Petitioners summary judgment.⁶ Judge Fisher concluded that the claim should be maintained despite the fact that only one of the petitioners named in the complaint had standing to bring the particular cause of action.⁷ Respondents timely appealed to the Supreme Court, Appellate Division.⁸

Issue

Whether the lower court had erred in determining that John Marvin had standing and in denying the Motion to Dismiss?

Rationale

When a proceeding fails to involve a "zoning-related issue" then there is no presumption of standing which allows a party to raise a challenge under SEQRA when a party's claim is based only upon a party's proximity.⁹ To satisfy the standing requirement in such a situation, a plaintiff's complaint must fall within a "zone of interest" which is sought to be protected by the act and illustrate that there would be direct harm and injury caused that is in some way different from the sort of harm that would be suffered by the public at large.¹⁰ The Appellate Court found that the injury suffered by John Marvin was not different from the harm suffered by the public at large.¹¹ The court held that Marvin's allegations only complained of the noise that came from the rail line in general and not the specific noise, which came from the transloading facility itself.¹² Furthermore, the court concluded that the noise heard from the transloading facility effected many residents of the village and, therefore, Marvin's injuries were not unique or different from what the majority of residents were experiencing.¹³

Conclusion

The Appellate Division ultimately held that Marvin's complaint failed to allege a unique environmental injury and, therefore, found that the trial court erred in denying Respondent's Motion to Dismiss.

Jessica Goldberg
St. John's University School of Law, '16

Endnotes

1. *Sierra Club v. Village of Painted Post*, 115 A.D.3d 1310, 983 N.Y.S.2d 380 (4th Dep't 2014).
2. *Id.*
3. *Id.*
4. *Id.* at 382.
5. *Id.*
6. *Id.* (holding that one of the petitioners had suffered an actual injury directly and proximately caused by the authorization of the sale and exportation of excess water).
7. *Id.* (determining one petitioner, John Marvin, had standing because he lived one-half block away from the rail line and allegedly heard increased train noise because of the water shipments from the transloading facility).
8. *Id.* at 380.
9. *Id.* at 382.
10. *Id.* at 383.
11. *Id.*
12. *Id.*
13. *Id.*

* * *

***Town of Barnstable, Mass. v. F.A.A.*, 740 F.3d 681 (D.C. Cir. 2014)**

Facts

Under a lease to build an offshore wind farm in Nantucket Sound granted to Cape Wind Associates by the US Department of Interior, Cape Wind needed to obtain a determination by the Federal Aviation Administration (FAA) on whether the turbines posed a hazard to air navigation and complied with existing mitigation measures. In 2009, the FAA conducted a year-long aeronautical study of the project. As a result of the study, the FAA issued a "no hazard" determination on a few conditions. These conditions included: (1) the installation of a digital processor at Otis Airfield; (2) Cape Wind provide financial assurance for the installation of additional radar upgrades; and (3) proper lighting and marking of the turbines.

Procedural History

In *Town of Barnstable, Mass. v. FAA*,¹ ("Barnstable I"), the court found the FAA's 2010 "no hazard" determinations were "inadequately justified." Petitioners now challenged the 2012 "no-hazard" determinations for failure to analyze safety risks and failure to perform an environmental impact statement (EIS) as required by the National Environmental Policy Act (NEPA).

Issue(s)

- (1) Did the FAA properly determine the Cape Wind project posed no hazard?
- (2) Was the FAA required to perform an EIS as consistent with NEPA?

Rationale

Petitioners had to prove the FAA's determination was "arbitrary, capricious, an abuse of discretion, or otherwise not in accordance with law."² In January 2012, upgrades to the radar and beacon at Otis Airfield not only addressed existing radar issues but also unwanted returns from turbines. The FAA Operations Engineering and Support Group found no "physical or electromagnetic effect" on the radars used by the FAA and Departments of Homeland Security and Defense at North Truro Cape, 31.66 nautical miles from the project. After public notice of the project and comment period, most supporting comments concluded there would be no significant adverse effect on Visual Flight Rules (VFR) flights and that the turbines would not create a risk to local pilots as they would be marked and properly lit.

Moreover, the court held the FAA properly interpreted its handbook, which allows the FAA to issue a hazard determination where (1) a structure exceeded the FAA's obstruction standards, (2) would have a "substantial adverse effect" causing electromagnetic interference, or (3) would affect a significant volume of aeronautical operations.³ The court also found Congress gave the Secretary of Transportation broad discretion in determining when a structure constitutes an adverse impact. Furthermore, petitioners failed to show the FAA's determinations were arbitrary and capricious. Petitioners' claims that the FAA's findings lacked evidentiary support were unfounded because the FAA's documents contained numerous studies regarding the potential adverse impact of the project.

Further, the court determined the FAA was not required to perform an EIS under NEPA based on its "no hazard" determination. "No hazard" determinations do not generally require an EIS because they are not legally binding.⁴ Since the Interior Department granted approval of the project, pending the FAA "no hazard" determination, the FAA had no authority to act on whatever the EIS may contain. The court found the FAA lacked the ability to prevent environmental effects due to its limited statutory authority over the Interior Department's approval of the project, thus the FAA cannot be considered "a legally relevant 'cause' of the effect."⁵

Conclusion

The Court denied the petitioner's motions for review.

Kelly E. Moynihan
St. John's University School of Law '15

Endnotes

1. 659 F.3d 28 (D.C. Cir. 2011).
2. *Town of Barnstable, Mass. v. F.A.A.*, 740 F.3d 681, 408 U.S. App. DC. 150 (D.C. Cir. 2014) (citing 5 U.S.C. § 706(2)(A)).
3. FAA, *Procedures for Handling Airspace Matters*, FAA Order JO 7400.2J, §§ 6-3-3, 6-3-5, 6-3-8, 7-1-3 (February 9, 2012).

4. *Town of Barnstable, Mass.*, 740 F.3d at 691 (D.C. Cir. 2014) (citing *BFI Waste Sys. of N. Am., Inc. v. FAA*, 293 F. 3d 527, 530 (D.C. Cir. 2002)).
5. *Id.* at 691 (citing *Dep't of Transp. v. Pub. Citizen*, 541 U.S. 752, 770 (2004)).

* * *

Util. Air Regulatory Grp. v. EPA, 134 S. Ct. 2427 (2014)

Facts

The Clean Air Act (CAA) imposes permitting requirements on stationary sources generating air pollution.¹ Title I of the CAA gives the EPA the responsibility of formulating national ambient air quality standards (NAAQS) for air pollutants.² Each state then has the responsibility of implementing the NAAQS by developing plans that designate every area within its borders as “attainment,” “nonattainment,” or “unclassifiable” with respect to each NAAQS.³ The state’s plan must also include permitting programs for stationary sources, which vary according to the classification of the area of which the source is, or will be, located.⁴

Stationary sources in areas designated as attainment or unclassifiable are subject to the CAA’s “Prevention of Significant Deterioration” (PSD) provisions, which make it unlawful to construct or modify a “major emitting facility” in “any area to which [the PSD program] applies” without a permit.⁵ Facilities wishing to qualify for a PSD permit must comply with emissions limitations that reflect the “best available control technology” (BACT) for each pollutant that is subject to regulation under the CAA.⁶ Additionally, Title V of the CAA makes it unlawful to operate any “major source” (facility with potential to emit 100 tons of any air pollutant per year) without a permit.⁷

In response to the *Massachusetts v. EPA*⁸ decision, the EPA made stationary sources and motor vehicles subject to the PSD program and Title V based on the sources’ potential to emit greenhouse gases.⁹ This is because EPA found that greenhouse gas emissions from new motor vehicles contributed to elevated greenhouse gas levels, which endanger public health and welfare by promoting global climate change.¹⁰ Recognizing that EPA would be unable to administer programs requiring permits for all of these sources, it held that sources would not become newly subject to PSD or Title V permitting on the basis of their potential to emit greenhouse gases in amounts less than 100,000 tons per year.¹¹

Procedural History

Numerous parties, including several states, challenged the EPA’s actions. Petitioners filed petitions for review in the D.C. Circuit, which dismissed some of the petitions for lack of jurisdiction and denied the remainder.¹² Petitioners appealed to the U.S. Supreme Court, which granted six petitions for certiorari.¹³

Issue

“Whether EPA permissibly determined that its regulation of greenhouse gas emissions from new motor vehicles triggered permitting requirements under the Clean Air Act for stationary sources that emit greenhouse gases.”¹⁴

