

RIVERFLOW

There are many people and places connected to rivers: fishermen whose livelihood depends on river ecosystems, farms that need irrigation, indigenous groups whose cultures rely on fish and flowing waters, cities whose electricity comes from hydroelectric dams, and citizens who seek wild nature. For all of these people, instream flow is vitally important to where and how they live and work. *Riverflow* reveals the diverse and creative ways people are using the law to restore rivers, from the Columbia, Colorado, Klamath, and Sacramento – San Joaquin watersheds in America, to the watersheds of the Tweed in England and Scotland, the Fraser in Canada, the Saru in Japan, the Nile in North Africa, and the Tigris–Euphrates in the Middle East. *Riverflow* documents that we already have the legal tools to preserve the ecological integrity of our waterways; the question is whether we have the political will to deploy these tools effectively.

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Riverflow

THE RIGHT TO KEEP WATER INSTREAM

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I trace these rivers from the cities to the seas to remind me what I already know.

Frank Turner, *Rivers*

Water is wet. Some water we swim in. Water helps fish swim. Water law people know about water. We have some things to tell. Now you know about water.

Malcolm Solomon Kibel, age 5

Contents

<i>List of Maps</i>	page ix
<i>Foreword: Marching Away from Folly</i> Felicia Marcus	xi
<i>Acknowledgments</i>	xxi
Introduction: Publicum Ius Aquae	1
1 Instream Rights and the Public Trust	15
2 Instream Rights and Unreasonable Use	31
3 Instream Rights and Dams	48
4 Instream Rights and Watershed Governance	66
5 Instream Rights as Federal Law Recedes	81
6 Instream Rights as Water Temperatures Rise	104
7 Instream Rights as Sea Levels Rise	120
8 Instream Rights and Groundwater Extraction	134
9 Instream Rights and Old Canals	157
10 Instream Rights and Water as an Investment	172
11 Instream Rights and International Law	192
12 Instream Rights and Irrigation Subsidies	210

13	Instream Rights and Pacific Salmon	222
14	Instream Rights and Hatchery Fish	245
15	Instream Rights as Indigenous Rights	258
	Conclusion: Policy Disconnected from Science	275
	<i>Index</i>	281

Maps

1.1	Map of San Francisco Bay Delta	<i>page</i> 16
2.1	Map of Russian River watershed	40
4.1	Map of the San Joaquin basin tributaries	69
8.1	Map of gaining stream and losing stream	139
9.1	Map of the Erie Canal	165
15.1	Map of Celilo Falls and the Columbia River Basin	259
15.2	Map of the Saru River and Nibutani Dam	263

Foreword: Marching Away from Folly Felicia Marcus*

Professor Paul Stanton Kibel has given us a gift with *Riverflow: The Right to Keep Water Instream*. He has given us the gift of removing any excuse that we lack adequate legal tools to protect our rivers and waterways and restore needed instream flows. *Riverflow* is an antidote to the line often attributed (correctly or incorrectly) to Mark Twain that “whiskey is for drinking and water is for fighting.” Professor Kibel makes clear, in a readable and unavoidable way, that the law already provides us with the authority, the means, and the obligation to strike a more ecologically sustainable balance between the instream needs of rivers and the diversion and impoundment of rivers.

For decades, the California State Water Resources Control Board (California Water Board) struggled to make good on its mission of balancing all uses of the waters of the state. During that time, the water wars have raged, punctuated by often illusive moments of progress. During my years as Chair of the California Water Board, we put forth a vision for sharing our waters, with some success and many scars to show for it. During the worst drought in modern times for California (mid-2010s), we exercised our public trust and “waste and unreasonable use” powers in a modest way to deal with the emergency, and did so with a rapidity made possible only during an “emergency.” Two decades earlier, the California Water Board had increased flows in the Bay Delta under an agreement leveraged by the threat of tougher standards being imposed by the United States Environmental Protection

* Felicia Marcus, a graduate of New York University Law School, served as a member and then Chair of the California State Water Resources Control Board from 2012 to 2019. She also previously served as Region IX Administrator for the United States Environmental Protection Agency, Executive Vice President for the Trust for Public Land, President of the City of Los Angeles Board of Public Works, and Western Director for the Natural Resources Defense Council.

