

# ENVIRONMENTAL LAW

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Dirty Water: The Failure of the Clean Water Act's TMDLs ..... 1  
*Annie Brett*

Nonpoint source water pollution is the largest cause of water pollution in the United States today. From harmful algal blooms to acid rain to red tide, the impacts of nonpoint source pollution are devastating for human and environmental health. In the last several decades, states and the Environmental Protection Agency have spent billions of dollars trying to address this pollution through the Clean Water Act's TMDL program. TMDLs have been derided for their lack of a coherent regulatory driver, but many academics have come to argue for their value as an example of information regulation: a regulation that requires the disclosure of information but does not impose significant regulatory burdens or requirements on the basis of this information. While information regulation is a favorite approach to environmental management, little evidence exists on whether it is an effective regulatory strategy.

This Article provides a critical assessment of the Total Maximum Daily Load (TMDL) program to concretely evaluate whether such information regulations lead to measurable improvements in water quality. Despite significant resources allocated to TMDL implementation, robust analyses evaluating its success have been lacking. For the first time, this Article presents a comprehensive quantitative analysis using nationwide data. The findings reveal that impaired waters with TMDLs in place have not shown marked improvements in quality over time, suggesting the ineffectiveness of this type of information regulation in environmental law. Based on these insights, the Article argues for several reforms to nonpoint source pollution and TMDL regulations, highlighting key aspects that undermine the effectiveness of information regulation more generally.

Defining the Right to a Healthy Environment: Insights from the Inter-American Court of Human Rights ..... 49  
*Amy Van Zyl-Chavarro*

Examples of governments' failure to protect individuals from the devastating impacts of environmental degradation are widespread, and the ramifications are increasingly global, affecting transboundary concerns like human migration, food production and climate. The global nature of these problems calls for international

law solutions, and advocates are increasingly interested in framing environmental degradation as a human rights problem. In March 2024, the Inter-American Court of Human Rights issued its decision in *Inhabitants of La Oroya v. Peru*, a groundbreaking case with significant implications for the right to a healthy environment. For the first time, the Court explained and applied its understanding of an individual's right to a healthy environment as a stand-alone right, independent from the environment's impact on other human rights. This Article will explain how a broader historical and legal context informed the development of this line of jurisprudence. It will also examine the meaning and scope of the human right to a healthy environment as envisioned by the Inter-American Court, including the obligations this norm might require of governments within the region. Finally, the Article will analyze how the Court's approach contributes to the development of human rights law in relationship to environmental law. As human rights advocates continue to push for other international and regional human rights bodies to recognize a justiciable human right to a healthy environment, the *Inhabitants of La Oroya* decision will provide an invaluable foundation for developing and defining the right even beyond the Inter-American System. This Article outlines the guideposts that others will need to build upon that foundation.

Revisiting Precaution in Domestic Climate Change Litigation..... 95  
*J. Michael Angstadt*

As domestic climate change lawsuits proliferate, norms and principles of international environmental law increasingly inflect their arguments and reasoning. In this Article, I use the precautionary principle, which is frequently employed to justify climate action despite scientific uncertainty, to explore the nature and implications of this phenomenon. I suggest that the evolution of climate litigation, climate science, and the precautionary principle itself collectively demand renewed examination of the justification and effect of using the precautionary principle in domestic climate litigation.

In Part II, I highlight the simultaneous increase in domestic climate change lawsuits and embrace of the precautionary principle. I trace this trajectory, and I emphasize that the precautionary principle has continued to evolve alongside climate lawsuits. As I note, climate change disputes were historically grounded in climate science that was itself marked by considerable uncertainty. Over time, however, the litigation landscape has evolved, in part reflecting climate science improvements and novel forms of argumentation. Simultaneously, the framing of climate lawsuits has expanded, and it now includes non-climate aligned suits that, like the precautionary principle, emphasize the uncertainty of climate change science. Therefore, in Part III, I urge that the precautionary principle's use in climate change lawsuits might be seen to have evolved through three distinct phases: (1) early efforts to leverage the principle's proactive, protective effect;

(2) recent, widespread use; and (3) current developments which merit further consideration of its implications and benefits.

Ultimately, in Part IV, I suggest that the precautionary principle is likely to hold continued value as domestic climate litigation further evolves. However, I advocate two opportunities to maximize its benefits. First, noting considerable diversity in how the precautionary principle is interpreted and its implications are understood, I suggest that future academic research can beneficially explore the effect of the precautionary principle, while judges and other legal practitioners can more explicitly specify how it is interpreted and applied in specific domestic contexts. Second, noting that the precautionary principle is closely related to considerations of scientific uncertainty, I advocate and explore means to better integrate insights from scientists, attorneys, and judges who operate at the science-law interface in complex climate change lawsuits.

