

THE PUBLIC TRUST DOCTRINE, PRIVATE WATER
ALLOCATION, AND MONO LAKE: THE HISTORIC SAGA OF
NATIONAL AUDUBON SOCIETY V. SUPERIOR COURT

BY
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This Article tells the epic tale of the fall and rise of Mono Lake—the strange and beautiful Dead Sea of California—which fostered some of the most important environmental law developments of the last century, and which has become a platform for some of the most potentially important developments in the new century. It shares the backstory and legacy of the California Supreme Court’s famous decision in National Audubon Society v. Superior Court, 658 P.2d 709 (Cal. 1983), known more widely as “the Mono Lake case.” Inspired by innovative legal scholarship and advocacy, the decision spawned a quiet legal revolution in public trust ideals, which has redounded to other states and even nations as far distant as India.

The Mono Lake dispute pitted advocates for the local ecosystem and community against proponents of the continued export of Mono Basin water to millions of thirsty Californians hundreds of miles to the south. The controversy itself spanned decades, but the story leading up to the litigation stretches back more than a hundred years, adding depth and dimension to the tale that is easily missed on a casual reading of the Mono Lake decision itself. It is a case study on the challenges and possibilities for balancing legitimate needs for public infrastructure and economic development with competing environmental values, all within systems of law that are still evolving to manage these conflicts. And at this particular moment in time, commemorating the hundredth anniversary of the Los Angeles Aqueduct that would threaten the lake and the twentieth anniversary of

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the State Water Board's ultimate decision to save it, the Mono Lake story is especially worth revisiting.

Part II introduces the main cast of characters in the Mono Lake story, starting with the public trust and prior appropriations doctrines around which the legal controversy unfolds. Part III introduces the three places at the center of the drama—Los Angeles, the Owens Valley, and the Mono Lake Basin—in recounting the history of the Californian water struggles leading up to the Mono Lake case. Part IV discusses the Mono Lake litigation itself and its aftermath, reviewing the court's conclusion and the subsequent decision by the California Water Resources Control Board implementing the judicial directive. After analyzing the most important doctrinal innovations in the opinion, Part IV discusses subsequent critiques and new developments in public trust law.

Part V concludes with parting reflections about some important questions that the Mono Lake story leaves us to ponder, including whose interests count when we talk about the “public” trust, how they differ from aggregated private interests, and which to account for when balancing the economic, cultural, and environmental considerations in public trust conflicts. It considers the extent to which the doctrine creates substantive or procedural obligations, and the responsibilities of different legal actors and institutions in implementing them. The contested answers to these questions are what make the public trust doctrine so fascinating, so powerful, and so critical as we continue to confront the inevitable crises between competing natural resource values.

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The visitors collect at the parking lot, breathlessly absorbing the magnificent escarpment of the Yosemite–Inyo Sierra before them, admiring the defiant cones of the Mono Crater volcanoes behind them, and settling their gazes over the crystalline edges of the body of water between, a vast inland sea twice the size of San Francisco—the mythical Mono Lake of newspaper headline and bumper-sticker fame. As they gradually descend the volcanic ash trail a few hundred yards out to shore, the ranger explains that the parking lot had been submerged twice their standing height in lakewater only a few decades ago, before the lake’s tributaries were first diverted into the Los Angeles Aqueduct for the 350-mile journey south to the City. . . .

And then, just a few yards from the foaming water's edge, the ranger stops them and explains that thanks to important legal decisions between 1983 and 1994, the water level is now rising again—the salinity falling, the birds returning, the shrimp safe from extinction, and the people breathing clean air again—all because of an ancient article of common law, the public trust doctrine, according to which the California Supreme Court finally decided that to allow the death of Mono Lake for the benefit of one city [c]ould violate the State's duty to protect it as an ecological resource belonging to all. Parents' eyes grow as wide as their children's in sudden wonder of the power of ideas, and in awe of the devastation of near loss and the grace of last-minute salvation. And as they stand in the midst of such unparalleled natural splendor, rejoicing in a happy ending so rare in like stories of environmental crisis, the visitors experience . . . genuine gratitude for [law].¹

I. INTRODUCTION

In this Article, based on an interactive lecture I have given countless times,² I have the great pleasure of sharing the epic tale of the fall and rise of Mono Lake—the strange and beautiful Dead Sea of California—which fostered some of the most important environmental law developments of the last century,³ and which has become a platform for some of the most potentially important developments in the new century.⁴ The Mono Lake saga is one of my very favorite stories in the world, and one that I have enjoyed sharing all over the world in the years since I left the Mono Basin for academia. It includes the backstory and the legacy of the California Supreme Court's famous decision in *National Audubon Society v. Superior Court*

¹ Erin Ryan, *Public Trust & Distrust: Theoretical Implications of the Public Trust Doctrine for Natural Resource Management*, 31 ENVTL. L. 477, 493–94 (2001) (describing the standard United States Forest Service ranger-led tour of the South Tufa trail on the southwest shore of Mono Lake).

² This Article is based on an extended lecture about the Mono Lake story, drawing on my own expertise as both a property and environmental law professor and as a former U.S. Forest Service ranger at the Mono Basin National Forest Scenic Area, just east of Yosemite National Park, in northeastern California.

³ See, e.g., Michael Blumm & Thea Schwartz, *Mono Lake and the Evolving Public Trust in Western Water*, 37 ARIZ. L. REV. 701 (1995) (analyzing impacts of the *Mono Lake* case on subsequent cases and the evolving public trust doctrine nationwide); Craig Anthony (Tony) Arnold, *Working out an Environmental Ethic: Anniversary Lessons from Mono Lake*, 4 WYO. L. REV. 1 (2004) (using the Mono Lake case study to suggest that politics and public participation are as critical as formal law to environmental successes); Craig Anthony (Tony) Arnold & Leigh A. Jewel, *Litigation's Bounded Effectiveness and the Real Public Trust Doctrine: The Aftermath of the Mono Lake Case*, 14 HASTINGS W.-NW. J. ENVTL. L. & POL'Y 1177, 1181 (2008) (arguing that the *Mono Lake* case laid the foundation for a conception of the public trust that transcends the courtroom); Sherry A.ENZLER, *How Law Mattered to the Mono Lake Ecosystem*, 35 WM. & MARY ENVTL. L. & POL'Y REV. 413 (2011) (reviewing the significance of the *Mono Lake* case for public trust and environmental law at a systemic level).

⁴ See, e.g., *infra* Parts II.A.2, IV.A.4, and IV.C.3 (discussing *Robinson Township*, the Scott River case, and atmospheric trust cases).

(*Mono Lake*),⁵ which began a quiet legal revolution in public trust ideals that has redounded to other states and even nations as far distant as India.⁶

The Mono Lake dispute pitted advocates for the Mono Basin ecosystem and its local community against proponents of the continued export of Mono Basin water to millions of thirsty Californians hundreds of miles to the south.⁷ The controversy itself spanned decades, but the story leading up to the litigation stretches back more than a hundred years, adding depth and dimension to the tale that is easily missed on a casual reading of the *Audubon Society* decision itself. It is a case study on the challenges of, and possibilities for, balancing legitimate needs for public infrastructure and economic development with competing environmental values, all within systems of law that are still evolving to manage these conflicts. And at this particular moment in time—commemorating the hundredth anniversary of the Los Angeles Aqueduct that would threaten the lake, and the twentieth anniversary of the State Water Board's ultimate decision to save it—the Mono Lake story is especially worth revisiting.⁸

It is also a story that is very dear to me personally, because I came to it mostly through my own experiences living and working at Mono Lake as a grunt-level ranger with the U.S. Forest Service. Before later becoming a lawyer and then law professor, I spent a few years working on the Mono Lake District of the Inyo National Forest, just east of Yosemite National Park.⁹ Indeed, my decision to leave the Mono Basin for law, though

⁵ Nat'l Audubon Soc'y v. Superior Court of Alpine County (*Mono Lake*), 658 P.2d 709 (Cal. 1983).

⁶ M.C. Mehta v. Kamal Nath, (1997) 1 S.C.C. 388 (1996) (India), in I UNITED NATIONS ENVIRONMENT PROJECT COMPENDIUM OF JUDICIAL DECISIONS IN MATTERS RELATED TO THE ENVIRONMENT, NATIONAL DECISIONS 259 (1998), available at http://www.asianjudges.org/wp-content/uploads/2013/10/Compendium_Judicial_Decisions_Nat_v1.pdf (discussing the role of the public trust doctrine in Indian law and quoting the California Supreme Court's description of the doctrine in *Mono Lake*).

⁷ *Mono Lake*, 658 P.2d at 715.

⁸ The Los Angeles Aqueduct formally opened in 1913. *Id.* at 713. The California Water Resources Control Board issued its decision implementing the state supreme court's decision in 1994. Mono Lake Basin Water Right Decision 1631, at 1, 6 (State of Calif. Water Res. Control Bd. Sep. 28, 1994) [hereinafter Decision 1631], available at http://www.waterboards.ca.gov/publications_forms/publications/general/docs/monolake_wr_dec1631_a.pdf; see also *infra* Part III.B and IV.C (reviewing this history).

⁹ I normally give this lecture as an illustrated photo essay, drawing on my experiences during the years that I worked at Mono Lake. I lived with U.S. Forest Service rangers, Mono Lake Committee staff, and other local residents in the tiny mountain hamlet of Lee Vining, California, nestled at 7,000 feet of elevation between the western edge of the Lake and the eastern slope of the Yosemite-Inyo Sierra crest, with a population of 315 at the time. Lee Vining is surrounded by 10,000- to 14,000-foot mountains on three out of four sides, snowed-in beyond automobile passage for more than half the year. When I lived there in the mid-1990s, before home satellites were available, there was no television and only one radio station broadcasting intermittently from Mammoth Lakes, a small ski town 30 miles to the south.

To pass the time, local residents regularly went climbing, hiking, or birding—but my friends and I invented a wholly new Mono Basin sport: aqueducting. We made it our project to find all the interesting points along the 400-mile-long Los Angeles Aqueduct, all the way from the northernmost intake in the Mono Basin down to its symbolic end at Department of Water

wrenching, was the direct result of my experiences there bearing witness to the ability of ordinary people to wield the power of ideas to resolve critical social and environmental crises through legal process. Especially in the aftermath and implementation of the *Mono Lake* decision, I was inspired by efforts of citizens, lawyers, scientists, and governments working together to make progress in the best possible way, even when no perfect way was available.¹⁰

For that reason, this is an Article that I have been wanting to write for the better part of the last twenty years. It takes a somewhat unconventional voice at times, alternating between the academic analysis of a law professor and the personal narrative of a local storyteller. But throughout, my objective is to share a classic story of American environmental law that continues to awe and inspire advocates worldwide. In the telling, I'll explore the public trust doctrine, its relationship with competing areas of law, especially the law of private water allocation, and its potential scope and limits in application to other public commons that are also subject to private appropriation.

Part II begins by introducing the main cast of characters in the Mono Lake story, starting with the public trust and prior appropriations doctrines around which the legal controversy unfolds. Part III introduces the three places at the center of the drama—Los Angeles, the Owens Valley, and the Mono Lake Basin—in recounting the history of the Californian water struggles leading up to the *Mono Lake* case. Part IV discusses the *Mono Lake* litigation itself and its aftermath, reviewing the arguments that made it to the California Supreme Court, the court's disposition of them, and the subsequent decision by the California Water Resources Control Board implementing the court's directive.¹¹ After analyzing the most important doctrinal developments in the judicial opinion, it reviews the scholarly criticisms that have followed alongside the praise, as well as important new developments in public trust law.

I'll conclude in Part V with parting reflections about some of the open questions that the Mono Lake story leaves us to ponder. Like all public trust tales, it prompts us to consider exactly whose interests count when we talk about the public interest protected by the doctrine, and in what resources. How does the "public interest" differ from aggregated private interests? Which interests should we take into account when balancing the economic, cultural, and environmental considerations in public trust conflicts, and how should they be balanced? Indeed, we might ask what the Mono Lake story tells us about the ultimate content of the public trust doctrine itself. Which resources are subject to its protection? Does it create substantive

and Power's reflecting pool in Los Angeles. The full lecture makes use of stories and photographs from these personal journeys, to understand this history up close and personally.

¹⁰ Still, I'll never forget that when I volunteered thoughts about leaving my work as a forest ranger to become a lawyer, most of the lawyers I spoke with cried aloud that this was crazy—that they dreamed of leaving their jobs in law to become forest rangers! (Health insurance aside, there is a lot of wisdom in that reaction.)

¹¹ See Decision 1631, *supra* note 8.

obligations to protect trust values, or mere procedural obligations to consider them? Finally, what are the responsibilities of the operative legal institutions—including the legislature, the courts, administrative agencies, and individual citizens—in making these difficult calls? I'll suggest that the answers to these questions are what make the public trust doctrine so fascinating, so powerful, and so critical as we continue to confront the inevitable crises between competing natural resource values.

II. THE LEGAL BACKDROP: THE PUBLIC TRUST AND PRIOR APPROPRIATIONS

Before delving into the full narrative, we should introduce the cast of characters. And one unusual aspect of this story is that two of the most important characters in that cast are legal doctrines: the common law public trust doctrine, and the prior appropriations doctrine of private water allocation. This Part introduces the public trust doctrine as a feature of state common law and constitutional law, and perhaps as an underlying feature of sovereign authority more generally. It then reviews the broad mechanics of private water law, focusing on the western doctrines of prior appropriations and beneficial use.

A. *The Public Trust Doctrine*

The public trust doctrine is among the oldest doctrines of the common law, with roots in the Justinian Code of ancient Rome, where it was called the *jus publicum*.¹² As the Byzantine Emperor Justinian described it: “By the law of nature, these things are common to mankind—the air, running water, the sea, and consequently the shores of the sea.”¹³ Even then, it was recognized that some resources are so critical that they cannot be owned by anyone in particular; instead, they must belong to everyone. To prevent private monopolization of these critical commons resources,¹⁴ the government must manage them on behalf of the public.¹⁵

American law received the public trust doctrine through British common law, where it was applied mostly to the sea and the shores of the sea.¹⁶ Here in the United States, where the shores of the sea are matched by countless thousands of miles of navigable rivers and lakes, the concept of

¹² See, e.g., Ewa M. Davison, *Enjoys Long Walks on the Beach: Washington's Public Trust Doctrine and the Right of Pedestrian Passage over Private Tidelands*, 81 WASH. L. REV. 813, 830–31 (2006); Joseph Sax, *The Public Trust Doctrine in Natural Resource Law: Effective Judicial Intervention*, 68 MICH. L. REV. 471 (1970) (laying the seminal academic foundations for the public trust doctrine as a modern legal tool to aid in the protection of natural resources).

¹³ J. INST. PROEMIUM, 2.1.1. (T. Sandars trans., 4th ed. 1867).

¹⁴ Davison, *supra* note 12, at 830–31.

¹⁵ See Michael C. Blumm, *Public Property and the Democratization of Western Water Law: A Modern View of the Public Trust Doctrine*, 19 ENVTL. L. 573, 580 (1989) (discussing the public trust doctrine as “a democratizing force by (1) preventing monopolization of trust resources and (2) promoting natural resource decision making that involves and is accountable to the public”).

¹⁶ See Carol Rose, *The Comedy of the Commons: Custom, Commerce, and Inherently Public Property*, 53 U. CHI. L. REV. 711, 727–30 (1986).

the trust was expanded to protect the resources associated with navigable waterways more generally.¹⁷ Early American references to the doctrine include the 1821 New Jersey case of *Arnold v. Mundy*¹⁸ and the U.S. Supreme Court's 1842 decision in *Martin v. Waddell*,¹⁹ both affirming state sovereign ownership of navigable waters and submerged lands.²⁰ The doctrine was formally ratified by the U.S. Supreme Court in *Shively v. Bowlby*,²¹ but the most classic American statement of the trust comes from the Supreme Court's decision in *Illinois Central Railroad Co. v. Illinois (Illinois Central)*: "[T]he State holds the title to the lands under the navigable waters . . . in trust for the people of the State that they may enjoy the navigation of the waters, carry on commerce over them, and have liberty of fishing therein freed from the obstruction or interference of private parties."²²

Critically, the doctrine isn't just about protecting the public nature of these common resources—it's also about assigning responsibility for their protection. Analogous to the private property law construct of the "trust," the government (acting as trustee) is responsible for protecting the resource (or trust *res*) for the public benefit.²³ This means that the government doesn't

¹⁷ See Ill. Cent. R.R. Co. v. Illinois (*Illinois Central*), 146 U.S. 387, 453 (1892). The public trust doctrine has also been held to protect wildlife, groundwater resources, atmospheric resources, and potentially groundwater tributaries of navigable waters. See, e.g., Betchart v. Dep't of Fish & Game, 158 Cal. App. 3d 1104, 1106 (1984) ("California wildlife is publicly owned and is not held by owners of private land where wildlife is present."); Owsichek v. State, Guide and Control Licensing Bd., 763 P.2d 488, 495 (Alaska 1988) ("[C]ommon law principles incorporated in the common use clause impose upon the state a trust duty to manage the fish, wildlife and water resources of the state for the benefit of all the people. We have twice recognized this duty in our prior decisions." (footnote omitted)); Environmental Protection Act of 1970, MICH. COMP. LAWS ANN. § 691.1202(1) (West 1989) (extending the public trust, via statute, to authorize legal actions "for the protection of the air" in addition to water and other natural resources); First Amended Petition for Writ of Mandamus and Complaint for Declaratory and Injunctive Relief at 2, Env'tl. Law Found. v. State Water Res. Control Bd., No. 34-2010-80000583 (Cal. Sup. Ct. July 15, 2014) (seeking to extend the public trust doctrine to protect groundwater resources in California); Natural Resources and Environmental Protection Act, MICH. COMP. LAWS § 324.1701(1) (1994), available at <http://legislature.mi.gov/doc.aspx?mcl-324-1701> (extending the public trust to statutorily authorize legal actions "for the protection of the air" in addition to water and other natural resources).

¹⁸ 6 N.J.L. 1, 10 (1821) (using the public trust doctrine to prevent individuals from claiming a property interest in oyster beds in a navigable river).

¹⁹ 41 U.S. 367, 410 (1842) ("[W]hen the Revolution took place, the people of each state became themselves sovereign; and in that character hold the absolute right to all their navigable waters, and the soils under them, for their own common use, subject only to the rights since surrendered by the Constitution to the general government.").

²⁰ For a more thorough history of the early American doctrine, see generally Harrison C. Dunning, *The Public Right to Use Water in Place*, in WATERS AND WATER RIGHTS 28-1 to 33-22 (Amy C. Kelley ed., 2009).

²¹ 152 U.S. 1, 49 (1894) (affirming the substance of the common law doctrine and holding that, with regard to the territories acquired by Congress, "the title and dominion of the tide waters and the lands under them are held by the United States for the benefit of the whole people, and, as this court has often said, in cases above cited, 'in trust for the future States.'").

²² *Illinois Central*, 146 U.S. at 452.

²³ See, e.g., Richard M. Frank, *The Public Trust Doctrine: Assessing Its Recent Past and Charting Its Future*, 45 U.C. DAVIS L. REV. 665, 667 (2012) ("Simply stated, however, the doctrine provides that certain natural resources are held by the government in a special status—in

own trust resources in the same way that it owns more ordinary public lands under its jurisdiction. Instead, it holds the resource “in trust” for the real owner—the public. Some scholars have described the difference as one between state “sovereign” and “proprietary” ownership, in which resources held as sovereign property are subject to the trust, while those subject to proprietary ownership may be alienated by the state on terms more like ordinary private property.²⁴

The public is the ultimate beneficiary of the trust, and as in conventional trust relationships, the public can hold the government accountable for failure to manage trust resources in accordance with its responsibility as trustee.²⁵ If they feel the government is failing its obligations as trustee, citizens can usually seek to enforce their rights in court.²⁶ In this way, the public trust doctrine acts as a limit on sovereign authority with regard to trust resources, constraining what the government can and cannot do to ensure against private expropriation and monopolization.²⁷

1. *The Common Law Public Trust: Illinois Central*

Demonstrating the force of the doctrine are the facts at the center of the U.S. Supreme Court’s leading public trust decision, the 1892 case of *Illinois Central*.²⁸

This colorful nineteenth century lawsuit followed a fraught moment in Illinois history, when the state legislature granted ownership of the better part of Chicago Harbor on Lake Michigan to a private railroad company.²⁹ After a series of complicated transactions in which Illinois Central Railroad Company was granted rights to construct infrastructure along the dry and wet sides of the lakeshore,³⁰ the legislature overrode a gubernatorial veto to enact the Lake Front Act of 1869,³¹ which conveyed ownership rights in

‘trust’—for current and future generations. Government officials may neither alienate those resources into private ownership nor permit their injury or destruction.”)

²⁴ See DAVID C. SLADE ET AL., PUTTING THE PUBLIC TRUST DOCTRINE TO WORK 6–8 (1997) (describing the distinction between *jus privatum*, which the state may convey, and *jus publicum*, which it may not).

²⁵ See Sax, *supra* note 12, at 473 (describing how citizens have brought lawsuits to enforce the trust obligations of the state).

²⁶ *Id.*

²⁷ See Amicus Curiae Brief of Law Professors in Support of Granting Writ of Certiorari at 1–2, 7, Alec L. *ex rel.* Looz v. McCarthy, 561 F. App’x 7 (D.C. Cir. 2014) (No. 14-405), *cert. denied*, 135 S. Ct. 774 (2014) [hereinafter Professor Amicus Brief] (discussing the public trust doctrine as an attribute of sovereignty).

²⁸ 146 U.S. 387 (1892).

²⁹ *Id.* at 438–39 (making “a grant by the State, in 1869, of its right and title to the submerged lands, constituting the bed of Lake Michigan”).

³⁰ Joseph D. Kearney & Thomas W. Merrill, *The Origins of the American Public Trust Doctrine: What Really Happened in Illinois Central*, 71 U. CHI. L. REV. 799, 818–23 (2004) (discussing the railroad’s improvements to the lakeshore); see also Crystal Chase, *The Illinois Central Public Trust Decision and Federal Common Law: An Unconventional View*, 16 HASTINGS W.-NW. J. ENVTL. L. & POL’Y 113, 126 (2010) (same).

³¹ See Kearney & Merrill, *supra* note 30, at 860–77 (discussing the enactment of the Lake Front Act of 1869); see also 2 Journal of the Senate of the Twenty Sixth General Assembly of the State

perpetuity to the railroad.³² Whether the legislative grant was a well-intended plan to spur economic development or the most flagrant variety of political cronyism,³³ the people of Chicago were incensed, and they made their displeasure known to their leaders in government.³⁴

In 1873, responding to significant public pressure, the Illinois legislature sought to reestablish public control over the full harbor by repealing the original conveyance.³⁵ Ten years later, when the railroad continued to assume a proprietary posture toward the harbor, the state sued for declaratory relief establishing public ownership of the lakebed.³⁶ But Illinois Central argued that these submerged lands were now its private property, conveyed by the Lake Front Act of 1869.³⁷ The railroad maintained that the state lacked authority to reclaim property that had already passed in a fully executed conveyance.³⁸ As the railroad argued, the state could not formally convey property and then just take it back, as if the conveyance had never happened!³⁹

Of course, even if the legislative grant were sound, the state actually *could* have just taken it back—though not as if the conveyance had never happened. The state’s power of eminent domain would have allowed it to reclaim the property for public use, so long as it paid just compensation to the railroad.⁴⁰ Indeed, other scholars have written about *Illinois Central* as though the most important issue in the litigation was the state’s liability for an uncompensated taking⁴¹—a legal issue in which the public trust doctrine might also play a role⁴²—but that claim was not a subject of the actual litigation.⁴³ Instead, Illinois Central staked its most important claim on the power of the original legislative grant and the lack of state authority to undo

of Illinois 922 (1869) (noting the Senate’s passage of the House’s version of the bill, enacting the Act).

³² See Kearney & Merrill, *supra* note 30, at 875.

³³ Compare Sax, *supra* note 12, at 490 (arguing that the conveyance could not be justified by any public benefit), with Kearney & Merrill, *supra* note 30, at 893 (“[A]lthough the documentary record from 1869 cannot be said definitely to establish . . . corrupt means . . . it probably leans in that direction.”).

³⁴ See Kearney & Merrill, *supra* note 30, at 805–06, 875.

³⁵ *Illinois Central*, 146 U.S. 387, 449 (1892) (“On the 15th of April, 1873, the legislature of Illinois repealed the act.”).

³⁶ *Id.* at 433, 439.

³⁷ *Id.* at 438–39.

³⁸ *Id.* at 450–51.

³⁹ Boiling down the legal jargon, the railroad’s claim would have been well understood—by any five-year-old—under the hallowed doctrine of “*No Backsies*.”

⁴⁰ See U.S. CONST. amend. V.

⁴¹ See, e.g., Richard A. Epstein, *The Public Trust Doctrine*, 7 CATO J. 411, 422–26 (1987); Lloyd R. Cohen, *The Public Trust Doctrine: An Economic Perspective*, 29 CAL. W. L. REV. 239, 246 (1992).

⁴² See, e.g., Erin Ryan, Palazzolo, *The Public Trust, and the Property Owner’s Reasonable Expectations: Takings and the South Carolina Marsh Island Bridge Debate*, 15 SOUTHEASTERN ENVTL. L.J. 121, 137–40 (2006) (discussing use of the public trust doctrine to defend takings claims by defusing the reasonableness of claimants’ expectations).

⁴³ See Kearney & Merrill, *supra* note 30, at 811 n.54 (explaining this popular misconception).

it (together with subsidiary claims for rights incident to its ownership of riparian lands and a later claim that the repeal interfered with rights under its original charter).⁴⁴

Nevertheless, the state had a formidable response, and one that hinged on the subject of our inquiry here. Illinois argued that its power to undo a fully executed conveyance was immaterial, because—thanks to the public trust doctrine—there was no actual conveyance to undo.⁴⁵ It may have looked like a conveyance in the moment, but in fact, no exchange took place as a legal matter, because the state never had the power to convey these submerged lands to begin with.⁴⁶ The trust obligation prevented the government from conveying the trust resource away from public ownership, making the conveyance essentially *ultra vires*—beyond the power of the state—and thus of no legal consequence.

Accepting this argument, the Supreme Court concluded that the operation of the public trust doctrine had prevented the legislature from ever alienating the harbor in the first place.⁴⁷ The railroad had never been the actual owner of the submerged lands, then, and so its legal claims ended there. In this way, Illinois was able to successfully reestablish public ownership of Chicago Harbor on the grounds that the public trust doctrine acted as a limit on the state's legal ability to casually convey trust lands.⁴⁸

The premise affirmed in *Illinois Central* provided critical impetus for the development of the common law public trust in nearly all of the United States.⁴⁹ Today, the common law public trust doctrine offers meaningful protection of navigable waterways as public commons in nearly every state.⁵⁰

⁴⁴ *Illinois Central*, 146 U.S. 387, 438–39 (1892) (stating the railroad's claims); Ill. Cent. R.R. Co. v. Chicago, 176 U.S. 646, 657–67 (1900) (dismissing the railroad's contract rights claim after determining that its charter did not convey the disputed lands).

⁴⁵ *Illinois Central*, 146 U.S. at 439.

⁴⁶ *Id.*

⁴⁷ *Id.* at 453 (“The trust devolving upon the State for the public, and which can only be discharged by the management and control of property in which the public has an interest, cannot be relinquished by a transfer of the property.”). Of note, Justice Field explained that the trust extended to Chicago Harbor because it was “a subject of public concern to the whole people,” leaving open the possibility, embraced by later scholars and litigants, that the same rationale should apply to other commons resources also vulnerable to monopolization. *Id.* at 455; see also MICHAEL C. BLUMM & MARY CHRISTINA WOOD, *THE PUBLIC TRUST DOCTRINE IN ENVIRONMENTAL AND NATURAL RESOURCES LAW 72* (2013) (discussing *Illinois Central* and various scholars' interpretations of the case); *infra* Part IV.C (discussing the Atmospheric Trust Project).

⁴⁸ See *Illinois Central*, 146 U.S. at 453 (“The control of the State for the purposes of the trust can never be lost . . .”).

⁴⁹ See Kearney & Merrill, *supra* note 30, at 799 (outlining the history of the case in light of its importance in modern public trust theory).

⁵⁰ See generally Robin Kundis Craig, *A Comparative Guide to the Eastern Public Trust Doctrines: Classifications of States, Property Rights, and State Summaries*, 16 PENN. ST. ENVTL. L. REV. 1 (2007) (comparing eastern states' public trust doctrines); Robin Kundis Craig, *A Comparative Guide to the Western States' Public Trust Doctrines: Public Values, Private Rights, and the Evolution Toward an Ecological Public Trust*, 37 ECOLOGY L.Q. 53 (2010) (comparing western states' public trust doctrines); ALEXANDRA B. KLASS & LING-YEE HUANG, *RESTORING THE TRUST: WATER RESOURCES AND THE PUBLIC TRUST DOCTRINE, A MANUAL FOR ADVOCATES* 21–24 (2009), available at http://www.progressivereform.org/articles/CPR_Public_Trust_Doctrine

Following the *Mono Lake* decision, it has become increasingly associated not only with the protection of such traditional uses as boating, commerce, fishing, and swimming, but with environmental protection as well.⁵¹

2. Constitutionalization of the Public Trust: Robinson Township

The common law public trust doctrine continues to play an important role in the regulation of public waterways, but the trust concept has also developed independently as a matter of state constitutional law.

Many states have constitutionalized versions of the doctrine; some are similar to the most traditional common law statements, and others are more encompassing.⁵² For example, the Florida Constitution includes a version of the trust that confers very traditional protection for submerged lands beneath navigable waters: “The title to lands under navigable waters, within the boundaries of the state . . . is held by the state, by virtue of its sovereignty, in trust for all the people.”⁵³ This statement recognizes public ownership of the critical water commons, very much as *Illinois Central* did.