Agency (USEPA) that followed the state's failure to act over many years on the Bay Delta. That pressure from the USEPA came after litigation under the Clean Water Act to force the agency to do its job. Three decades earlier, during the early 1990s, as a result of a resourceful band of activists and lawyers and their allies hundreds of miles away in Los Angeles, the California Water Board stepped up the restore flows to Mono Lake in the Eastern Sierras to help implement the California Supreme Court's 1983 *National Audubon* case, one of the most beautiful and important legal opinions of the century, after a process that took a decade.

But the politics surrounding water, in California and elsewhere, can be fierce, the gains incremental, and progress agonizingly slow. Philanthropy runs out of patience to support the time-consuming efforts to use the law effectively over time to make progress, even though at times those tools have been the only things that have led to that progress. Too often, the tools sometimes feel seemingly absent or out of reach. But they aren't, and they should not be. This is why Professor's Kibel's book *Riverflow* has come none too soon. For *Riverflow* is not an academically remote piece of scholarship but rather an inventory and revelation of how the law has been and can be deployed to preserve the instream values of rivers.

Historically, the duration of treaties and other agreements often has been described in terms such as "as long as the sun shines, the grass grows, and the rivers flow," "as long as the grass grows and the rivers run," or "As long as the moon shall rise, as long as the rivers flow. As long as the sun will shine, as long as the grass shall grow."¹ The beauty, and the tragedy, of this poetic phrasing was that to many people, not just native people, the notion of rivers running permanently dry was incomprehensible. Though droughts have come, they then have gone.² The notion that a river could run dry, whether mighty or a nearby life-giving creek, was a thing that only an early science fiction writer could conjure.³

And yet, in the nineteenth, twentieth, and twenty-first centuries, many waters have ceased to flow, so much so that those who remember what was lost are in many cases long gone.⁴ Some have been lost through intentional

¹ Because so many tribal treaties in the United States and Canada were not honored in many ways, let alone duration, the terms have also come to be seen with an ironic eye by many Native Americans. www.enotes.com/homework-help/explain-significance-phrase-long-grass-grows-water-446554; Johnny Cash, 1964 song "As long as the grass shall grow."

² John Steinbeck, *East of Eden*. "During the dry years, the people forgot about the rich years, and when the wet years returned, they lost all memory of the dry years. It was always that way."

³ Intentional use of water as a tool in conflict or a source of conflict excepted. See Peter Gleick and Jason Morrison, Pacific Institute Water Conflict chronology update, <http://worldwater.org/wp-content/uploads/2013/07/ww8-red-water-conflict-chronology-2014.pdf>.

⁴ With apologies to J. R. R. Tolkien.

effort or international conflict.⁵ Others disappeared stealthily, through the slow drip of myriad incremental diversions.

The lush and gigantic Aral Sea in Central Asia was diverted in the twentieth-century Soviet Union for agricultural and industrial development. Dust storms have proliferated, fisheries have been eradicated, and local economies have plummeted. The Mekong River that is the lifeblood of China, Vietnam, Cambodia, Laos, Myanmar, and Thailand has seen massive diversions along its banks, topped by massive dam projects in or funded by China that now have huge stretches of the river running dry, or nearly dry, with droughts exacerbated for millions.⁶ Ethiopia and Egypt are fighting over the Grand Ethiopian Renaissance Dam project on the Nile in Ethiopia, upstream of Egypt as well as Sudan. The words on both sides of the controversy over the Grand Ethiopian Renaissance read as existential threat, with Ethiopia claiming the project is essential to counter poverty and famine while Egypt has at times threatened to destroy the project with its air force if Ethiopia proceeds for the same reasons. Here at home, the great Colorado River that winds through seven Western States and upon which 40 million people in the United States depend has been dammed and diverted to the point that the river rarely makes it to the Sea of Cortez, despite international agreements, and has left the Colorado River Delta wetlands starving for water.

In California, the giant Tulare Lake that once covered much of the Central Valley disappeared in the 1930s due to upstream diversions. By the middle of the twentieth century, every major watershed in the Sierra had been dammed and its waters diverted for mining, agriculture, and urban water use. In many cases that water was diverted hundreds of miles away through storage and conveyance projects that are among the public works wonders of the world. What was once the mighty Tulare Lake bed is now a sea of some of the most productive farmland in the world with nary an indication of the lake that was once there.