Democratizing Power Transmission..... 139  
*Sebastian Luengo*

How can we achieve a just, timely, and clean energy transition? The scholarly and policy discourse has centered on fostering technological innovation in power generation, overlooking critical obstacles in the transmission sector. Neglecting transmission issues has caused a significant delay in the transition to a decarbonized economy, with hundreds of gigawatts in the queue waiting for connection.

One of the biggest hurdles to transmission deployment is the lack of public acceptance. Citizens often resist energy infrastructure projects when they are imposed on them by planners and developers with little to no prior consultation or dialogue. I argue that expedited power transmission development to further just transition governance should include broad deliberative dialogues that engage communities. I explore ways of integrating deliberative mechanisms into power transmission planning. I compare minimal and broad deliberative planning opportunities, and their implications for democratic and procedural justice goals.

This Article explores local communities' interests when their lives collide with plans for energy infrastructure. Throughout this Article, I emphasize the need for institutional decision-makers to break silos and recognize the lives of local communities as more than just technical data to be fed into a planning or pricing algorithm.

The Article begins by detailing the challenges to power transmission planning, such as transmission bottlenecks and remote renewable generation. Then I analyze emerging energy democracy theory and its relation to transmission planning and civic engagement. I explore the advantages of addressing technical and social issues together and whether their current procedural

disconnection is impeding the timely implementation of energy infrastructure while affecting its legitimacy.

Then I examine power transmission planning structures and their institutional and decisionmaking arrangements. I focus on the dynamics of U.S. liberalized regional markets and regional transmission organizations as a case study. Using the U.S. example and drawing on literature from public policy and legal studies, I investigate how to increase public deliberation in power transmission planning. I raise instrumental, substantive, and normative considerations, such as who, what, and when to consult, how to increase transparency, and how to work within timing constraints. Through these proposals, I tailor and distill lessons for policymakers and citizens who wish to adapt these frameworks and recenter civic engagement on power transmission dynamics around the world.

Finally, I offer a research and dialogue agenda. Here I acknowledge the shortage in legal energy scholarship concerning case studies and practical outcomes of deliberative mechanisms across local, state, regional, and national perspectives. I also call for engaging in comparative work within the Global South for a better understanding of deliberative planning venues. Additionally, I urge further research on how to incorporate public engagement mechanisms into transmission planning from a legal perspective. For instance, I recommend exploring regulatory techniques such as experimentalism and other innovative mechanisms to include social and local issues

The Public Trust Doctrine & Groundwater: Protecting Groundwater Reserves for Future Generations ..... 209  
*Elijah G. Savage*

The United States' groundwater resources are in crisis. As climate change creates surface water shortages, cities, farms, and industry are becoming increasingly reliant on groundwater. At current usage rates, this reliance is unsustainable, causing unintended harms like decreased water quantity and quality. In some areas, because groundwater resources can take millennia to replenish, the harms are irreversible, creating a unique type of monopoly in which one generation uses a resource to the exclusion of future generations. The public trust doctrine—a sovereign responsibility to protect public access to certain resources for both present and future generations—could help remedy this intergenerational inequity. This Note explores how courts might apply the public trust doctrine to groundwater. Despite the public trust doctrine's historic tether to navigable waters, the public trust is flexible enough to protect groundwater resources. This Note begins by exploring the groundwater crisis. It then details the five regimes under which states allocate groundwater and how the public trust might supplement these regimes. By describing the history of the public trust doctrine and its tether to navigable waters, this Note argues that throughout the doctrine's history navigability has served as a surrogate for a waterbody's social and economic importance. Considering groundwater's current importance, groundwater meets this conceptualization of "navigable." Finally, this Note looks to three representative states that have already applied the public

trust doctrine to groundwater, providing three models for other states. This Note concludes that the public trust doctrine could supplement state regulation of groundwater to protect the resource for future generations.

## **NOTE**

The Antiquities Act: A Case of Nominate Determinism?.....249  
*Axel Jurgens*

Last year, the Supreme Court denied petitions for writs of certiorari in two cases challenging the President's designation of lands already managed under a federal land management statute as part of a National Monument under the Antiquities Act of 1906. Conservative politicians and public interest groups have consistently taken aim at the Antiquities Act, with little success. Spurred on by an unusual statement issued by Chief Justice Roberts, a dramatic reconsideration of the scope of presidential power to unilaterally protect large swathes of federal land appeared to be taking its first steps. Instead, those who accepted the Chief Justice's invitation were left knocking at the door, raising further questions regarding the Court's motivations and its relationship with the Executive.