Constitutionalization in other states has broadened the scope and effect of the trust, sometimes far beyond the *Illinois Central* version. For example, Article XI of the Hawaiian Constitution declares that:

For the benefit of present and future generations, the State and its political subdivisions shall conserve and protect Hawaii’s natural beauty and all natural resources, including land, water, air, minerals and energy sources, and shall promote the development and utilization of these resources in a manner consistent with their conservation and in furtherance of the self-sufficiency of the State. All public natural resources are held in trust by the State for the benefit of the people.⁵⁴

Echoing the California doctrine that emerged from the *Mono Lake* litigation, the Hawaii Supreme Court has concluded that the law of private water

_Manual.pdf (comparing the sources of various states’ public trust doctrines); MICHAEL C. BLUMM ET AL., THE PUBLIC TRUST DOCTRINE IN FORTY-FIVE STATES (2014), available at http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2235329 (analyzing the public trust doctrines of 45 states); CTR. FOR PROGRESSIVE REFORM, RESTORING THE TRUST: AN INDEX OF STATE CONSTITUTIONAL AND STATUTORY PROVISIONS AND CASES ON WATER RESOURCES AND THE PUBLIC TRUST DOCTRINE (2009), available at http://www.progressivereform.org/articles/PubTrust_State_table_2009.pdf.

⁵¹ See, e.g., *Marks v. Whitney (Marks)*, 491 P.2d 374, 380 (Cal. 1971) (finding increasing recognition that one of the most important uses of tidelands protected by the doctrine is “the preservation of those lands in their natural state, so that they may serve as ecological units for scientific study, as open space, and as environments which provide food and habitat for birds and marine life, and which favorably affect the scenery and climate of the area”).

⁵² See Barton H. Thompson, Jr., *Environmental Policy and State Constitutions: The Potential Role of Substantive Guidance*, 27 RUTGERS L.J. 863, 866 (1996) (“[T]he ‘public trust’ doctrine . . . plays a constitutional role in most states even though less than a handful of states refer to the trust in the constitution itself.”).

⁵³ FLA. CONST. art. X, § 11.

⁵⁴ HAW. CONST. art. XI, § 1.

allocation does not displace the public trust doctrine.⁵⁵ However, it has gone even further than California in holding that all water, and not just navigable water, is subject to the trust.⁵⁶

Like Hawaii's expanded doctrine, the Environmental Rights Amendment to the Pennsylvania Constitution reveals an expansive modern conception of the trust:

The people have a right to clean air, pure water, and to the preservation of the natural, scenic, historic and esthetic values of the environment. Pennsylvania's public natural resources are the common property of all the people, including generations yet to come. As trustee of these resources, the Commonwealth shall conserve and maintain them for the benefit of all the people.⁵⁷

In contrast to the simpler Justinian affirmation of public ownership of natural resources, the Pennsylvania doctrine explicitly establishes a substantive commitment to protecting the environmental values associated with public resources.

Demonstrating the power of this commitment, the Pennsylvania Supreme Court recently invoked the Environmental Rights Amendment to overturn a state law limiting municipal authority to regulate harms associated with horizontal shale drilling and hydraulic fracturing ("fracking"). In the 2014 decision of *Robinson Township v. Commonwealth (Robinson Township)*,⁵⁸ the Pennsylvania Supreme Court held that the state could not preempt local regulation of fracking operations threatening local water resources, because this conflicted with the state's obligation to protect present and future generations' interests in public natural resources.⁵⁹ Notably, the court invoked the doctrine *sua sponte* to resolve the case, even though the parties did not argue it.⁶⁰ The move has drawn renewed attention to the possibilities for intersections between the public trust and other forms of state action that threaten public natural resources.⁶¹

3. Federalization of the Public Trust?

American case law generally presumes that the public trust doctrine is a feature of state law—either received as common law or adopted

⁵⁵ *In re Water Use Permit Applications (Waiahole Ditch)*, 9 P.3d 409, 445 (Haw. 2000) (holding that the state water code "does not supplant the protections of the public trust doctrine").

⁵⁶ *Id.* ("[T]he public trust doctrine applies to all water resources without exception or distinction.").

⁵⁷ PA. CONST. art. I, § 27.

⁵⁸ *Robinson Twp. v. Commonwealth*, 83 A.3d 901, 919–20 (Pa. 2013).

⁵⁹ *Id.* (noting that "a political subdivision has a substantial, direct, and immediate interest in protecting the environment and the quality of life within its borders" and that "[t]he protection of environmental and esthetic interests is an essential aspect of Pennsylvanians' quality of life and a key part of local government's role").

⁶⁰ See John C. Dernbach, *The Potential Meanings of a Constitutional Public Trust*, 45 ENVTL. L. 257, 464–65 (2015).

⁶¹ *Id.*

constitutionally (or both)⁶²—a view that was recently affirmed by the D.C. Circuit.⁶³ However, scholars have long argued that the doctrine is better understood as an inherent limit on sovereign authority in general.⁶⁴ Pursuing this intuition, some suggest that relevant federal sovereign authority should also be subject to public trust limits.⁶⁵ New litigation follows this line of argument to assert that as an inherent limit on sovereign authority, the public trust doctrine may also be an implied feature of federal constitutional law.⁶⁶ If so, then it may have application to waters under federal jurisdiction, and possibly to other natural resources that can be protected only by federal authority.⁶⁷

These scholars and litigants argue that there are neither historical nor logical reasons to differentiate between the state or federal nature of the sovereign power that the public trust doctrine constrains when the sovereign acts in a manner contrary to a definable trust obligation.⁶⁸ Received as part of the English common law that forms the bedrock of all American legal institutions, the doctrine is neither a creature of state nor federal law, but a constraint on the sovereign authority delegated to each level of government within our federal system.⁶⁹

⁶² See, e.g., Jeffrey S. Silvyn, *Protecting Public Trust Values in California's Waters: The Constitutional Alternative*, 10 UCLA J. ENVTL. L. & POL'Y 355 (1992) (comparing California's common law and constitutional public trust rights, and concluding that the latter is more expansive).

⁶³ Alec L. *ex rel.* Loorz v. McCarthy, 561 F. App'x 7, 8 (D.C. Cir. 2014). *But see* Michael Blumm & Lynn Schaffer, *The Federal Public Trust Doctrine: Misinterpreting Justice Kennedy and Illinois Central Railroad*, 45 ENVTL. L. 257, 400–01 (2015) (arguing that the D.C. Circuit is incorrect on this point).

⁶⁴ See, e.g., Jan S. Stevens, *The Public Trust and In-Stream Uses*, 19 ENVTL. L. 605, 609 (1989) (arguing that the public trust is an inalienable attribute of state sovereignty).

⁶⁵ See, e.g., MARY CHRISTINA WOOD, NATURE'S TRUST: ENVIRONMENTAL LAW FOR A NEW ECOLOGICAL AGE 133–36 (2014) [hereinafter NATURE'S TRUST]; Mary Christina Wood, *Advancing the Sovereign Trust of Government to Safeguard the Environment for Present and Future Generations (Part I): Ecological Realism and the Need for a Paradigm Shift*, 39 ENVTL. L. 43, 74 (2009) [hereinafter Wood, *Part I*]; Mary Christina Wood, *Advancing the Sovereign Trust of Government to Safeguard the Environment for Present and Future Generations (Part II): Instilling a Fiduciary Obligation in Governance*, 39 ENVTL. L. 91, 135–36 (2009) [hereinafter Wood, *Part II*] (suggesting avenues for Congress to meet its public trust responsibilities); Blumm & Schaffer, *supra* note 63, at 399 (arguing that “there is considerable precedent applying the public trust doctrine to the federal government”); Blumm et al., *Renouncing the Public Trust Doctrine: An Assessment of the Validity of Idaho House Bill 794*, 24 ECOLOGY L.Q. 461, 494 (“[T]he public trust is grounded in the federal constitutional equal footing doctrine . . .”); Epstein, *supra* note 41, at 426 (asserting that the constitutional nature of the trust limits sovereign authority over public property in the same way the takings clause limits sovereign authority over private property).

⁶⁶ See, e.g., Blumm & Schaffer, *supra* note 63, at 405; see also *infra* Part IV.C.3 (discussing possibility of an atmospheric trust theory).

⁶⁷ See NATURE'S TRUST, *supra* note 65, at 136 (arguing that federal trust obligations should apply to protect the atmosphere against private appropriation as a disposal site for greenhouse gas pollution).

⁶⁸ Blumm & Schaffer, *supra* note 63, at 399 (“The trust doctrine, properly understood, is an inherent limit on all sovereigns, not merely state sovereigns.”); NATURE'S TRUST, *supra* note 65, at 133–36.

⁶⁹ See NATURE'S TRUST, *supra* note 65, at 133–36.

The historical argument roughly asserts that the public trust doctrine must constrain federal authority, because the implicit trust obligations of most states arose by delegation of federal authority over lands previously held in federal ownership. Today, the doctrine most often constrains state authority, because under the equal footing doctrine of the U.S. Constitution,⁷⁰ states own the submerged lands beneath navigable waterways,⁷¹ and under the Submerged Lands Act,⁷² they are the primary regulators of tidelands within three miles of shore.⁷³ But other than the original thirteen colonies, all states inherited their trust obligations through the medium of federal sovereignty that applied before their lands were carved out of federal holdings.⁷⁴ The states must have inherited a pre-existing trust obligation, goes this reasoning, because there is no clear legal moment when new trust obligations were expressly conferred. Therefore, the doctrine must have implicitly inhered at the federal level before it was delegated to the states, and by this theory, it remains there in application to all trust resources that were not delegated to the states.⁷⁵

The analytical argument asserts that, by the logic underlying the doctrine, there is no persuasive reason to distinguish between state or federal sovereignty when they govern resources that are appropriately subject to the public trust.⁷⁶ The trust simply establishes a constraint on sovereign authority at whatever is the relevant level to protect public trust resources from private expropriation or monopolization. For submerged lands that remain under federal jurisdiction, or for other obligations the doctrine may be held to create, these scholars and litigants argue that the federal government should be equally bound as trustee.⁷⁷

Nevertheless, the argument that the public trust doctrine is an inherent limit on federal authority must overcome formidable hurdles in previous Supreme Court dicta stating that the doctrine is a matter of state law, and not an implied feature of federal constitutional law.⁷⁸ It remains to be seen whether this dicta will hold firm over time, or whether it will be dislodged by more directed Supreme Court litigation in the future.

⁷⁰ U.S. CONST. art. IV, § 3, cl. 1.

⁷¹ See *Coyle v. Smith*, 221 U.S. 559, 566 (1911) (interpreting the equal footing clause).

⁷² 43 U.S.C. §§ 1301–1315 (2012).

⁷³ *Id.* §§ 1311–1312 (discussing state authority over submerged lands and seaward boundaries).

⁷⁴ One way of viewing this is that in the equal footing conveyances, the federal government itself imposed the trust on the states. See Blumm & Schaffer, *supra* note 63 (discussing Justice Kennedy's reference to the equal footing doctrine in *Idaho v. Coeur d'Alene Tribe* and what it means for the public trust doctrine's origins).

⁷⁵ See Blumm et al., *supra* note 65.

⁷⁶ Blumm & Schaffer, *supra* note 63; NATURE'S TRUST, *supra* note 65, at 133–36.

⁷⁷ Blumm & Schaffer, *supra* note 63; NATURE'S TRUST, *supra* note 65, at 133–36.

⁷⁸ PPL, Montana, L.L.C. v. Montana, 132 S. Ct. 1215, 1235 (“[T]he public trust doctrine remains a matter of state law.”); *cf.* Alec L. v. McCarthy, 135 S. Ct. 774 (2014) (denying certiorari to address whether there is a federal public trust doctrine). See *infra* Part IV.C.3, further discussing these arguments.

B. The Prior Appropriations Doctrine

The other leading legal doctrine in the Mono Lake story is equally important to the maintenance of public environmental values, but more directly associated with private rights and economic development: the prior appropriations doctrine of private water allocation. Water allocation doctrines regulate the private benefits that individuals and others can receive from public waterways. While the public trust regulates the management of rivers, lakes, and oceans, private water allocation doctrines regulate the use of the actual water in these waterways (excluding the nonpotable waters of the ocean). The United States follows two principal approaches to allocating surface water: the riparian rights doctrine of the eastern states, in which all users must share, and the prior appropriations doctrine of the west, in which the first to claim has the superior right.⁷⁹

Eastern riparianism is essentially a doctrine of correlative rights, in which users are entitled to appropriate water only to the extent that it does not compromise the legitimate needs of other qualified users.⁸⁰ Conceptualizing water as a resource that everyone shares equally, the doctrine requires a balancing of equities under conditions of shortage.⁸¹ Instream uses are protected on par with other uses of a waterway, affording more historic protection for the environmental values associated with preserving instream flows.⁸² Because riparian rights are premised on a theory of waterways as commons resources, conflicts with the public trust doctrine—which also presumes that waterways are a public commons—are relatively modest.

The doctrine of prior appropriations, adopted in arid western states where water scarcity is the defining feature, works very differently.⁸³ Following the old mining rule of “first-come-first-claimed,” it establishes first-in-time rights to appropriate water for exclusive private use, enforceable against later comers.⁸⁴ Under the traditional common law of prior appropriations, whenever a user first takes water out of a watercourse and puts it to “beneficial” (or economically productive) use, that user is granted a perpetual right to continue taking the same amount for the same

⁷⁹ See Christine Klein et al., *Modernizing Water Law: The Example of Florida*, 61 FLA. L. REV. 403, 406 (2009) (“The wetter eastern states . . . view the right to use water as an attribute of the ownership of riparian land. This is primarily a torts regime, prohibiting one riparian landowner from inflicting unreasonable harm upon another. In contrast, the arid western states historically have followed the prior appropriation doctrine, protecting the right to use water according to temporal priority of use.”).

⁸⁰ *Id.* at 407.

⁸¹ In the traditional common law doctrine, water was shared equally by all riparian landowners. See RESTATEMENT (SECOND) OF TORTS § 858 cmt. a., illus. 1 (1979). In states that adopt regulated riparianism statutes, most privileges associated with riparian ownership are eliminated. See Klein et al., *supra* note 79, at 411–12.

⁸² See Klein et al., *supra* note 79, at 410.

⁸³ *Id.* at 408.

⁸⁴ *Id.*

use, notwithstanding conflicting needs by those who come later—including the general public.⁸⁵

The prior appropriations doctrine creates elaborate webs of rights along a watercourse, in which long-established uses get priority over newer uses—even upstream or higher value uses.⁸⁶ Return flows are assiduously calculated and jealously guarded, and changes in use may require repermitting to ensure against harm to the rights of other appropriators.⁸⁷ Traditionally, instream flows and uses receive no protection under the appropriative rights system, because rights are associated only with withdrawals.⁸⁸ Beginning in the 1970s, most western states imposed various forms of instream protections by statute—but later protections can be of limited value in a system that continues to be defined by temporal priority.⁸⁹ To make matters even more complicated, a few states, including California, incorporate elements of both doctrines in their water laws.⁹⁰

Unlike the correlative, indeterminate rights associated with riparianism, the rights associated with the prior appropriations system are theoretically absolute—allowing senior rights holders to exclude others from the resource entirely during times of shortage, and in perpetuity. For this reason, and in contrast to riparianism, the private property orientation of the prior appropriations doctrine conflicts much more directly with the public commons theory underlying the public trust doctrine. And indeed, that conflict erupted most famously in eastern California, at Mono Lake. Both of the operative legal doctrines have deep roots in state common and statutory law, and the different values they protect are each legitimate and independently important. But reconciling them is difficult; they are theoretically orthogonal, each operating from a premise that excludes the

⁸⁵ *Id.* at 408–09.

⁸⁶ *See, e.g.,* *Irwin v. Phillips*, 5 Cal. 140, 147 (1855) (involving the overlapping nature of appropriative rights).

⁸⁷ *See* Steven E. Clyde, *Marketplace Reallocation in the Colorado River Basin: Better Utilization of the West's Scarce Water Resources*, 28 J. LAND RESOURCES & ENVTL. L. 49, 57 (2008) (explaining the importance of the historic right to return flows); BARTON H. THOMPSON, JR. ET AL., *LEGAL CONTROL OF WATER RESOURCES: CASES AND MATERIALS* 224–27 (5th ed. 2013) (discussing the requirements for maintaining a permit).

⁸⁸ *Id.* at 215–18.

⁸⁹ *Id.* at 215–16.

⁹⁰ In California, the owners of land abutting watercourses hold some traditional riparian rights, which coexist with the more abundant appropriative rights that are unconnected to riparian land ownership but subject to similar requirements of reasonable and beneficial use. *See* THOMPSON ET AL., *supra* note 87, at 200 (discussing California's hybrid system of water law); *see also* CAL. CONST. art. X, § 2 (confirming the protection of riparian rights and discussing the requirement of beneficial use). However, in California, conflicts between riparian and appropriative rights are still governed by priority in time (in that riparian rights can be trumped by appropriations that came first), and prior appropriations remains the defining doctrinal approach in the state. *See* THOMPSON ET AL., *supra* note 87, at 208 (explaining how the doctrines interact with one another in California); *see also* John Franklin Smith, *The Public Trust Doctrine and National Audubon Society v. Superior Court: A Hard Case Makes Bad Law or the Consistent Evolution of California Water Rights*, 6 GLENDALE L. REV. 201, 207–09 (1984) (outlining the history of California's dual water rights system).

other's central premise. How do these independent systems of legal rules fit together in actual environmental governance?⁹¹

What follows is the story of that conflict—between the public trust doctrine's affirmation of public rights in waterways and the prior appropriations doctrine's affirmation of private rights to use of the water in those waterways.⁹² Writ large, it is also a conflict between environmental protection and economic development.⁹³ And perhaps also a conflict between in-basin values and utilitarian allocation for use by the more numerous public in more distant urban centers—and doubtlessly others.⁹⁴ The Mono Lake story shows that the two doctrines create legal friction in California, and in other western states with similar laws, although perhaps necessary friction. With all that in mind, we now turn to what actually happened there, starting at the beginning.

III. THE EARLY HISTORY OF THE LOS ANGELES AQUEDUCT

This Part explores the California water struggles that led to the construction of the Los Angeles Aqueduct and ultimately to the *Mono Lake* litigation. It reviews the history of water exports from the Owens Valley in the early 1900s, and the resulting effects on the local community and ecology. It recounts the story of the St. Francis Dam disaster of 1928, the extension of the aqueduct to the Mono Basin in 1940, and the acceleration of exports from the Mono Basin after the Second Barrel in 1970. After introducing the unique features of the Mono Lake ecosystem and surrounding community, it explores the human and environmental consequences of water diversions to the aqueduct, setting the stage for the legal controversy that would follow.

A. *Water as Wet Gold in Los Angeles*

The Mono Lake story begins in the early city of Los Angeles, where water has long been more valuable than gold. Why? A good aerial map of California makes that immediately clear. Los Angeles is located near the

⁹¹ See, e.g., Norman K. Johnson & Charles T. DuMars, *A Survey of the Evolution of Western Water Law in Response to Changing Economic and Public Interest Demands*, 29 NAT. RESOURCES J. 347, 367–71 (1989) (considering ramifications of the public trust doctrine for the future of western, prior appropriations-based water law).

⁹² See Jan S. Stevens, *supra* note 64, at 612–14 (discussing the relationship between the public trust and prior appropriations doctrines); Timothy J. Conway, National Audubon Society v. Superior Court: *The Expanding Public Trust Doctrine*, 14 ENVTL. L. 617, 630–33 (1984) (analyzing the state court's reconciliation of the public trust and prior appropriations doctrines in *Mono Lake*); Arnold & Jewel, *supra* note 3, at 1181 (same).

⁹³ See Brian E. Gray, *Ensuring the Public Trust*, 45 U.C. DAVIS L. REV. 973, 974 (2012) (discussing *Mono Lake's* establishment of an environmental baseline in the management of public resources, and how economic pressures limit further expansion).

⁹⁴ Cynthia L. Koehler, *Water Rights and the Public Trust Doctrine: Resolution of the Mono Lake Controversy*, 22 ECOLOGY L.Q. 541, 577–82 (1995) (discussing competing interests in the Water Board's reallocation decision-making process).

southwest corner of the state, where the climate is arid and surface water is scarce.⁹⁵ Today, some ten million people live in Los Angeles County.⁹⁶ But the Los Angeles River—the major local water source, which today is almost entirely channelized underground—has, at best, enough water annually to support a population of only a few hundred thousand.⁹⁷

Los Angeles is California's largest metropolis, attracting its vast population with the promise of oil and agricultural resources, mild weather, and a deep water harbor enabling ready commercial access to other Pacific ports.⁹⁸ At first, the growing city was able to slake its thirst by pumping available groundwater resources.⁹⁹ By the end of the nineteenth century, however, when both surface and groundwater reserves had been exhausted, state and city leaders realized that they were going to have to find water elsewhere to sustain the growing metropolis.¹⁰⁰ Moving water to the city of Los Angeles became one of California's highest priorities, but the geography of the state made this no small task.

The map of California readily shows where the water is available, and where it isn't.¹⁰¹ Vibrant blue rivers crisscrossing the north reveal where the naturally occurring streams are, mostly draining snowmelt and runoff from the Cascades and Sierra Nevada mountain ranges.¹⁰² Further south, toward Los Angeles, these large, natural drainages mostly disappear.¹⁰³ That said, you will find three snaking blue lines converging at Los Angeles—three enormous aqueducts all designed over the last century to import water to

⁹⁵ HILDA BLANCO ET AL., U.S.C. CENTER FOR SUSTAINABLE CITIES, WATER SUPPLY SCARCITY IN SOUTHERN CALIFORNIA: ASSESSING WATER DISTRICT LEVEL STRATEGIES vii, xiv (2012), available at <http://sustainablecities.usc.edu/quicklinks/H%20Blanco%20WSSC%20Exec%20Summary%2012%202012.pdf>.

⁹⁶ U.S. Census Bureau, *State & County QuickFacts: Los Angeles County, California*, <http://quickfacts.census.gov/qfd/states/06/06037.html> (last visited Apr. 17, 2015).

⁹⁷ See Kai Ryssdal, *The Aqueduct That Gave Rise to Los Angeles*, MARKETPLACE (AMERICAN PUBLIC MEDIA), Mar. 31, 2015, <http://www.marketplace.org/topics/sustainability/big-book/aqueduct-gave-rise-los-angeles> (last visited Apr. 17, 2015) ("As early as 1894, the city faced severe water shortages. Engineers estimated that natural sources serving the Los Angeles basin could support a population of 200,000 or so, in typical years."); MARC REISNER, *CADILLAC DESERT: THE AMERICAN WEST AND ITS DISAPPEARING WATER* 53, 61–62 (1993) (describing the Los Angeles River as the first local source of water and how reliance on it became untenable as the population grew).

⁹⁸ See DAVID KIPEN, *CALIFORNIA IN THE 1930S: THE WPA GUIDE TO THE GOLDEN STATE* 59 (2013) (describing successful efforts to increase immigration to the City of Los Angeles in the late 19th century).

⁹⁹ See REISNER, *supra* note 97, at 53, 60 (describing Los Angeles's water sources in the late 19th century).

¹⁰⁰ *Id.* at 62 ("By 1900, Los Angeles' population had gone over 100,000; it doubled again within four years. During the same period, the city experienced its first severe drought. . . . In late 1904, the newly created Los Angeles Department of Water and Power issued its first public report. 'The time has come,' it said, 'when we shall have to supplement the supply from some other source.'").

¹⁰¹ See *California: Physical Features*, http://www.csun.edu/~cfe/maps/CA_Physical.pdf (last visited Apr. 17, 2015).

¹⁰² *Id.*

¹⁰³ See Cal. Nev. River Forecast Ctr., *CNRFC Interactive Map Interface: Rivers*, <http://www.cnrfc.noaa.gov> (last visited Apr. 17, 2015).

the city from very distant lands.¹⁰⁴ It is an especially impressive feat, given that the Los Angeles Basin is surrounded by the ocean on one side and mountains on all others.¹⁰⁵

Water now arrives in Los Angeles from the Rocky Mountains to the east via the Colorado River Aqueduct.¹⁰⁶ It arrives from the western Sierra and Central Valley to the north—the agricultural heart of the state where water is more plentiful—via the California Aqueduct.¹⁰⁷ Yet the aqueduct that came before all others is the Los Angeles aqueduct, which delivers water improbably from the far eastern midsection of the state, almost to the bend at the Nevada state line.¹⁰⁸ Today, it extends all the way up to the Mono Basin, which is located about 400 miles northeast of Los Angeles and 250 miles due east of San Francisco, along the Eastern Sierra Nevada range, just east of Yosemite National Park.¹⁰⁹ Still, it started out a little more locally.

B. The Early 1900s: Tapping the Owens River Valley

When consumption began to exceed the locally available water sources in Los Angeles, state and city leaders struggled with the challenge of finding water elsewhere. Three in particular—former Mayor Fred Eaton, William Mulholland, of the Los Angeles Department of Water and Power (DWP), and Joseph Lippincott, a regional engineer of the federal Reclamation Service—helped execute an unlikely plan to import water from another part of the state that was, ironically, itself a desert.¹¹⁰ Their target was the distant and sparsely populated Owens Valley, some 200 miles to the northeast.¹¹¹

The arid but enchanting Owens Valley is a large, long, and narrow canyon in eastern California that lies between two mountain ranges—the Sierra Nevada to the west and the White Mountains to the east, extending north and south of Bishop, California.¹¹² Although the climate is very arid, the

¹⁰⁴ See Sierra Club, *Los Angeles Depends on Imported Water*, https://angeles2.sierraclub.org/los_angeles_depends_imported_water (last visited Apr. 17, 2015) (explaining that aqueduct construction continued through the twentieth century and currently sources from the Colorado River and two Northern California locations).

¹⁰⁵ Univ. of Houston: Earth and Atmospheric Sciences, *Current Research Projects: Neogene Tectonics of Southern California*, fig. 1, <http://www.geosc.uh.edu/people/faculty/tom-bjorklund/current-research/index.php> (last visited Apr. 17, 2015) (showing the Los Angeles Basin bordered by the Santa Monica Mountains, San Gabriel Mountains, Santa Ana Mountains, and the Pacific Ocean).

¹⁰⁶ See Sierra Club, *supra* note 104 (noting that the Colorado River Aqueduct supplies water to L.A.).

¹⁰⁷ See Ctr. for Land Use Interpretation, *California Aqueduct East Branch*, <http://clui.org/ludb/site/california-aqueduct-east-branch> (last visited Apr. 17, 2015) (explaining that the California Aqueduct brings water south to the agricultural industry of the Central Valley and Los Angeles).

¹⁰⁸ Sierra Club, *supra* note 104.

¹⁰⁹ See Louis Sahagun, “*There It Is—Take It: A Story of Marvel and Controversy*,” L.A. TIMES, Oct. 28, 2013, <http://graphics.latimes.com/me-aqueduct/> (last visited Apr. 17, 2015) (describing the path and history of the Los Angeles Aqueduct).

¹¹⁰ REISNER, *supra* note 97, at 62–63, 91.

¹¹¹ *Id.* at 61–63.

¹¹² *Id.* at 59.

valley is a catchment for snowmelt from the high mountain ranges on either side.¹¹³ Rain and snow intercepted at elevations between 10,000 and 14,000 feet drain into the improbably robust Owens River that runs the length between them.¹¹⁴ At least, it was robust at the beginning of the story—an extraordinarily life-productive river running through the desert, supporting the wildlife that thronged to its waters and a thriving agricultural community in an otherwise punishing environment.¹¹⁵ (The Owens remains a robust river above the diversion dam.¹¹⁶)

The Owens River drains into a large salt lake at its terminus—the lake formerly known as Owens. Owens Lake was a terminal lake, meaning that water flowed into it from the river but nowhere flowed out, collecting at the base of an upslope in the land to the south.¹¹⁷ In a terminal lake, water departs the system only through surface evaporation, but that process leaves behind the trace minerals dissolved in the incoming river water, leached out of the surrounding rocks and soils.¹¹⁸ Over thousands of years, the accumulated minerals left behind as water evaporated from the lake's surface made Owens Lake a saltwater body, by essentially the same process that made the oceans saline.¹¹⁹

The Owens River and its delta at Owens Lake were a critical part of the regional ecosystem, because they combined fresh and saltwater resources in a high desert environment where water was otherwise scarce.¹²⁰ Countless birds journeying along the Pacific Flyway would congregate at Owens Lake to feed and water themselves at this oasis, after traversing countless miles of barren land.¹²¹ Residents recalling Owens Valley life before the aqueduct said

¹¹³ See *id.* at 58–59 (explaining that the few rivers draining from the arid East Slope of the Sierra Nevada range are generally small; however, the Owens River, flanked by two mountain ranges, is the exception).

¹¹⁴ See Cal. Water Sci. Ctr., *Evaluation of the Hydrologic System and Selected Water-Management Alternatives in the Owens Valley, California*, http://ca.water.usgs.gov/owens/report/hydro_system_2surface.html (last visited Apr. 17, 2015) (explaining that precipitation runoff from the Sierra Nevada feeds into the Owens River).

¹¹⁵ REISNER, *supra* note 97, at 59.

¹¹⁶ And one where I still fondly remember getting hypothermia while attempting to inner tube it one sunny day in July! Some years later, beginning in the 2000s, restoration efforts have apparently resurrected some of the Owens River below the dam. See Louis Sahagun, *Tule Vegetation Infests Lower Owens River*, L.A. TIMES, July 7, 2006, <http://articles.latimes.com/2011/jul/25/local/la-me-tules-20110725> (last visited Apr. 17, 2015) (reporting that restoration efforts, which began in 2006, have brought water and wildlife back to the Owens River).

¹¹⁷ REISNER, *supra* note 97, at 61.

¹¹⁸ CAL. DEP'T OF WATER RESOURCES, THE IMPORTANCE OF THE SALTON SEA AND OTHER TERMINAL LAKES IN SUPPORTING BIRDS OF THE PACIFIC FLYWAY 1, *available at* <http://www.water.ca.gov/saltonsea/historicalcalendar/docs/TerminalLakes.pdf> (describing the geologic processes that intensify salinity in terminal lakes with freshwater tributaries).