Rationale

The first issue the Court had to decide was whether EPA permissibly determined that a source may trigger PSD and Title V permitting requirements solely on the basis of the source’s *potential* to emit greenhouse gases.¹⁵ The Court held that EPA misinterpreted the CAA’s broad use of the term “air pollutant,” so as to include greenhouse gases in the context of PSD and Title V permitting requirements.¹⁶ The term “air pollutant” was meant to include only pollutants “emitted in quantities that enable them to be sensibly regulated at the statutory thresholds.”¹⁷ The Court held that greenhouse gases are not one of those pollutants that inclusion of which would “radically transform [the] programs and render them unworkable as written.”¹⁸ In addition to the EPA’s interpretation of the CAA being incompatible with the regulatory scheme of the Act, the EPA’s interpretation of the CAA would place excessive demands on both the government, which issues the permits, and those sources that are required to apply for permits.¹⁹

The follow-up issue the Court addressed was whether the EPA permissibly determined that sources already subject to the PSD program, because of their emission of conventional pollutants may be required to limit their greenhouse gas emissions by employing the BACT for those greenhouse gases.²⁰ The Court held that the EPA’s determination requiring BACT for greenhouse gases emitted by sources already subject to PSD review was permissible. This is because nothing in the language of the CAA prohibits the EPA from interpreting the BACT provision to apply to greenhouse gases emitted by conventional sources.²¹

Conclusion

The EPA exceeded its statutory authority when it interpreted the CAA to require PSD and Title V permitting for stationary sources based on greenhouse gas emissions because greenhouse gases cannot be treated as a pollutant in the PSD “major emitting facility” context, or the Title V “major source” context. However, the EPA may continue to treat greenhouse gases as a “pollutant subject to regulation” under CAA for purposes of requiring BACT for already regulated, conventional sources.²²

Kate Roberts
Albany Law School ‘16

Endnotes

1. Util. Air Regulatory Grp. v. EPA, 134 S. Ct. 2427, 2435 (2014).
2. 42 U.S.C. §§ 7408–7409 (2012).

3. *Util. Air Regulatory Group*, 134 S. Ct. at 2435; 42 U.S.C. § 7407(d).
4. *Util. Air Regulatory Group*, 134 S. Ct. at 2435; 42 U.S.C. § 7410(a)(2)(c).
5. 42 U.S.C. § 7475(a)(1); 42 U.S.C. § 7475(2)(c).
6. 42 U.S.C. § 7475(a)(4).
7. 42 U.S.C. § 7661a(a).
8. 549 U.S. 497 (2007).
9. *Util. Air Regulatory Group*, 134 S. Ct. at 2436–437.
10. *Id.* at 2437.
11. *Id.*
12. *Id.* at 2438.
13. *Id.*
14. *Id.* (citation omitted).
15. *Id.*
16. *Id.* at 2440.
17. *Id.* at 2442.
18. *Id.*
19. *Id.* at 2443.
20. *Id.*
21. *Id.* at 2449.
22. *Id.*

* * *

***Vine Street LLC v. Borg Warner Corp.*, No. 07-40440 (5th Cir. Jan. 14, 2015)**

Facts

From 1961 until 1975 a dry cleaning business called “College Cleaners” operated in Tyler, Texas.¹ Norge, a former subsidiary of Borg Warner Corporation (hereinafter Defendant), worked in collaboration with College Cleaners and provided dry cleaning machines, supplied perchloroethylene (PERC), and aided in designing the building.² PERC, the chemical used in the dry cleaning machines, was expensive, and therefore it was desirable to preserve as much of the chemical as possible.³ Norge installed water separators on the dry cleaning machines allowing wastewater to be disposed of into the sewer, and PERC to be recycled for future uses.⁴ The water separator was not completely effective, but was believed to preserve about 95 percent of the chemical.⁵

Vine Street (hereinafter Plaintiff) later acquired the property and discovered a plume of PERC in the soil and groundwater underlying College Cleaners and neighboring property.⁶ The Plaintiff voluntarily applied to Texas Commission on Environmental Quality’s voluntary cleanup program and filed suit against Defendant to recover costs associated with the cleanup.⁷

Procedural History

In 2006, the District Court for the Eastern District of Texas found Defendant 75 percent liable for the past, present, and future cleanup costs associated with the environmental injury.⁸ Although Defendant timely filed notice of appeal, a party to the appeal subsequently declared

bankruptcy. As a result the appeal was stayed until the completion of the bankruptcy action.⁹

Issue

Whether Defendant was a “responsible person” within the meaning of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (“CERCLA”) and the Texas Solid Waste Disposal Act (“TSWDA”)?

Rationale

In order to be held liable under CERCLA and the TSWDA, the plaintiff must show that the defendant is a responsible person within the meaning of the statutes. One category of responsible persons includes “arrangers” defined as: “any person who by contract, agreement, or otherwise arranged for disposal...of hazardous substances.”¹⁰ The district court determined that the Defendant fell within this category by applying the test established in *Geraghty & Miller, Inc. v. Conoco Inc.*¹¹ In *Geraghty & Miller*, the Fifth Circuit held that liability may be imposed as long as there is “a sufficient ‘nexus’ between the purported arranger and the disposal of waste.”¹² Therefore, because Defendant contracted to provide PERC to College Cleaners and helped in designing the water separator for its disposal and recycling, the district court found that the standard was met.

Although the *Geraghty & Miller* standard was appropriate while this case was before the district court, recently the Supreme Court clarified the standard applicable to arranger liability in the more recent case, *Burlington Northern & Santa Fe Railway Co. v. United States*.¹³ In that case, the Court interpreted the word “arrange” to mean “action directed to a specific purpose” so that in order to fall within the statute, the arranger must “take[] intentional steps to dispose of a hazardous substance.”¹⁴ In *Burlington Northern*, the plaintiff purchased chemicals from defendant, who then shipped the chemicals in storage containers to the plaintiff.¹⁵ The storage containers would frequently leak and contaminate the plaintiff’s property and during the course of the business relationship, defendant took steps to minimize the spillage.¹⁶ The Court held that although defendant “knew that its shipping conditions would result in spillage of hazardous substances...[it] did not give rise to liability because ‘knowledge alone is insufficient to prove that an entity ‘planned for’ the disposal, particularly when the disposal occurs as a peripheral result of the legitimate sale of an unused, useful product.’”¹⁷

Applying the *Burlington Northern* standard on appeal, the court looked to see if Defendant took “intentional steps to dispose of a hazardous substance [PERC].”¹⁸ The district court noted that during the period of operation, there were no documented spills or purposeful disposals of PERC; rather, it appeared that Defendant and College Cleaners took steps to preserve PERC and handled it

with a high degree of care.¹⁹ Furthermore, there was “no evidence of a manufacturing defect or improper maintenance” of the water separators.²⁰

The court distinguished between an “intentional” act and a “knowing” one, looking to whether the purpose of the transaction between College Cleaners and Defendant was more for the disposal of PERC, or rather if it was for the sale of useful chemicals.²¹ The court stated that when viewing “the business relationship between [Defendant] and College Cleaners as a whole, it is clear that the transaction centered around the successful operation of a dry cleaning business—not around the disposal of waste.”²² Addressing Plaintiff’s arguments, the court highlighted that when the hazardous substance at issue is a useful material supplied for a legitimate business purpose, the intent requirement for arranger liability will not be easily met. The court explained that “arranger liability applies to those ‘who would attempt to dispose of hazardous wastes or substances under various deceptive guises in order to escape liability for their disposal.’ Here, that description simply does not apply to [Defendant]...[who] supplied College Cleaners with a supply of unused, useful PERC.”²³

Conclusion

The court reversed the district court’s decision in light of *Burlington Northern* and ruled in favor of Defendant, relieving it from CERCLA liability. The court noted that “we are confident that the Texas Supreme Court would apply *Burlington [Northern]* to [a party’s] [T]SWDA claim” and therefore relieved Defendant of TSWDA liability on the same grounds.²⁴

Alexis Kim
Albany Law School ‘15

Endnotes

1. *Vine Street LLC v. Borg Warner Corp.*, No. 07-40440, at *2 (5th Cir. Jan. 14, 2015).
2. *Id.*
3. *Id.* at *3.
4. *Id.*
5. *Id.* at n.3.
6. *Id.* at *2.
7. *Id.*
8. *Id.* at *1, *4.
9. *Id.* at *4.
10. 42 U.S.C. § 9607(a)(3).
11. *Geraghty & Miller, Inc. v. Conoco Inc.*, 234 F.3d 917 (5th Cir. 2000).
12. *Id.* at 929.
13. 556 U.S. 599 (2009).
14. *Id.* at 611.
15. *Id.* at 602–603.
16. *Id.* at 603–604.