Along the Southern Sierra in California, cumulative diversions and Friant Dam have dried up 60 miles of the San Joaquin River, which historically ran from its headwaters through the San Joaquin Delta and San Francisco Bay to the Pacific Ocean, until recent attempts to reintroduce flow at times that salmon could return home to spawn. In the Eastern Sierras, Los Angeles had diverted so much water from parts of the Owens Valley that the worst dust

⁵ See note 3.

⁶ 'Our River was like a God': How Dams and China's Might Imperil a River, www.nytimes.com/2019/10/12/world/asia/mekong-river-dams-china.html?action=click&module=RelatedLinks&pgtype=Article or *China Limited the Mekong's Flow, Other Countries Suffered a Drought*, www.nytimes.com/2020/04/13/world/asia/china-mekong-drought.html.

pollution in the nation existed, and Mono Lake was on the verge of disappearing by the 1970s and 1980s.

Less visible are the diversions that fail to dry a river completely but destroy much of its basic ecological functions. Along the rivers that flow into the San Joaquin-San Francisco Bay and Delta (Bay Delta) in California, as much as 80–90 percent of important river tributaries are diverted at times of year that are critical for salmon and other native species of fish. Fish survival has plummeted, as has a once vibrant fishing industry. There are certainly other factors at play than water diversions, like loss of habitat, invasive species, even global warming, but make no mistake, reduction in water flows at critical times of year is the controlling feature of the problem. Overall, half of the waters that once fed the complex Bay Delta ecosystem are diverted for other human uses, and most of that is diverted through pumps in the middle of the Delta ecosystem in such a way that many species of fish are killed either through passage through the pumps themselves or by being waylaid and tossed around by the power of the pumps' artificially reversed flows in that tidal estuary. Depletion of flows combined with the power of the pumps frequently makes it impossible for species to migrate as they had done for millennia or makes them easier prey for invasive predator species. And, as Professor Kibel documents throughout *Riverflow*, depletion of instream flows leads to slower flows and higher temperatures, which stress native fish species like salmon and steelhead trout to the point of vulnerability or death.

These water projects (the Central Valley Project and the State Water Project) are at the same time the sustainers of a miracle of food production and social and economic urban development that defines modern California and upon which the nation and other nations rely. The projects were built prior to modern environmental laws and our broader societal recognition that the preservation of nature is also in our human interest. They were envisioned and built before we knew we could divert so much in a single lifetime that it would doom species like salmon and delta smelt dependent upon flows. But, now we have that knowledge – so what do we do about it?

As Professor Kibel points out eloquently and clearly in the pages that follow, we are not without legal tools to redress these losses, but we do appear to be without the will to adequately use those tools. As Kibel writes in *Riverflow*, “the policy status quo staggers forward and the gap between policy and science widens.” In part, the problem can be laid at the feet of “politics,” but what are politics but the struggle between opposing views in society? Part of the problem is a bias toward the “win–lose” or “winner-take-all” mindset that politics seems to reward more often than it should. Part of the challenge is that to act requires the courage to balance competing interests transparently

and, with clear respect for science, to make a decision that is not simply one of the choices proposed by competing parties. The decision-makers have to construct the “balanced” answer themselves, knowing that balance is in the eye of the beholder and that they will be sued by those who wanted more for their perceived interest. To paraphrase Phil Isenberg, former Chair of both the Delta Vision Blue Ribbon Task Force and the Delta Stewardship Council, everyone is “for” balance; they just perceive what *they* want as the ideal balance.

Professor Kibel offers a way to use these tools, and to narrow the gap between science and policy – not necessarily to restore all waters to their original pristine shape at enormous cost to the communities and industries dependent upon the diversion of those waters, but in ways that share those waters more equitably between people and fish and wildlife. We rely on these waters for food, for our sense of connection to the earth, and for our shared sense of what it means to be human. That is perhaps one of the most interesting things about both the ancient and more recent sources of law detailed in *Riverflow* – whether old or new, these sources of law require us to use our human skills to balance competing uses, rather than demanding that we simply turn back the clock or defer to the status quo.