¹¹⁹ See *id.*

¹²⁰ Owens Valley Comm., *Owens Lake Birds*, <http://www.ovcweb.org/owensvalley/owenslake.html> (last visited Apr. 17, 2015).

¹²¹ *Id.*

that the sky would become so black with birds during migration season that it was sometimes hard to see sky between them.¹²²

The Owens River thus provided Los Angeles the possibility of much-needed water, but the Owens Valley is hundreds of miles from the city, and there are two mountain ranges in between. There was closer and easier water to be had, including untapped groundwater resources from aquifers and artesian springs.¹²³ Exploiting these sources would have been faster, easier, and cheaper—at least in the short term. Why bother seeking water two hundred miles north to the Owens Valley when there was more accessible water closer to home?

1. A Self-Powering Design

City leaders considered seven potential sources for water imports, many of them closer and more easily accessible with a lower initial outlay.¹²⁴ However, regional planners were concerned that exploiting groundwater resources closer to the city would curtail desired development of the surrounding metropolitan areas.¹²⁵ Yet there was another reason Los Angeles was especially drawn to the water in the Owens Valley—one that had to do with gravity.

Over time, the other potential sources would have required the use of substantial energy to continuously pump water toward Los Angeles. Even artesian wells that produce without assistance in the present would eventually require expensive pumps, after withdrawals reduced pressure in the aquifer.¹²⁶ Moreover, the city had already learned—the hard way—that groundwater resources are not infinite, and civic planners worried that these sources would ultimately tap out.

By contrast, the Owens Valley would provide a renewable flow, and while it lies hundreds of miles away, it rests at an altitude of 4,000 feet above sea level.¹²⁷ Those 4,000 feet of elevation gain would make all the difference to the engineering project: The elevation gain provided enough potential energy to pipe water downhill toward Los Angeles—even over the two intervening mountain ranges—without any additional power source, enabling a completely gravity-powered design.¹²⁸

¹²² See, e.g., *id.* (quoting Joseph Grinnell, who visited the lake in 1917: “Great numbers of water birds are in sight along the lake shore—avocets, phalaropes, ducks. Large flocks of shorebirds in flight over the water in the distance, wheeling about show in mass, now silvery now dark, against the gray-blue of the water. There must be literally thousands of birds within sight of this one spot.”).

¹²³ *Biographical Information: Joseph Barlow Lippincott*, available at http://www.owensvalleyhistory.com/stories3/lippincott_biography.pdf (extracted from the “Memoir” on Lippincott prepared by Kenneth Q. Volk and Edgar Alan Rowe that appeared in the 108 TRANSACTIONS OF THE AMERICAN SOCIETY OF CIVIL ENGINEERS 1543–50 (1943)).

¹²⁴ *Id.*

¹²⁵ *Id.*

¹²⁶ *Id.*

¹²⁷ Sahagun, *supra* note 109.

¹²⁸ *Id.*

2. *Prospecting in the San Fernando Valley*

There was one further reason the Owens Valley plan was so attractive to city leadership, this one having less to do with civil engineering and more to do with conventional pocket-lining. As chronicled more fully in *Cadillac Desert*¹²⁹ and the classic movie *Chinatown*,¹³⁰ the additional value was in what lies between the Owens Valley and the City of Los Angeles: the San Fernando Valley.

Today, the San Fernando Valley is pricey southern California real estate, with prime access to both Los Angeles and the Pacific coast.¹³¹ However, when Eaton, Mulholland, and Lipincott were masterminding the plan—before the aqueduct was constructed and the lands surrounding Los Angeles were even drier than the city—the San Fernando Valley was open, empty, economically worthless land.¹³² There was nothing there, because there was no water.

Some proponents of the new aqueduct realized that moving water from the Owens Valley down to Los Angeles meant that they would be piping water through this worthless, forsaken land—and that it would not be worthless for long.¹³³ In fact, many city leaders privy to the plan quietly bought land in the San Fernando Valley on the cheap before plans went public, trading on their inside knowledge of what was to come, and became overnight real estate moguls when the water rolled through.¹³⁴

3. *The Miracle of Modern Engineering*

When construction began on the aqueduct in 1905, the gravity-propelled design spanning hundreds of miles and two mountain ranges was considered a miracle of modern engineering, on par with the Panama Canal.¹³⁵ The early project included more than fifty miles of open canals, close to one hundred miles of covered conduits, nearly another fifty miles of tunnels, and some twelve miles of steel tubes perilously escorting the flow across plunging mountain canyons.¹³⁶

¹²⁹ REISNER, *supra* note 97 at 73–74; CADILLAC DESERT: THE AMERICAN WEST AND ITS DISAPPEARING WATER AND THE TRANSFORMATION OF NATURE (Columbia TriStar Television 1997).

¹³⁰ CHINATOWN (Paramount Pictures 1974).

¹³¹ JOEL KOTKIN & ERIKA OZUNA, THE CHANGING FACE OF THE SAN FERNANDO VALLEY 8 (2002), available at <http://publicpolicy.pepperdine.edu/davenport-institute/content/reports/changing-face.pdf>.

¹³² REISNER, *supra* note 97, at 72.

¹³³ *Id.* at 73–74.

¹³⁴ *Id.* at 75 (describing the syndicate of investors that purchased an option on the Porter Land and Water Company, which owned the greater part of the San Fernando Valley).

¹³⁵ Eric Malnic, *The Aqueduct: DWP Smooths Out Rough Edges on the 74-Year Old Engineering Marvel*, LA TIMES, Oct. 18, 1987, http://articles.latimes.com/1987-10-18/local/me-15046_1_los-angeles-river (last visited Apr. 17, 2015).

¹³⁶ BD. OF PUB. SERV. COMM'RS OF THE CITY OF L.A., CONSTRUCTION OF THE LOS ANGELES AQUEDUCT FINAL REPORT 271 (1916).

To begin the long journey to Los Angeles, engineers had to move the Owens River entirely out of its bed.¹³⁷ This they accomplished by use of a full-length diversion dam constructed at Aberdeen, a tiny hamlet just north of the town of Independence in Inyo County, California.¹³⁸

In the mid-1990s, if you stood at the diversion point and looked upstream, you would see the Owens river flowing toward you—down its naturally arching alluvial channel, lined by point bars, willows, and other riparian vegetation that slows the water and creates cozy pockets of fish and wildlife habitat. Then the river would reach the diversion dam, where the entire flow was shunted to the side into a narrow concrete channel where it gathers speed along its journey to Los Angeles. And if you looked downstream from the diversion dam, you would look out over an empty riverbed, where water stopped flowing almost a hundred years earlier. By then, it was filled with tangled brush and overgrowth, but it was still a gaping, ancient riverbed—with no river in it.

New efforts to restore dewatered portions of the Lower Owens have been underway since 2006,¹³⁹ but the old Aberdeen diversion dam still marks the beginning of the original Los Angeles Aqueduct. For many miles below that point, the aqueduct snakes across the desert, crosses mountain and valley, and finally rolls down the California Coast Range into the Los Angeles Basin, by this point in a giant concrete tube.¹⁴⁰ Symbolically completing its journey, some of that water finally flows into the reflecting pool in front of DWP headquarters, where Chief Mulholland was once king.¹⁴¹

4. *Acquiring the Owens Valley Water Rights*

The aqueduct may have been a miracle of modern engineering, but that wasn't the only puzzle city leaders had to resolve—there was also the legal puzzle. Our earlier discussion of private water law alludes to the other hurdle Los Angeles had to overcome before the aqueduct could begin

¹³⁷ See Henry H. Thomas, *Construction—River Diversion*, <http://community.dur.ac.uk/~des0www4/cal/dams/cons/conss2.htm> (last visited Apr. 17, 2015).

¹³⁸ See Malnic, *supra* note 135 (discussing the diversion dam 30 miles south of Bishop, California).

¹³⁹ Inyo Cnty. Water Dep't, *Lower Owens River Project*, <http://www.inyowater.org/LORP/default.htm> (last visited Apr. 17, 2015) (describing efforts to restore a dewatered 62-mile stretch of the Lower Owens River below the diversion dam). For more information on Owens Valley restoration projects, see the Memorandum of Understanding Between L.A. Dep't of Water and Power, the Cnty. of Inyo, Cal. Dep't of Fish and Wildlife, Cal. State Lands Cmm'n, the Sierra Club, and the Owens Valley Comm., available at <http://www.inyowater.org/LORP/DOCUMENTS/1997MOU.pdf>.

¹⁴⁰ See Malnic, *supra* note 135.

¹⁴¹ See Andrea Ford, *Recycling Water : Environment: Bicyclists Are Carrying L.A. Water to Mono Lake in a Symbolic Effort to 'Rehydrate' It. They Also Call Attention to DWP Vote that May Reward Conservationists*, L.A. TIMES, Sep. 1, 1992, http://articles.latimes.com/1992-09-01/local/me-6794_1_mono-lake (last visited Apr. 17, 2015) (describing an event in which ninety cyclists carried bottles of water from DWP's reflecting pool 350 miles north to symbolically repatriate it to Mono Lake).

delivering water from afar. And though it seemed more easily handled at first, it became the thornier problem over time.

The problem was how to deal with the existing water users who were already putting Owens River water to beneficial use, mostly for local agricultural use.¹⁴² Under both riparian rights and prior appropriations doctrine, Los Angeles could not just shunt an entire river out of its bed, leaving downstream users in the lurch.¹⁴³ Landowners along the river had riparian rights, and many more Owens Valley residents had rights to withdraw from the river that were protected under the doctrine of prior appropriations.¹⁴⁴ Under California water law, Los Angeles couldn't just start exporting water south, no matter how many thirsty residents were waiting for it; the city had to get in line.¹⁴⁵

Even more problematic, the agricultural use that Owens Valley farmers were making would return most of withdrawn water back into the river as irrigation return flows, or into the underlying aquifer from which groundwater would then be available. Owens River water was being recycled through multiple in-basin uses and instream flows within the watershed, and in relatively stable equilibrium with climatic conditions. But Los Angeles's intended use would be very different. Exporting the water would yield return flows to neither the river nor the underlying aquifer, interrupting the entire web of uses and appropriations. Los Angeles's change in use could also set the city to the back of the line, making it the junior appropriator within the overall system and further complicating its desired yield. How the city resolved these issues became one of the seamier aspects of the aqueduct's history.

The only solution was for Los Angeles to acquire the appropriative and riparian rights it needed from the existing Owens Valley farmers—and to iron out the problems of priority, the city would have to buy up most if not all of the rights. But imagine the complications of trying to buy an entire town's worth of riparian land and water rights. Imagine the likely reaction of most local farmers—presumably fond of the local community, the neighbors, and their families—to such a proposal. Perhaps the farmer is even ready to retire from farming, and the land is already on the market. And suppose the City of Los Angeles approaches with a generous offer to buy the farm and all associated water rights, so that it can send that water south and extinguish the community forever. How many farmers in this position would have accepted that offer?

¹⁴² See REISNER, *supra* note 97 (discussing how water rights were necessary for the Owens Valley Project).

¹⁴³ See *supra* notes 79–94 and accompanying text (discussing the doctrines of prior appropriations and riparian rights, and the current doctrine for California water law).

¹⁴⁴ See Scott Harrison, *Dynamite Attacks on the Los Angeles Aqueduct*, L.A. TIMES, Feb. 6, 2013, <http://framework.latimes.com/2013/02/06/los-angeles-aqueduct-2/#/0> (last visited Apr. 17, 2015) (discussing how Los Angeles officials had to buy land and water rights in the Owens Valley).

¹⁴⁵ See *supra* notes 84–90 and accompanying text (discussing the law of prior appropriations).

Apparently, the city leaders charged with executing the plan believed that few of them would. They surmised that most Owens Valley farmers would be hesitant to extinguish their communities, no matter the payout.¹⁴⁶ Accordingly, they concluded that the best approach was simply to keep the details of their intentions quiet. Essentially, when Los Angeles representatives came looking to buy, they pretended to be farmers.

Using agents and operating undercover, they posed as regular farmers acquiring land and water rights to continue farming Owens Valley lands just as the previous rights-holders had long done.¹⁴⁷ They covered up or conveniently left out that they were buying on behalf of Los Angeles, as well as any mention of their true intentions for the water.¹⁴⁸ At the same time, other champions of the aqueduct were quietly convincing the U.S. Bureau of Reclamation to disband pending plans to build a new water project in the Owens Valley that would have benefited the regional agricultural economy.¹⁴⁹ By the time local residents figured out what was happening, it was too late to stop it.¹⁵⁰

In 1913, after acquiring the bulk of all water rights in the valley, the Los Angeles Aqueduct began operations.¹⁵¹ The Aberdeen diversion dam was completed and water began moving south. Just over a hundred years ago, as the first Owens River water reached the end of its journey in Los Angeles, DWP Chief Engineer William Mulholland famously told the assembled crowd: "There it is. Take it."¹⁵²

5. *The Local Consequences of Withdrawals*

As demand for water in Los Angeles continued to grow, so did exports from the Owens Valley. Eventually, the city took not only the surface water of the Owens River, but also the groundwater from the Owens Valley aquifer, extracted by pumps on the land that the city had purchased to acquire associated water rights.¹⁵³ With the disappearance of the river, and the loss of agricultural uses that had once returned so much water to the ground through irrigation, the local aquifer was rapidly depleted.¹⁵⁴ Unsurprisingly, the consequences of removing the entire water supply were severe. Once-

¹⁴⁶ Local rebellions following the onset of water exports from the valley suggest that this perception was accurate. *See* Malnic, *supra* note 135.

¹⁴⁷ REISNER, *supra* note 97, at 91.

¹⁴⁸ *See* Malnic, *supra* note 135 (discussing how city officials began to quietly buy up water rights).

¹⁴⁹ REISNER, *supra* note 97, at 79 (discussing how the Bureau of Reclamation project in Owens Valley complicated the Los Angeles Aqueduct project); *see also* Malnic, *supra* note 135 ("[O]thers successfully lobbied Congress and President Theodore Roosevelt to abandon plans for a federal reclamation and irrigation project there.").

¹⁵⁰ *See, e.g.*, REISNER, *supra* note 97, at 90 (discussing how farmers who did not originally sell out were eventually forced to do so).

¹⁵¹ Sahagun, *supra* note 109.

¹⁵² REISNER, *supra* note 97, at 86.

¹⁵³ *See id.* at 100–01 (discussing how DPW "sank wells and began depauperating the aquifer" and that Los Angeles refused to limit its groundwater pumping).

¹⁵⁴ *Id.* at 100.

thriving farm communities were devastated, and the irrigated agricultural economy has never recovered.¹⁵⁵

Still, the Owens Valley farmers did not go down quietly. They did not appreciate the less-than-forthright approach the city had taken in acquiring land and water rights.¹⁵⁶ They felt swindled, and not just out of a few dollars, acres of land, or gallons of water per day—they felt robbed of their community, their homes, and their very way of life.¹⁵⁷ In several incidents of open rebellion, angry farmers dynamited the aqueduct and released water back into the valley.¹⁵⁸

Their protests drew attention from around the world, with newspaper coverage effectively depicting the Owens Valley farmers as tiny Davids pounding on the toe of the Goliath-like City of Los Angeles.¹⁵⁹ Nobody really expected them to prevail, and they didn't—but the aqueduct continues under constant patrol surveillance to this day.¹⁶⁰ Especially after additional bombings in the mid-1970s,¹⁶¹ high fences and locked gates prevent public access or interference.¹⁶² It's hard to get physically close.

The end result was that water effectively disappeared from the lower Owens Valley, south of the diversion dam.¹⁶³ The most obvious local casualty that disappeared with it was Owens Lake, the large but shallow salt lake at the bottom of the now-empty river.¹⁶⁴ The great waterway simply evaporated without replenishment, until all that was left were the dusty, dried-up minerals that had been accumulating over thousands of years.¹⁶⁵ As a result, where there had once been an enormous black-with-birds desert oasis, there was now just a giant, white, empty salt flat—ugly, foul-smelling, and with

¹⁵⁵ Sahagun, *supra* note 109.

¹⁵⁶ *See id.* (explaining that tensions were high between Los Angeles and the Owens Valley, and that the aquifer was dynamited over a dozen times in the 1920s in citizen rebellions).

¹⁵⁷ *See* Harrison, *supra* note 144 (describing incidents at the Alabama Gates and No Name Canyon, among others).

¹⁵⁸ *Id.*

¹⁵⁹ *Cf.* REISNER, *supra* note 97, at 95 (discussing public sympathy for Owens Valley farmers).

¹⁶⁰ Los Angeles Dep't of Water and Power, *A Legacy of Safe-Keeping*, INTAKE, Nov. 2013, at 53–54, available at <http://www.laaqueduct100.com/wp-content/uploads/LAA100Issue.pdf>.

¹⁶¹ Harrison, *supra* note 144; *see also* Louis Sahagun, *Los Angeles Aqueduct Bomber Reveals His Story*, L.A. TIMES, Oct. 30, 2013, available at <http://www.latimes.com/local/la-me-c1-aqueduct-bomber-20131030-dto-htmistory.html#axzz2jDMnv8W0> (describing the 1976 bombing of an aqueduct gate).

¹⁶² *See* Elson Trinidad, *A Self-Guided Tour of the Los Angeles Aqueduct*, KCET, Nov. 4, 2013, <http://www.kcet.org/news/redo/define/revisit/commentary/concrete-and-chaparral/a-self-guided-tour-of-the-los-angeles-aqueduct.html> (last visited Apr. 17, 2015) (describing water pumps surrounded by high chain link fences).

¹⁶³ *See* REISNER, *supra* note 97, at 100.

¹⁶⁴ *See* Sahagun, *supra* note 109.

¹⁶⁵ *See* Marith C. Reheis, *Dust Deposition Downwind of Owens (Dry) Lake, 1991–1994—Preliminary Findings*, 102 J. GEOPHYSICAL RES. (ATMOSPHERES) 25,999–26,008 (1997) (describing the post-aqueduct deposits of minerals accumulated in Owens Lake over thousands of years).

nothing to offer the people or the wildlife that once depended on it.¹⁶⁶ We now call it “Owens Dry Lake.”¹⁶⁷

Since then, the Owens Dry Lake wasteland has become an urgent problem for the valley, and not just because it is ugly and barren. The Owens Valley happens to rest at the base of the tallest mountain in the lower forty-eight states—the Sierra Nevada’s Mount Whitney, looming more than 10,000 feet above the valley floor at 14,500 feet above sea level.¹⁶⁸ Ferocious winds whip off the characteristically steep escarpment of the Eastern Sierra, picking up dust and salt from the bed of Owens Dry Lake and churning it into chronic regional dust storms.¹⁶⁹

Yet Owens Valley dust storms are more threatening than the average dust storm. To make matters even worse, this dust happens to be toxic.¹⁷⁰ The fine-particle alkali salts that compose the dust are so small that they pass through the membranes of the human respiratory system and are associated with asthma, other respiratory ailments, and even cancer.¹⁷¹ In fact, the Owens Valley has been regularly rated as the most polluted place in the country on the basis of particulates, continually violating Clean Air Act¹⁷² standards for ambient air quality.¹⁷³

The results of the aqueduct in the lower Owens Valley were truly tragic. Not only did it destroy the original farming communities, it made people sick. With no water, limited economic potential, and now elevated health risks, the Owens Valley stagnated.¹⁷⁴ Driving around these parts in the mid-1990s (with car windows rolled up) yielded sad sights amidst otherwise stunning vistas. In the worst hit areas, there were many abandoned structures, and few children. You might have seen a couple of older people

¹⁶⁶ REISNER, *supra* note 97, at 101; Kirk Siegler, *Owens Valley Salty as Los Angeles Water Battle Flows into Court*, NPR, Mar. 11, 2013, <http://www.npr.org/2013/03/11/173463688/owens-valley-salty-as-los-angeles-water-battle-flows-into-court> (last visited Apr. 17, 2015).

¹⁶⁷ See, e.g., Reheis, *supra* note 165 (describing Owens Lake in a dust disposition study as the “Owens (dry) Lake”).

¹⁶⁸ See Stewart Green, *Mount Whitney: Highest Mountain in California*, ABOUT.COM, <http://climbing.about.com/od/mountainclimbing/a/MtWhitneyFacts.htm> (last visited Apr. 17, 2015).

¹⁶⁹ MARITH REHEIS ET AL., POTENTIAL HEALTH HAZARDS OF OWENS LAKE DUST? (2003), available at http://esp.cr.usgs.gov/projects/sw/swdust/pdfs/toxic_dust_poster.pdf.

¹⁷⁰ *Id.* (“Mineral dusts from the desiccated playa of Owens Lake . . . contain elevated concentrations of many metals known to have toxic effects . . .”).

¹⁷¹ Sarah Kittle, Great Basin Unified Air Pollution Control District, *Survey of Reported Health Effects of Owens Lake Particulate Matter*, <http://www.gbuapcd.org/Information/OwensLakeParticulateMatterHealthEffects.htm> (last visited Apr. 17, 2015) (discussing studies that have found positive associations between particulate matter and lung cancer).

¹⁷² 42 U.S.C. §§ 7401–7671q (2012).

¹⁷³ U.S. Env’tl. Prot. Agency, *Owens Valley, CA Particulate Matter Plan*, <http://www.epa.gov/region9/air/owens/> (last visited Apr. 17, 2015) (describing Owens Lake as “the nation’s worst particulate air pollution problem”).

¹⁷⁴ Richard L. Forstall, U.S. Census, *California: Population of Counties by Decennial Census: 1900 to 1990* (Mar. 27, 1995) (showing population growth from 11,684 in 1960 to 18,281 in 1990), <http://www.census.gov/population/cencounts/ca190090.txt>; U.S. Census Bureau, *State and County QuickFacts: Inyo County*, <http://quickfacts.census.gov/qfd/states/06/06027.html> (last visited Apr. 17, 2015) (showing current population of 18,410).

unwilling to leave their abandoned towns, sitting vacantly on the porches of distressed homes that looked a lot like the empty ones next door.

In the late 1990s, Los Angeles began flooding more than 100 square miles of dry lake bed with billions of gallons of water to keep the dust from becoming airborne, responding to deep public concern over adverse health impacts, environmental litigation, and state and federal laws requiring better management of the air quality hazard.¹⁷⁵ In late 2014, the city reached an agreement with the Great Basin Unified Air Pollution Control District enabling it to manage the lakebed hazard with a new method that consumes far less water.¹⁷⁶ Under this agreement, tractors will till the moist lakebed to create basketball-sized dirt clods that can contain the toxic dust for years before breaking down, at which point the process will be repeated.¹⁷⁷

6. The St. Francis Dam

The devastation of the Owens Valley was not the only tragic chapter in the saga of the early days of the aqueduct. There was also the story of the St. Francis Dam.

To enable the aqueduct to deliver a steady flow of water to Los Angeles year round, engineers constructed a series of reservoirs along the aqueduct to store additional supply during the wet season, for gradual release during the dry season or other emergency circumstances.¹⁷⁸ When the aqueduct was first constructed, one such dam was built at San Francisquito Canyon,¹⁷⁹ a promising narrows located near the bottom of the aqueduct system, about forty miles north of Los Angeles near present day Santa Clarita.¹⁸⁰ A photo of the dam when it was completed in 1926 shows a sturdy, shining component of the overall miracle of modern engineering.¹⁸¹

Yet a photo of the same dam two years later shows nothing more than a single spire of concrete between gaping voids on either side, like a single front tooth in a baby's mouth.¹⁸² It took just a few hours for that transition to

¹⁷⁵ See Louis Sahagun, *New Dust-Busting Method Ends L.A.'s Longtime Feud with Owens Valley*, L.A. TIMES, Nov. 14, 2014, <http://www.latimes.com/science/la-me-1115-owens-20141115-story.html> (last visited Apr. 17, 2015) (describing new and former methods of containing lake bed dust).

¹⁷⁶ *Id.*

¹⁷⁷ *Id.* (noting that the new method saves enough water to supply 150,000 Los Angeles residents per year).

¹⁷⁸ See REISNER, *supra* note 97, at 61–62.

¹⁷⁹ *Id.* at 98. The St. Francis Dam was constructed in part to ensure supply if seismic activity along the San Andreas fault disrupted the aqueduct. See Kevin Roderick, *Dam Disaster Killed 450, Broke Mulholland*, L.A. TIMES, Oct. 12, 1999, <http://articles.latimes.com/1999/oct/12/local/me-21385>.

¹⁸⁰ See Michael E. Martinet, *Section 6: Flooding Hazards in the City of Downey*, in CITY OF DOWNEY NATURAL HAZARDS MITIGATION PLAN 11, Section VI (Emergency Planning Consultants ed. 2004), available at http://www.downeyca.org/_blobcache/0000/0002/2401.pdf (quoting a contemporaneous report of the disaster).

¹⁸¹ See Scott Harrison, *St. Francis Dam Collapse*, L.A. TIMES, Mar. 12, 2013, available at <http://framework.latimes.com/2013/03/12/st-francis-dam-collapse/#1>.

¹⁸² *Id.*

take place, in the dead of night. As news reports described this awful moment in California history, the dam gave way shortly after midnight on March 12, 1928:

[I]n an instant 38,000 acre feet, totaling 12,000,000,000 gallons, of stored water was rushing on its mad race to the sea. . . . What little warning there was of the wall of water that swept the floor of the valley was insufficient to give any of the inhabitants of the upper part of the canyon time to flee its fury. Caught in the swirl of the raging flood, the hundreds of ranch houses that once dotted the canyon were crushed like egg shells and their inhabitants in most instances swept to their doom.¹⁸³

Raging floodwaters swept through the Santa Clara Valley toward the Pacific for more than fifty miles, devastating some sixty-five miles of valley before reaching the ocean between Oxnard and Ventura.¹⁸⁴ The peak surge was estimated to be nearly eighty feet high.¹⁸⁵ When it reached Santa Paula, forty-two miles south of the dam, the water was estimated to be twenty-five feet deep.¹⁸⁶ Almost everything in its path was destroyed: ten bridges, twelve hundred homes, railways, power lines, orchards, and livestock.¹⁸⁷ The flood carried away entire towns, wreaking “unthinkable carnage” along the way.¹⁸⁸

By the time it was over, parts of Ventura County lay under seventy feet of mud and debris. Over 450 people were killed, including half the student body at a local elementary school, hundreds of Department of Water and Power workers sleeping in a nearby work camp, and many migrant farmworkers camping in the valley and swept out to sea.¹⁸⁹ Damages topped \$20 million at the time,¹⁹⁰ valued at well over \$250 million today.¹⁹¹ Even now, it is considered one of the worst civil engineering failures of American history.¹⁹²

The spectacular failure of the St. Francis Dam terrified Californians. Modern engineering suddenly seemed less miraculous, and more dangerous. Los Angelenos who had once celebrated William Mulholland turned against him, and he went from being a local celebrity to a pariah seemingly

¹⁸³ Special to the New York Times, *274 Perish, 700 Missing in Torrent Loosed by Bursting California Dam; Flood Engulfs Victims as They Sleep*, N.Y. TIMES, Mar. 14, 1928, at 1. Note that this article appears to misstate the date of the incident as March 13, 1928, and most other sources report the date as March 12, 1928. See, e.g., Martinet, *supra* note 180; Harrison, *supra* note 181; Roderick, *supra* note 179.

¹⁸⁴ See Roderick, *supra* note 179.

¹⁸⁵ *Id.* (describing a wall of water ten stories high).

¹⁸⁶ See Martinet, *supra* note 180 (quoting a contemporaneous report of the disaster).

¹⁸⁷ See *id.*; Harrison, *supra* note 181; Roderick, *supra* note 179 (describing the devastation).

¹⁸⁸ See Roderick, *supra* note 179.

¹⁸⁹ *Id.*

¹⁹⁰ Jan Silver Maguire, *Water Triumphs and Tragedies*, 77 AQUEDUCT MAG. (2006), available at http://www.mwdh2o.com/Aqueduct/may_06/article_03_01.html.

¹⁹¹ The actual figure in 2015 U.S. dollars is \$273,341,520. See Consumer Price Index Inflation Calculator, <http://data.bls.gov/cgi-bin/cpicalc.pl> (last visited Apr. 17, 2015).

¹⁹² See Roderick, *supra* note 179.

overnight.¹⁹³ The surrounding community rebuilt and eventually removed all evidence of the dam, as though hoping to erase the memory of the horror that had unfolded there.¹⁹⁴ Today, if you try to seek out where the dam had been, you can't really find it; there is only an ordinary canyon, rich with greenery, and not even a memorial.¹⁹⁵

But in the late 1920s, even as public sentiment turned against Mulholland, Los Angelenos still coveted the water he had brought them.¹⁹⁶ In the 1930s, as the city's thirst continued to grow, engineers continued to look to other remote sources. And there in the distance—just another hundred miles north of the Owens River headwaters and an additional 2,000 feet up—was the Mono Lake Basin.

C. The 1940s: The Mono Basin Extension

Mono Lake lies in a high desert basin just east of the Sierra crest—the peaks of the mountains that divide Yosemite National Park on the west from the Mono Basin and the Inyo National Forest on the east.¹⁹⁷ Mono Lake is the eastern watershed of the Yosemite highlands, draining the eastern flanks of mountains that rise up to 14,000 feet into the air and then plunge more than 7,000 feet to their eastern base.¹⁹⁸ Surrounded by mountains in three of four directions, it is a staggeringly beautiful and occasionally otherworldly place—pierced by volcanic islands and geothermal activity, and adorned with limestone towers of tufa that grow where calcium-rich underground springs meet the carbonate-rich waters of the lake.¹⁹⁹

At around seventy square miles in surface area, Mono Lake itself is almost twice the size of the County of San Francisco—more of an inland sea than a lake.²⁰⁰ It averages about fifty feet deep but runs as deep as 159 feet

¹⁹³ See REISNER, *supra* note 97, at 99–100 (describing the decline of Mulholland's reputation).