17. *Vine Street LLC*, No. 07-40440, at *7 (quoting *Burlington N. & Santa Fe Ry. Co.*, 556 U.S. 599, 612 (2009)).
18. *Id.* at *8 (quoting *Burlington N. & Santa Fe Ry. Co.*, 556 U.S. at 611).
19. *Id.* at *10.
20. *Id.* at *8–9.
21. *Id.* at *9.
22. *Id.* at *10.
23. *Id.* at *11–12.
24. *Id.* at *14.

* * *

Wallach v. Town of Dryden, 2014 N.Y. LEXIS 1766 (N.Y. 2014)

Facts

The town of Dryden is a rural community in upstate New York, located within the Marcellus Shale region.¹ The Marcellus Shale formation is a vast depository of natural gas found thousands of feet below the surface.² This natural gas can be extracted through methods such as horizontal drilling and hydrofracking.³

In 2006, petitioner Norse Energy Corp. USA (“Norse”) began acquiring oil and gas leases from landowners in Dryden (the “Town”) in order to explore and develop the natural gas resources located therein.⁴ The Town asserted that natural gas extraction was prohibited because these activities fall within zoning ordinances which preclude any land use not specifically allowed.⁵ Then, in 2011, the Town Board unanimously voted to amend the zoning ordinance to specify that all oil and gas activities related to exploration, extraction and storage were banned.⁶

The amendment also claimed to invalidate state or federal oil and gas permits.⁷ In response, Norse commenced a CPLR article 78 proceeding and declaratory judgment action to challenge the validity of the zoning ordinance.⁸ Norse contended “that Dryden lacked the authority to prohibit [such] activities because section 23-0302 (2) of the Environmental Conservation Law (ECL)... demonstrated that the State Legislature intended to preempt zoning laws [which impeded] energy production [activities].”⁹ Dryden moved for summary judgment in response, seeking a declaration that the zoning amendment was a valid exercise of its powers.¹⁰

Procedural History

The Supreme Court granted Dryden’s motion for summary judgment and declared the amendment valid—the one exception being the provision which invalidated state and federal oil and gas permits.¹¹ The Appellate Division affirmed.¹²

Issue

Whether towns in New York State may ban oil and gas production activities, such as hydrofracking, within

municipal boundaries through the adoption of zoning laws?

Rationale

The New York State Constitution provides that “every local government shall have power to adopt and amend local laws not inconsistent with the provisions of this constitution or any general law...except to the extent that the legislature shall restrict the adoption of such a local law.”¹³ The Court of Appeals has affirmed that municipalities may enact land-use controls to preserve “the character and desirable aesthetic features” of a community.¹⁴ Norse contended that the State Legislature has expressed an intention to preempt local zoning laws through the Oil, Gas and Solution Mining Law (OGSML) “supersession clause”¹⁵ which states that “the provisions of this article shall supersede all local laws or ordinances relating to the regulation of the oil, gas and solution mining industries.”¹⁶ The Court of Appeals rejected this contention, reasoning that the plain language of the law did not encompass zoning provisions.¹⁷

Conclusion

Towns may ban oil and gas production activities because the supersession clause in the statewide OGSML does not preempt the home rule authority vested in municipalities to regulate land use.

Mark Matteini
St. John’s University School of Law ‘16

Endnotes

1. *Wallach v. Town of Dryden*, No. 130-131, 2014 N.Y. LEXIS 1766, at *2 (N.Y. 2014).
2. *Wallach*, 2014 N.Y. LEXIS 1766, at *2.
3. *Id.* at *3.
4. *Id.* at *4.
5. *Id.*
6. *Id.*
7. *Id.*
8. *Id.* at *5.
9. *Id.*
10. *Id.*
11. *Id.*
12. *Id.*
13. N.Y. CONST. art IX, § 2 [c] [ii]; see *Wallach*, 2014 N.Y. LEXIS 1766, at *9.
14. *Wallach*, 2014 N.Y. LEXIS 1766, at *10 (citing *Trustees of Union Coll. v. Members of Schenectady City Council*, 690 N.E.2d 862, 864 (1997)).
15. *Id.* at *11-12.
16. N.Y. ENVTL. CONSERV. LAW § 23-0303 (Consol. 2014).
17. *Wallach*, 2014 N.Y. LEXIS 1766, at *14.

* * *

Recent Legislation

A.09955, 237th Gen. Assemb., Reg. Sess. (N.Y. 2014)

This bill was referred to the Department of Environmental Conservation (DEC) June 3, 2014, amending the Environmental Conservation Law by adding § 23-1712, titled “Prohibition on the Sale or Use of Any Liquid Waste Product from Hydraulic Fracturing Operations.”¹ The act will take place immediately, provided that the DEC will establish rules concerning the proper disposal of waste products generated by hydraulic fracturing within ninety days of the effective date of the act.²

The act was sponsored by Assembly member Mosley, and cosponsored by members Gottfried, Clark, Jaffee, Otis, Hooper, Brennan, Camara, Rivera, Thiele, and Titone.³

This act prohibits the sale or use of any liquid waste product from hydraulic fracturing.⁴ Additionally, the DEC will be required to establish rules and regulations for the proper disposal of any and all waste products generated during the process of hydraulic fracturing.⁵ The justification is that the liquid waste has properties that raise public health concerns.⁶

Graham Gibbs,
St. John’s University School of Law, ‘15

Endnotes

1. A09955 Text, NEW YORK STATE ASSEMBLY, http://assembly.state.ny.us/leg/?default_fld=&bn=A09955&term=2013&Text=Y (last visited Aug. 19, 2014).
2. *Id.*
3. A09955 Summary, NEW YORK STATE ASSEMBLY, http://assembly.state.ny.us/leg/?default_fld=&bn=A09955&term=2013&Summary=Y (last visited Aug. 19, 2014).
4. A09955 Text, New York State Assembly.
5. *Id.*
6. A09955 Memo, New York State Assembly, http://assembly.state.ny.us/leg/?default_fld=&bn=A09955&term=2013&Memo=Y (last visited Aug. 19, 2014).

* * *

A.09862: An act to amend the public service law, in relation to fuel gas transmission lines

The Codes Committee passed “An act to amend the public service law, in relation to fuel gas transmission lines” (the “bill”) on June 16, 2014 and introduced it to the assembly.

Assemblyman Harry B. Bronson of Rochester is the Bill’s main sponsor in the New York State Assembly, and Senator Patrick Gallivan of Wyoming County is the Bill’s main sponsor in the New York State Senate.

There are three significant provisions of the bill.¹ Provision two amends § 121(a) of the Public Service Law to

require all potential constructors of fuel gas transmission lines to give notice to each affected landowner.² Provision three amends § 122 of the Public Service Law to require potential constructors of “major utility transmission facilities” to provide proof of service of their applications to each affected landowner.³ Provision four amends § 126 of the Public Service law to consider the following factors when determining whether to accept or deny an application: (1) whether there is active farming in the area; (2) whether it would result in any permanent changes to the agricultural resources in the area; and (3) whether there are any conceivable alternate areas that could be utilized if there are certain types of soil in the area.⁴

Sarah Smith
St. John’s University School of Law ‘16

Endnotes

1. A09862, 237th Gen. Assemb., Reg. Sess. (N.Y. 2014) (providing five provisions). Provision one amends the Public Service Law to add a definition of “landowner” and Provision five states that this Bill will take effect immediately.
2. A09862, 237th Gen. Assemb., Reg. Sess. (N.Y. 2014).
3. *Id.*
4. *Id.*

* * *

Act to Amend the Environmental Conservation Law, in Relation to the Phase-Out of State Use of Pesticides, A.09890

Sponsor(s): Kavanagh, Dinowitz, Rosenthal, Gottfried, Englebright, Jaffee, Rozic, Lupardo, Peoples-Stokes, Paulin, Camara, Solages, Brook-Krasny, Colton, Cusick, Weinstein.¹

This bill seeks to discontinue the use of pesticides by the state of New York and adopt a pest control policy, which utilizes alternative methods such as non-chemical techniques.² The bill presents a three-level phase-out plan, at the end of which the use of pesticides for pest control purposes will be drastically reduced.³