After my time in the trenches at the United States Environmental Protection Agency in the 1990s working on a series of water agreements dealing with the Bay Delta, including the much-acclaimed Bay Delta Accord, I left the divisive world of California water to join the Trust for Public Land (TPL). The Bay Delta Accord was the first of many attempts to negotiate a comprehensive approach to balancing instream needs and demand for out-of-stream diversions in the Sacramento River–San Joaquin River watersheds. TPL is a national conservation organization that works to bring together landowners, governmental agencies, communities, environmentalists, and philanthropists to protect wilderness, to restore degraded lands, to build urban parks, and to protect working landscapes. There, I saw myriad breakthroughs happen across the nation each year, as people reached across traditional divides to use practical as well as innovative legal, financing, and public outreach tools to save a place; to secure an agricultural, ranching, or forestry lifestyle while also protecting nature; or to create spaces for people to come together in nature in urban areas. It was refreshing; it was inspiring; it was really hard work, really human work. It involved working to try to find shared interests. It was about people from all of those walks of life seeing if they could come together to make something wonderful happen in their communities by sharing rather than fighting (although the will to do so frequently came after successful fights by others against proposed developments).

After returning to the water world some seven or so years later, to serve first as a member of the Delta Stewardship Council and later Chair of the California Board, I was struck by how much had not changed in California water, and how much more elusive restorative agreements were in water, despite some encouraging efforts pointing the way toward some better balance.⁷ I saw that our earlier agreements on the Bay Delta, like the Bay Delta Accord, had not saved the species, and that fish stocks had in fact actually plummeted. I saw many of the same people, speaking past many of the same people, years later, sometimes just louder and slower.

It seemed the story had not proceeded along an arc of progress but instead years of stalemate on Bay Delta action, punctuated by agreements that staunch the bleeding or even appear to make some progress, which are then set back by inaction or delay. Task force reports and plans are written, some quite excellent, but implementation is an entirely different story.⁸ As administrations change at whatever level of government, the retrenchment happens, and the sabers rattle anew, and things get set back. Philanthropic funders, tired of never-ending battles and eager to work on other issues, move on to other issues and fail to help those who would stay at a table and hold the line, or are prepared to make use of and effectively deploy the legal sources and tools that Professor Kibel lays out for us in *Riverflow*.

The fundamental historic truth is that the only thing that has yielded progress has been the use, or the threat of the full use, of our legal tools, whether the Clean Water Act, the California Porter–Cologne Act, the federal and state endangered species laws, California Fish and Game Code Section 5937, public trust law, or the prohibition of waste and unreasonable use enshrined in the California Constitution at Article X, Section 2. This history, which is in fact the daylighting of legal precedent, is at the core of Professor Kibel's *Riverflow*.

We tried to use those tools judiciously during the administration of California Governor Jerry Brown (2000–2018) whether in protecting the last important undammed salmon habitat on Mill, Deer, and Antelope Creeks, or in stemming the draining of the Russian River by pumping of interconnected groundwater, so that fish could get between puddles to huddle to survive, or in promoting water conservation, or in making truly painful choices about where to let the water flow during our horrendous drought. We didn't get all of those choices right, but we chose to act rather than to shrink from our responsibility. We moved on a serious effort to share the waters of the Bay Delta systems

⁷ Delta Vision Blue Ribbon Task Force Report (2008).

⁸ Delta Vision Blue Ribbon Task Force Report (2008).

between the ecosystem and diverters without being forced by lawsuits or the federal government, which had been the background of past California Water Board efforts. We proposed leaving more water instream for fish and wildlife, an amount that science said would help give the ecosystem a chance to function as an ecosystem, or in the words of one reporter, “let the rivers act as rivers,” and did so in a way that sought to balance that against also valuable agricultural and urban use.

We also even offered an olive branch to water users that would let them keep diverting more water if they came together to use that water in a collective and intentional way when the fish most needed it, coupled with habitat restoration that could do more for fish and wildlife than water alone could do but which we had no authority to order.

We lived through the outrage on all sides – that we dared to act, or that we didn’t dare enough. We acted on our first part of the plan to restore the lower San Joaquin River, as the settlements we had hoped for made some progress, but not nearly enough to substitute for what we had reasonably proposed. In the year plus that has followed, a new administration – that of California Governor Gavin Newsom – has continued the talks, but whether the California Water Board will act on the rest of the Bay Delta Plan (Sacramento River and Delta proper), and whether any agreements reached will truly be adequate for implementation, is still an open question despite enormous effort.

I firmly believe that if the general public understood what has been lost and what is at stake with our rivers, and if they knew that established tools to help protect our shared natural heritage were not being used, they would support their use. They would demand their use. And there would be more political will to act.