¹⁹⁴ See Hadley Meares, *The Flood: St. Francis Dam Disaster, William Mulholland, and the Causalities of L.A. Imperialism*, KCET, July 26, 2013, <http://www.kcet.org/social/departures/columns/lost-landmarks/the-flood-st-francis-dam-disaster-william-mulholland-and-the-casualties-of-la-imperialism.html> (last visited Apr. 17, 2015).

¹⁹⁵ A former student of mine who grew up near the former dam site told me that she was baffled by the lack of local lore and remembrances about the disaster, noting that there was a small plaque somewhere in town mentioning what had happened, but nothing at the actual site of the disaster. See also Meares, *supra* note 194 (“We were passing the former site of the St. Francis Dam, but we couldn't tell where it had been, so effective had nature been in reclaiming its land.”).

¹⁹⁶ See REISNER, *supra* note 97, at 100–01.

¹⁹⁷ U.S. Forest Serv., U.S. Dep't of Agric., *Mono Basin National Forest Scenic Area*, <http://www.fs.usda.gov/detail/inyo/specialplaces/?cid=stelprdb5129903> (last visited Apr. 17, 2015).

¹⁹⁸ See JOHN HART, *STORM OVER MONO: THE MONO LAKE BATTLE AND THE CALIFORNIA WATER FUTURE* 5–7 (1996).

¹⁹⁹ See generally Mono Lake Comm., *Quick Facts*, <http://www.monolake.org/about/stats> [hereinafter *Mono Lake Facts*] (last visited Apr. 17, 2015) (listing attributes and statistics about Mono Lake); see HART, *supra* note 198, at 20–21 (describing the formation of tufa).

²⁰⁰ Compare *Mono Lake Facts*, *supra* note 199 (noting Mono Lake's surface area is 45,133 acres, or 70.5 square miles), with U.S. Census Bureau, *San Francisco County, California*,

where its western shores approach the Sierra.²⁰¹ Like Owens Lake, Mono is a saltwater terminal lake, collecting snowmelt from the five freshwater creeks that flow into the basin, carrying trace elements that are left behind as water evaporates off the surface. Unlike Owens Lake, whose geological age could be counted in thousands of years, Mono Lake is estimated to be between one and three million years old, competing with Lake Tahoe as perhaps the oldest continuous lake in North America.²⁰²

The accumulation of those chlorides, carbonates, and sulfates over millions of years have made Mono Lake almost three times saltier than the ocean, and nearly as saline as parts of the Great Salt Lake in Utah.²⁰³ The water is so alkaline that fish cannot survive there.²⁰⁴ Nevertheless, the lake is home to a thriving ecosystem based on a unique species of brine shrimp and the alkali fly that breeds at its shores, a dietary staple of the Kutzadika'a Paiute Indians that still live there.²⁰⁵ Mark Twain didn't care much for the place, referring to it disparagingly as the Dead Sea of California.²⁰⁶ But most who live, work, or visit there consider Mono Lake a very special place, because of its rugged natural beauty, its unique ecosystem, the unusual scientific research conducted there, and the local cultures and communities that have lived beside it over history.

1. *The Mono Lake Ecosystem*

The basis of the simple Mono Lake ecosystem is the algae in the lake, which support both the alkali fly and the brine shrimp that, in turn, support the rest of the food chain.²⁰⁷ The species of brine shrimp in the lake are unique to Mono Lake, and they are rather small—no bigger than the size of a clipped fingernail.²⁰⁸ However, there are estimated to be as many as three to four trillion of them in the lake.²⁰⁹ If I were to scoop a coffee cup of water out

<http://quickfacts.census.gov/qfd/states/06/06075.html> (last visited Apr. 17, 2015) (noting San Francisco County's land area is 46.87 square miles).

²⁰¹ *Mono Lake Facts*, *supra* note 199.

²⁰² See HART, *supra* note 198, at 8–10 (describing Mono Lake's geological history over millions of years); Tahoe Fund, *Lake Tahoe Fast Facts*, <http://www.tahoefund.org/about-tahoe/recreational-paradise/> (last visited Apr. 17, 2015) ("Tahoe is considered an ancient lake and is counted among the 20 oldest lakes in the world.").

²⁰³ See HART, *supra* note 198, at 14 (listing Mono Lake as three times saltier than the ocean); Univ. of Utah, *Physical Characteristics of Great Salt Lake*, http://learn.genetics.utah.edu/content/gsl/physical_char/ (last visited Apr. 17, 2015) (describing the Great Salt Lake as 3.5 times saltier than the ocean).

²⁰⁴ See HART, *supra* note 19798, at 16.

²⁰⁵ *Mono Lake*, 658 P.2d 709, 711 (Cal. 1983); Mono Lake Comm., *Brine Shrimp: Mono Lake's Unique Species*, <http://www.monolake.org/about/ecoshrimp> [hereinafter *Mono Lake Brine Shrimp*] (last visited Apr. 17, 2015); *Mono Lake Facts*, *supra* note 199; Mono Lake Comm., *Kutzadika'a People: Living in Harmony with the Mono Basin*, <http://www.monolake.org/about/kutzadikaa> (last visited Apr. 17, 2015).

²⁰⁶ MARK TWAIN, ROUGHING IT 243, 245 (Harriet Elinor Smith & Edgar Marquess Branch eds., 3d ed. 2011).

²⁰⁷ *Mono Lake*, 658 P.2d at 711; *Mono Lake Facts*, *supra* note 199.

²⁰⁸ *Mono Lake Brine Shrimp*, *supra* note 205.

²⁰⁹ *Id.*

of the lake—as I did every day on countless South Tufa tours as a Mono Lake ranger with the Forest Service—I could have ten or twenty in my cup. From the perspective of a hungry bird, Mono Lake is a big bowl of shrimp soup.

For that reason, Mono Lake holds an even more important position along the Pacific Flyway than Owens Lake held. Birds arriving from as far north as the Arctic Circle en route to points as far south as the tip of Argentina use Mono Lake as a critical resting place to gorge their body weights back up to full strength before resuming their journeys over the vast desert.²¹⁰ Hundreds of species of migratory birds visit the lake regularly, including flocks of grebes, phalaropes, plovers, and sandpipers that occasionally constitute substantial percentages of their world populations.²¹¹ Mono Lake is also a primary world breeding ground for California gulls, providing a first home to more than eighty-five percent of the state's population.²¹² Year after year, they return to breed on Negit Island, the small black cindercone in the middle of the lake, where they are safe from predation by coyotes and other local predators reluctant to swim in Mono's punishingly alkaline waters.²¹³

In fact, Negit and Paoha, the white island beside it, are the newest members of the youngest volcanic range in North America, the Mono Craters.²¹⁴ Reaching as high as 9,000 feet, the Mono Craters extend from the south shore of the lake, through the islands in the middle, all the way to Black Point, a long-exposed underwater volcano that bites into the lake's northwest shore.²¹⁵ Paoha heaved above the surface of the lake without exploding only three hundred years ago, and hot springs and fumaroles continue to mark its cracked, lakebed surface.²¹⁶ Mono Lake has been a destination for scientific research into underwater volcanism because it is safer and easier to explore than some of the more active underwater volcanoes in Hawaii.²¹⁷

More recently, Mono Lake briefly made international scientific news in 2010, when NASA scientists announced that they had discovered the first

²¹⁰ Kevin Neal, TED Case Studies, *The Los Angeles Aqueduct and the Owens and Mono Lakes (MONO Case)*, <http://www1.american.edu/ted/mono.htm> (last visited Apr. 17, 2015) (explaining Mono Lake's importance to migratory bird routes from the Arctic Circle to South America); Mono Lake Comm., *Birds of the Basin: The Migratory Millions of Mono*, <http://www.monolake.org/about/ecobirds> [hereinafter *Mono Lake Bird Facts*] (last visited Apr. 17, 2015).

²¹¹ *Mono Lake Facts*, *supra* note 199; *Mono Lake Bird Facts*, *supra* note 210.

²¹² *Mono Lake Facts*, *supra* note 199.

²¹³ *Id.*; *Mono Lake Bird Facts*, *supra* note 210; *see also* HART, *supra* note 198, at 16–17.

²¹⁴ Renee Murdock, *Mono Basin Volcanism*, <http://www.indiana.edu/~sierra/papers/2004/murdock.html> (last visited Apr. 17, 2015).

²¹⁵ Mono Lake Comm., *Volcanic History: Evidence of Recent Eruptions*, <http://www.monolake.org/about/geovolcanic> (last visited Apr. 17, 2015); *see also* HART, *supra* note 198, at 13–14.

²¹⁶ Lucas Hatcher, *The Geology and Biology of Mono Lake*, <http://www.indiana.edu/~sierra/papers/2013/hatcher.html> (last visited Apr. 17, 2015).

²¹⁷ *See, e.g.*, Mono Basin Clearinghouse, *Current Mono Lake Research*, <http://www.monobasinresearch.org/research/index.php> (last visited Apr. 17, 2015) (listing ongoing scientific studies in the Mono Basin).

species of life on earth that exchanged arsenic for phosphorous in its chemical profile.²¹⁸ These scientists had been studying bacteria from the bottom of Mono Lake as part of a research effort to imagine how life might evolve on other planets.²¹⁹ Their discovery of the Mono Lake GFAJ-1 arsenic bacteria was an initially exciting development, indicating that life in stressed environments might make creative use of a normally poisonous element as a basic chemical building block.²²⁰ However, later research failed to replicate these findings,²²¹ and the scientific implications of Mono Lake's unique chemistry remain unresolved.

The five Mono Basin creeks are themselves an important part of the local ecology, providing rich regional fisheries, critical riparian habitat in an otherwise high desert environment, and irreplaceable cultural and sustenance values for the local people.²²²

2. Cultural History and the Modern Economy

Mono Lake's fascinating natural history is coupled with its compelling cultural history. It is the ancestral homeland to a branch of the Paiute Native American tribe known as the Kutzadika'a.²²³ It had been a supply station for the nearby ghost town of Bodie, one of California's largest boom towns during the mid-nineteenth century gold rush.²²⁴ And it remains an international tourist destination for nature enthusiasts visiting the lake itself, Yosemite National Park and the Sierra wilderness areas to the west, Mammoth Mountain and the Long Valley Caldera to the south, Lake Tahoe and Reno to the north, and the Great Basin desert to the east.²²⁵

Today, most of the people who call the Mono Basin home live in the tiny town of Lee Vining, nestled at 6,781 feet alongside the western shore of the lake at the base of the Inyo—Sierra Crest.²²⁶ With the three mountain passes leading into the town from the north, west, and south closed more

²¹⁸ Nat'l Aeronautics and Space Admin., *Discovery of "Arsenic-Bug" Expands Definition of Life*, NASA SCIENCE NEWS, Dec. 2, 2010, http://science.nasa.gov/science-news/science-at-nasa/2010/02dec_monolake/ (last visited Apr. 17, 2015).

²¹⁹ *See id.*

²²⁰ *Id.*

²²¹ Richard A. Lovett, *Arsenic-Life Discovery Debunked—But "Alien" Organism Still Odd*, NAT'L GEOGRAPHIC NEWS, July 9, 2012, <http://news.nationalgeographic.com/news/2012/07/120709-arsenic-space-nasa-science-felisa-wolfe-simon/> (last visited Apr. 17, 2015).

²²² Mono Basin Clearinghouse, *Mono Basin Creeks: Rush, Parker, Walker, Lee Vining, Mill*, <http://www.monobasinresearch.org/timelines/streams.php> (last visited Apr. 17, 2015).

²²³ HART, *supra* note 198, at 22–24 (describing the traditional lifestyle and culture of the Kutzadika'a).

²²⁴ *Id.* at 24–25.

²²⁵ *See, e.g.*, Robert Reid, *Top 10 US Travel Destinations for 2013*, LONELY PLANET, Dec. 25, 2012, <http://www.lonelyplanet.com/north-america/travel-tips-and-articles/77583> (last visited Apr. 17, 2015) (describing points of interest in the Eastern Sierra region of California); *see also Mammoth Facts: Town of Mammoth Lakes Fact Sheet*, <http://www.visitmammoth.com/groups-meetings/mammoth-facts/> (last visited Apr. 17, 2015) (noting the nearby town of Mammoth Lakes receives an average of 2.8 million visitors every year).

²²⁶ *See Lee Vining, California*, <http://www.city-data.com/city/Lee-Vining-California.html> (last visited Apr. 17, 2015).

than half the year, only 315 people made it their year-round home when I lived there in the mid-1990s. When the local 1950s-style burger stand in the center of town, the “Mono Cone,” opened for business at the start of the summer season, it was the equivalent of a local holiday.

There are limited economic opportunities in the Mono Basin; the holy grail of Lee Vining residence is a year-round job with benefits (rather than, say, a seasonal job with the June and Mammoth Lake ski resorts in towns further south), and they were few and far between when I lived there. As in most towns, Lee Vining residents work for the public schools, the local electric utility, the state highway department, one or two small stores and restaurants, and a few gas stations and hotels. Other employment comes from the three primary sources of local industry, all drawing on the bounty of unique natural resources in the area.

The first source of industry is the local volcanic range. The Mono Craters are a rich source of pumice—a commercially valuable lightweight volcanic rock used in landscaping, gardens, and foot stones—and there is a productive pumice mine to the south of Mono Lake.²²⁷ There is also a brine shrimp processing plant on the west side of the lake, which harvests Mono Lake brine shrimp as commercial fish food.²²⁸ In the days of the gold rush, the Jeffrey Pine forests southeast of the Mono Lake were harvested for timber to build Bodie, and the lake was used to transport building materials.²²⁹ There are still one or two sheep ranches in the area.

Today, however, the largest regional industry is provided by the national and state public lands in the area, which draw hundreds of thousands of visitors from all around the world.²³⁰ Most of the area has been designated for protection within the Inyo National Forest as the Mono Basin National Forest Scenic Area, the first National Forest lands set aside by Congress with a conservation management directive.²³¹ Since then, several others have been designated, including the Columbia River Gorge National Forest Scenic Area in Oregon.²³² Parts of the basin have also been set aside as the Mono Lake Tufa Reserve, a California State Park.²³³ Mono County maintains a municipal park on the north shore of the lake, and other basin

²²⁷ See U.S. Bureau of Land Mgmt. *Map of Mono Basin*, available at http://www.blm.gov/style/medialib/blm/ca/pdf/bakersfield/geology.Par.25066.File.dat/ovm07_geology_maps.pdf.

²²⁸ *Mono Lake*, 658 P.2d 709, 719 (Cal. 1983); High Sierra Brine Shrimp Co., *High Sierra Brine Shrimp*, <http://www.hsbrineshrimp.com/> (last visited Apr. 17, 2015) (advertising as “the world’s only supplier of Mono Lake brine shrimp . . . products”).

²²⁹ HART, *supra* note 198, at 24–25 (describing the construction of Bodie).

²³⁰ See Peter Fimrite, *Mono Lake Efforts May Be Undone by Park Closures*, SF GATE, July 24, 2011, <http://www.sfgate.com/green/article/Mono-Lake-efforts-may-be-undone-by-park-closures-2353453.php> (last visited Apr. 17, 2015) (describing Lee Vining as a “community that relies on the 271,000 annual visitors who come to the area solely because of [Mono Lake]”).

²³¹ See 16 U.S.C. § 543 (2012).

²³² U.S. GEN. ACCOUNTING OFFICE, NATIONAL FORESTS: SPECIAL RECREATION AREAS NOT MEETING ESTABLISHED OBJECTIVES 9 (1990), available at <http://www.gao.gov/assets/150/148579.pdf>.

²³³ Cal. Dep’t of Parks & Recreation, *Mono Lake Tufa State Natural Reserve*, http://www.parks.ca.gov/?page_id=514 (last visited Apr. 17, 2015).

lands are separately conserved by private parties.²³⁴ Visitors to the area hike, fish, camp, canoe, climb, ski, bird watch, photograph, and otherwise enjoy the ample natural amenities—and seasonally fill the local restaurants, hotels, and shops.²³⁵

The Mono Basin is well-loved by naturalists, scientists, recreationalists, local tribes, other local residents, and visitors from around the world. For these reasons, the Mono Basin was once considered for designation within the National Park Service as a National Monument or an annex to Yosemite, but the idea could not survive local opposition because it would have required the discontinuation of all commercial extraction, including the local pumice mine and brine shrimp plant.²³⁶ Even so, I was unofficially told, Yosemite Park managers still itch to acquire Lee Vining Canyon—the beautiful passageway along Highway 120 that dives from the eastern tip of Yosemite over Tioga Pass at 10,000 feet, and then extends nail-bitingly along granite cliffs past alpine Saddlebag and Ellery lakes, unfolding into the rolling meadows and canyons of the upper Mono Basin glacial moraines.²³⁷

3. *Acquiring the Mono Basin Water Rights*

It was into this setting that Los Angeles arrived in the 1930s, looking to expand supply for the Aqueduct. The freshwater creeks of the Mono Basin would provide ample supply and, like the Owens Valley, all by gravity-powered conveyance. Indeed, the Mono Basin lies at an even higher elevation than the Owens Valley, with corresponding advantages. As an added benefit, it was estimated that diverting the Mono creeks through the Owens River Gorge would enable the city to generate some 268 million kilowatt hours of power annually—more than offsetting the 186 million kilowatt hours it would ultimately take to bring water to the city from the Colorado River each year.²³⁸ With all this in mind, the city concluded that it should acquire rights to divert from Mono Lake's feeder creeks, just as it had done to acquire the waters of Owens River—but this time, Los Angeles took a different approach.

In many respects, this was an easier project. Most of the flow in the freshwater Mono Basin creeks had never been privately appropriated,²³⁹ so

²³⁴ HART, *supra* note 198, at 7; *see also* Press Release, Eastern Sierra Land Trust, Permanent Protection of Mono Lake Scenic Vista Draws Applause (July 26, 2008), *available at* <http://www.eslt.org/Pages/Newsroom2008.htm> (describing the donation of a 480-acre conservation easement in Mono Basin).

²³⁵ Mono Lake Comm., *Things to Do: Spending Your Time in the Mono Basin*, <http://www.monolake.org/visit/activities> (last visited Apr. 17, 2015).

²³⁶ *See* HART, *supra* note 198, at 92 (discussing efforts to designate the Mono Basin as a National Monument); *see also* author communications with U.S. Forest Service supervisors (1996-1998).

²³⁷ Author communications with U.S. Forest Service supervisors (1996-1998).

²³⁸ GARY LIBECAP, OWENS VALLEY REVISITED: A REASSESSMENT OF THE WEST'S FIRST GREAT WATER TRANSFER 133 (2007).

²³⁹ *See Mono Lake*, 658 P.2d 709, 711 (Cal. 1983) (explaining that the five freshwater streams had historically been Mono Lake's main source of water prior to being appropriated by the city's Department of Water and Power).

from the perspective of California water allocation law, it was there for Los Angeles's taking. The traditional approach assigned no protectable rights to instream flows, so the fact that this snowmelt had long been preserving the Mono Lake ecosystem had no legal force under the doctrine of prior appropriations.²⁴⁰

In addition, the Mono Basin was never as developed as the Owens Valley had been, so there were fewer prior rights holders to contend with. Most pre-existing claims were riparian rights associated with adjacent real property, so the city simply sought to purchase the land.²⁴¹ The aqueduct had now been operating for decades, so there was neither mystery nor chicanery about the process. When Los Angeles came looking for land and water rights in the Mono Basin, nobody pretended to be a farmer. Instead, the city simply offered to buy riparian land and water rights, underscored by an open threat of condemnation if offers were refused.²⁴² In fact, most owners sold willingly, although a few holdouts had to concede or lower their asking prices after the city brought consolidated eminent domain proceedings against all Basin landowners.²⁴³

Nevertheless, creating the Mono Basin Extension introduced one new challenge. California water law had developed over the intervening decades, so this time, Los Angeles had to do more to secure its rights before it could begin withdrawals. In 1913, California enacted the Water Commission Act, which required permits for all newly asserted rights to unappropriated waters and all transfers of previously acquired water rights.²⁴⁴ All rights acquired before 1914 were grandfathered into the system, and as Los Angeles had secured rights to Owens Valley water before the Los Angeles Aqueduct opened in 1913, it had avoided the formal permitting process.²⁴⁵

However, the law now required Los Angeles to establish its rights to previously unappropriated Mono Basin waters by permit.²⁴⁶ It also needed permits to transfer the pre-existing rights it acquired for new, out-of-basin purposes.²⁴⁷ Under the appropriative system, a user can't just take existing water rights and do something wholly different with them—creating new

²⁴⁰ See *supra* notes 79–86, 90–92 and accompanying text (discussing the law of prior appropriations).

²⁴¹ See HART, *supra* note 198, at 39–40 (describing how Los Angeles acquired land and water rights); see also *City of Los Angeles v. Aitken*, 52 P.2d 585 (1935) (litigating just compensation for the related condemnation of Mono Basin property).

²⁴² HART, *supra* note 198, at 38–39; see also Andrew H. Sawyer, *Changing Landscape and Evolving Law: Lessons from Mono Lake on Takings and the Public Trust*, 50 OKLA. L. REV. 311, 323–24 (1997) (describing methods of water rights acquisition by the Los Angeles Department of Water and Power).

²⁴³ *Los Angeles v. Aitken*, 52 P.2d at 585 (consolidated condemnation proceedings for Mono Basin property); see also LIBECAP, *supra* note 238, at 133–34 (describing the *Aitken* litigation).

²⁴⁴ See Brian E. Gray, *The Modern Era in California Water Law*, 45 HASTINGS L.J. 249, 273–75 (1994).

²⁴⁵ *Id.* at 274–75.

²⁴⁶ See William R. Attwater & James Markle, *Overview of California Water Rights and Water Quality Law*, 19 PAC. L.J. 957, 972–73 (1988) (noting that the Water Commission Act required permits to establish new rights in previously unappropriated water).

²⁴⁷ See *id.*

patterns of return flow and other potentially negative impacts on downstream riparians and appropriators.²⁴⁸ The California Water Resources Control Board (Water Board) must first verify that the new purpose is an eligible beneficial use, and then it has to figure out where the appropriation will lie in the chain of temporal priority.²⁴⁹

When Los Angeles had acquired all the necessary rights from previous owners and sought permission from the state to begin diverting water to the aqueduct, the Water Board was openly troubled about the decision.²⁵⁰ Agency personnel worried aloud about the impacts these exports would have on the local community and environment.²⁵¹ They recalled what had happened to the Owens Valley. They knew what similar diversions would mean for the Mono Basin, and it clearly alarmed them. They had no desire to be responsible for turning Mono Lake into another Owen's Dry Lake. Yet they determined that their hands were effectively tied by California water law.²⁵²

California water policy made clear that the task of the agency was to ensure that water was put to beneficial use,²⁵³ and domestic and municipal uses by state residents are the highest of all beneficial uses.²⁵⁴ "[T]here is apparently nothing that this office can do to prevent it," lamented agency staff.²⁵⁵ Los Angeles was among the state's largest and most economically important cities,²⁵⁶ and it sought this water for the most beneficial possible uses. "This office therefore has no alternative but to dismiss all protests based upon the possible lowering of the water level in Mono Lake," they reluctantly reasoned.²⁵⁷ In 1940, the permits were granted.²⁵⁸

With that permission, the Los Angeles Aqueduct formally reached the Mono Basin.²⁵⁹ It intercepted four of Mono's five feeder creeks and shunted their water south into the upper Owens River, where it could continue through the established pathway to Los Angeles.²⁶⁰ A new reservoir, Crowley

²⁴⁸ See *supra* notes 79–86, 90–92 and accompanying text (discussing the law of prior appropriations).

²⁴⁹ *Id.*

²⁵⁰ See *Mono Lake*, 658 P.2d 709, 713–14 (Cal. 1983) (discussing the 1940 Water Board decision, which found that "it had to grant the application notwithstanding the harm to public trust uses of Mono Lake").

²⁵¹ *Id.* at 714.

²⁵² See *id.* at 713–14 (discussing the Water Board's findings that it was required to prioritize domestic use above all others).

²⁵³ CAL. CONST. art. X, § 2. ("[T]he general welfare requires that the water resources of the State be put to beneficial use to the fullest extent of which they are capable . . .").

²⁵⁴ See *Mono Lake*, 658 P.2d at 713–14.

²⁵⁵ *Id.* at 714.

²⁵⁶ See HART, *supra* note 198, at 31; see also Koehler, *supra* note 94, at 560–61 (describing Los Angeles's potential for growth and success as a prime acquirer of land and water rights of the Mono Basin).

²⁵⁷ *Mono Lake*, 658 P.2d at 714.

²⁵⁸ *Id.* at 711.

²⁵⁹ *Id.* (describing how Mono Lake receives water from its feeder streams, of which four out of five were appropriated by Los Angeles).

²⁶⁰ *Id.* at 711, 713.

Lake, was built just north of where the Owens River passes through the elongated canyon of the Owens River Gorge.²⁶¹

There were additional engineering complications to overcome—most notably, the Mono Crater volcanic range that extended south from Mono Lake along the path the water would take to reach Crowley. To complete the aqueduct, engineers had to tunnel through eleven miles of dormant volcanoes, and the local lore is that the project had lost a man per mile as workers encountered steam vents and toxic gases—just another indication of how valuable this water was considered to be.²⁶² So valuable, in fact, that thirty years later, they built a second aqueduct.

4. 1970: The Second Barrel

As demand for water in Los Angeles continued to grow, the city realized that it could export even more water from the Mono Basin, if only the system could be modified to accommodate additional flow.²⁶³ To make that happen, DWP essentially built a second aqueduct.²⁶⁴ The second barrel increased the capacity of the original system by roughly fifty percent, laying an additional, parallel channel where needed to accommodate increased flow.²⁶⁵ Following the logic of the original 1940 permits, the Water Board affirmed permission for the additional exports in 1970.²⁶⁶ By this time, Los Angeles was importing about 100,000 acre-feet per year from the Mono Basin, or roughly twelve percent of its total water supply—supplemented by the California and Colorado River aqueducts that were now in place.²⁶⁷

Mono Lake had already been slowly deteriorating during the first twenty-five years after the Los Angeles Aqueduct arrived.²⁶⁸ In 1962, ten years before the second barrel was put in, the lake had already lost nearly twenty-five vertical feet.²⁶⁹ A famous set of limestone towers known as the “Benchmark Tufa” illustrated the decline: they had been fully submerged before diversions began in the 1940s, but they were several feet above the new water line in 1962, and they were standing fully exposed in 1968 at the edge of the lakeshore, some six feet high.²⁷⁰

After the second barrel went in, almost no water reached the lake from its major tributaries, and Mono Lake’s decline accelerated dramatically. Ten years after the second barrel, the lake had lost nearly forty-five vertical

²⁶¹ See HART, *supra* note 198, at 34, 42, 137 (discussing the creation of Crowley Lake, also known as the “Long Valley reservoir”).

²⁶² *Id.* at 43 (discussing the tunnel); TIMOTHY TIERNEY, GEOLOGY OF THE MONO BASIN 51 (2d ed. 2000) (noting the eleven deaths).

²⁶³ HART, *supra* note 198, at 56.

²⁶⁴ *Id.* at 56–57.

²⁶⁵ *Mono Lake*, 658 P.2d 709, 714 (Cal. 1983).

²⁶⁶ Decision 1631, *supra* note 8, at 86.

²⁶⁷ *Id.* (“Annual Mono Basin exports increased to an average of 102,000 acre-feet per year through 1981 . . .”); *Mono Lake*, 658 P.2d at 714; see also HART, *supra* note 198, at 76.

²⁶⁸ See HART, *supra* note 198, at 49.

²⁶⁹ See *id.* at 49, 51.

²⁷⁰ *Id.* at 50–51.

feet,²⁷¹ and half its pre-diversion volume.²⁷² The drop in the lake level exposed about 18,000 acres of lake bed.²⁷³ By 1995, the Benchmark Tufa stood sun-bleached and bone dry, more than a mile from the shore.²⁷⁴

The falling water level devastated Mono Lake's ecology. The lake was losing volume to unreplenished surface evaporation, but evaporation leaves the saline mineral content behind. As a result, when the volume of the lake was halved, its salinity doubled. When the salinity doubled, the simple Mono Lake ecosystem began to unravel.

There were biological impacts to the shrimp, and their reproduction rates slowed.²⁷⁵ As the shrimp population declined, there were corresponding effects on the migratory bird populations that depended on the shrimp for survival along their thousand-mile journeys.²⁷⁶ In addition, as the water level fell, Negit island—the small black volcano where the California Gulls came to breed²⁷⁷—became bridged to the land.²⁷⁸ Gull populations were devastated as local coyotes gorged on the eggs and chicks that were no longer sheltered from predation—notwithstanding two failed attempts by the National Guard to breach the land bridge with dynamite.²⁷⁹ Meanwhile, the freshwater creeks below the diversion points were completely desiccated, destroying riparian habitat and devastating local fisheries.²⁸⁰

Moreover, as the lake dramatically shrunk in size, the exposed lakebed contained the same toxic alkali dust that had poisoned the Owens Valley when the Owens Dry Lakebed was exposed.²⁸¹ Satellite photos from 1968 show a pronounced ring of white, exposed alkali flats encircling the lake like a ring of bathtub soap scum—a ring that appeared to double in size by 1983, after the second barrel had gone in.²⁸² Like Owens Lake, Mono Lake sits at the base of a dramatic 10,000-foot escarpment along the Eastern Sierra, where high winds ricochet off the mountainsides and churn exposed salts into airborne, cancer-causing dust storms. Pollution hadn't yet reached the critical levels recorded in the Owens Valley, but Mono is so much more saline than Owens that the potential public health implications were

²⁷¹ *Id.* at 58; *Mono Lake*, 658 P.2d at 714.

²⁷² *See Mono Lake Facts*, *supra* note 199 (listing the volume of Mono Lake at its highest and lowest levels).