Phase one of the phase-out plan prohibits any New York agency from utilizing any pesticide classified as a Toxicity Category I by the U.S. Environmental Protection Agency (EPA), or any pesticide which could potentially be classified as a carcinogen by the agency.⁴ This phase of the bill takes effect after January 1, 2016.⁵ Phase two, which is set to take effect a year after phase one is put into place, prohibits state agencies from using pesticides classified as Toxicity Category II pesticides by the EPA or pesticides classified as restricted use by the EPA or the New York State Department of Environmental Conservation (DEC).⁶ Phase three prohibits the use of pesticides in general starting January 1, 2018.⁷ However, this phase of the bill includes a number of chemicals that are exempt from this injunction. The exempted categories are: pesticides used to maintain safe and healthy drinking water,

antimicrobials, pesticides used as baits in rodent control, any pesticides classified by the EPA as exempt, pesticides used for agriculture research, and associated resins used for reclamation of water.⁸

The bill requires that DEC develop and implement a new pest management plan, introducing alternative pest management techniques using non-chemical strategies or pesticides low in toxicity.⁹ The DEC must also address the underlying causes of pest outbreaks to prevent such outbreaks in the future.¹⁰ The state also has the power to suspend the bill if there is an immediate threat to human health, which alternative pesticides will not effectively manage.¹¹

Jessica Goldberg
St. John’s University School of Law, ‘16

Endnotes

1. Bill No. A09890, 237th Gen. Assemb., Reg. Sess. (N.Y. 2014) (pending and referred to Environmental Conservation Committee).
2. *Id.*
3. *Id.*
4. *Id.*
5. *Id.*
6. *Id.*
7. *Id.*
8. *Id.*
9. *Id.*
10. *Id.*
11. *Id.*

* * *

Clean Estuaries Act, S. 2042, 113th Cong. (2014)

A bill is currently under consideration in the U.S. Senate to amend the Clean Water Act to reauthorize the National Estuary Program.

The Clean Estuaries Act of 2014, sponsored by Senator Sheldon Whitehouse (D-RI), requires the development of comprehensive conservation and management plans and submission to an administrator.¹ These plans must identify the estuary to be addressed by the plan, recommend “priority protection, conservation, and corrective actions and compliance schedules,” carry out integrated assessments to identify healthy and impaired watershed components, consider “current and future sustainable commercial activities in the estuary,” address “the effects of climate variability on the estuary,” and increase public awareness of the health of the estuary.²

The bill would also require the EPA Administrator to include in the EPA’s annual budget amounts requested for making grants under the national estuary program, to evaluate the implementation of each conservation and management plan developed within the program every

five years to determine if the goals are being attained, to provide notice to the management conference that a plan is found lacking and allow the submission of a revised plan, to submit the results of the evaluation for review and comment to the appropriate management conference, and to report on the results of the evaluation and make that report available to the public.³ A management conference will be considered in probationary status if the conference has not acquired approval for an updated plan within five years of the date from which the evaluation was published.⁴ In such an instance, the Administrator is required to reduce the grant for implementing the plan and to terminate a management conference if the conference has been probationary for two consecutive years.⁵

Once the Administrator has approved a plan for an estuary, the bill would require any federal action which would impact this estuary to be carried out in a manner consistent with that plan.⁶ The bill would also require an agency head to consider the agency's responsibilities under this program when making annual budgetary requests.⁷ Under this bill, the EPA becomes the lead coordinating agency for implementing these plans.⁸

Mark Matteini
St. John's University School of Law '16

Endnotes

1. The Library of Congress, *Bill Text: 113th Congress (2013 – 2014): S.2042*. <<https://beta.congress.gov/bill/113th-congress/senate-bill/2042/text>>.
2. *Id.*
3. *Id.*
4. *Id.*
5. *Id.*
6. *Id.*
7. *Id.*
8. *Id.*

* * *

"Coal Country Protection Act" or the "Protecting Jobs, Families, and the Economy From EPA Overreach Act" of 2014, S. 2414

A bill currently under consideration in the U.S. Senate would place limitations on the regulation of emissions of carbon dioxide from new or existing power plants.¹ This bill was introduced by Senator Mitch McConnell on June 3, 2014.² On that date the bill was referred to the Committee on Environment and Public Works.³ On July 9, 2014, introductory remarks were made on the measure in the Senate.⁴ Cosponsors include Senators Michael B. Enzi (WY), John Thune (SD), Paul Rand (KY), Roy Blunt (MO), David Vitter (LA), Deb Fischer (NE), John Barrasso (WY), Lamar Alexander (TN), Mike Johanns (NE), Jerry Moran (KS), Bob Corker (TN), Pat Roberts (KS), and Dean Heller (NV).⁵ In the House, an identical bill, H.R.4808,

was referred to the Subcommittee on Energy and Power on June 6, 2014.⁶

The Protecting Jobs, Families, and the Economy From EPA Overreach Act of 2014, if enacted, would amend the Clean Air Act.⁷ The amendment would outline the circumstances under which "regulations or guidance" limiting or prohibiting carbon dioxide emissions from new or existing power plants may be promulgated.⁸

The bill defines a "new or existing power plant" as "a fossil fuel-fired power plant that commences operation at any time."⁹ The bill sets out to prevent the Administrator of the U.S. Environmental Protection Agency from promulgating regulations or guidance which would limit or prohibit the emission of carbon dioxide from a new or existing power plant "notwithstanding any other provision of law (including regulations)."¹⁰ The bill states that any such regulations or guidance would not have "any force or effect" until the date on which four conditions are met.¹¹

The four conditions presented in the bill required for such a regulation or guidance to take effect are as follows. The Secretary of Labor must certify to the USEPA Administrator that the regulation or guidance will not result in any decrease in employment.¹² Second, the Congressional Budget Office must certify to the USEPA Administrator that the regulation or guidance would not generate any reduction of the gross domestic product of the United States.¹³ Third, the Director of the Energy Information Administration must certify to the USEPA Administrator that the regulation or guidance would not result in an increase of electricity rates in the United States.¹⁴ Lastly, the Chairperson of the Federal Energy Regulatory Commission and the President of the North American Electric Reliability Corporation must certify to the USEPA Administrator that the delivery of electricity would be reliable under the regulation or guidance.¹⁵

To implement these changes the bill would add Section 313, entitled "Limitation on Regulation of Emissions of Carbon Dioxide From New or Existing Power Plants," to the Clean Air Act.¹⁶

Alexandra Scoville
Albany Law School '16

Endnotes

1. The Library of Congress, *Text: S.2414–113th Congress (2013-2014)*, Congress.gov. <<https://beta.congress.gov/bill/113th-congress/senate-bill/2414/text>>.
2. *Id.*
3. *Id.*
4. The Library of Congress, *All Actions, Including Floor Amendments: S.2414–113th Congress (2013-2014)*, Congress.gov <<https://beta.congress.gov/bill/113th-congress/senate-bill/2414/all-actions-with-amendments>>.
5. The Library of Congress, *Cosponsors: S.2414–113th Congress (2013-2014)*, Congress.gov <<https://beta.congress.gov/bill/113th-congress/senate-bill/2414/cosponsors>>.

6. The Library of Congress, *Related Bills: S.2414–113th Congress (2013–2014)* <<https://beta.congress.gov/bill/113th-congress/senate-bill/2414/related-bills>>.
7. The Library of Congress, *Text: S.2414–113th Congress (2013–2014)*, Congress.gov. <<https://beta.congress.gov/bill/113th-congress/senate-bill/2414/text>>.
8. *Id.*
9. *Id.* § 2(a) (§313(a)).
10. *Id.* § 2(a) (§313(b)).
11. *Id.*
12. *Id.* § 2(a) (§313(b)(1)).
13. *Id.* § 2(a) (§313(b)(2)).
14. *Id.* § 2(a) (§313(b)(3)).
15. *Id.* § 2(a) (§313(b)(4)).
16. *Id.* § 2(a).

* * *

Domestic Prosperity and Global Freedom Act, H.R. 6.