People care about water. They may know it because they love to raft, fish, and experience rivers, rapids, delta, bay, or ocean. Some of them feel grateful for the life-giving force that a river just *is* – whether to fish and wildlife, to the communities along the river, or to those who drink and bathe in a river’s waters that have been transported and treated through pipelines and treatment plants along the way. We saw urban California step up and save 24 percent of their water during the last drought to the calls of “we’re all in this together,” and we saw water agencies put out over half a billion dollars for landscape rebates that were almost instantaneously grabbed up as soon as each tranche was offered. Public opinion polls at the time said that urban residents cared about both the environment and agriculture in holding back on their water use, not just about saving their own local agency’s supplies. In my experience, rural residents and people in agriculture also care very deeply about the natural world they live close to.

Many people care about water because of the importance of saving ecosystems generally and want to be on the side of humanity that understands that we have a relationship between the earth, its life-giving waters, and ourselves that we can't totally pinpoint but know is real. It is something of a test of who we are. History and future generations will judge us for whether we could turn the tide and figure out how to restore far more of what we have lost, and whether we can figure out how to live in greater harmony with nature and each other.

As a member of the baby boomer generation in the United States, I know we have failed in some ways thus far on climate change, on keeping enough water instream so that rivers function as rivers, on failing to get basic water for life and sanitation to all people, and on other things even as we have pride for establishing our core environmental laws and regulations.

But I have also seen signs of progress and of hope, whether on experimental restoration of the upper San Joaquin River, the inspiring agreements and progress on removing dams along the Klamath River and other large-scale dam removal projects recently done or in process, or the efforts of seven states in the United States and the federal government and Mexico to send pulse flows of the Colorado River delta.⁹ The passage of the Human Right to Water as California state policy and follow-on progress to get safe drinking water to underserved Californians over the past six years is inspirational if far from done. Collaborative efforts to restore floodplains in the Bay Delta for flood control and fish survival and to use rice fields for fish sanctuary hold massive promise. At the local level, efforts to restore functional watersheds for flood control, water supply, water quality, and urban greening are in their heyday, as Los Angeles County passed a \$300 million per year measure to capture urban stormwater for resilience and urban greening and the City of Los Angeles has pledged to recycle 100 percent of its wastewater by 2035. In the Bay Area, 9 counties and 100 cities came together in an unprecedented way to vote to spend half a billion dollars and organize themselves together for the purpose of restoring wetlands to protect against the ravages of climate change-induced sea level rise rather than each building piecemeal seawalls that may have held the sea at bay for a while, maybe, but wouldn't add shoreline open space or ecosystem function.

The same is true internationally, as committees come together across five countries (Kazakhstan, Uzbekistan, Tajikistan, Kyrgyzstan, and Turkmenistan) to restore at least some part of the Aral Sea,¹⁰ and as Australia struggles with how

⁹ www.azcentral.com/in-depth/news/local/arizona-environment/2020/04/19/how-mexicos-dry-colorado-river-delta-being-restored-piece-by-piece/5082051002/.

¹⁰ Patrick Walters, *Aral Sea Recovery?*, NATIONAL GEOGRAPHIC (April 22, 2010).

to share the waters of the Murray–Darling Basin between humanity and nature.¹¹ We are at a turning point, a precipice of choice about who we are. We have the tools, but we need the will to use them in a determined and yet still graceful way.

Barbara Tuchman, the eminent historian, in her book *The March of Folly*, chronicles instances of governments or leaders making really bad choices even when they had all of the facts they needed to do otherwise. She has examples of the French and the United States in Vietnam, of King George III losing the colonies in North America, and assorted other choices that were made despite abundant factual evidence that they were leading to predictably disastrous outcomes. In terms of managing and conserving water resources in general, and preserving necessary instream flows in our rivers in particular, the question is whether we can march away from folly, and whether we can adjust policy to face the facts and honor science.

As Professor Kibel recounts in *Riverflow*, and with particular force in his conclusion on “Policy Disconnected from Science,” the signs are all around us, from the near collapse of the once teeming Bay Delta ecosystem to overly optimistic reliance on hatcheries, that there is unfortunately still much folly in the water policy sector. But there are examples from *Riverflow* that show, at times, we are starting to march in the right direction. An example that resonated with me was Professor Kibel’s account of how the development of the California Water Board’s public trust flow criteria (referred to as the Flow Criteria Report) for the Bay Delta in 2010 eventually led to the California Water Board’s adoption of base instream flows for the San Joaquin River tributaries in 2018. Here we had an initial informational process grounded in science that described what the ecosystem needed to survive and improve without reference to balancing. The Flow Criteria Report then served as the foundation for a subsequent regulatory process where the balancing occurred that made tangible progress to benefit instream interests like fisheries while still accounting for those reliant on diversions, captured in a final form amenable not only to direct enforcement but also to adjustment over time. This is a template for what the subheading of *Riverflow* – the right to keep water instream – looks like in action, even though far from done and far from sound-bite simple.