²⁷³ Decision 1631, *supra* note 8, at 5 (“The surface area of the lake declined from 54,924 acres in 1941 to approximately 37,688 acres in 1982.”); *see also Mono Lake*, 658 P.2d at 716.

²⁷⁴ *See* Andrew Ford, *Mono Basin: Tufa*, <http://public.wsu.edu/~forda/tufa1.html> (last visited Apr. 17, 2015) (showing a photograph of Professor Ford kneeling at the tufa in 1995, with the shores of Mono Lake visible in the background of the photograph).

²⁷⁵ *See* HART, *supra* note 198, at 69 (discussing shrimp reproductive issues).

²⁷⁶ *Id.* at 70.

²⁷⁷ *Mono Lake*, 658 P.2d at 716.

²⁷⁸ *Id.*

²⁷⁹ *See* HART, *supra* note 198, at 72, 88 (describing attempts to breach the Negit land bridge in 1978 and 1979).

²⁸⁰ *Id.* at 54–56 (describing effects on the feeder streams).

²⁸¹ *See id.* at 52–54 (describing the alkali band buildup and increase in toxic dust storms).

²⁸² *See* Maggie's Notebook, *NASA's Creature at Bottom of Mono Lake: Remnants of Previous Earth Inhabitants?*, <http://www.maggiesnotebook.com/2010/12/nasas-creature-at-bottom-of-mono-lake-remnants-of-previous-earth-inhabitants/> (last visited Apr. 17, 2015).

concerning.²⁸³ As it was, the Mono Basin National Forest Scenic Area—established by Congress for its extraordinary scenic, ecological, and recreational values—was periodically violating Clean Air Act particulate standards.²⁸⁴

5. The Coalition of Resistance

As environmental devastation in the Mono Basin gathered speed, local resistance gathered force. Residents feared both for their health and for their livelihoods, as water exports eroded the lake at the center of their public lands-based tourist economy. Students and scientists who studied the unique geologic and biological resources in the area raised the alarm of impending ecologic collapse.²⁸⁵

In 1976, Stanford biologist David Gaines oversaw a student research project by David Winkler about the effects of Los Angeles's diversions on Mono Lake,²⁸⁶ which galvanized the growing opposition.²⁸⁷ If Los Angeles continued to export 100,000 acre-feet per year from the Mono Basin creeks, the lake was predicted to lose another forty-three vertical feet and twenty square miles of surface area over the next eighty to one hundred years.²⁸⁸ Forecasters predicted that it would eventually reach equilibrium as a lifeless, hypersaline sump at the center of the vast and toxic salt plains of the formerly submerged lakebed.²⁸⁹

A coalition of local residents, nature lovers, environmental advocates, scientists, legal experts, and government agencies coalesced around the idea that something had to be done.²⁹⁰ In 1978, with help from the Santa Monica Bay Audubon Society, David Gaines organized the Mono Lake Committee, a local grassroots organization committed to saving Mono Lake.²⁹¹ David and his wife, Sally Gaines, traveled the state raising awareness about the Mono

²⁸³ Blumm & Schwartz, *supra* note 3, at 704–05 (describing Mono Lake's unique level of salinity).

²⁸⁴ HART, *supra* note 198, at 154–55.

²⁸⁵ *Id.* at 61–63 (describing how scientists of various fields demonstrated concern for Mono Lake).

²⁸⁶ MONO BASIN RESEARCH GRP., AN ECOLOGICAL STUDY OF MONO LAKE, CALIFORNIA (David W. Winkler ed., 1977), available at <http://www.monobasinresearch.org/online-reports/1976study/ecologicalstudyofmonolake.pdf>.

²⁸⁷ See Mono Lake Comm., *History of the Mono Lake Committee*, <http://www.monolake.org/mlc/history> (last visited Apr. 17, 2015) [hereinafter *MLC History*] (“[The] report drew attention to the potentially catastrophic ecological impacts of Mono Lake's falling level . . .”).

²⁸⁸ *Mono Lake*, 658 P.2d 709, 715 (Cal. 1983).

²⁸⁹ See *id.* (noting that forecasters predicted the lake would stabilize at 6,330 feet, with a surface area of approximately 38 square miles).

²⁹⁰ For the most thorough historical account of scientific, political, and legal advocacy at Mono Lake, see generally HART, *supra* note 198. For a discussion of the different advocates on the eve of litigation, see *id.* at 61–83. For a description of the legal research produced by Professor Harrison Dunning's pivotal public trust doctrine conference in 1980 at U.C. Davis, see *id.* at 101.

²⁹¹ See *MLC History*, *supra* note 287.

Lake situation with “schools, conservation groups, legislators, and anyone who would listen.”²⁹²

An independent study by an Interagency Task Force of state and federal environmental agencies concluded that diversions would need to be reduced to 15,000 acre-feet per year to stabilize the lake,²⁹³ and state legislation requiring those reductions was introduced but never enacted.²⁹⁴ Nevertheless, statewide public sentiment began shifting in sympathy with the lake advocates. Vehicles all over California began sporting “Save Mono Lake” bumper stickers.²⁹⁵ The National Audubon Society expressed interest in helping the fledgling Mono Lake Committee bring a lawsuit.²⁹⁶

Meanwhile, in 1970, Professor Joseph Sax published the now classic law review article entitled *The Public Trust Doctrine in Natural Resource Law: Effective Judicial Intervention*.²⁹⁷ In his article—one of those rare academic works that literally changes the world—he noted:

Private citizens, no longer willing to accede to the efforts of administrative agencies to protect the public interest, have begun to take the initiative themselves. One dramatic result is a proliferation of lawsuits in which citizens, demanding judicial recognition of their rights as members of the public, sue the very governmental agencies which are supposed to be protecting the public interest.²⁹⁸

Sax argued that because legislatures are susceptible to capture by industry that would monopolize and degrade commonly held natural resources, the doctrine enables judicial access to “promote equality of political power for a disorganized and diffuse majority.”²⁹⁹ He further argued that the public trust doctrine should not be limited in application to navigable waters, but should be extended to “a wide range of situations in which diffuse public interests need protection against tightly organized groups with clear and immediate goals.”³⁰⁰

His inspiration was surely felt in the famous litigation that followed.

²⁹² *Id.*

²⁹³ INTERAGENCY TASK FORCE ON MONO LAKE, REPORT OF INTERAGENCY TASK FORCE ON MONO LAKE 1–2 (1979); *see also* HART, *supra* note 198, at 88 (describing the report of the Task Force).

²⁹⁴ HART, *supra* note 198, at 84, 88–89. Earlier legislation inspired by the Owens Valley conflict imposed tighter controls on some out-of-basin water exports, but Los Angeles Aqueduct exports were not subject to these restrictions. *See* LIBECAP, *supra* note 238, at 16 (describing California’s 1943 Area of Origin Law).

²⁹⁵ Jane Kay, *It’s Rising and Healthy: Three Decades Ago, a Bunch of College Students Reported on and Worried About the Fate of Mono Lake. This Month, They Celebrated Its Recovery*, SF GATE, July 29, 2006, <http://www.sfgate.com/green/article/it-s-rising-and-healthy-three-decades-ago-a-2515840.php> (last visited Apr. 17, 2015).

²⁹⁶ *See* MLC History, *supra* note 287 (discussing two lawsuits brought by the Mono Lake Committee and the National Audubon Society).

²⁹⁷ *See generally* Sax, *supra* note 12.

²⁹⁸ *Id.* at 473.

²⁹⁹ *Id.* at 560.

³⁰⁰ *Id.* at 556.

IV. THE MONO LAKE LITIGATION

The emerging coalition marshalled its resources to forestall further environmental devastation in the Mono Basin, culminating in the California Supreme Court's epic *Mono Lake* decision. This Part reviews the path to litigation, the arguments that reached the high court, the justices' landmark ruling, and the aftermath of its decision—including the Water Board's resulting plans for implementation of the court's decision and Los Angeles's embrace of a new strategy for compliance. After exploring the most important doctrinal features of the court's decision, it touches on some important scholarly criticisms of the resulting doctrine, as well as potential future public trust developments, including the Atmospheric Trust Project.

A. *The Audubon Society (Mono Lake) Case*

In 1979, the National Audubon Society and Mono Lake Committee filed a lawsuit in Mono County court, arguing that Los Angeles's diversions violated the public trust doctrine, constituted a common law nuisance, and violated portions of the California constitution protecting navigable waterways.³⁰¹ Los Angeles defended the legality of the diversions under California water law and moved for an adjudication of all water rights in the Mono Basin—effectively joining all private, state, and federal landholders in a suit that would ultimately proceed all the way to the California Supreme Court.³⁰²

1. *The Parties*

The parties to the resulting litigation included local residents, state landowners, environmental nongovernmental organizations (NGOs) at various levels of geographical scale, government agencies responsible for impacted land, water, wildlife, and air resources, and DWP. The Mono Lake Committee coordinated efforts on behalf of the plaintiffs from Lee Vining, where they remain a Mono Basin watchdog and advocacy group.³⁰³ In addition to local and national chapters of the Audubon Society, they were joined by several other environmental NGOs, including Friends of the Earth, the Sierra Club Legal Defense Fund, and CalTrout.³⁰⁴

³⁰¹ See *Mono Lake*, 658 P.2d 709, 716 (Cal. 1983) (“[P]laintiffs filed suit for injunctive and declaratory relief in the Superior Court for Mono County on May 21, 1979.”). Mono Lake had been previously established as a navigable waterway in an earlier takings case, *City of Los Angeles v. Aitken*, 52 P.2d 585, 588 (Cal. 1935) (“There can be no doubt that Mono Lake is a navigable body of water.”).

³⁰² *Mono Lake*, 658 P.2d at 716, 727.

³⁰³ Decision 1631, *supra* note 8, at 7; see also *MLC History*, *supra* note 287 (describing the mission of the organization as “a non-profit citizens’ group dedicated to protecting and restoring the Mono Basin ecosystem, educating the public about Mono Lake and the impacts on the environment of excessive water use, and promoting cooperative solutions that protect Mono Lake and meet . . . real water needs without . . . transferring environmental problems to other areas”) (quotation marks omitted).

³⁰⁴ Decision 1631, *supra* note 8, at 7, 19.

A host of state and federal government agencies were also involved,³⁰⁵ including the U.S. Forest Service (responsible for managing the Mono Basin National Forest Scenic Area), the U.S. Fish and Wildlife Service (with interests in the Mono Basin creeks and fisheries), the California Department of Fish and Game (concerned with wildlife impacts), the California Department of Parks and Recreation (responsible for the Mono Lake Tufa State Reserve), the State Lands Commission (responsible for state land resources), and the California Great Basin Unified Air Pollution Control District (charged with managing compliance with the Clean Air Act and other air quality controls).³⁰⁶ And of course, DWP defended the city's exports.³⁰⁷

2. Settlement Negotiations

Extensive negotiations preceded the California Supreme Court's disposition of the case, in which lawmakers and others tried and failed to persuade the disputants to reach a compromise.³⁰⁸ Sizeable state and federal grants were offered to help Los Angeles adopt water conservation technologies that might reduce its need for water imports,³⁰⁹ but the city was loathe to give any ground on its claims for imported water. Los Angeles commanded one of the largest metropolitan areas in the country, but its continued existence hinged on access to imported water. City leaders likely worried that conceding any water in the Mono Basin might redound negatively to other claims.³¹⁰ Moreover, under the "use it or lose it" principle of appropriative water law, any sustained failure by Los Angeles to exercise those water rights could result in their legal forfeiture forever.³¹¹

Meanwhile, the Interagency Task Force had determined that 6,388 feet above sea level was the minimum water level required in Mono Lake to forestall ecological collapse and prevent further degradation of air resources.³¹² Although they did not insist that Mono Lake be returned to its

³⁰⁵ For the argument that the federal government might also have challenged diversions on the basis of the riparian rights associated with its ownership of Mono Basin public lands, see Richard P. Shanahan, *The Application of California Riparian Water Rights Doctrine to Federal Lands in the Mono Lake Basin*, 34 HASTING L.J. 1293, 1296 (1983).

³⁰⁶ Decision 1631, *supra* note 8, at 19–20.

³⁰⁷ See *Mono Lake*, 658 P.2d at 709 ("Plaintiffs filed suit . . . to enjoin DWP diversions . . .").

³⁰⁸ HART, *supra* note 198, at 85, 88.

³⁰⁹ *Id.* at 88 ("The state and federal governments would pay two-thirds of the cost of replacement water for the first two years . . .").

³¹⁰ Author email communication with Geoff McQuilken, Executive Director of the Mono Lake Committee, Apr. 26, 2015 (on file with author); see also HART, *supra* note 198, at 88–89, 168–70 (discussing the city's reluctance to engage in any activity that might undermine its appropriative rights); *id.* at 83 (describing a failed settlement conference among the parties in which the DWP representative pledged the city's resolve to protect its appropriative rights by warning the Mono Lake advocates that "The last lawsuit we had like this took forty-three years. . . . Fortunately, we're young.").

³¹¹ See *supra* Part II.B (discussing the law of prior appropriations).

³¹² See HART, *supra* note 198, at 86, 88 (discussing the Mono Lake Committee's and Interagency Task Force's insistence on restoring the lake level to 6,388 feet, depending on how the lake level would be defined).

pre-diversion level of 6,417 feet, the Mono Lake advocates refused to consider any proposal that would not protect the lake at the 6,388-foot level.³¹³ Indeed, Mono Lake Committee leaders once explained to me that they had been counseled by negotiation experts to open with a more extreme demand that would enable them bargaining room to concede downward during negotiations with the city. However, they rejected the conventional approach in favor of one they felt was grounded in the authority of scientific evidence.³¹⁴ “Why play games?” they explained: “We weren’t going to bluff; we were just going to start with what the science said was necessary, and then stay there forever.”³¹⁵

3. *The California Supreme Court Decision*

As negotiations failed to resolve the dispute, Mono Lake continued to decline, and the case proceeded through all levels of the judicial system to the California Supreme Court.³¹⁶ In the case before the California high court, the plaintiffs made a simple claim that threatened to undermine a century’s worth of seemingly settled California water law. Channeling the insights of Professor Sax and the U.C. Davis conference scholars, the plaintiffs argued that allowing the destruction of Mono Lake through continued water diversions was impermissible, notwithstanding that these diversions were pursuant to state-approved appropriations, because it violated state obligations under the public trust doctrine.³¹⁷ The importance of the public trust doctrine had been progressively recognized in several prior California Supreme Court cases,³¹⁸ and the plaintiffs argued that the state’s obligations

³¹³ See *id.* at 85 (discussing negotiations between the Mono Lake Committee, the Interagency Task Force, and the City of Los Angeles).

³¹⁴ See Decision 1631, *supra* note 8, at 154–55 (describing the long-term goal of returning the lake to a level that would protect the various public trust resources at issue).

³¹⁵ Personal communications with Geoffrey McQuilken, MLC Executive Director (July 1996 & May 2001); see also *MLC History*, *supra* note 287 (noting that early Mono Lake Committee leaders “also decided to ask for exactly what they wanted, instead of asking for more and then compromising down to the true goal”).

³¹⁶ Because the litigation included federal agencies, the case was removed to federal district court, which abstained on the novel issue of state law and remanded back to state court. See *Nat’l Audubon Soc’y v. Dep’t of Water & Power of Los Angeles*, 496 F. Supp. 499 (E.D. Cal. 1980); *Mono Lake*, 658 P.2d 709, 712 (Cal. 1983) (describing the federal district court’s request “that the state courts determine the relationship between the public trust doctrine and the water rights system”); see also Mono Basin Clearinghouse, *Political & Legal Chronology*, <http://www.monobasinresearch.org/timelines/polchr.php> (last visited Apr. 17, 2015) (describing history of the various lawsuits taking place at Mono Lake).

³¹⁷ See *Mono Lake*, 658 P.2d at 712 (describing plaintiffs’ theory that “the shores, bed and waters of Mono Lake are protected by a public trust” and that diversions that fail to consider the public trust “may result in needless destruction of [public trust] values”).

³¹⁸ See, e.g., *State of California v. Superior Court (Fogerty)*, 29 Cal. 3d 240, 247 (Cal. 1981) (applying the public trust doctrine to “all the navigable lakes and rivers in California”); *State of California v. Superior Court (Lyon)*, 29 Cal. 3d 210, 227 (Cal. 1981) (same); *City of Berkeley v. Superior Court*, 606 P.2d 362, 364 (1980) (characterizing the public trust right as “illimitable and unrestrainable and incapable of individual exclusive appropriation”) (internal quotation marks omitted); *Marks*, 491 P.2d 374 (1971) (recognizing the public trust doctrine as a matter “of great public importance”).

as trustee must accordingly take precedence over its previous decisions to allow Los Angeles's diversions.

Specifically, the plaintiffs argued that the state had failed its trust obligations back in 1940, when the Water Board had first granted Los Angeles permission to divert water from the Mono Basin creeks.³¹⁹ The Water Board had granted these licenses in violation of the public trust doctrine, the plaintiffs explained, because its decision failed to account for the foreseeable harms to Mono Lake's ecologic, scenic, and recreational values.³²⁰ At the time, the agency had openly worried about these very problems, reflecting on the earlier destruction of Owens Lake.³²¹ The plaintiffs contended that the Water Board had violated the state's trust obligations when it wrongly concluded that it had no alternative but to permit the exports, notwithstanding these anticipated harms.³²²

In fact, the plaintiffs argued, the public trust doctrine both empowered and obligated the Water Board to prevent these exports. Mono Lake was held by the state in trust for the public, and no organ of the state could give away its water if that would result in the destruction of the resource.³²³ The argument, in essence, was that it was no more permissible for California to give away Mono Lake's waters than it was for Illinois to give away Chicago Harbor in the famous *Illinois Central* case.³²⁴ The plaintiffs also argued that Los Angeles's harmful diversions should be considered an unreasonable use.³²⁵

DWP defended Los Angeles's rights to export Mono Basin water on grounds that the licenses were fully consistent with the clearly articulated California water law principles of prior appropriations and beneficial use.³²⁶ The California constitution affirms that water should be put to beneficial

³¹⁹ See *Mono Lake*, 658 P.2d at 728–29 (noting that the rights had been acquired “in 1940 from a water board which believed it lacked both the power and the duty to protect the Mono Lake environment” and that DWP “continues to exercise those rights in apparent disregard for the resulting damage to . . . Mono Lake”).

³²⁰ *Id.*

³²¹ *Id.* at 714 (citing the Water Board's 1940 decision, which found: “It is indeed unfortunate that the City's proposed development will result in decreasing the aesthetic advantages of Mono Basin but *there is apparently nothing that this office can do to prevent it.*”) (emphasis in opinion); see also Decision 1631, *supra* note 8, at 1 (noting the Water Board's conclusion that the Water Code “required issuance of the permits despite anticipated damage to Mono Lake and other natural resources”).

³²² See *Mono Lake*, 658 P.2d at 712–14 (noting plaintiffs' public trust violation cause of action and the DWP's determination not to consider the public trust in its 1940 decision).

³²³ *Id.* at 712 (summarizing the state's public trust duty and synthesizing the doctrine with the prior appropriations doctrine).

³²⁴ See *id.* at 721 (discussing *Illinois Central* and applying its rule of law); see also *supra* Part II.A.1 (discussing *Illinois Central*).

³²⁵ See *Mono Lake*, 658 P.2d at 718 (discussing defendant's attempt to require plaintiffs to exhaust administrative remedies before the Water Board for claims “based on asserted unreasonable or nonbeneficial use of appropriated water”).

³²⁶ *Id.* at 727 (noting defendant's argument that the public trust had been subsumed into the prior appropriation system, giving it “a vested right in perpetuity to take water without concern for the consequences to the trust”); see also *supra* Part II.B (reviewing principles of water law).

use,³²⁷ and much of this water was going to the highest recognized form of beneficial use—domestic use by the citizens of Los Angeles. (This, they would have argued, was hardly comparable to giving away the bed of Chicago Harbor.)

DWP also pointed to the vast legal and physical infrastructure by which water is moved all over the state of California, from watersheds with more to watersheds with less.³²⁸ This elaborate network of water transfers is formalized by the system of licenses that confer the appropriative rights on which cities like Los Angeles have long relied.³²⁹

Finally, DWP argued that the well-developed body of statutory water law in California had subsumed and displaced the common law public trust doctrine.³³⁰ After all, this is normally what happens when statutory law conflicts with the common law—as it has in vast areas of tort, contract, and criminal law.³³¹ Legislative pronouncements to the contrary abrogate the precedents of judge-made common law.³³² DWP also argued that the plaintiffs were not entitled to judicial relief because they had not exhausted administrative remedies.³³³

The plaintiffs thus argued that the public trust doctrine trumps the prior appropriations doctrine, while the defendants maintained that the statutorily codified principles of prior appropriation trump the common law public trust doctrine.³³⁴ Indeed, reviewing the two doctrines in isolation reveals a set of legal principles that seem hard to reconcile; neither so much as acknowledges the other. The court openly acknowledged that “the two systems of legal thought have been on a collision course,” and that it was time to resolve the issue.³³⁵ This, then, was the critical question of first impression that the *Mono Lake* case presented to the justices of the California Supreme Court: What is the relationship between the public trust

³²⁷ CAL. CONST. art. X, § 2. (“[I]n this State the general welfare requires that the water resources of the State be put to beneficial use to the fullest extent of which they are capable, and that the waste or unreasonable use or unreasonable method of use of water be prevented, and that the conservation of such waters is to be exercised with a view to the reasonable and beneficial use thereof in the interest of the people and for the public welfare.”).

³²⁸ See *Mono Lake*, 658 P.2d at 727–28 (discussing California’s historical reliance on water diversions out of stream).

³²⁹ *Id.* at 727 (discussing the Water Board’s power to “grant usufructuary licenses that will permit an appropriator to take water from flowing streams and use that water in a distant part of the state”).

³³⁰ *Id.*

³³¹ See, e.g., William Lindsley, *Effects of Statutes on Common Law*, in 58 CAL. JUR. 3D *Statutes* § 5 (“The legislature is at liberty to change any rule of the common law and thereby prevent it from being the rule of decision in this state.”); *Modern Barber Colleges v. Cal. Emp’t State Comm’n*, 192 P.2d 916, 920 (Cal. 1948) (noting that the legislature may “create new rights or provide that rights which have previously existed shall no longer arise, and it has full power to regulate and circumscribe the methods and means of enjoying those rights”).

³³² See *Lowman v. Stafford*, 226 Cal. App. 2d 31, 38–39 (1964) (“[T]he law itself, as a rule of conduct, may be changed at will by the Legislature subject only to constitutional provision.”) (internal citations omitted).

³³³ *Mono Lake*, 658 P.2d at 718.

³³⁴ *Id.* at 713–14, 718.

³³⁵ *Id.* at 712, 727.

doctrine and the law of appropriative water rights? When they point in opposite directions, which do we follow? Which trumps the other?

In its ultimate decision, the high state court famously declined to choose. Instead, it affirmed that both doctrines remain bedrock principles within California law, and that neither displaces the other.³³⁶ It is the obligation of the state, said the court, to navigate the requirements of both.³³⁷ The state must act to protect the interests in navigable waters that are protected by the trust, but it must also have the power to enable appropriative rights in water for other public purposes, even if diversions harm public trust values.³³⁸

Critically, however, the court stated that “[a]pproval of such diversion without considering public trust values . . . may result in needless destruction of those values.”³³⁹ The court directed that “before state courts and agencies approve water diversions they should consider the effect of such diversions upon interests protected by the public trust, and attempt, so far as feasible, to avoid or minimize any harm to those interests.”³⁴⁰

On the facts of this case, the court agreed with the plaintiffs that the public trust doctrine had not been given its due weight in the Water Board’s permitting calculus.³⁴¹ The state could not allow the Mono Lake tributaries to be diverted to the extinguishment of its public trust values without even considering the possibilities for avoiding this harm.³⁴² But the court also stressed that the state’s most populous areas have long depended on the appropriation of water from remote locations, often to the detriment of the basin of origin.³⁴³ Water allocation and permitting laws govern the established legal relationships in these circumstances in ways that cannot be casually disrupted. In a decision affirming that instream values are considered beneficial uses in California,³⁴⁴ the court nevertheless allowed that there may be times when the public interests in diversions outweigh the public values protected by the trust.³⁴⁵

The court thus affirmed that Southern California’s legitimate water needs must remain protected by appropriations law, but also that these rights are nonvested, and subject to the state’s ongoing duty to supervise the impact of diversions on the navigational and environmental values associated with trust resources.³⁴⁶ It concluded that the Water Board had neglected these obligations in 1940 and 1970, when it issued Los Angeles permits without even considering its implicated trust responsibilities.³⁴⁷

³³⁶ *Id.* at 727.

³³⁷ *Id.*

³³⁸ *Id.* at 712.

³³⁹ *Id.*

³⁴⁰ *Id.*

³⁴¹ *Id.*

³⁴² *Id.*

³⁴³ *Id.* at 728–29.

³⁴⁴ *Id.* at 726.

³⁴⁵ *Id.* at 712, 727.

³⁴⁶ *Id.* at 727.

³⁴⁷ *Id.* at 728–29.

Accordingly, the court invalidated the licenses and remanded them to the Water Board for reconsideration in light of its decision.³⁴⁸ In the new decision-making process, the Water Board was directed to balance the legitimate water needs of Los Angeles with the state's obligation to protect the scenic, ecological, and recreational values in the Mono Basin as much as feasible.³⁴⁹ Finally, the court upheld its concurrent jurisdiction with the Water Board in administering issues of the public trust and water rights, affirming the plaintiff's ability to seek judicial relief without first exhausting administrative remedies.³⁵⁰

4. Legal Innovations

The central contribution of the *Mono Lake* case is its affirmation that—at least in California³⁵¹—the common law public trust doctrine exerts force independently from the statutory principles of private water allocation, and that water planners must accommodate the interests protected by each. As discussed above, the court pointedly rejected the argument that the trust had been subsumed or preempted by statutory and constitutional provisions establishing the prior appropriations doctrine.³⁵² In addition to clarifying the relationship between the public trust and prior appropriation doctrines, however, the decision also yields several other important points of law, including its application to environmental values, non-navigable tributaries, and over time.

a. Application to Environmental Values.

Among lay audiences worldwide, the *Mono Lake* case is perhaps most famous for the proposition that the public trust doctrine protects values beyond the traditional boating, fishing, and swimming associated with navigable waters to also include ecological, recreational, and scenic considerations.³⁵³ Indeed, when I would give the South Tufa tour along the southwest shore as a Mono Lake ranger, we casually extolled the decision for its extension of public trust principles to include these more modern environmental values. Only in law school did I learn that this was a bit of a

³⁴⁸ *Id.* at 729.

³⁴⁹ *Id.* at 728–29.

³⁵⁰ *Id.* at 730–32.

³⁵¹ Although the California Supreme Court's interpretation is limited to California law, it is noteworthy that the Pennsylvania Supreme Court reached a similar conclusion in the *Robinson Township* decision. *Robinson Twp. v. Commonwealth*, 83 A.3d 901, 913 (Pa. 2013). For further discussion of the case, see *supra* Part II.A.2.

³⁵² *Mono Lake*, 658 P.2d 709, 712 (Cal. 1983) (conceiving of California water law as “an integration including both the public trust doctrine and the board-administered appropriative rights system”); see *supra* Part IV.A.3 (discussing this holding).

³⁵³ See, e.g., Blumm, *supra* note 15, at 591 (characterizing *Mono Lake* as among the best known of the new generation of public trust decisions); Frank, *supra* note 23, at 670 (referring to the case as “perhaps the nation's most important public trust decision in nearly a century”); Conway, *supra* note 92, at 631.

local conceit; while the *Mono Lake* case made it famous, that expansion was really established by another case more than ten years earlier.³⁵⁴

In 1971, in *Marks v. Whitney (Marks)*,³⁵⁵ the California Supreme Court affirmed the flexibility of the public trust doctrine to encompass changing public needs in trust resources, including ecological, open space, habitat, scenery, and scientific values.³⁵⁶ However, *Marks* addressed a comparatively dry set of facts, adjudicating the conflicting rights of private parties over the construction of a wharf in trust-protected tidelands.³⁵⁷ By comparison, the compelling facts of the *Mono Lake* case, together with the force of the more photogenic environmental values at risk there, have made it the more popular standard-bearer for the expansion. The use of the public trust doctrine to protect the vulnerable water, air, wildlife, scenic, scientific, and recreational values of the Mono Basin remains the best known feature of the *Mono Lake* story.³⁵⁸

b. Application to Non-Navigable Tributaries.

An especially concrete legal innovation of the *Mono Lake* case is that it extended the protection of the public trust doctrine from the navigable waterway itself to the non-navigable tributaries on which it relies hydrologically.³⁵⁹ After all, Los Angeles wasn't directly draining the lake (which would have yielded some awfully nonpotable water!). Instead, the city was diverting the mostly non-navigable creeks that channeled snowmelt from the Sierra into the lake, replenishing it against continuous evaporation.³⁶⁰ At the time, the public trust doctrine had not been applied to activity interfering with non-navigable creeks. Los Angeles could thus defend the *Mono Lake* lawsuit not only by arguing that the doctrine had been preempted by prior appropriations, but also that there was no interference with a waterway subject to the trust.

³⁵⁴ *Marks*, 491 P.2d 374, 380 (Cal. 1971) (expanding public trust protections to ecological, habitat, open space, climatic, and scenic values).

³⁵⁵ *Id.*

³⁵⁶ *Id.* (expanding public trust protections to ecological, habitat, open space, climatic, and scenic values).

³⁵⁷ *Id.* at 377.