The U.S. House of Representatives passed a bill, which, after consideration by the U.S. House Committee on Energy and Commerce and the U.S. House Energy Subcommittee on Energy and Power, would allow the Department of Energy (DOE) to issue an expedited approval of exportation of natural gas to World Trade Organization countries and for other purposes.¹

The Domestic Prosperity and Global Freedom Act (“the Act”), sponsored by Rep. Cory Gardner (R-CO), would allow the DOE to issue a final decision on any application for authorization to export natural gas no later than 30 days after the later of (1) the conclusion of the review to site, construct, expand, or operate the liquefied natural gas (LNG) facilities required by the National Environmental Policy Act of 1969 (NEPA); or (2) the date of the enactment of this Act.² The Act considers the review required by NEPA to be completed (1) 30 days after publication of an Environmental Impact Statement (EIS) (if required); (2) 30 days after publication by DOE of a Finding of No Significant Impact (if EIS is required); and (3) upon a determination by the lead agency, the application is eligible for a categorical exclusion pursuant to NEPA regulation.³

The Act grants original and exclusive jurisdiction over any civil action to the United States Court of Appeals in the circuit in which the export facility would be located, for the review of an order issued by the DOE with respect to an application, or the DOE’s failure to issue a final decision on an application.⁴ If the court determines that the DOE failed to issue a final decision on an application, it shall order the DOE to issue a final decision within 30 days of the court order.⁵

The Act would also amend the Natural Gas Act to mandate, as a condition for approval of any authorization

to export LNG, that the DOE require applicants to disclose publicly the destination(s) of its LNG exports.⁶

Kate Roberts
Albany Law School ‘16

Endnotes

1. The Library of Congress, *Bill Summary & Status: 113th Congress (2013–2014): H.R.6*. All Information, THOMAS <<http://thomas.loc.gov/cgi-bin/bdquery/D?d113:1:/temp/~bdtOgD::|/home/LegislativeData.php>>.
2. *Id.* § 2(a)(1)–(2).
3. *Id.* § 2(b)(1)–(3).
4. *Id.* § 2(c)(1)(A)–(B).
5. *Id.* § 2(c)(2).
6. *Id.* § 3.

* * *

Energy Savings and Building Efficiency Act of 2014, H.R. 5027

A bill currently under consideration in the U.S. House of Representatives would direct the Secretary of Energy to promote greater energy saving standards in residential and commercial buildings.

The Energy Savings and Building Efficiency Act of 2014 (hereinafter “the Act”), sponsored by Rep. Marsha Blackburn (TN), would direct the Secretary of Energy to provide technical assistance and federal support to States and Indian Tribes in order to help them come into compliance with the standards set within the Act.¹ In order to assist the States and Indian Tribes in implementing and documenting compliance with building energy codes, technical assistance would consist of the evaluation of codes, model building energy codes, and building demonstrations.² The bill also requires the Secretary of Energy to submit an annual report to Congress stating the building energy codes, compliance with the codes, and any improvements in energy savings that occurred due to the standards within the Act.³

The bill calls for three studies to be conducted: (1) GAO Study, (2) Feasibility Study, and (3) Energy Data in Multi-Tenant Buildings Study.⁴ The GAO Study directs the Comptroller General of the United States to conduct a study consisting of the energy consumption, consumer savings relating to improved building energy codes, and an accounting of federal expenditures under each program authorized by the Act.⁵ The Feasibility Study directs the Secretary of Energy to consult with “building science experts from the National Laboratories and institutions of higher education, designers and builders of energy-efficient residential and commercial buildings, code officials, and other stakeholders,” in order to conduct a study pertaining to the feasibility and impact of improving building energy codes as well as legislative options for creating incentives for compliance with codes.⁶ The Energy Data

Administrative Decisions Update

By Robert A. Stout Jr.

In the Matter of the Alleged Violations of Article 12 of the New York State Navigation Law and Part 32 of Title 17 of the Official Compilation of Codes, Rules and Regulations of the State of New York by Reliable Heating Oil, Inc., Respondent

Decision and Order of the DEC Commissioner

Summary of the Decision

By way of a Default Summary Report, the ALJ recommended to the Commissioner that a default order be issued finding that Respondent violated several sections of the New York State Navigation Law and its implementing regulations related to Respondent's discharge of No. 2 fuel oil in the basement of a residence, its failure to report the discharge and its failure to immediately undertake containment. The ALJ further recommended that in addition to the Department's requested minimum penalty of \$30,000, an additional \$60,000 penalty be assessed and suspended contingent upon remediation of the site. The Commissioner concurred that the Department was entitled to a default judgment, but found that due process concerns constrained him to limit the penalty to the specific dollar amount referenced in the complaint.

Background

On January 20, 2012 respondent delivered 150 gallons of No. 2 fuel oil to a residential building located at 132 Cleveland Street, Brooklyn, New York. The fuel oil was pumped through a disconnected fill pipe, resulting in a spill on the cracked concrete floor of the basement. The delivery was intended for 142 Cleveland Street. The fire department recovered approximately 20 gallons of fuel and Respondent took some additional corrective actions. Upon the Department's subsequent investigation, it found loose and contaminated oil absorbent material and noted the cracks in the floor. The Department advised respondent to remove remaining contaminated debris, conduct soil borings and install a ventilation system. Respondent timely installed a ventilation system but did not timely perform soil borings. Respondent's subsequent investigation revealed extensive contamination in four seven-foot deep soil borings and the Department ordered remediation. At the time of the ALJ's Default Summary Report, the site had not been fully remediated.

A notice of hearing was received by Respondent on March 16, 2013 and the Department's complaint stated that an answer had to be filed within 20 days. An answer was not filed. Further, Respondent failed to appear at the scheduled pre-hearing conference. Consequently, the

Department filed a motion for default judgment dated April 15, 2013 which was served on respondent by certified mail dated April 15, 2013 and was received on April 17, 2013. By its terms, a response was due within 5 days of receipt. On May 1, 2013, Respondent's owner stated that it would not be filing a response to the motion.

Accordingly, the ALJ recommended that the Commissioner grant the Department's motion for default and find that Respondent violated several sections of the New York State Navigation Law and its related regulations in connection with the discharge, its failure to report the discharge and its failure to immediately undertake containment. The ALJ noted that the Department's proposed order (as well as its complaint) sought a minimum penalty of \$30,000, which the ALJ found to be consistent with the Department's prior practice and penalty policy, as well as the provisions of Section 192 of the Navigation Law. However, because the site was not yet fully remediated, the ALJ determined that a penalty larger than the minimum should be applied, with the excess being suspended until the completion of the remediation. Accordingly, the ALJ recommended a penalty of \$90,000 with \$30,000 payable on receipt of the Commissioner's order and \$60,000 suspended upon satisfactory remediation of the site.

Decision and Order of the Commissioner

The Commissioner concurred that the Department was entitled to a default judgment and found that the requested minimum penalty of \$30,000 was reasonable, but declined to adopt the ALJ's recommendation to increase the civil penalty.

The Commissioner noted that Section 192 of the Navigation Law provides that those who violate Article 12 of the Navigation Law (which includes those sections that are the subject of this default judgment) are subject to civil penalties of up to twenty-five thousand dollars (\$25,000) for each such violation, with each day being a separate and distinct offense for continuing violations. Accordingly, since the violation in this case continued at least to the date of the complaint, Respondent would be potentially liable for a total maximum penalty of \$10,425,000.

The Commissioner noted that there are circumstances that may lead the Department to request an increase in a minimum requested penalty, such as where a respondent has entered an appearance and a hearing reveals additional facts giving rise to such an increase. This could be done by filing a motion or making an oral application to amend the pleadings. In such cases, the respondent would be on notice of the request, and have the opportunity to respond and oppose such request.

The Commissioner distinguished the current situation, where the Respondent did not appear. The Commissioner found that the phrase “no less than \$30,000” in the complaint created an ambiguity that does not provide adequate notice as to any specific amount greater than \$30,000 that the Department may seek. In the present case, the phrase “no less than \$30,000” could have meant any figure between \$30,000 and \$10,425,000.

Citing the general principle that a default judgment cannot exceed the amount that is demanded in the complaint absent notice to a respondent that a greater penalty would be sought, the Commissioner found that so increasing the penalty would implicate due process concerns. (*Matter of 134-15 Rock Management Corp. et al.*; Order of the Commissioner, December 10, 2008, at 4; *P&K Marble, Inc. v. Pearce*, 168 A.D.2d 439, 439-40 [2d Dept. 1990] and CPLR 3215[b]).

The Commissioner found that while he had the authority to determine that an additional amount was warranted, the Department’s filings did not provide any analysis to assist in deciding whether to increase the assessed penalty above the minimum requested.

Accordingly, while agreeing that the facts of the case might warrant a penalty greater than the requested minimum and that including a suspended penalty component would provide an incentive to Respondent to perform the remediation, the Commissioner found that he was constrained by due process concerns to limit the penalty to the specific dollar amount referenced in the complaint.

Conclusion

While this decision considers the narrow circumstances of increasing the requested minimum penalty in the context of a default proceeding in which a respondent has not appeared, it could have ramifications for how the Department formulates minimum requested penalties in its pleadings. To mitigate due process concerns in the event of a default, the Department might be tempted to increase the minimum penalties sought or in the alternative, provide a mechanism in the complaint by which the Commissioner may increase the requested minimum penalty, thereby providing more precise notice to a respondent that additional penalties, above a requested minimum, may result.