Are we going to be the generation that loses salmon and delta smelt? Are we going to be the generation that sucked our rivers dry? Will we look at the tributaries of California’s Bay Delta with regret and longing as so many in

¹¹ Margaret Simons, *Cry Me a River: The Tragedy of the Murray-Darling Basin*, 77 *QUARTERLY ESSAY* (2020).

Central Asia mourn the passing of the Aral Sea? Will we look at fishermen and women whose livelihood is being snuffed out more and more each year, and sigh with sorrow but go on about our days? Or will we be the generation that figures out how to do something about it? And we must do it not by turning our backs on the good men and women who farm or grow communities with the waters of our rivers but by figuring out a way to break through the fighting words and talking points and legitimate fears on all sides and make those hard choices to achieve a more balanced relationship with nature.

At times, I question whether we can change course. We certainly have the capacity for that kind of leadership, but rising to it seems just out of reach. Because of many people in the conservation, agricultural, urban, and government arenas trying mightily to restore or protect some remnant of “what once was before all who remember are gone,” I remain hopeful, energized, and optimistic that we can march in the right direction. At this critical turning point, Professor Kibel’s book gives us the toolkit to do so with intelligence, grace, and insight, coupled with the powerful inspiration that these are not new concepts and tools. They are tools that enlightened leaders and civilizations have established and used for centuries. We are the inheritors of this heritage. As Professor Kibel remarks in the first chapter of *Riverflow*,

[t]he 1983 *National Audubon* decision by the California Supreme Court is therefore not so much the starting point for the recognition of a public right to keep water instream, but is rather simply a reaffirmation of a public right to keep water instream that can be traced to the origins of the United States, and before that to the English common law and Roman law.

We just need to summon the will to use this remarkable inheritance, and use these tools with the balance and tenacity they require. That is no easy task, and not for the faint of heart. But it is essential. Because unless we do, it will get way more uncomfortable when we are left only with regrets for not having acted collaboratively, empathetically, and intelligently when we could have.

Take heart, and read along with *Riverflow*. It reveals how we arrived where we are and helps point toward where we need to go.

Felicia Marcus
Emeryville, California

Acknowledgments

- Portions of Chapter 1 (Instream Rights and the Public Trust) were based on material previously published in *The Public Trust Navigates California's Bay Delta*, NATURAL RESOURCES JOURNAL (2011).
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- Portions of Chapter 6 (Instream Rights as Water Temperatures Rise) were based on material previously published in *A Salmon Eye Lens on Climate Adaptation*, OCEAN & COASTAL LAW JOURNAL (2013).
- Portions of Chapter 7 (Instream Rights as Sea Level Rises) were based on material previously published in *Sea Level Rise, Saltwater Intrusion and Endangered Fisheries: Shifting Baselines for the Bay Delta Conservation Plan*, UC DAVIS ENVIRONS LAW JOURNAL (2015).

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- Portions of Chapter 12 (Instream Rights and Irrigation Subsidies) were based on material previously published in *WTO Recourse for Reclamation Irrigation Subsidies: Undermarket Water Prices as Foregone Revenue*, VIRGINIA ENVIRONMENTAL LAW JOURNAL (2014).
- Portions of Chapter 13 (Instream Rights and Pacific Salmon) were based on material previously published in *Of Hatcheries and Habitat: Old and New Conservation Assumptions in the Pacific Salmon Treaty*, WASHINGTON JOURNAL OF ENVIRONMENTAL LAW AND POLICY (2020).
- Portions of Chapter 14 (Instream Rights and Hatchery Fish) were based on material previously published in *Salmon Lessons for the Delta Smelt: Unjustified Reliance on Hatcheries in the October 2019 USFWS Biological Opinion*, ECOLOGY LAW CURRENTS (2020).
- Portions of Chapter 15 (Instream Rights as Indigenous Rights) were based on material previously published in *A Human Face to Instream Flow: Indigenous Rights to Water for Salmon and Fisheries*, EMORY INTERNATIONAL LAW REVIEW (2020).