³⁵⁸ The public trust analysis in the *Mono Lake* case is complemented by several important but unpublished cases that helped lay political foundation for the role of the doctrine in California water law, involving the American River and Putah Creek. See, e.g., Stuart L. Somach, *The American River Decision: Balancing Instream Protection with Other Competing Beneficial Uses*, 1 RIVERS 251, 258–60 (1990) (discussing use of the doctrine in an unpublished Alameda County Court decision that led the state agency to relocate its exercise of rights from the Folsom South Canal upstream of Sacramento to Freeport downstream in order to preserve instream flow through the intervening channel); Joseph Sax, *Bringing an Ecological Perspective to Natural Resources Law: Fulfilling the Promise of the Public Trust*, in NATURAL RESOURCES POLICY AND LAW: TRENDS AND DIRECTIONS 152–60 (Lawrence J. MacDonnell & Sarah F. Bates, eds. 1993) (discussing the same Alameda County case).

³⁵⁹ *Mono Lake*, 658 P.2d 709, 720–21 (Cal. 1983).

³⁶⁰ *Id.* at 711.

Nevertheless, the court accepted the hydrological relationship between the lake and its essential tributaries to construe them as one for the purpose of doctrinal protection.³⁶¹ As the court reasoned, protection of the navigable waterway of Mono Lake had to include protection of its tributaries, without which the lake would ultimately disappear.³⁶² This particular aspect of the court's reasoning has particular resonance to a contemporary public trust case unfolding in Northern California, where litigants are currently arguing that doctrinal protection should be extended to the non-navigable groundwater tributaries of the navigable Scott River (the Scott River case).³⁶³

c. Application over Time

While these are all important new points of law in the Mono Lake decision, the potentially widest-reaching legal innovation was its recognition of the state's trust responsibilities as an ongoing legal duty.³⁶⁴ The court clarified that the public trust doctrine not only requires the state to protect trust resources as much as feasible when allocating water, it held that the state also has a continuing duty of supervision under the doctrine.³⁶⁵ Indeed, it was this element of the decision—the *Mono Lake* doctrine of ongoing oversight—that empowered (and obligated) the state to revisit the permitting decision it had made approving Los Angeles's exports nearly fifty years earlier.

The consequences of this new understanding of the doctrine were potentially staggering. A state duty to revisit past allocation decisions that are compromising trust values in the present has ramifications far beyond the Mono Basin. Subjecting prior appropriations to potential revision for countervailing public trust values threatened havoc for water managers all over California, and potentially all over the western United States.

Throughout the West, large volumes of water are transported long distances in just the way the Los Angeles aqueduct exports it from the Mono Basin.³⁶⁶ Just as it did in southern California, urban and agricultural development all over the arid west has depended on the ability to shift water from wetter to drier parts—and Americans have become quite good at it, at least from the engineering perspective.³⁶⁷ If the *Mono Lake* doctrine were widely applied, all of those water licenses would suddenly become very

³⁶¹ *Id.* at 720–21.

³⁶² This argument has particular resonance right now, as another public trust drama unfolds in northern California around the extension of public trust obligations to protect the groundwater tributaries of the Scott River (discussed further in Part IV.C). *See* Order After Hearing on Cross Motions for Judgment on the Pleadings at 3, *Env'tl. Law Found. v. State Water Res. Control Bd.*, Case No.: 34-2010-80000583 (Cal. Sacramento County Ct. 2014) [hereinafter *Scott River Case*].

³⁶³ *See id.* at 3–4. For further discussion of the Scott River Case, see *infra* Part IV.C.2.

³⁶⁴ *Mono Lake*, 658 P.2d at 728.

³⁶⁵ *Id.*

³⁶⁶ *See generally* REISNER, *supra* note 97, at 12 (noting that water from Colorado River canyons is moved to meet demand in Phoenix and Palm Springs).

³⁶⁷ *See id.*

uncertain. If public trust values were being affected in ways that hadn't been anticipated when those licenses were initially granted, then all the appropriative rights on which remote uses had developed in reliance would be up for renegotiation. For that reason, the doctrine of continuing oversight was an extremely controversial element of the decision.³⁶⁸

Perhaps for the same reason, it is also a doctrinal element that has rarely been adopted outside of California. One exception is Hawaii, where the state Supreme Court has also held that private allocation decisions do not displace the trust.³⁶⁹ Indeed, Hawaii's public trust doctrine is perhaps the most protective of all American states—but it is distinguishable from that in most western states because Hawaii's doctrine is incorporated constitutionally, and the state does not follow the doctrine of prior appropriations.³⁷⁰ The closest a prior appropriations state has come to embracing the *Mono Lake* doctrine of ongoing oversight is in Nevada, where two concurring justices suggested an important role for the public trust doctrine in a water rights case—but this analysis was not part of the majority opinion.³⁷¹ Beyond Hawaii, however, no western state has formally adopted the California requirement of continuing oversight. Several Idaho cases signaled approval of this feature of the California public trust doctrine in the years after the *Mono Lake* case was decided,³⁷² but they were subsequently (and pointedly) overruled by the state legislature.³⁷³

Even within California, where the doctrine remains good law, obligations of ongoing oversight have had a very limited impact on previously established water rights outside of the Mono Basin.³⁷⁴ In a quantitative study of freshwater public trust litigation in California since *Mono Lake*, Professor David Owen concludes that outside of the Mono Basin, the doctrine has exerted almost no force on existing patterns of water

³⁶⁸ See LIBECAP, *supra* note 238, at 151–53 (critiquing the *Mono Lake* decision's impact on prior appropriations systems by creating uncertainty, undermining property rights, and compromising economic efficiency); Barton H. Thompson, Jr., *Judicial Takings*, 76 VA. L. REV. 1449, 1533 (1990) (noting how *Mono Lake* “surprised many people and was certainly a deviation from most water lawyers' expectations”).

³⁶⁹ *Waiahole Ditch*, 9 P.3d 409, 445 (Haw. 2000) (holding that the state water code “does not supplant the protections of the public trust doctrine”).

³⁷⁰ See *supra* notes 54–56 and accompanying text (discussing Hawaiian water law).

³⁷¹ *Mineral Cnty. v. State Dep't of Conservation & Natural Res.*, 20 P.3d 800, 807 (Nev. 2001) (Rose, J., concurring) (arguing that the Court should affirm the existence and role of Nevada's public trust doctrine); see also *Lawrence v. Clark Cnty.*, 254 P.3d 606, 617 (Nev. 2011) (adopting the public trust doctrine expressly but in a case that did not address water rights).

³⁷² See, e.g., *Kootenai Env'tl. Alliance v. Panhandle Yacht Club*, 671 P.2d 1085, 1094, 1096 (Idaho 1983) (adopting the “California rule” but finding that the land grant at issue did not violate it).

³⁷³ IDAHO CODE tit. 58, ch. 12 § 58-1201 (1996). For further discussion, see generally Blumm et al., *supra* note 65 (discussing Idaho's attempt to legislate away the public trust doctrine).

³⁷⁴ See generally David Owen, *The Mono Lake Case, the Public Trust Doctrine, and the Administrative State*, 45 U.C. DAVIS L. REV. 1099 (2012) (noting that, despite this potential, the doctrine has not upended many established water rights). Depending on the final outcome of the Scott River litigation, however, the doctrine may yet be extended to previously asserted groundwater rights. See generally *Scott River Case*, *supra* note 362.

use, even when serious interference with trust values are manifest.³⁷⁵ He concludes that effects of the doctrine are inextricably intertwined with the force of other environmental laws, which are often more responsible for substantive results, almost exclusively at the administrative level, and most often with regard to prospective uses of water, rather than existing rights.³⁷⁶

B. The Aftermath of the Court's Decision

The California Supreme Court's decision was the seminal step toward the protection of Mono Lake, but it was only the first step—and an uncertain one at best. It required the Water Board to consider the public trust values in the Mono Basin before adjudicating Los Angeles's permits, but it did not specify how to balance the competing interests at stake. Additional litigation over the Mono Basin creeks further complicated the Water Board's task. Los Angeles would make important choices in its response to the outcome of the legal process. And the scholarly community would pass judgment as well.

1. The California Trout Litigation

Before the Water Board could respond to the court's relicensing directive, it was charged to consider a further set of statutory concerns after California Trout—joined by the National Audubon Society and the Mono Lake Committee—separately sued in *California Trout v. State Water Resource Control Board (California Trout)*³⁷⁷ to modify DWP's diversion licenses on additional grounds. In the *California Trout* litigation, the plaintiffs argued that the DWP diversion dams were harming Mono Basin creeks in violation of state Fish and Game Code provisions.³⁷⁸

After determining that the plaintiff's claim had merit, the appeals court ordered the Water Board to additionally incorporate these concerns into its reconsideration of Los Angeles's permits to export from the Mono Basin.³⁷⁹ Indeed, the *California Trout* litigation was just as critical as the earlier *Mono Lake* case in determining the outcome at Mono Lake, and arguably more so in terms of its ultimate impact on stream restoration requirements.

Consolidating both the *Mono Lake* and *California Trout* judicial commands into a single proceeding, the Water Board accordingly set to work determining how to assess the appropriate equipoise of so many conflicting interests. It struggled with the question over ten years of scientific inquiry, public hearings, and policy research, finally culminating in its 1994 release of the 200-page directive that would become known as Decision 1631.³⁸⁰

³⁷⁵ Owen, *supra* note 374, at 1122–23.

³⁷⁶ *Id.* at 1135–36.

³⁷⁷ 207 Cal. App. 3d 585, 592 (1989).

³⁷⁸ *Id.* at 592 (commanding the Water Board to reconsider Mono Basin diversion licenses in light of the California Department of Fish and Game code requirements).

³⁷⁹ *Id.* at 632–33.

³⁸⁰ See generally Decision 1631, *supra* note 8.

2. Implementation by the Water Board: Decision 1631

In the historic Decision 1631 that it released in 1994, the Water Board re-allocated water rights in the Mono Basin, modifying Los Angeles's licenses to export in accordance with the judicial orders of the *Mono Lake* case and the *California Trout* case.³⁸¹

Following a full decade of research, evidentiary hearings, stakeholder consultation, and an exhaustive Environmental Impact Report,³⁸² the Water Board arrived at a compromise not unlike the original proposal by the Interagency Task Force and Mono Lakeadvocates: that water exports should be curtailed to the extent needed to enable Mono Lake to rise to the level of 6,392 feet above sea level over the next twenty years.³⁸³ Exports were eliminated until the lake reached an elevation of 6,377 feet (up from the current low near 6,372 feet) and water exports would then be permitted on a limited, graduated basis designed to achieve and maintain the ecologically sound lake management level.³⁸⁴ Once the lake reached the designated level, Los Angeles could increase diversions to a little more than thirty thousand acre-feet per year, so long as the lake level remained stable.³⁸⁵ Decision 1631 also included requirements for restoration of the desiccated Mono Basin creeks and minimum instream flows going forward, and it designated Mono Lake as an Outstanding National Resource Water.³⁸⁶

The Water Board designated 6,392 feet as the recovery target because the science confirmed that this level would resolve the most serious threats to the public trust values in the Mono Basin.³⁸⁷ This target would stabilize the salinity of Mono Lake at a level that would allow the ecosystem to recover.³⁸⁸ The brine shrimp and alkali fly populations would reproduce successfully and maintain the base of the food web.³⁸⁹ The breeding grounds of California Gulls and nesting habitat of migratory birds would be protected.³⁹⁰ It would cover the most harmful salt flats that were causing air pollution problems.³⁹¹ It would protect the most scenic and recreational values associated with the lake, leaving some of the relicted lands' tufa exposed.³⁹² It would protect the fisheries and riparian habitat associated with the desiccated Mono Basin

³⁸¹ *Id.* at 2.

³⁸² California State Water Resources Board, Final Environmental Impact Report for the Review of Mono Basin Water Rights and the City of Los Angeles (1994), available at <http://www.monobasinresearch.org/onlinereports/feir1.php>.

³⁸³ Decision 1631, *supra* note 8, at 154–55, 158.

³⁸⁴ *Id.*

³⁸⁵ *Id.* at 3.

³⁸⁶ *Id.* at 2 (requiring Los Angeles to prepare stream restoration plans). See generally Koehler, *supra* note 94 (reviewing the historical buildup to *Mono Lake* and critiquing the positive and negative aspects of the Water Board's resulting Decision 1631).

³⁸⁷ Decision 1631, *supra* note 8, at 155.

³⁸⁸ *Id.* at 77–78, 82.

³⁸⁹ *Id.* at 82.

³⁹⁰ *Id.* at 3.

³⁹¹ *Id.*

³⁹² *Id.* "Relicited lands" refers to the formerly submerged lakebed that has been exposed by water diversions. *Id.*

creeks, but some important waterfowl areas would be forsaken. And it would still allow Los Angeles to divert water—though diversions would be curtailed as needed to enable the lake to recover to the designated levels.

It was, in every respect, a compromise plan. Indeed, almost poetically, the plan would raise the lake approximately twenty vertical feet from its post-diversion low of 6,372 feet, but it would leave it twenty-five feet below its pre-diversion level of 6,417 feet—roughly in the middle.

When I left Mono Lake in the late 1990s for law school, the results of Decision 1631 were visible to the naked eye. The land bridge joining Mono Lake's north shore to the gull rookery on Negit Island was receding under water. The rangers had to pull up many legs of the old boardwalk extending the public trails down to the water's edge as the lake reclaimed formerly exposed bed. The toxic dust devils were less intense and less frequent. The lake level rose about ten feet to 6,382 feet in the first five years after the decision, raising high hopes all around—and then, sadly and suddenly, it stopped.³⁹³

Climate patterns have shifted in California—as elsewhere—leading to reduced snowmelt in the creeks.³⁹⁴ The drought that hit California in the 2000s has intensified to epic levels in the 2010s.³⁹⁵ Precipitation has not been following the modeled average conditions that Decision 1631 relied on, and so the lake did not reach 6,392 feet last year, as the Water Board had projected.³⁹⁶ Even though Los Angeles has remained on a curtailed schedule of diversions, the lake level has hovered around 6,382 feet since 1998, suspended at halfway to the compromise point—and this year, for the first time in decades, it has declined below 6,380.³⁹⁷

3. Los Angeles Turns a New Page

Whether Mono Lake will continue to recover will partly depend on climatic conditions beyond human control, but it will also depend on

³⁹³ See Mono Lake Comm., *Mono Lake Level and Tributary Stream Flows*, <http://www.monolake.org/today/water> [hereinafter *Mono Lake Level*] (last visited Apr. 17, 2015) (listing historic lake levels from 1919 until present).

³⁹⁴ See, e.g., Mono Basin Clearinghouse, *Monthly Weather Summaries for Lee Vining, CA*, <http://www.monobasinresearch.org/data/weather.php> (last visited Apr. 17, 2015) (noting average temperatures in Lee Vining and providing precipitation data).

³⁹⁵ Kyle Kim & Thomas Suh Lauder, *163 Drought Maps Reveal Just How Thirsty California Has Become*, L.A. TIMES, Feb. 27, 2015, <http://www.latimes.com/science/la-me-g-california-drought-map-htmlstory.html> (last visited Apr. 17, 2015) (showing the severity of the California drought with map infographic).

³⁹⁶ See *Mono Lake Level*, *supra* note 393 (providing recent sub-6,392 foot water levels). In fact, with the lake level below 6,380 feet as of April 1, 2015, Los Angeles will be required to dramatically curtail exports again. Geoff McQuilken, Executive Director of the Mono Lake Committee, *April 1 Lake Level Means Reduced Water Exports to LA, More Protection for Mono Lake*, MONOLOGUE, April 1, 2015, <http://www.monolake.org/today/2015/04/01/april-1-lake-level-means-reduced-water-exports-to-la-more-protection-for-mono-lake/> (last visited Apr. 17, 2015) (noting that the lake has declined to a level at which water exports to Los Angeles are automatically reduced by 70% to 4,500 acre-feet of export annually).

³⁹⁷ See *Mono Lake Level*, *supra* note 393.

decision making in Los Angeles, at levels both political and personal. If the recent past is any indication, there is reason to be hopeful.

Indeed, one of the favorite chapters of the Mono Lake tale is how the City of Los Angeles reacted to the various losses it encountered thus far in the story. While paling in comparison to what the Owens Valley lost—and what the Mono Basin is still trying to avoid—Los Angeles has also lost a good deal over this course of events. It lost in court, twice. It lost water rights it believed were settled decades earlier, and it lost any sense of security that its current rights are fully vested. It also lost access to a fair amount of water—twelve percent of its total supply.

To avoid these painful losses, the city fought hard to prevail on the legal issues, fearful of weakening its access to critical water imports on which it had come to rely. It declined offers of state and federal funds to experiment with water recycling and other technology that might enable it to import less water, fearful of losing any portion of its hard-fought water rights to forfeiture or abandonment.³⁹⁸ But after investing so much energy in fighting an ultimately losing battle, the city finally turned a page after the Water Board's decision. Just as the citizens of Illinois forced a change in the direction its legislature took over the conveyance of Chicago Harbor, the citizens of Los Angeles embraced a new approach to the city's ongoing problem of water insecurity: conservation.³⁹⁹

After Decision 1631, Los Angeles made two critical decisions. First, and perhaps most important, the city decided not to seek judicial review of the Water Board's decision. Even though a significant portion of the city's water supply was at stake, equally significant support for restoration of Mono Lake had developed among city residents. A city official would later explain that the mayor wanted to engage a more forward-thinking environmental policy, and the decision to accept the Water Board's new allocation was consistent with this new ethic.⁴⁰⁰ In addition, the Mono Lake Committee had worked hard to generate ideas and funding to help Los Angeles gracefully absorb the loss of Mono Basin water, and not just replace it with harmful exports from other vulnerable watersheds.⁴⁰¹

Los Angeles's second critical decision was to fully embrace the conservation alternative. The city sprung to a new phase of action, experimenting with infrastructural improvements, new methods of municipal and highway barrier management, and grassroots campaigning for household water saving devices.⁴⁰² The city pushed forward with the use of recycled water for irrigation and industrial purposes.⁴⁰³ It sponsored

³⁹⁸ See HART, *supra* note 198, at 88–89 (discussing DWP's refusal to adopt the Interagency Task Force plan that offered state and federal money to cover the majority of the cost of replacement water for the first two years after adoption).

³⁹⁹ See *id.* at 168–70.

⁴⁰⁰ David Cobb, National Director of Civic Affairs, HDR Inc., Address at the Berkeley Mono Lake Symposium (Nov. 17, 2014), available at http://www.waterboards.ca.gov/board_info/media/nov2014/mono_lake_111714_1.shtml.

⁴⁰¹ *Id.*

⁴⁰² HART, *supra* note 198, at 148–49.

⁴⁰³ *Id.* at 182.

neighborhood drives to trade in old toilets for low-flush models.⁴⁰⁴ “Save Mono Lake” bumper stickers gave way to “I Save Water for Mono Lake” bumper stickers, which appeared throughout the city, and even the state. In the end, by effectively deploying these strategies, Los Angeles was able to recover all twelve percent of the water that it had lost as a result of the *Mono Lake* legal decisions—simply by reducing its demand.⁴⁰⁵ And this makes the Mono Lake story one of the very rare cases in environmental law with a happy ending for both sides on the dispute.

Los Angeles remains at the forefront of water conservation efforts and has become a leader nationwide.⁴⁰⁶ Although the population has grown substantially in the past two decades, municipal water use has remained fairly flat.⁴⁰⁷ While the city may have earned scorn for its approach to water management at the beginning of the last century, and there is certainly still work to be done today, it nevertheless deserves credit for its approach at the beginning of the 21st century.

4. Public Trust and Distrust: The Critiques

After *Mono Lake*, the public trust doctrine achieved instant notoriety among environmental advocates, property rights advocates, and legal academics. Environmentalists hailed the doctrine as a means of preserving ecological treasures that might otherwise be lost.⁴⁰⁸ Some began looking for other opportunities to apply the public trust concept in other realms of

⁴⁰⁴ *Id.* at 149.

⁴⁰⁵ Compare *id.* at 76 (noting that Mono Lake provided 12% of Los Angeles’s water supply), with Mono Lake Comm., *Mono Lake FAQ: Frequently Asked Questions About Mono Lake*, <http://www.monolake.org/about/faq> (last visited Apr. 17, 2015) (noting that Los Angeles conservation efforts have more than replaced water no longer diverted from Mono Lake).

⁴⁰⁶ See Jacques Leslie, *Los Angeles, City of Water*, N.Y. TIMES, Dec. 6, 2014, <http://nyti.ms/1u550yO> (last visited Apr. 17, 2015) (noting that Los Angeles has become “a leader in sustainable water management, a pioneer in big-city use of cost-effective, environmentally beneficial water conservation, collection and reuse technologies”).

⁴⁰⁷ See Mono Lake Comm., *Replacement Water: Helping Los Angeles Find Better Solutions*, <http://www.monolake.org/mlc/altwater> (last visited Apr. 17, 2015) (“[D]espite growth of a million people between 1975 and 2005, LA’s water usage (of about 600,000 AF/yr) had not changed.”).

⁴⁰⁸ See, e.g., Blumm, *supra* note 15, at 579 (characterizing the public trust doctrine as “chameleon-like” in its ability to shape itself to different contexts); Stevens, *supra* note 64, at 621 (concluding that the public trust and prior appropriations doctrines were intertwined long before *Mono Lake* and other cases, and arguing that the public trust is an inalienable attribute of sovereignty); Kevin M. Raymond, *Protecting the People’s Waters: The California Supreme Court Recognizes Two Remedies to Safeguard Public Trust Interests in Water*—National Audubon Society v. Superior Court, 33 Cal. 3d 419, 658 P.2d 709, 189 Cal. Rptr. 346, cert. denied, 104 S. Ct. 413 (1983), 59 WASH. L. REV. 357, 357–58 (1984) (examining the administrative and judicial remedies available for public trust violations in California after the case); Gray, *supra* note 93, at 975, 979, 997 (describing the author’s work with the San Francisco City Attorney’s office on an amicus brief for the plaintiffs, and arguing that one especially significant aspect of the case is the court’s recognition of an environmental baseline in the management of public resources); see also Arnold, *supra* note 3, at 2 (celebrating *Mono Lake* as an environmental achievement); Enzler, *supra* note 3, at 456–501 (reviewing the significance of *Mono Lake* for public trust and environmental law at the systemic level).

natural resources management.⁴⁰⁹ Directly inspired by *Mono Lake*, India incorporated the public trust doctrine into its own constitutional order.⁴¹⁰ Yet the ongoing development of the public trust doctrine has also spawned serious alarm among competing constituencies, and even some environmental advocates.⁴¹¹ While the doctrine remains generally popular among the public, this section briefly addresses the distrust that also emerged around the idea of the public trust, focusing on concerns about property rights, environmental protection, and legal process.

a. The Property Rights Critique

Perhaps the most immediate concerns were those raised by advocates for private property rights, alarmed that expansive use of the doctrine would result in the confiscation of private rights, in tension with public trust values.⁴¹² Conflicts between public and private rights have manifested over water rights,⁴¹³ waterfront and wetland development,⁴¹⁴ the regulation of private activity on submerged lands,⁴¹⁵ and beach and lakefront access.⁴¹⁶ For

⁴⁰⁹ See *infra* notes 445–451 and accompanying text (discussing attempts to extend public trust protection to other realms).

⁴¹⁰ M.C. Mehta v. Kamal Nath, (1997) 1 S.C.C. 388 (1996) (India), in I UNITED NATIONS ENVIRONMENT PROJECT COMPENDIUM OF JUDICIAL DECISIONS IN MATTERS RELATED TO THE ENVIRONMENT, NATIONAL DECISIONS 259 (1998), available at http://www.asianjudges.org/wp-content/uploads/2013/10/Compendium_Judicial_Decisions_Nat_v1.pdf (discussing the role of the public trust doctrine in Indian law and quoting the California Supreme Court's description of the doctrine in *Mono Lake*).

⁴¹¹ See *infra* notes 370–400 and accompanying text (discussing various critiques of the public trust doctrine).

⁴¹² See, e.g., James L. Huffman, *A Fish out of Water: The Public Trust Doctrine in a Constitutional Democracy*, 19 ENVTL. L. 527, 533 (1989) (identifying the doctrine as a creature of property law that has been distorted by the courts beyond its proper boundaries); Barton H. Thompson, Jr., *The Public Trust Doctrine: A Conservative Reconstruction and Defense*, 15 SOUTHEASTERN ENVTL. L.J. 47, 49 (2006) (suggesting reconstruction of the public trust doctrine in response to libertarian and property rights critiques); Cohen, *supra* note 41, at 274–76 (criticizing the public trust doctrine's effects on private property rights); see also Rose, *supra* note 16, at 711–13, 774, 777–81 (recognizing the inevitable conflict between the public trust and private property rights and considering what type of property can, under competing notions of public trust, be considered inherently public). But see Epstein, *supra* note 41, at 428–30 (1987) (analyzing the public trust from a similarly libertarian, property rights perspective, but supporting it as a natural limitation on government power, comparable to restrictions on eminent domain).

⁴¹³ See, e.g., *Mono Lake*, 658 P.2d 709, 712 (Cal. 1983) (discussing public and private rights over water).

⁴¹⁴ See, e.g., *Palazzolo v. Rhode Island*, 533 U.S. 606, 611 (2001) (resolving takings claim related to waterfront development, in part, on public trust grounds); see also Ryan, *supra* note 42, at 123–25 (discussing South Carolina's Marsh Island Bridge debate involving waterfront land and water development programs).

⁴¹⁵ See, e.g., *Marks*, 491 P.2d 374, 383 (Cal. 1971) (discussing regulation of private activity on submerged lands).

⁴¹⁶ See e.g., *Matthews v. Bay Head Improvement Ass'n*, 471 A.2d 355, 355–56 (N.J. 1984) (discussing private and public activity on beachfront property); *Glass v. Goeckel*, 703 N.W.2d 58 (Mich. 2005) (discussing private and public rights on lakefront property).

example, in one of the most controversial extensions of the doctrine, the New Jersey Supreme Court held in *Matthews v. Bay Head*⁴¹⁷ that the doctrine protected public passage over private beachfront property if needed for public access to the ocean.⁴¹⁸ Like the California Supreme Court in *Marks*, the New Jersey Court in *Matthews* stressed that the doctrine must be construed flexibly, to respond to changing societal needs.⁴¹⁹

When courts administering the trust emphasize its flexibility to adapt to changing public needs,⁴²⁰ property rights advocates worry.⁴²¹ Without a clear limit on how far the public trust doctrine may intrude on seemingly settled private rights, they worry about its potential as an unlimited tool of legal opportunism that, caricatured, eats everything in its path.⁴²²

The property rights critique asks what, then, is the limiting principle?⁴²³ Whenever the public decides it wants something new in a trust resource, does that mean private interests must yield, no matter how established?⁴²⁴ Especially in California, where the *Mono Lake* case establishes an ongoing duty of supervision, the state can theoretically revisit water licenses at any time (although, as noted above, this hasn't actually happened).⁴²⁵ For example, analyzing the doctrine from a law and economics perspective, Professor Lloyd Cohen criticized the doctrine as “a piece of disingenuous gimmickry” that would undermine property rights.⁴²⁶

⁴¹⁷ *Matthews v. Bay Head Improvement Ass'n (Matthews)*, 471 A.2d 355 (N.J. 1984).

⁴¹⁸ *Matthews*, 471 A.2d at 363 (“In order to exercise these rights guaranteed by the public trust doctrine, the public must have access to municipally-owned dry sand areas as well as the foreshore. The extension of the public trust doctrine to include municipally-owned dry sand areas was necessitated by our conclusion that enjoyment of rights in the foreshore is inseparable from use of dry sand beaches.”).

⁴¹⁹ *Id.* at 365.

⁴²⁰ *See, e.g., id.; Mono Lake*, 658 P.2d 709, 719 (Cal. 1983).

⁴²¹ *See* Thompson, *supra* note 412, at 48–49 (discussing concerns among conservatives about judicial interpretations of the public trust doctrine); Thompson, *supra* note 368, at 1478 (discussing concerns among property owners about possible takings under the public trust doctrine).

⁴²² Thompson, *supra* note 368, at 1507–08, 1520, 1532–33. *But see* Michael C. Blumm, *The Public Trust Doctrine and Private Property: The Accommodation Principle*, 27 PACE ENVTL. L. REV. 649, 654 (2010) (arguing that there is no inherent conflict between private property and the public trust doctrine). *See also* Thompson, *supra* note 412, at 48–49; Thompson, *supra* note 368, at 1478.

⁴²³ *See, e.g.,* Thompson, *supra* note 368, at 1478 (discussing the belief that property is determined politically with no objective principle); Kearney & Merrill, *supra* note 30, at 929–30 (arguing for limited application, and worrying about unclear boundaries). *But see* Epstein, *supra* note 41, at 428–29 (arguing that the sweep of the doctrine, as he construes it, “should be broad indeed”).

⁴²⁴ *Cf.* JOSEPH WILLIAM SINGER, PROPERTY LAW: RULES, POLICIES, AND PRACTICES 62–63, 65 (2010) (discussing how far the public trust doctrine will go and querying whether it might require the public to give up public use rights as an incident to public enjoyment of trust resources).

⁴²⁵ *See supra* notes 371–374 and accompanying text (discussing the limited impact of the duty of ongoing oversight).

⁴²⁶ Cohen, *supra* note 41, at 276. Professor Gary Libecap has critiqued the rule for impeding economically efficient interbasin transfers and frustrating the development of water markets. *See* LIBECAP, *supra* note 238, at 151–53.

b. The Environmental Critique

In the immediate wake of the *Mono Lake* case, a separate critique of the public trust doctrine emerged from within the circle of environmental advocacy. Some environmental critics were skeptical that the doctrine, with its roots in property law, would provide the best legal tools to support the unfolding environmental law movement.⁴²⁷ The notion of the “public trust” relies on public ownership and oversight of natural resources to effectuate environmental protection, but owners can be fickle and shortsighted, and public participation requirements are content-neutral.⁴²⁸ The trust may prohibit private monopoly, but if public opinion swings away from environmental protection at a critical moment, competing concerns may prevail.⁴²⁹ After all, the same public owners advocating for environmental protection one day may find themselves longing for cheaper fuels the next.