In the Matter of the Alleged Violations of Article 33 of the New York State Environmental Conservation Law and Parts 320 through 326 of Title 6, of the Official Compilation of Codes, Rules and Regulations of the State of New York, by Green Thumb Lawn Care, Inc. Respondent

Order of the DEC Commissioner

July 10, 2014

Summary of the Decision

Respondent was found to have violated provisions of the Environmental Conservation Law related to the commercial application of pesticides and the provisions of a 2002 consent order in a 2010 Decision and Order of the Commissioner (the “2010 Order”) which resulted in the assessment of a \$19,000 civil penalty. In the context of Respondent’s appeal to the Supreme Court, the Department requested that the Court modify the 2010 Order to dismiss all charges related to the 2002 consent order. The Court did and remitted the matter to the Department for a reassessment of the civil penalty. During renegotiation of the penalty, the Department characterized a portion of it as “Department costs” and indicated it was based on a billable rate of \$200 for attorneys. The Commissioner denied the Department’s request for this portion of the penalty, finding that statutory, other legal authority or agreement was necessary to include attorney fees in such a civil penalty.

Background

The Department alleged that Respondent violated provisions of the Environmental Conservation Law and related regulations related to the commercial application of pesticides, as well as provisions of an April 2, 2002 consent order. The 2010 Order (i) granted the Department’s motion for order without hearing; (ii) held that respondent violated the ECL, related regulations and the 2002 consent order and (iii) assessed a civil penalty in the amount of \$19,000. Respondent commenced a combined proceeding and action in Supreme Court, Onondaga County seeking in part to vacate the 2010 Order. In that proceeding, the Department requested that the Court modify the 2010 Order to dismiss all charges related to the 2002 consent order, and remit the matter to the Department for a reassessment of an appropriate penalty. The Court did, and the Fourth Department affirmed. (*See Matter of Green Thumb Lawn Care, Inc.*, Index No. 11/0062, Article 78 Decision, Order and Judgment [Sup Ct. Onondaga County, October 13, 2011], *aff’d*, *Matter of Green Thumb Lawn Care, Inc. v. Iwanowicz*, 107 A.D.3d 1402 [4th Dept. 2013]).

The Assistant Commissioner for Hearings then directed the Department to submit any recalculation of the civil penalty and provided Respondent an opportunity to submit a response to any recalculation. Initially, the

Department had sought a total civil penalty of \$19,000, including a \$5,000 component representing the amount of the suspended penalty under the 2002 consent order. Also included in the consent order discussion was \$2,000 characterized as a "punitive penalty." Accordingly, the Department submitted a recalculated penalty amount of \$12,000, representing what the Department characterized as a subtraction of the amount of the civil penalty that was attributable to the violation of the 2002 Order on Consent. Respondent replied with its own analysis, and the Department subsequently agreed to remove \$3,000 attributable to economic benefit and \$2,000 for the gravity component of the violations and consequently reduced its requested penalty from \$12,000 to \$7,000. The Department stated that the revised penalty consisted of two elements, \$1,000 for each of the two violations, doubled to \$2,000 each because the violations were "subsequent offenses" and \$3,000 for "the Department's costs." The Department indicated that the costs were based on consultation with a staff economist and suggested that \$200 per hour is a generally recognized billable hour rate for Department attorneys.

Order of the Commissioner

The Commissioner found that the portion of the request for Department costs was essentially a request for attorney's fees. Without statutory or other legal authority, or a written agreement that specifically authorizes the recovery of attorney's fees, the Commissioner found that such fees are not recoverable. Accordingly, the Commissioner denied the Department's request to include \$3,000 of Department costs as part of the civil penalty and assessed a total civil penalty of \$4,000.

Conclusion

Practitioners must pay careful attention to the calculation of civil penalties. This decision makes clear that absent express authority for the recovery of attorney's fees, such inclusion is not permitted.

Robert A. Stout Jr. is an associate in the Environmental Practice Group of Whiteman Osterman & Hanna LLP in Albany, New York.



Lawyer Assistance Program

Your **First Choice**
or Your **Last Resort**

Call us when you see the early warning signs...
missed deadlines, neglected email, not returning phone
calls, drinking too much, feeling sad and hopeless.

OR

Call us when you see the consequences of ignoring
the early warning signs... work problems, relationship
difficulties, an arrest, fired from your job, notice from
grievance.

Call 1.800.255.0569

NEW YORK STATE BAR ASSOCIATION
LAWYER ASSISTANCE PROGRAM

www.nysba.org/lap
nysbalap@hushmail.com



From the NYSBA Book Store >

ATTORNEY ESCROW ACCOUNTS – Rules, Regulations and Related Topics

Fourth Edition

Attorney Escrow Accounts—Rules, Regulations and Related Topics, Fourth Edition, the go-to guide on escrow funds and agreements, IOLA accounts and the Lawyers' Fund for Client Protection, offers comprehensive coverage of the most common situations where attorneys handle client funds and clearly discusses the legal and ethics issues encountered.

Completely updated, adding new sections and updated case and statutory law, this edition includes every ethics opinion cited in the text as well as forms and all relevant statutes and regulations.

The Fourth Edition also features a word-searchable CD, with text, statutes, regulations, opinions and forms.

Also Available as a Downloadable PDF.

EDITOR

Peter V. Coffey, Esq.

Englert, Coffey, McHugh & Fantauzzi
Schenectady, NY

ASSISTANT EDITOR

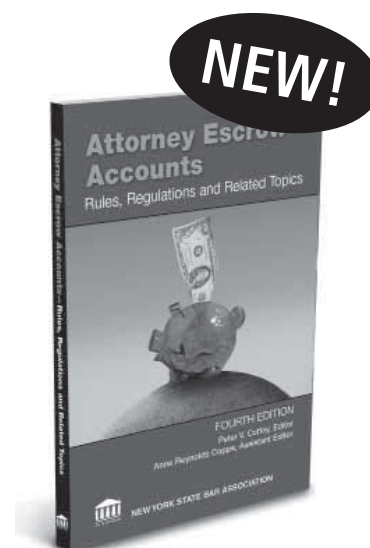
Anne Reynolds Copps, Esq.

Law Office of Anne Reynolds Copps
Albany, NY

Get the Information Edge

1.800.582.2452 www.nysba.org/pubs

Mention Code: PUB8100



PRODUCT INFO AND PRICES

2015

Print: 40264/436 pp./softbound

E-book: 40264E/436 pp./PDF

NYSBA Members	\$60
Non-members	\$70

Order multiple titles to take advantage of our low flat rate shipping charge of \$5.95 per order, regardless of the number of items shipped. \$5.95 shipping and handling offer applies to orders shipped within the continental U.S. Shipping and handling charges for orders shipped outside the continental U.S. will be based on destination and added to your total.



Section Committees and Chairs

The Environmental Law Section encourages members to participate in its programs and to contact the Section Officers or Committee Chairs for information.

Adirondacks, Catskills, Forest Preserve and Natural Resource Management

Thomas A. Ulasewicz
FitzGerald Morris Baker Firth PC
16 Pearl Street, Suite 101
Glens Falls, NY 12801
tau@fmbf-law.com

Claudia K. Braymer
Caffry & Flower
100 Bay Street
Glens Falls, NY 12801
cbraymer@caffrylawoffice.com

Agriculture and Rural Issues

Ruth A. Moore
Cornell Cooperative Extension
Dutchess County
2715 Rt 44
Millbrook, NY 12545
rmoore49@nycap.rr.com

Elizabeth C. Dribusch
New York Farm Bureau, Inc.
P.O. Box 5330
159 Wolf Road
Albany, NY 12205-0330
edribusch@nyfb.org

Air Quality

Robert R. Tyson
Bond, Schoeneck & King, PLLC
One Lincoln Center
Syracuse, NY 13202-1355
TysonR@BSK.com

Elizabeth M. Morss
Young Sommer LLC
5 Palisades Dr.
Albany, NY 12205
emorss@youngsommer.com

Brownfields Task Force

David J. Freeman
Gibbons, P.C.
One Pennsylvania Plaza, 37th Floor
New York, NY 10119-3701
dfreeman@gibbonslaw.com

Lawrence P. Schnapf
Schnapf, LLC
55 East 87th Street Suite 8b
New York, NY 10128
larry@schnapflaw.com

Coastal and Wetland Resources

Dominic R. Cordisco
Drake Loeb Heller Kennedy Gogerty
Gaba & Rodd, PLLC
555 Hudson Valley Avenue, Suite 100
New Windsor, NY 12553
cordisco@gmail.com

Reed Super
Super Law Group, LLC
131 Varick Street, Suite 1033
New York, NY 10013-1410
reed@superlawgroup.com

Amy K. Kendall
Knauf Shaw, LLP
1400 Crossroads Bldg.
2 State Street
Rochester, NY 14614
akendall@nyenvlaw.com

Continuing Legal Education & Ethics

Randall C. Young
New York State Department
of Environmental Conservation
Region 6
317 Washington Street
Watertown, NY 13601-3744
randall.young@dec.ny.gov

Genevieve Trigg
Whiteman Osterman & Hanna LLP
One Commerce Plaza, Suite 1900
Albany, NY 12260
gtrigg@woh.com

Maureen F. Leary
NYS OAG
Environmental Protection Bureau
The Capitol
Albany, NY 12224
maureen.leary@ag.ny.gov

James P. Rigano
Rigano, LLC
538 Broadhollow Rd., Suite 217
Melville, NY 11747
jrigano@riganollc.com

Corporate Counsel

George A. Rusk
Ecology and Environment, Inc.
368 Pleasantview Drive
Lancaster, NY 14086-1316
grusk@ene.com

Robert M. Hallman
227 E. 57th Street
New York, NY 10022
rmhallman@gmail.com

Diversity

John L. Greenthal
Nixon Peabody LLP
677 Broadway, 10th Floor
Albany, NY 12207
jgreenthal@nixonpeabody.com

Joan Leary Matthews
USEPA Region 2
290 Broadway, 25th Floor
New York, NY 10007-1866
matthews.joan@epa.gov

Energy

Kevin M. Bernstein
Bond, Schoeneck & King, PLLC
One Lincoln Center
Syracuse, NY 13202-1325
kbernstein@bsk.com

Keith G. Silliman
VHB
100 Great Oaks Blvd., Suite 109
Albany, NY 12203
ksilliman@vhb.com

Yvonne E. Hennessey
Barclay Damon LLP
80 State Street
Albany, NY 12207
yhennessey@hblaw.com

Enforcement and Compliance

Eugene John Kelly Jr.
Harris Beach PLLC
677 Broadway, Suite 1101
Albany, NY 12207
gkelly@harrisbeach.com

Craig B. Kravit
Kravit Partners LLC
79 Madison Avenue, Front 2
New York, NY 10016-7800
cbk@kravit.com

Environmental Business Transactions

Robert H. Feller
Bond, Schoeneck & King, PLLC
22 Corporate Woods Blvd., Ste 501
Albany, NY 12211
RFeller@bsk.com

Steven C. Russo
Greenberg Traurig LLP
200 Park Avenue
New York, NY 10166
russos@gtlaw.com

Environmental Impact Assessment

Mark A. Chertok
Sive Paget & Riesel PC
460 Park Avenue, 10th Floor
New York, NY 10022
mchertok@sprlaw.com

Lisa A. Hochman
61 Vine Road
Larchmont, NY 10538-1216
lisahochman@mac.com

Environmental Insurance

Daniel W. Morrison III
Jones Morrison, LLP
Penthouse
670 White Plains Road
Scarsdale, NY 10583
dmorrison@jonesmorrisonlaw.com

Gerard P. Cavaluzzi
ARCADIS U.S., Inc.
44 South Broadway, 15th Floor
White Plains, NY 10601
gerard.cavaluzzi@arcadis-us.com

Environmental Justice

Peter M. Casper
New York State Thruway Authority
Legal Department
200 Southern Blvd; PO Box 189
Albany, NY 12201-0189
peter.casper@thruway.ny.gov

Marie Chery-Sekhobo
N.Y.S. Attorney General's Office
The Capitol
Albany, NY 12224
marie.chery-sekhobo@oag.state.ny.us

David W. Quist
New York State Department of Health
Division of Legal Affairs
Empire State Plaza, Corning Tower
Albany, NY 12237-0026
davidquist@earthlink.net

Global Climate Change

Carl R. Howard
US Environmental Protection Agency
290 Broadway
Office of Regional Counsel
New York, NY 10007-1866
howard.carl@epa.gov

J. Kevin Healy
Bryan Cave LLP
1290 Avenue of the Americas
New York, NY 10104
jKhealy@bryancave.com

Michael B. Gerrard
Columbia Law School
435 West 116th Street
New York, NY 10027
michael.gerrard@aporter.com

Virginia C. Robbins
Bond, Schoeneck & King, PLLC
One Lincoln Center
Syracuse, NY 13202
vrobbins@bsk.com

Hazardous Waste/Site Remediation

David J. Freeman
Gibbons, P.C.
One Pennsylvania Plaza, 37th Floor
New York, NY 10119-3701
dfreeman@gibbonslaw.com

Amy Lynn Reichhart
Nixon Peabody LLP
1300 Clinton Square
Rochester, NY 14604
areichhart@nixonpeabody.com

Land Use & Historic Preservation Parks & Recreation & Transportation & Infrastructure

Edward F. Premo II
Harter Secrest & Emery LLP
1600 Bausch & Lomb Place
Rochester, NY 14604
epremo@hselaw.com

Michael D. Zarin
Zarin & Steinmetz
81 Main Street, Suite 415
White Plains, NY 10601
mzarin@zarin-steinmetz.net

Legislation

Jillian Kasow
New York State Senate
Legislative Office Building
Room 846-A
Albany, NY 12247
kasow@nysenate.gov

John L. Parker
157 Stone Meadow Road
South Salem, NY 10590
parkerjl@me.com

Membership

Robert Alan Stout Jr.
Whiteman Osterman & Hanna LLP
1 Commerce Plaza
Albany, NY 12260
rstout@woh.com

Mining and Oil & Gas Exploration

Alita J. Giuda
The West Firm PLLC
677 Broadway, 8th Floor
Albany, NY 12207
agiuda@westfirmlaw.com

Adam J. Schultz
Couch White LLP
540 Broadway
Albany, NY 12201
aschultz@couchwhite.com

Pesticides

Megan Rose Brillault
Beveridge & Diamond PC
477 Madison Ave., 15th Floor
New York, NY 10022-7380
mbrillault@gmail.com

Telisport W. Putsavage
Sullivan & Worcester LLP
1666 K Street, NW
Washington, DC 20006
tputsavage@sandw.com

Petroleum Spills

Gary S. Bowitch
Bowitch & Coffey LLC
17 Elk Street
Albany, NY 12207
bowitch@bcalbany.com

Wendy A. Marsh
Hancock Estabrook, LLP
100 Madison Street, Suite 1500
Syracuse, NY 13202-2791
wmarsh@hancocklaw.com

Douglas H. Zamelis
Law Office of Douglas H. Zamelis
7629A State Highway 80
Cooperstown, NY 13326-3315
dzamelis@windstream.net

Section Cabinet

Michael J. Lesser
50F Knights Bridge
Guilderland, NY 12084-9434
mlesser@nycap.rr.com

Solid Waste

John Francis Lyons
Grant & Lyons, LLP
PO Box 370
Rhinecliff, NY 12574
jlyons@grantlyons.com

Marla E. Wieder
U.S. Environmental Protection Agency
Region II
290 Broadway, 17th Floor
New York, NY 10007-1823
wieder.marla@epa.gov

Toxic Torts

Cheryl P. Vollweiler
Traub Lieberman Staus
& Shrewsbury LLP
Mid-westchester Executive Park
7 Skyline Drive
Hawthorne, NY 10532
cvollweiler@traublieberman.com