Recognizing that the doctrine isn’t invariably “green,” these “green dissenters”⁴³⁰ would have preferred that the legal protection of natural resources be established according to concepts of stewardship with a more explicit commitment to environmental protection. Indeed, just as the *Mono Lake* case was filed, executive agencies were being given new roles of responsibility for administering the major federal environmental statutes of the 1970s.⁴³¹ Environmental critics of the public trust doctrine hoped that environmental protection norms would take root in administrative law responsibilities that were more aligned with the principles of stewardship than the dominion of ownership.

For example, Professor Richard Lazarus worried that the doctrine might distract the progress of environmental law toward effectuating resource protection through more concrete state and federal mandates, arguing that it was a “romantic step backward toward a bygone era at a time when we face modern problems that demand candid and honest debate on the merits.”⁴³² Professor William Araiza argued that a substantive

⁴²⁷ See, e.g., Richard J. Lazarus, *Changing Conceptions of Property and Sovereignty in Natural Resources: Questioning the Public Trust Doctrine*, 71 IOWA L. REV. 631, 715–16 (1986); William D. Araiza, *Democracy, Distrust, and the Public Trust: Process-Based Constitutional Theory, the Public Trust Doctrine, and the Search for a Substantive Environmental Value*, 45 UCLA L. REV. 385, 387–88 (1997).

⁴²⁸ See, e.g., Lazarus, *supra* note 427, at 715–16 (discussing public trust and shifts in notions of private property).

⁴²⁹ See, e.g., Araiza, *supra* note 427, at 432 (criticizing the doctrine’s reliance on process over a substantive commitment to environmental protection). *But see* Arnold, *supra* note 3, at 39, 41 (using *Mono Lake* to suggest that politics and public participation are as critical to environmental protection as formal environmental law).

⁴³⁰ See Ryan, *supra* note 1, at 493 (discussing the “green dissent” by environmentalists objecting to use of the doctrine for environmental protection in lieu of conventional environmental statutory and administrative law.).

⁴³¹ See Lazarus, *supra* note 427, at 681 n.308, 684.

⁴³² *Id.* at 715–16. *But see* Albert C. Lin, *Public Trust and Public Nuisance: Common Law Peas in a Pod?*, 45 U.C. DAVIS L. REV. 1075, 1097 (2012) (distinguishing the public trust doctrine and common law nuisance as elements of property and tort law respectively, and answering

commitment to environmental values would be preferable to the untethered political process implied by public trust adjudication.⁴³³ After all, even the *Mono Lake* case did not require the absolute protection of Mono Lake; it simply required that the Water Board think carefully about it.⁴³⁴

c. The Legal Process Critique

Other critiques took aim at the way that the doctrine empowers judicial decision making at the expense of political decision making.⁴³⁵ The doctrine expressly enables the judiciary to countermand legislative and executive decisions, even though the political branches of government are conventionally considered to be more democratic.

Public trust supporters argue that the role of judicial review is among the greatest strengths of the doctrine, enforcing necessary checks and balances among the three branches of government.⁴³⁶ However, legal process critics worry that the doctrine provides insufficient guidance to decision makers,⁴³⁷ and that the judiciary—prone to abstraction and elitism—will not be as responsive to the public in the same way as regularly elected legislators.⁴³⁸ For example, Professor James Huffman has argued that the doctrine had been distorted by the courts beyond its appropriate boundaries, threatening both liberty and democracy.⁴³⁹

Finally, some worry about the implications of the public trust doctrine for upending the role of law in protecting settled expectations more generally.⁴⁴⁰ Professor Barton (“Buzz”) Thompson summarized generalized distrust of the public trust doctrine evocatively:

To environmentalists and public-access supporters, the public trust doctrine appears to provide a relatively malleable legal tool to address a variety of issues involving the use and protection of waterways, beaches, and perhaps other important lands and resources. . . . These environmental advantages,

Lazarus’s arguments that the public trust should be superseded by nuisance law with his conclusion that the two fill distinct roles).

⁴³³ Araiza, *supra* note 427, at 452; *see also* William D. Araiza, *The Public Trust Doctrine as an Interpretive Canon*, 45 U.C. DAVIS L. REV. 693, 697 (2012) (suggesting the public trust doctrine be interpreted as a canon of construction, establishing a background principle against which legislation and administrative actions are construed, rather than as an independent legal principle).

⁴³⁴ *Mono Lake*, 658 P.2d 709, 712, 727 (Cal. 1983).

⁴³⁵ *See, e.g.*, Thompson, *supra* note 412, at 48–49.

⁴³⁶ *See, e.g.*, Blumm, *supra* note 353, at 580 (arguing that the public trust doctrine compensates for defects in the democratic process).

⁴³⁷ *See, e.g.*, Araiza, *supra* note 427, at 432 (criticizing the process-justified public trust doctrine as a violation of the democratic political process); Thompson, *supra* note 368, at 1507–08, 1532–33.

⁴³⁸ *See, e.g.*, Huffman, *supra* note 412, at 533; *see also* Cohen, *supra* note 41, at 271–72.

⁴³⁹ *See* Huffman, *supra* note 412, at 533.

⁴⁴⁰ *See, e.g.*, Ryan, *supra* note 42, at 130–31 (2006) (discussing concerns by coastal landowners that the administration of public trust principles would frustrate their expectations).

however, are conservative anathema. To many conservatives, the public trust doctrine is an anchorless doctrine that is anti-democratic and an easy way to evade critically important property protections.⁴⁴¹

Concerns about the malleability of the doctrine tap into age-old anxieties about the evolving nature of the common law—pitting the need for flexibility to meet changing public interests against the need for certainty to establish order and expectations.⁴⁴² For example, the *Mono Lake* doctrine of ongoing oversight stands squarely on the side of flexibility at the cost of certainty⁴⁴³—but popular resistance to that idea may also explain why it has been seldom used.⁴⁴⁴

C. Future Doctrinal Developments

The *Mono Lake* case was followed by a surge of interest in use of the public trust doctrine for environmental advocacy.⁴⁴⁵ Following Professor Sax's broad vision, litigants and scholars sought to expand its application to other water resource issues⁴⁴⁶ and to other critical public commons that are

⁴⁴¹ See Thompson, *supra* note 412, at 48–49.

⁴⁴² See generally Smith, *supra* note 90 (defending *Mono Lake* against critiques during its immediate aftermath).

⁴⁴³ See, e.g., *Mono Lake*, 658 P.2d 709, 721 (Cal. 1983) (emphasizing that appropriative rights are nonvested, and subject to the state's continuing oversight).

⁴⁴⁴ THOMPSON ET AL., *supra* note 87, at 685–87 (noting that the *Mono Lake* duty of ongoing oversight generated concern among water planners but never amounted to many changes in allocations).

⁴⁴⁵ See, e.g., Rose, *supra* note 16, at 711 (recognizing the inevitable conflict between the public trust and private property rights and considering what type of property can be considered inherently public); Blumm, *supra* note 353, at 579 (characterizing the public trust doctrine as “chameleon-like” in its ability to shape itself to different contexts); Frank, *supra* note 23, at 671–73 (analyzing the past and future of the public trust and the various resources subject to the trust); Allison Rieser, *Ecological Preservation as a Public Property Right: An Emerging Doctrine in Search of a Theory*, 15 HARV. ENVTL. L. REV. 393 (1991) (discussing the significance of the *Mono Lake* case in recognizing the preservation of ecological function as a trust value and proposing additional theoretical support for the move).

⁴⁴⁶ See, e.g., Ralph W. Johnson, *Water Pollution and the Public Trust Doctrine*, 19 ENVTL. L. 485, 486–88 (1989) (suggesting innovative application of the trust to nonpoint pollution sources left largely unregulated by the Clean Water Act); Danielle Spiegel, *Can the Public Trust Doctrine Save Western Groundwater?*, 18 N.Y.U. ENVTL. L.J. 412, 414 (2010) (analyzing the public trust's extension to groundwater and concluding that western states where depletion is most problematic are least likely to do so); Carol Necole Brown, *Drinking from a Deep Well: The Public Trust Doctrine and Western Water Law*, 34 FLA. ST. U. L. REV. 1, 2 (2006) (advocating for expansion of public trust doctrine to preempt prior appropriations in western states where water scarcity issues loom); Joseph L. Sax, *The Constitution, Property Rights and the Future of Water Law*, 61 U. COLO. L. REV. 257, 257–59 (1990) (discussing the future of water law and the takings law ramifications of government-mandated restoration of instream flows from appropriations right-holders); Sam Brandao, *Louisiana's Mono Lake: The Public Trust Doctrine and Oil Company Liability for Louisiana's Vanishing Wetlands*, 86 TUL. L. REV. 759, 761–62 (2012) (comparing Louisiana's public trust doctrine to that of California following *Mono Lake*, and arguing for its expansion to better protect Louisiana's coastal wetlands).

also subject to private appropriation.⁴⁴⁷ Some states, like Pennsylvania, have constitutionalized broader versions of the trust that extend to additional resources.⁴⁴⁸ Some scholars have emphasized the important role of executive agencies in administering the trust.⁴⁴⁹ Others have pointed to the doctrine as a means of resisting takings claims against regulations protecting trust resources,⁴⁵⁰ and some courts have agreed.⁴⁵¹

⁴⁴⁷ See, e.g., Michael C. Blumm & Aurora Paulsen, *The Public Trust in Wildlife*, 2013 UTAH L. REV. 1437, 1440–41 (2013) (arguing that the public trust should be integrated into state wildlife protection law); Alexandra B. Klass, *Renewable Energy and the Public Trust Doctrine*, 45 U.C. DAVIS L. REV. 1021, 1026 (2012) (considering use of the doctrine within the field of renewable energy law); Robin Kundis Craig, *Adapting to Climate Change: The Potential Role of State Common-Law Public Trust Doctrines*, 34 VT. L. REV. 781, 781 (2010) (arguing that the doctrine could provide “legal support for adaptive management-based climate change adaptation regimes”); David D. Caron, *Time and the Public Trust Doctrine: Law’s Knowledge of Climate Change*, 35 U. HAW. L. REV. 441, 442–43 (2013) (advocating that the doctrine be used to prevent sea level rise in the context of climate change); see also Irma S. Russell, *A Common Tragedy: The Breach of Promises to Benefit the Public Commons and the Enforceability Problem*, 11 TEX. WESLEYAN L. REV. 557, 558, 560–61 (2005) (suggesting contract law as a solution to the difficulty of enforcing legislation designed to protect public commons).

⁴⁴⁸ See *supra* notes 57–58 and accompanying text (discussing the Pennsylvania Environmental Rights Amendment); John C. Dernbach, *The Potential Meanings of a Constitutional Public Trust*, 45 ENVTL. L. 257, 469–73 (2015); see also CTR. FOR PROGRESSIVE REFORM, *supra* note 50 (listing state-by-state public trust surveys by Craig, Klass, and Blumm); Araiza, *supra* note 427, at 394–95 (noting that many state constitutions have developed a conception of the public trust that is based on a more substantive commitment to preservation than most common law analogues); Silvyn, *supra* note 62, 356–57, 373 (comparing California’s common law and constitutional public trust rights and concluding that the latter is more expansive).

⁴⁴⁹ See, e.g., Ronald B. Robie, *Effective Implementation of the Public Trust Doctrine in California Water Resources Decision-Making: A View from the Bench*, 45 U.C. DAVIS L. REV. 1155, 1157 (2012) (reflecting on the impact of the case 30 years later and concluding that protection of the public trust should primarily rest with administrative actors); Dave Owen, *The Mono Lake Case, the Public Trust Doctrine, and the Administrative State*, 45 U.C. DAVIS L. REV. 1099, 1104–05 (2012) (considering the administrative ramifications of the case and its impacts on the California water board); Gregory S. Weber, *Articulating the Public Trust: Text, Near-Text and Context*, 27 ARIZ. ST. L.J. 1155, 1159 (1995) (examining the judicial, legislative, and administrative development of the public trust doctrine in California after the case).

⁴⁵⁰ See Ryan, *supra* note 42, at 123 (analyzing how the public trust doctrine operates as a background principle of law that can constrain the reasonable expectations of a property owner alleging a taking); J. Peter Byrne, *The Public Trust Doctrine, Legislation, and Green Property: A Future Convergence?*, 45 U.C. DAVIS L. REV. 915, 916 (2012) (suggesting that the doctrine be used as a defense to innovative regulatory takings claims and to “sustain environmental legislation against judicial hostility”); John D. Echeverria, *The Public Trust Doctrine as a Background Principles Defense in Takings Litigation*, 45 U.C. DAVIS L. REV. 931, 931–34 (2012) (analyzing use of the doctrine as a takings defense in light of two California cases that did not allow it). *But see* Thompson, *supra* note 368, at 1532–33 (criticizing use of the doctrine to avoid just compensation for what otherwise looks like a taking).

⁴⁵¹ See, e.g., *Palazzolo v. State*, No. WM 88-0297, 2005 WL 1645974, at *7 (R.I. Super. Ct. July 5, 2005) (relying on the public trust doctrine in part to conclude in an unpublished opinion that there had been no taking of privately owned wetlands by a state wetlands regulation); see also *Orion Corp. v. State*, 747 P.2d 1062, 1072–73 (Wash. 1987) (determining that the public trust doctrine foreclosed a regulatory takings claim because the public trust doctrine already applied to private property owner’s tidelands prior to the adoption of a regulation prohibiting dredging

Additional noteworthy developments include the public trust doctrine's application to oil and gas extraction activities impacting trust resources, its potential extension to groundwater resources, and its potential role in managing climate change.

1. Application to Oil and Gas Extraction

As discussed in Part II, the Pennsylvania Supreme Court recently invoked its constitutional version of the public trust doctrine to protect local authority to regulate fracking and perhaps other extraction activities that pose a threat to local water resources.⁴⁵² The *Robinson Township* decision marked a dramatic debut for Pennsylvania's constitutional doctrine, which had not previously been understood as self-executing and had never before been used to invalidate state law.⁴⁵³

Other municipalities have also attempted to assert local control over fracking, but they have been less successful—especially in states without similar public trust protections. For example, when two Colorado municipalities banned fracking within local limits, two separate state courts held their ordinances were preempted by contrary state law.⁴⁵⁴ Notably, Colorado's public trust doctrine is far more limited than Pennsylvania's expansive trust.⁴⁵⁵ Because Pennsylvania's law is so encompassing, its model may not be easily replicated elsewhere. Nevertheless, *Robinson Township* has galvanized interest in applying the doctrine to the regulation of oil and gas extraction with impacts on water resources in states with a strong public trust.⁴⁵⁶

and filling; remanded on factual question of whether private property owner uses land for any uses consistent with public trust doctrine, which could present a takings claim).

⁴⁵² See *Robinson Township*, 83 A.3d 901, 913, 980 (Pa. 2013) (holding unconstitutional parts of Pennsylvania's Oil and Gas Act prohibiting local government water and air quality protections, on the basis of article I section 27 of Pennsylvania's Constitution, which provides for the public trust doctrine).

⁴⁵³ Dernbach, *supra* note 48; see also *supra* notes 57–58 and accompanying text (discussing the Pennsylvania Environmental Rights Amendment).

⁴⁵⁴ See *Colorado Oil & Gas Ass'n v. City of Longmont*, No. 2013CV63, at 17 (Colo. Dist. Ct. July 24, 2014) (order granting summary judgment); see also *Colorado Oil & Gas Ass'n v. City of Fort Collins*, No. 2013CV031385, at 7, 9 (Colo. Dist. Ct. Aug. 7, 2014) (order granting summary judgment).

⁴⁵⁵ Compare Ling-Yee Huang, *Restoring the Trust: An Index of State Constitutional and Statutory Provisions on Water Resources and the Public Trust Doctrine* 2, 7 nn.37–41 (Ctr. for Progressive Reform White Paper No. 908-B, 2009), available at http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1478512 (noting that Colorado's public trust doctrine is limited to issues pertaining to "waters of every natural stream"), with *Robinson Township*, 83 A.3d at 913 (recognizing that Pennsylvania's public trust doctrine applies more broadly to natural resources affected by oil and gas).

⁴⁵⁶ See Ellen M. Gilmer, *Enviros Push 'Public Trust' as Trump Card over Oil and Gas Influence*, E&E ENERGYWIRE, August 15, 2014, <http://www.eenews.net/stories/1060004530> (last visited Apr. 17, 2015) (noting that in Michigan, environmental attorneys assert that "even if the doctrine is limited to navigable water issues . . . it places a duty on government to consider how fracking and horizontal drilling could affect the water").

2. *Potential Extension to Groundwater Resources*

One important innovation from the *Mono Lake* decision may provide the basis for a historic extension of the doctrine to groundwater resources that supply surface waters subject to the trust. Just as the *Mono Lake* plaintiffs had argued that the doctrine be extended to Mono's non-navigable tributaries to protect the trust values of the navigable lake,⁴⁵⁷ plaintiffs in the unfolding Scott River case are arguing that it must be extended to protect the non-navigable tributaries of a river that is demonstrably dependent on groundwater recharge.⁴⁵⁸

Located in the Klamath River Basin, the Scott River is famous for hosting regionally important runs of salmon and steelhead trout. The lower reach of the river derives the majority of its flow from groundwater, and along hydrologic pathways that are perhaps unusually well established.⁴⁵⁹ However, as locally permitted groundwater withdrawals increase, long portions of the river often run dry in the summer.⁴⁶⁰ In the Scott River case, the plaintiffs argued that the state must curtail groundwater pumping to satisfy its public trust obligations to protect the Scott River—even though groundwater has never before been considered within reach of the public trust doctrine.⁴⁶¹ However, the lower court followed the *Mono Lake* precedent to conclude that diverting essential hydrologically connected groundwater tributaries is analogous to diverting essential non-navigable tributaries, opening the possibility that groundwater resources may also be subject to public trust protection.⁴⁶²

3. *The Atmospheric Trust Project*

After *Mono Lake*, litigants attempted to extend the doctrine to other resources, with little success. A few cases have borrowed the concept of the public trust as a basis for protecting fugitive wildlife.⁴⁶³ However, most U.S.

⁴⁵⁷ See *supra* notes 359–363 and accompanying text (describing *Mono Lake*'s extension of the public trust doctrine to non-navigable tributaries).

⁴⁵⁸ Scott River Case, *supra* note 362, at 2.

⁴⁵⁹ Marcus Griswold, *Scott River Decision Gives Californians One More Tool to Keep Water in Streams*, NATURAL RES. DEF. COUNCIL (Aug. 25, 2014), http://switchboard.nrdc.org/blogs/mgriswold/scott_river_decision_gives_cal.html.

⁴⁶⁰ Scott River Case, *supra* note 362, at 3.

⁴⁶¹ See *id.* at 2 (characterizing application of public trust doctrine to groundwater as an “issue of first impression”); see also Frank, *supra* note 23, at 675–76 (discussing application of public trust doctrine to groundwater in Hawaii, Vermont, and California).

⁴⁶² See Scott River Case, *supra* note 362, at 10.

⁴⁶³ See, e.g., *Betchart v. Dep't of Fish & Game*, 158 Cal.App.3d 1104, 1106 (1984) (holding that “California wildlife is publicly owned and is not held by owners of private land where wildlife is present”); *Owsichek v. State Guide Licensing & Control Bd.*, 763 P.2d 488, 495 (Alaska 1988) (“[C]ommon law principles incorporated in the common use clause impose upon the state a trust duty to manage the fish, wildlife and water resources of the state for the benefit of all the people. We have twice recognized this duty in our prior decisions.” (footnote omitted)); see also Blumm & Paulsen, *supra* note 447, at 1440 (discussing application of the public trust to protect wildlife).

efforts to expand the common law trust beyond water resources have not been successful.⁴⁶⁴

Nevertheless, the principles underlying the doctrine raise legitimate questions about why the same premise of a public trust should not also apply to other critical commons resources that are also susceptible to harmful appropriation or monopoly. By the same rationale that applies public oversight to waterways, why not other natural resource commons like coral reefs, forests, or biodiversity, which also confer critical ecosystem services and represent inherent value? Perhaps these resources do not share the same common pool features of water, or draw less support from common law precedent. But if those are the relevant metrics, then what about the atmosphere?

If the premise of the public trust is that some resources are so critical that they cannot belong to anyone in particular, and must instead belong to everyone,⁴⁶⁵ then why should it not also apply to the great air commons on which we all depend for life as surely as we depend on water? After all, the original Roman common law statement of the public trust included not only the sea and the shores of the sea as the common property of all the people, but also the air.⁴⁶⁶ In the United States, we have already expanded the trust from the sea to the great navigable lakes and rivers that span our country. Should the atmosphere be next? Has the public trust doctrine anything to say about the natural resource crisis that would appear to eclipse all others—the harms associated with impending climate change?

Several scholars have argued that the doctrine could provide legal support for regulatory responses to climate change. Professor Robin Craig has argued that it could support adaptive management-based adaptation regimes.⁴⁶⁷ Professor David Caron has argued that it could support climate governance to forestall sea level rise.⁴⁶⁸ Professor Jeff Thaler and Patrick Lyons suggest it could be used to promote offshore renewable energy as a means of combating climate change.⁴⁶⁹

Most ambitiously, however, Professor Mary Wood has sought to apply the trust directly to atmospheric resources, reviving the Justinian concept of the public trust as encompassing not just the running waters and the sea, but also the air.⁴⁷⁰ In urging use of the doctrine to protect endangered air

⁴⁶⁴ Ryan, *supra* note 1, at 490 (listing failed efforts to expand the doctrine).

⁴⁶⁵ See *supra* notes 12–16 and accompanying text (discussing the philosophical underpinnings of the doctrine).

⁴⁶⁶ See *supra* note 13 and accompanying text.

⁴⁶⁷ See Craig, *supra* note 447, at 781.

⁴⁶⁸ See David D. Caron, *supra* note 447, at 455–56.

⁴⁶⁹ See Jeff Thaler & Patrick William Lyons, *The Seas Are Changing: It's Time to Use Ocean-Based Renewable Energy, the Public Trust Doctrine and a Green Thumb to Protect Seas from Our Changing Climate*, 19 OCEAN & COASTAL L.J. 241, 276 (2014).

⁴⁷⁰ See NATURE'S TRUST, *supra* note 65; Mary Christina Wood, *Atmospheric Trust Litigation*, in CLIMATE CHANGE: A READER 1018, 1021 (W.H. Rodgers, Jr. et al., eds.) (2011); Wood, *Part I*, *supra* note 65, at 80–81 (2013) (criticizing the failure of modern environmental law to protect natural resources and proposing broader state responsibilities as trustee, especially to combat greenhouse gas pollution); Wood, *Part II*, *supra* note 65, at 91, 93–98, 139 (discussing the pragmatic duties of governmental trustees, the interaction between the public trust and

resources, she argues that the state must curtail private appropriation of the atmosphere as a dumping ground for carbon pollution and other greenhouse gases.⁴⁷¹ She argues that the government's failure to prevent this unprecedented private appropriation is enabling short-sighted destruction of the most important public commons of all, leading to the global threats associated with rapid climate change.⁴⁷² As she might describe it, it's like giving away Chicago Harbor to self-interested private actors—only worse, because in this case, countless lives, communities, cultures, places, and species will be lost if we don't take it back soon.

As this Article goes to press, grassroots advocates are attempting to leverage Professor Wood's theory in a nationwide campaign of environmental litigation. Individual atmospheric trust lawsuits and administrative petitions have been filed all around the country in separate states and the D.C. Circuit, each seeking to establish that the atmosphere is subject to the public trust, and that the relevant regulators must therefore act to protect it from private appropriation by air polluters as a carbon sink.⁴⁷³

When government allows unfettered greenhouse gas emissions, the advocates argue, it is allowing private parties to despoil the air commons that belongs to all of us, in derogation of the public trust.⁴⁷⁴ Arrestingly, the actual plaintiffs in each of these lawsuits are children.⁴⁷⁵ Their argument is that it is their future, and the well being of the children that come after them, that will be squandered by our failure to protect the air commons today.⁴⁷⁶

Public trust lawsuits by children on behalf of future generations may be haunting, but their legal argument faces a number of uphill battles. While the claim has roots in the original Justinian Code—applying the trust to the air, the running waters, and the sea and its shores⁴⁷⁷—the air commons has never before been recognized as a public trust resource in the United States. Recognizing one now would mark a substantial extension of the American doctrine, and an ambitious reach in a legal arena already marked by

statutory law, and the ramifications of the trust for property rights in an effort to “reframe what is currently government's *discretion* to destroy our atmosphere and other resources into an *obligation* to defend those resources”) (emphases in original); Mary Christina Wood, *Tribal Trustees in Climate Crisis*, 2 AM. INDIAN L.J. 518, 518–19 (2014) (considering the federal trust obligation as the legal cornerstone of Indian law and suggesting how tribes can use their status as co-trustees with the federal government to combat climate change).

⁴⁷¹ Wood, *Part II*, *supra* note 65, at 93–98; *see also* Blumm & Schaffer, *supra* note 63.

⁴⁷² Wood, *Part II*, *supra* note 65, at 97–98.

⁴⁷³ *See* James Conca, *Atmospheric Trust Litigation—Can We Sue Ourselves over Climate Change?* FORBES, <http://www.forbes.com/sites/jamesconca/2014/11/23/atmospheric-trust-litigation-can-we-sue-ourselves-over-climate-change/> (last visited Apr. 17, 2015).

⁴⁷⁴ *Id.*

⁴⁷⁵ Sam Bliss, *These Teens Are Taking Their Climate Lawsuit All the Way to the Supreme Court*, GRIST, <http://grist.org/climate-energy/these-teens-are-taking-their-climate-lawsuit-all-the-way-to-the-supreme-court/> (last visited Apr. 17, 2015).

⁴⁷⁶ *Id.*

⁴⁷⁷ *See supra* notes 12–22 and accompanying text (discussing the *jus publicum*).

suspicion among critics about the potentially limitless malleability of the doctrine.⁴⁷⁸

Even if a court does newly recognize the atmosphere as a trust resource, fashioning a meaningful judicial remedy would prove a difficult challenge. It seems unlikely that any court would order the political branches to affirmatively regulate greenhouse gases beyond existing statutory obligations, and existing obligations are weak to nascent at the moment. Professor Wood argues that courts should impose natural resource damages for trust violations, and perhaps the threat of substantial enough damages could motivate changes in the law.⁴⁷⁹ However, courts imposing substantial fines on the political branches under a contentious doctrine of judge-made common law could raise separation-of-powers concerns that extend beyond the more ordinary judicial invalidation of political decision making.⁴⁸⁰

As the California Supreme Court did at Mono Lake, a court reviewing an atmospheric trust claim could order the defendant agencies to use existing statutory authority to regulate greenhouse gas emissions, or else explain why doing so was beyond their statutory authority or outweighed by competing public policy concerns.⁴⁸¹ This could help facilitate a process of good climate governance that more meaningfully engages with the question of sovereign responsibility to protect trust resources in the atmosphere. That said, it also indicates an additional hurdle for the atmospheric trust litigation, because the state agencies currently recognized as responsible for administering the trust arguably lack the authority necessary to manage atmospheric pollution.

The only government entity with true capacity to effectively regulate greenhouse gases is Congress, because greenhouse gas emissions are a collective action problem of the most national scope.⁴⁸² Although many states are experimenting laudably with local climate regulation to valuable ends,⁴⁸³ most concede that it is a second-best solution to the ideal of a national program that could better control leakage and incentivize appropriately scaled responses.⁴⁸⁴ However, the public trust has not yet been recognized as applying to the federal government. As discussed in Part II,

⁴⁷⁸ See *supra* notes 408–444 and accompanying text (discussing critiques of the public trust doctrine).

⁴⁷⁹ Wood, *Part II*, *supra* note 65, at 97–98.

⁴⁸⁰ See Jeremy Waldron, *Representative Lawmaking*, 89 B. U. L. REV. 335, 335–37 (2009).

⁴⁸¹ See Professor Amicus Brief, *supra* note 27.

⁴⁸² Opponents would doubtlessly argue that even Congress lacks the needed capacity, because greenhouse gases mix evenly in the atmosphere at the international level—but unlike the states, at least the federal government can participate in treaty-making and other international efforts to resolve the problem.

⁴⁸³ See, e.g., Kirsten H. Engel, *Whither Subnational Climate Change Initiatives in the Wake of Federal Climate Legislation?*, 39 PUBLIUS 432, 437–39 (2009) (providing an overview of multiple climate change initiatives advanced by the states; see also ERIN RYAN, *FEDERALISM AND THE TUG OF WAR WITHIN* 145, 169–73 (2011)).

⁴⁸⁴ See, e.g., RYAN, *supra* note 42, 169–73 (discussing the advantages and disadvantages of state climate regulation and noting that state climate regulators still long for a national solution).

there is a compelling argument that the trust is an attribute of sovereignty that should apply to any sovereign with jurisdiction over a trust resource.⁴⁸⁵ Nevertheless, the U.S. Supreme Court made that argument even more difficult in its recent *PPL Montana*⁴⁸⁶ decision, in dicta suggesting that the doctrine is a creature of state law alone.⁴⁸⁷ The D.C. Circuit recently rejected one of the atmospheric trust cases on these grounds (and the Supreme Court declined review).⁴⁸⁸

For all of these reasons and potentially others, most of these lawsuits will likely fail. Indeed, several have already lost, including those filed in the state of Kansas,⁴⁸⁹ and in the D.C. Circuit, which the Supreme Court declined to review.⁴⁹⁰ Notably, the case proceeding in Oregon has succeeded, at least as far as the appellate court level.⁴⁹¹ The New Mexico Court of Appeals recently affirmed the plaintiff's contention that the state's public trust doctrine applies to the atmosphere: "We agree that Article XX, Section 21 of our state constitution recognizes that a public trust duty exists for the protection of New Mexico's natural resources, including the atmosphere, for the benefit of the people of this state."⁴⁹² Nevertheless, it declined the requested injunctive relief on grounds that the state's air quality regulatory process provided sufficient remedy.⁴⁹³ There has also been mixed success in Arizona.⁴⁹⁴

The atmospheric trust plaintiffs must further contend with the strategic criticism that the lawsuits themselves could be harmful, because the losses may produce unfavorable precedent that could set their ultimate cause back.

⁴⁸⁵ See *supra* notes 68–78 and accompanying text (discussing arguments that the public trust doctrine should also limit federal authority in appropriate cases).

⁴⁸⁶ *PPL Montana, L.L.C. v. Montana*, 132 S. Ct. 1215 (2012).

⁴⁸⁷ *Id.* at 1235 (2012) ("Unlike the equal-footing doctrine, however, which is the constitutional foundation for the navigability rule of riverbed title, the public trust doctrine remains a matter of state law . . .").

⁴⁸⁸ Alec L. *ex rel. Loorz v. McCarthy*, 561 F. App'x 7 (D.C. Cir. 2014), *cert. denied*, No. 14-405, 2014 WL 6860603 (U.S. Dec. 8, 2014).

⁴⁸⁹ See Press Release, Our Children's Trust, *Kansas Teenager Pledges to Petition Department of Health and Environment for Climate Change Regulations After Court Tells Her to Go to Agency* (June 13, 2013), available at <http://ourchildrenstrust.org/sites/default/files/2013.06.13-KansasPR.pdf>; Petition for Declaratory Judgment, for Writ of Mandamus and Application for Injunctive Relief, *Farb v. Kansas*, (No. 12-C-1133), 2012 WL 5974335 (D. Kan. Oct. 18, 2012).

⁴⁹⁰ Alec L. *ex rel. Loorz v. McCarthy*, 561 F. App'x 7 (D.C. Cir. 2014), *cert. denied*, No. 14-405, 2014 WL 6860603 (U.S. Dec. 8, 2014).

⁴⁹¹ *Chernaik v. Kitzhaber*, 263 Or. App. 463, 481 (2014) ("[P]laintiffs are entitled to a judicial declaration of whether, as they allege, the atmosphere 'is a trust resource' that 'the State of Oregon, as a trustee, has a fiduciary obligation to protect . . . from the impacts of climate change . . .'" (citing the Plaintiffs–Appellant's Opening Brief at 13, 29, *Chernaik v. Kitzhaber*, 263 Or. App. 463 (2014) (No. A151856))).

⁴⁹² *Sanders-Reed ex rel. Sanders-Reed v. Martinez*, No. 33,110, 2015 WL 1120403 (N.M. Ct. App. 2015).

⁴⁹³ *Id.*

⁴⁹⁴ *Butler v. Brewer*, No. 1 CA–CV 12–0347, 2013 WL 1091209, at *1, *5–7 (Ariz. Ct. App. March 14, 2013) (rejecting the argument that determinations of what resources are included in the public trust doctrine and whether the state has violated the doctrine are non-justiciable, but ultimately dismissing the case for lack of standing).

Usually, the plaintiffs in strategic impact litigation make carefully tailored decisions about when and where to file, professionally counseled to aim for legal moments at which the chosen jurisdiction appears ready for the new interpretation the litigants are promoting.⁴⁹⁵ The scattershot approach of the atmospheric trust litigation defies this approach, and could create unwelcome precedent. Bringing cases in every jurisdiction all over the country all at one time is poetic, but it runs the risk that at least some (and possibly many) could result in negative judgments that could make it even more difficult to bring more narrowly tailored public trust claims in the future.

Nevertheless, the atmospheric trust suits represent an important doctrinal development, even if most are unsuccessful. These litigants are relying on one of the most important and powerful features of the doctrine. For them, it is a legal device for starting a conversation among the three branches of government, about the sovereign obligations of government. In this time-honored way, the doctrine enables ordinary citizens to put pressure on the political branches through the judiciary, when the political branches seem not to be listening otherwise. Used appropriately, the doctrine protects the public against legislative or executive abdication, strengthening the legitimacy of the democratic process with additional checks and balances.⁴⁹⁶

Even if the public trust lawsuit fails, it provides citizens the political leverage they may need to start a wider societal conversation about the management of trust resources—in this case, resources threatened by climate change. Public trust litigation thus provides an additional fulcrum into the political process, and into public dialogue. Even if no atmospheric trust case ever succeeds on the merits, these children will have initiated an open conversation about climate change in terms that ordinary people can immediately understand, and to which many have responded with support.⁴⁹⁷ The strategic critique elides the expressive power of the doctrine to spark meaningful grassroots change, translating losses in court to political momentum. After all, most successful legal movements are preceded by countless failures, before bad precedent eventually gives way to change. Some brave somebody always has to begin somewhere.

My own view is that while the legal argument may be too ambitious to succeed in the near term, the central premise is sound. Protecting a public commons from short-sighted private appropriation—as Professor Sax first urged in 1970—is the same premise that motivated the *Mono Lake* decision, the *Illinois Central* decision before it, and the Supreme Court of India thereafter. It makes sense to understand the public trust doctrine as an attribute of sovereignty at all levels. The air commons was recognized as a

⁴⁹⁵ James E. Pfander, *Forum Shopping and the Infrastructure of Federalism*, 17 TEMP. POL. & CIV. RTS. L. REV. 355, 355 (2007) (discussing the use of forum shopping in deciding whether to bring impact litigation claims).

⁴⁹⁶ Gerald Torres, *Joe Sax and the Public Trust*, 45 ENVTL. L. 257, 393–97 (2015).

⁴⁹⁷ Bill Moyers, *The Children's Climate Crusade* (Public Affairs Television, Inc. Jan. 1, 2015), transcript available at <http://billmoyers.com/episode/full-show-climate-crusade/> (last visited Apr. 17, 2015).

public trust resource as early as ancient Rome, it is an equally essential public commons, and it is equally vulnerable to harmful private appropriation. Even if the American public trust only protects water resources, government would still be obligated to manage greenhouse gas emissions, given the implications for navigable waters of the national megadrought that has been forecast over the next century as a result of climate change.⁴⁹⁸ Scientists project that extreme drought will threaten the public trust resources of virtually all the nation's navigable waterways—just as diversions to Los Angeles have threatened Mono Lake.

These are the same arguments that once motivated me to leave the idyllic life of a Mono Basin forest ranger to pursue the calling of law as a means of solving critical societal problems. Recognizing this, I became a signatory on the law professor amicus briefs in the atmospheric trust cases, notwithstanding concerns about the risky strategy. To be sure, these lawsuits are not without their own strategic craft; the device of children as plaintiffs is certainly a strategic move. Yet the connection between these children and the future generations they represent is not opportunistic—it is literal. Concerns about precedent aside, there is something that goes beyond strategy, perhaps even beyond poetry, about children all around the country making this powerful public trust argument with a single voice, at this pivotal moment in time, because time appears to be running out. They may not win, but something about their argument is what the public trust doctrine was made for.

V. CONCLUSION

One hundred years after the opening of the Los Angeles Aqueduct, thirty years after the California Supreme Court's decision, and twenty years after the Water Board's Decision 1631 implementing it, this is an especially good time to revisit the Mono Lake story.

After our great loss of Joe Sax last year, it is also a good time to think more about the public trust doctrine—and with newly unfolding doctrinal developments, there is much to consider. The Scott River litigation in Northern California may extend the *Mono Lake* doctrine to groundwater tributaries of navigable waters.⁴⁹⁹ The *Robinson Township* decision by the Pennsylvania Supreme Court applied that state's constitutionalized trust to affirm local authority to regulate fracking, and possibly other extractive activities that threaten trust resources.⁵⁰⁰ The Atmospheric Trust Litigation, whether or not it is successful in court, is opening a conversation among the

⁴⁹⁸ Darryl Fears, *A "Megadrought" Will Grip U.S. in the Coming Decades, NASA Researchers Say*, WASH. POST, Feb. 12, 2015, http://www.washingtonpost.com/national/health-science/todays-drought-in-the-west-is-nothing-compared-to-what-may-be-coming/2015/02/12/0041646a-b2d9-11e4-854b-a38d13486ba1_story.html (last visited Apr. 17, 2015) (discussing scientific forecasting that over the next 100 years, soil moisture levels will reach desert levels throughout the western and midwestern states, with devastating consequences for waterways).

⁴⁹⁹ See *supra* notes 458–462 and accompanying text.

⁵⁰⁰ See *supra* notes 58–60 and accompanying text.

public and its three branches of government about how to respond to the challenges of climate change.⁵⁰¹

The Mono Lake story and these progeny provide a rich reservoir of context for considering the questions raised in Part I: 1) Who is the public trust doctrine's relevant "public"?; 2) What interests does it protect?; 3) Does the doctrine impose substantive or procedural obligations?; and 4) How does the doctrine intersect with the separation of powers? Concluding the piece, I now return to each of these questions, considering the public trust doctrine as the California Supreme Court articulated it in the *Mono Lake* decision. I raise them mostly to provoke further reflection, offering only preliminary thoughts in response, and recognizing that the trust continues to evolve independently throughout the United States—and indeed, the world.

A. Who Is the Public Trust Doctrine's "Public"?

First, as we recount this famous moment of public trust development, consider what we really mean by "public." Whose interests count when we talk about the "public interest" at issue here? On what scale? And what's the real difference between public and private interest? Is economic development a private or public interest? What about environmental protection? Who, then, was the relevant "public" in the *Mono Lake* case? Was it Lee Vining? California? The Audubon Society? The Forest Service? The scientific community? The international community?

In the *Mono Lake* case alone, many different publics were operating, and they appeared to have different interests. Indeed, we often gloss over this question in the United States, where we seem to have some fragile working consensus about what the public interests means. But especially in other countries where I have offered this lecture—for example, in China—my audiences are often very unsettled by this question. Isn't *all* law in the public interest? What is the difference between public and private interest? Is the public interest just an aggregation of private interests, or is it something more?

At least in the United States, most public trust cases suggest that the relevant public is the population of the relevant sovereign, usually the state. The New Jersey Supreme Court reached this conclusion most explicitly in the *Matthews* beach access case, in which it determined that the interests of state citizens who lived far away from the beach must be protected, even at the expense of the contrary interests among the more local beachfront communities.⁵⁰² In *Mono Lake*, the court invoked the interests of the entire state of California in preserving Mono Lake—even though millions of Los Angelenos are missing their former access to water that will now remain in a basin where only a few hundred live.

With that anti-utilitarian calculus in mind, the public interest has to be more than just the aggregation of private interests—unless we indulge an

⁵⁰¹ See *supra* note 496 and accompanying text.

⁵⁰² 471 A.2d 355, 363–64 (N.J. 1984).

extravagantly hypothesized cost–benefit analysis of social preferences favoring environmental intangibles that we may never be able to prove. Even though the trust sounds in the concept of ownership, it has taken on undertones of stewardship, at least in California. This makes sense, given that an important difference between a state’s public trust obligations and its authority to protect public welfare under the police power more generally is that the public trust doctrine puts more focus on the welfare of future generations. In that way, the “public” of the public trust doctrine requires consideration of intergenerational equity, necessarily infusing the doctrine with undertones of sustainability.⁵⁰³ Nevertheless, the California high court also invoked utilitarian reasoning in affirming the need to move water great distances to the south, even when doing so causes harm to the basin of origin. Public trust resources may be damaged, but the public interest requires it.

To that end, it may be that the California Supreme Court hasn’t quite worked out what the public interest means either—and more to the point, doesn’t have to. By assigning the task to the Water Board to figure out, the decision suggests that the public interest is whatever the political process determines it to be, through conventional measures of consultation and consensus building. That means that the Audubon Society, the Forest Service, the scientific community, and perhaps even the international community are all able to voice their interests as public participants.

So perhaps the public trust “public” isn’t really a discrete collection of people; perhaps it is defined more as a process of public expression. (Public choice theorists, cue your violins!) Cynically, one could conclude that the role of the public in public trust controversies is therefore to be played by whoever turns out to be most successful at mobilizing the political process. Less cynically, how else is democracy intended to work?

B. What Interests Does the Public Trust Doctrine Protect?

A key question that continues to bedevil the discourse is the issue of which resources should receive protection by the doctrine. Why is it that some resources seem to merit public trust consideration, while others do not? If the trust protects more than just water resources—for example, if it protects the atmosphere—then what else does it protect? All resources subject to private appropriation and monopoly? Only those that reach some critical threshold of utilitarian or biocentric concern? Should it protect pollinators, soil microbes, and other natural resources that provide critical ecosystem services? At what point, if any, is the critics’ fear of doctrinal limitlessness made manifest?

In the uncontroversial context of navigable waterways, *Mono Lake* and *Marks* assigned novel trust protection to ecological, recreational, and scenic

⁵⁰³ This important distinction also differentiates the public trust doctrine from the police power that is the sole province of state law, an important distinction for those urging a federal trust obligation. See *supra* notes 62–78 (discussing the interpretive possibility of a federal public trust).

values, but neither decision provided a definitive theoretical account that would resolve these issues in other resource contexts. But even when we agree that a resource warrants public trust protection, what interests should be taken into account when balancing environmental values against the competing economic development and private property values that collide in public trust conflicts? If you were the Water Board tasked with managing the conflict between prior appropriations and the public trust at Mono Lake, what would you consider? Gross domestic product? Birds? Human Health? Wilderness? Jobs? The Water Board had to consider each of these in the *Mono Lake* aftermath, but which should have more or less gravity?

In reaching the balance established by Decision 1631, the Water Board was faithful to the compromise position that the court struck with regard to the integration of public trust and private appropriation principles in water allocation. The Board appeared to thoughtfully weigh the interests of birds, human health, the ecosystem, and the Mono Basin regional economy in establishing a target lake level that would mitigate the most severe harms to each of these interests. It also accounted for the municipal interests of Los Angeles, in allowing the city to divert at a reduced but steady stream once the most immediate danger to the Mono Basin ecosystem had passed—even while the system was still under stress. Still, the diversions were so reduced—by nearly 45,000 acre-feet per year⁵⁰⁴—that one could reasonably conclude that birds, human health, and wilderness in the basin had trumped competing interests in Los Angeles.

Indeed, in the immediate aftermath of the court's decision, sentiment toward protecting Mono Lake ran high, even among Los Angelenos. Twenty years later, however, the lake has missed the designated 2014 lake level target.⁵⁰⁵ In fact, it has never moved above the halfway point of designated recovery.⁵⁰⁶ And notwithstanding the court's recognition of an ongoing duty of supervision, there has been no move to revisit the allocation—although the dropping lake level will automatically trigger reduced exports in the near future.⁵⁰⁷ With worsening reservoir conditions,⁵⁰⁸ Los Angeles's legitimate needs for water have also taken on new urgency. If the public interest is the political consensus of the moment, then perhaps the public interest has shifted, and 50% progress may be the new normal. Whether 50% progress should be seen as half empty or half full remains to be seen.

That the public interest may be the political consensus of the moment lends credence to the concerns of the green dissent that environmental

⁵⁰⁴ Paul S. Kibel, *The Public Trust Navigates California's Bay Delta*, 51 NAT. RESOURCES J. 35, 51 (2011).

⁵⁰⁵ See *Mono Lake Level*, *supra* note 393 (showing that Mono Lake has not reached the target level since Decision 1631).

⁵⁰⁶ See Mono Basin Clearinghouse, *Mono Lake Levels 1850—Present*, <http://www.mono-basinresearch.org/data/levelyearly.php> (last visited Apr. 17, 2015).

⁵⁰⁷ See McQuilken, *supra* note 396 (explaining that exports will be reduced by 70% as the lake reaches a threshold of concern).

⁵⁰⁸ Cal. Dep't of Water Res., *Water Storage in Selected California Reservoirs*, <http://cdec.water.ca.gov/cgi-progs/rpts1/STORAGEM> (last visited Apr. 17, 2015) (showing declines in storage for several of California's major reservoirs).

protection would do better with firmer commitments than mere public process.⁵⁰⁹ On the other hand, what if Los Angeles runs out of water? Some Central Valley agricultural communities without access to the municipal water grid have already done so this year,⁵¹⁰ and it is excruciating to watch. (Come to think of it, though with joyless irony, it looks a lot like what happened to the agricultural communities of the Owens Valley.) Is the indeterminacy of the doctrine its Achilles' heel, then—impeding certainty for both property rights and environmental protection? Or is it the genius of the doctrine—facilitating the ongoing conversation between citizens and sovereign that balances and rebalances competing interests as circumstances evolve?

C. Does the Public Trust Doctrine Create Substantive or Procedural Obligations?

Following this line of thinking, what exactly does the doctrine require of its administrators? At least as the California Supreme Court interpreted it, is there genuinely substantive content to the doctrine, in a meaningful command to protect trust values? Or is there merely a procedural requirement—similar to the procedural requirement under the National Environmental Policy Act (NEPA)⁵¹¹—to have considered them before destroying them? The *Mono Lake* decision orders the Water Board to protect trust resources as much as is feasible, but how do we know how much that is? If we've thought it over and decided it's not feasible, is that enough to satisfy judicial scrutiny?

The language of the decision is sparse and vague on this point, so it's hard to say definitively what substantive force there is to the command. The *Mono Lake* doctrine of ongoing oversight makes clear that the state may not rely on past decisions as determinative without seriously assessing their current and future consequences. And the Water Board must protect trust values as much as is feasible, perhaps appropriately punting the determination to agency experts, who can engage in whatever research and public participation is necessary to evaluate what is feasible under the circumstances. The decision doesn't provide very much guidance about what "feasible" actually means.

Still, the command does include a cognizable, if modest, substantive component. The court affirmatively requires that the resource be protected—at least as much as is feasible—and not just studied. In this respect, the California public trust doctrine is not equivalent to the information-forcing, substantively agnostic perspective that has come to be associated with NEPA. Although it may be weak in comparison to the

⁵⁰⁹ See *supra* notes 427–444 (discussing the environmental critique of the public trust doctrine).

⁵¹⁰ See, e.g., Veronica Rocha, *Central California Residents Rely on Bottled Water As Wells Run Dry*, L.A. TIMES, Aug. 27, 2014, <http://www.latimes.com/local/lanow/la-me-ln-central-california-residents-wells-go-dry-20140826-story.html> (last visited Apr. 17, 2015).

⁵¹¹ National Environmental Policy Act of 1969, 42 U.S.C. §§ 4321–4370(h) (2012).

statutory commands of other environmental protection laws, there is an identifiable, substantive commitment in the California trust to achieving as much environmental protection as possible.

Would the Water Board have satisfied the court's command, then, had it considered the issues and simply decided to renew Los Angeles's rights to divert as before? So long as it produced a solid enough record of the evidence to withstand the arbitrary and capricious standard of judicial review, a sympathetic court might have affirmed the agency against a challenge in court. On the other hand, we now know that this absolutely should not have satisfied the command to protect as much as is feasible, because more really *was* feasible. At least with the benefit of hindsight, we have seen that much more protection was possible, once Los Angeles undertook serious water conservation measures. So it will all come down to what kind of record the agency and plaintiffs produce, how hard a look the overseeing court takes, and perhaps how good everyone is at predicting the future at the moment of decision.

The requirement to protect at some level thus deviates from NEPA's purely procedural requirement, but it still remains unclear exactly what kind of substantive obligation is left. In keeping with California legal tradition, perhaps the trust obligation comes closer to the California Environmental Quality Act's (CEQA)⁵¹² command—which disallows approval of an unmitigated environmentally harmful project only if the agency formally explains the overriding public considerations that outweigh the project's significant impacts.⁵¹³ Either way, much hinges on judicial and administrative discretion—but this is a doctrine that stakes its entire methodology on judicial discretion to oversee legislative and executive decision making. If we can't trust the court to do that, then what's the point of the doctrine?

Yet if the doctrine really does create substantive obligations, why has it performed so little since the *Mono Lake* case?⁵¹⁴ I suppose it is possible that everything is already perfect in California, but having lived there for a number of years, I suspect that it is not. Nevertheless, consider how much more the doctrine has done since then abroad, where its substantive component has shown undeniable force in various countries in Asia, Africa, and the Americas.⁵¹⁵ In these international contexts, the trust sweeps with even greater aspiration, to the delight of its proponents, and the concern of its critics.

⁵¹² CAL. PUB. RES. CODE § 21081 (West 2007).

⁵¹³ *Id.*

⁵¹⁴ See Owen, *supra* note 374, at 1122–23 (demonstrating how little actual change this doctrine has wrought in California since *Mono Lake*).

⁵¹⁵ See generally Michael C. Blumm & Rachel D. Guthrie, *Internationalizing the Public Trust Doctrine: Natural Law and Constitutional and Statutory Approaches to Fulfilling the Saxion Vision*, 45 U.C. DAVIS L. REV. 741 (2012) (discussing various countries' approaches to the public trust doctrine).

D. How Does the Public Trust Doctrine Intersect with the Separation of Powers?

Following naturally from these concerns, the public trust doctrine asks us to consider the rightful roles of all the different legal actors in accomplishing this complex decision making. What is the appropriate role of the legislature? The courts? Administrative agencies? The citizens? Who should get to make the tough calls? Is the court an appropriate check on legislative action, or is it a feckless tyrant who will undo democratic processes? How much judicial discretion are we willing to accept? And how much power should the court have over the other branches? Should it only be able to undo bad decisions, or should it be able to affirmatively assess natural resource damages, as Professor Wood proposes?

It's old legal hat by now that most policy making is appropriately legislative, because the legislature is the designated apparatus of government for hammering out public consensus among competing considerations. That said, it is new legal hat that administrative agencies are increasingly involved in the process, often by legislative invitation in broadly framed requests for implementation, and often for good reason.⁵¹⁶ Legislators can't be experts about all the thorny details in every narrow subject of legal concern, but agency bureaucrats are subject matter experts by design. The court helps adjudicate civil, criminal, and constitutional disputes by interpreting the laws and the past judicial precedent making sense of them. The citizens oversee the entire mechanism by participating in the political process as voters, jurors, letter-writers, public commenters, NGO lobbyists, and occasionally as plaintiffs.

The public trust doctrine engages everyone in their usual role. The legislative and executive branches coordinate in policy making and implementation until a citizen objects, filing a public trust claim. The court considers the claim in light of the available doctrine to decide whether the sovereign has abdicated a trust responsibility. If it concludes that the trust has been violated, the court simply informs the parties that the challenged government activity was *ultra vires*—beyond its authorized powers—and the sovereign actor revisits the decision. As a matter of public trust theory, the court doesn't invalidate political action; the court simply interprets whether the applicable doctrine allowed or prevented the challenged action from having legal force. Which makes the judicial role seem less tyrannical—although critics may legitimately worry about the expansion of judicial power under the doctrine through unchecked judicial interpretation. Then again, isn't that the normal operating process of the common law?

The separation of powers concern is certainly more muted when the doctrine is based on a constitutional or statutory source, because then the court is simply interpreting a legislative command. There is less room for judicial improvisation, and less room for criticism of judicial self-aggrandizement. But even when the court is interpreting the common law

⁵¹⁶ See, e.g., Owen, *supra* note 374 (discussing the preeminent role of administrative agencies in implementing trust-sensitive governance).

public trust doctrine, itself articulated by other judges, separation of powers concerns should not derail the doctrine.

Just as *Marbury v. Madison*⁵¹⁷ had to invent judicial review of congressional acts to protect the constitutional order,⁵¹⁸ so the public trust doctrine was necessary to protect sovereign regulation of critical public commons from capture by private interests. And as noted above, what we casually refer to as the “common law” public trust doctrine may itself be a quasi-constitutional doctrine—or at least an inherent limit on sovereignty that should be recognized constitutionally, even if it is not expressly created by the constitution.⁵¹⁹ (After all, the Constitution nowhere mentions the words “equal footing,” and yet we uncontroversially consider that a constitutional doctrine.)⁵²⁰ The Supreme Court does not presently favor this view,⁵²¹ but as does the common law, constitutional interpretation sometimes changes with time.

If the premise of the doctrine is that some commons resources must remain in public ownership, then the public has to be able to check political activity that falls prey to political patronage or other shortsighted impulses to expropriate trust values. Throwing the bums out is an insufficient corrective if the bums have already conveyed away an irreplaceable public trust resource—like Chicago Harbor, Mono Lake, or atmospheric integrity. But within the constitutional order, the only other avenue available to aggrieved citizens is to invoke judicial review, and have their day in court. For this reason, the judicial role in public trust cases is not antidemocratic—it is a democratic corrective. It is the citizen’s last stand, the last opportunity to be heard within the political process.

That the doctrine should evolve through the usual processes of the common law is necessary for the same reason the common law has always evolved.⁵²² As always, times change—and with them, the circumstances. The public interest, that fleeting moment of consensus within the political process, changes with new circumstances. It is the same philosophical insight that underlies hallowed legal doctrines like the Rule Against Perpetuities and others hostile to dead-hand control. The judge evaluating the public interest in a given trust resource must have the flexibility to adjust. Notwithstanding, judges should be careful to exercise the restraint customary to their offices, because there is one aspect of the public trust doctrine that makes it special among the common law.

Questions about the judicial and legislative roles with regard to the doctrine intersect with the ultimate question that faced the California Supreme Court in the *Mono Lake* case about which doctrine should trump—

⁵¹⁷ *Marbury v. Madison*, 5 U.S. (1 Cranch) 137 (1803).

⁵¹⁸ *Id.* at 177.

⁵¹⁹ See *supra* Part II.A.2 (discussing the trust as a constitutional doctrine).

⁵²⁰ See Blumm et al., *supra* note 65, at 494–96 (critiquing Idaho’s legislative restriction of the doctrine on grounds that it is an implied constitutional doctrine, like the equal footing doctrine, that should be immune from legislative abolition).

⁵²¹ *PPL Montana, LLC v. Montana*, 132 S. Ct. 1215 (2012).

⁵²² See generally *Matthews*, 471 A.2d 355, 361–63 (N.J. 1984) (discussing the evolution of the public trust doctrine).

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the common law public trust doctrine or the statutory doctrine of prior appropriations. It was a tricky question, because when statutes conflict with the common law, we normally conclude that the common law has been abrogated by the statute. The judge-made precedents of the common law are what the legal system uses to answer questions on which the legislature hasn't spoken—and they are usually preempted uncontroversially when the legislature finally gets around to saying otherwise. So when the court determined that the public trust doctrine had *not* been displaced by statutory water law, that was a significant moment—revealing what sets the public trust doctrine apart.

The decision affirms that the public trust doctrine is special among the common law, because it doesn't just state a principle—it acts as a constraint on government action, limiting what the government may or may not do. It establishes a line beyond which the government cannot go. It acts, as discussed previously, as a limit on sovereign power.⁵²³ With that in mind, should the sovereign be able to free itself from that limit by destroying it with a statute? A few states may have come to that conclusion, by abolishing or limiting the common law public trust doctrine, as Idaho famously did by legislative enactment.⁵²⁴ But most have not done so, and like California, have honored the principle that the public trust can't be easily abrogated. To change the public trust in these states would require public consent, as through constitutional amendment by referendum.⁵²⁵

In states with strong common law doctrines, then, judges bear a heightened responsibility to act carefully, because what they decide cannot easily be undone by casual legislative response. In this respect, as even the famously libertarian Professor Richard Epstein has noted, the public trust doctrine has a constitutional dimension.⁵²⁶ When the Supreme Court renders a statutory interpretation that Congress doesn't like, it can always amend the statute. But when the Court determines that a congressional act violates the Constitution, the legislature has no recourse but to accept the court's judgment. Judicial public trust determinations have similar force, and must be taken equally seriously.

And yet, so they are—and the sky has not fallen. Constitutional interpretation, while important, is not exotic; this is what we regularly ask of our courts. By and large, they are good at it. Everyone can point to a judicial decision she doesn't like, but that hardly invalidates the system. Indeed, we hold out our constitutional system of judicial review as a model for the world. In which case, perhaps we should have more faith in the judicial administration of the public trust doctrine.

⁵²³ See *supra* note 27 and accompanying text.

⁵²⁴ Idaho Code Ann. § 58-1203 (West 2012).

⁵²⁵ See BLUMM & WOOD, *supra* note 47, at 4–5 (discussing the origins and nature of the public trust doctrine and noting the open question of “whether the public trust has constitutional force in those instances where it has not been incorporated explicitly into a constitution”).

⁵²⁶ Epstein, *supra* note 41, at 426–28.

Returning finally to the Mono Lake story: the epic tale continues. Water continues to flow back into the lake, and also south to Los Angeles. Decision 1631 had directed that the lake reach its target level in 2014, and of course, that did not happen.⁵²⁷ As this Article goes to press, news is breaking that Los Angeles will have to begin curtailing exports to 4,500 acre-feet per year—an old restriction that few had expected to see again—because the lake level on April 1, 2015 had receded to 6,380 feet.⁵²⁸ But there has been less rain in California these past ten years, and it is projected that there will be even less in the future.

Perhaps the state's duty of ongoing supervision will eventually require that even the current plans for diversions must be revisited because of the drought that has prevented the Lake's recovery. On the other hand, the lake has recovered substantially from the time of the litigation, and the drought is also causing hardship for Los Angelenos that may factor in to any reconsiderations. This is the state's delicate balancing act—its ongoing task to negotiate between Los Angeles's legitimate needs for imported water and the competing environmental, cultural, and economic reasons to keep it in the Mono Basin. The requirement of this balancing act, displacing the force of an erroneous decision of the past, is itself a substantial achievement.

Nothing in the California Supreme Court opinion tells us exactly what the balance should look like, but it does tell us to think things through carefully. Bearing in mind the rich history behind the *Mono Lake* litigation and all the questions it continues to raise for us, let us be certain that we do.

⁵²⁷ See *Mono Lake Level*, *supra* note 393 (listing historical lake levels from 1919 to as recently as February 1, 2015).

⁵²⁸ McQuilken, *supra* note 396 (“The lake has declined to a level at which water exports to Los Angeles are, by the terms of the State Water Board’s rules, automatically reduced by 70%. DWP will be limited to 4,500 acre-feet of water export, a lake-protecting restriction that no one, until recently, thought would ever be activated again. It was a solemn, though not unexpected outcome, given that California’s drought is entering its fourth year and the Mono Lake watershed is officially classified as being under ‘exceptional’ drought.”)