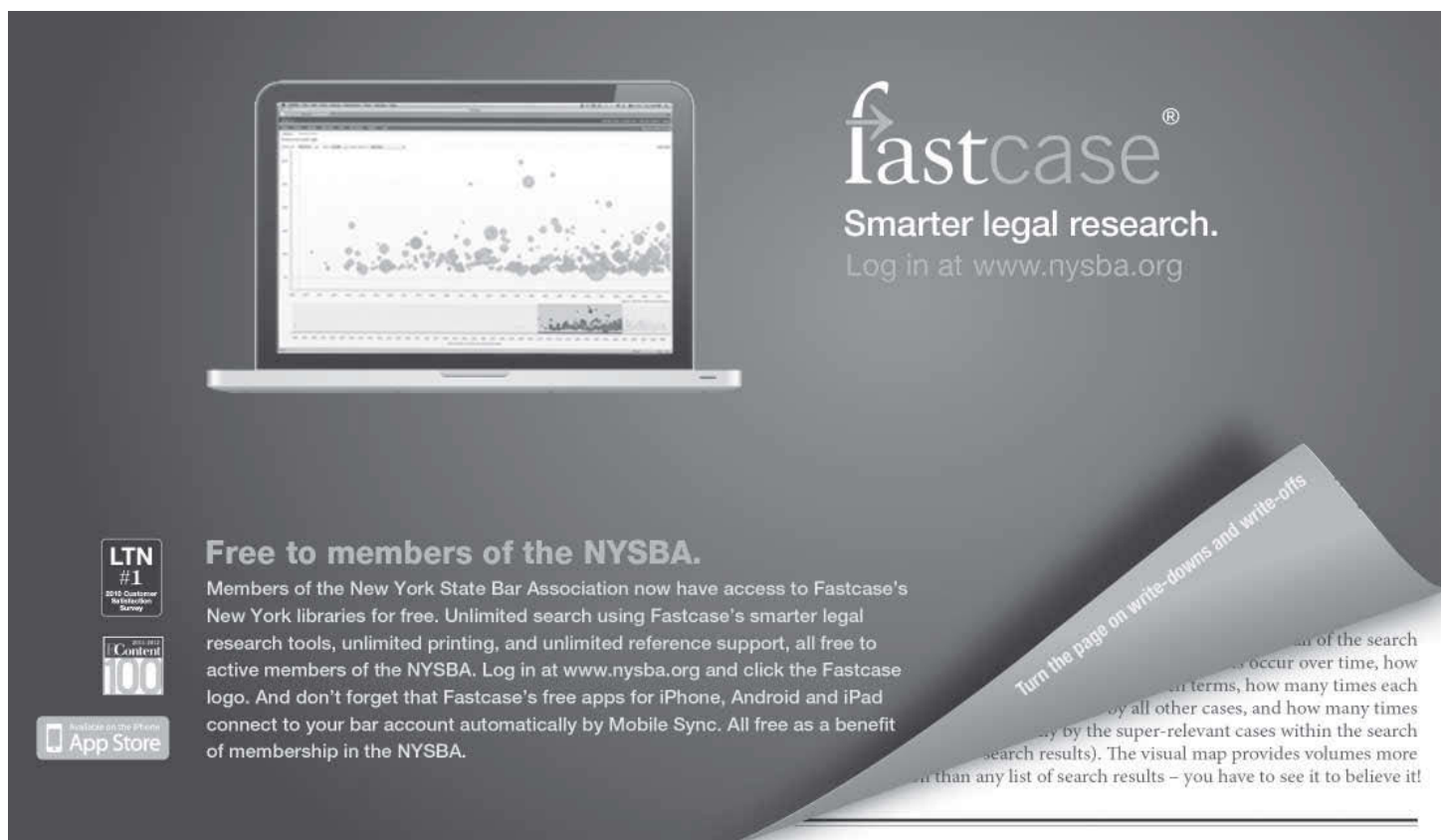
Stanley Norman Alpert
Schlam Stone and Dolan LLP
26 Broadway, 19th Floor
New York, NY 10004
salpert@schlamstone.com

Water Quality

Melody Scalfone
Scalfone Law PLLC
131 Robineau Road
Syracuse, NY 13207-1645
scalfone@scalfonelaw.com

Philip H. Dixon
Whiteman Osterman & Hanna LLP
One Commerce Plaza
Albany, NY 12260
pdixon@woh.com

George A. Rodenhausen
Rodenhausen Chale LLP
20 Spring Brook Park
Rhinebeck, NY 12572-1194
grodenhausen@rodenhausenchale.com



fastcase[®]
Smarter legal research.
Log in at www.nysba.org

Free to members of the NYSBA.
Members of the New York State Bar Association now have access to Fastcase's New York libraries for free. Unlimited search using Fastcase's smarter legal research tools, unlimited printing, and unlimited reference support, all free to active members of the NYSBA. Log in at www.nysba.org and click the Fastcase logo. And don't forget that Fastcase's free apps for iPhone, Android and iPad connect to your bar account automatically by Mobile Sync. All free as a benefit of membership in the NYSBA.

Turn the page on write-downs and write-offs

of the search
occur over time, how
terms, how many times each
by all other cases, and how many times
by the super-relevant cases within the search
search results). The visual map provides volumes more
than any list of search results – you have to see it to believe it!

Section Officers

Chair

Michael J. Lesser
50F Knights Bridge
Guilderland, NY 12084-9434
mlesser@nycap.rr.com

Vice-Chair

Lawrence P. Schnapf
Schnapf, LLC
55 East 87th Street, Suite 8b
New York, NY 10128
larry@schnapflaw.com

Treasurer

Kevin M. Bernstein
Bond, Schoeneck & King, PLLC
One Lincoln Center
Syracuse, NY 13202-1325
kbernstein@bsk.com

Secretary

Marla E. Wieder, Esq.
Assistant Regional Counsel
U.S. Environmental Protection Agency Region II
290 Broadway, 17th Floor
New York, NY 10007-1823
wieder.marla@epa.gov

Publication—Editorial Policy—Subscriptions

Persons interested in writing for this *Journal* are welcomed and encouraged to submit their articles for consideration. Your ideas and comments about the *Journal* are appreciated.

Publication Policy: All articles should be submitted to me and must include a cover letter giving permission for publication in this *Journal*. We will assume your submission is for the exclusive use of this *Journal* unless you advise to the contrary in your letter. If an article has been printed elsewhere, please ensure that the *Journal* has the appropriate permission to reprint the article. Authors will be notified only if articles are rejected. Authors are encouraged to include a brief biography.

For ease of publication, articles should be e-mailed or submitted on a CD, preferably in Microsoft Word or WordPerfect. Please spell-check and grammar-check submissions.

Editorial Policy: The articles in this *Journal* represent the authors' viewpoints and research and not that of the *Journal* Editorial Staff or Section Officers. The accuracy of the sources used and the cases cited in submissions is the responsibility of the author.

Non-Member Subscriptions: *The New York Environmental Lawyer* is available by subscription to law libraries. The subscription rate for 2014 is \$155.00. For further information contact the Newsletter Dept. at the Bar Center, (518) 463-3200.

Publication Submission Deadlines: On or before the 1st of March, June, September and December each year.

Miriam E. Villani, Editor-in-Chief

This publication is published for members of the Environmental Law Section of the New York State Bar Association. Members of the Section receive a subscription to the publication without charge. The views expressed in articles in this publication represent only the authors' viewpoints and not necessarily the views of the Editor or the Environmental Law Section.

Copyright 2015 by the New York State Bar Association
ISSN 1088-9752 (print) ISSN 1933-8538 (online)

THE NEW YORK ENVIRONMENTAL LAWYER

Editor-in-Chief

Miriam E. Villani
Sahn Ward Coschignano, PLLC
333 Earle Ovington Blvd., Suite 601
Uniondale, NY 11553
mvillani@swc-law.com

Issue Editors

Justin M. Birzon
259 State St.
Albany, NY 12210
birzon.law@gmail.com

Prof. Keith Hirokawa
Albany Law School
80 New Scotland Ave.
Albany, NY 12208
khiro@albanylaw.edu

Aaron Gershonowitz
Forchelli Curto
333 Earle Ovington Boulevard
Uniondale, NY 11553
agershonowitz@fcsbcc.com

Law Student Editorial Board

Albany Law School and St. John's University School of Law

Student Editors:

Max Lindsey	Stacey Lococo
Alexis Kim	Caroline Thompson
Lenny Gryskewicz	Tyler Wolcott

Contributing Members:

Graham Gibbs	Kate Roberts
Jessica Goldberg	Alexandra Scoville
Jacqueline Goralczyk	Sarah Smith
Mark Matteini	Sarah Valis
Kelly E. Moynihan	Calumn J. Yeaman

Accommodations for Persons with Disabilities:

NYSBA welcomes participation by individuals with disabilities. NYSBA is committed to complying with all applicable laws that prohibit discrimination against individuals on the basis of disability in the full and equal enjoyment of its goods, services, programs, activities, facilities, privileges, advantages, or accommodations. To request auxiliary aids or services or if you have any questions regarding accessibility, please contact the Bar Center at (518) 463-3200.



NEW YORK STATE BAR ASSOCIATION

ENVIRONMENTAL LAW SECTION

One Elk Street, Albany, New York 12207-1002

ADDRESS SERVICE REQUESTED

NON PROFIT ORG.
U.S. POSTAGE
PAID
ALBANY, N.Y.
PERMIT No. 155



Environmental Law Section

Fall Meeting

October 2-4, 2015

**Gideon Putnam Resort
Saratoga Springs, NY**

**Mark your calendars to save the dates.
More details coming soon!**



Printed on 100% Recycled Paper