
Salmon, Science, and Subsidies

A Book Review by Ian Fein* of *Water War in the Klamath Basin: Macho Law, Combat Biology, and Dirty Politics* by Holly Doremus and A. Dan Tarlock (Island Press 2008).

INTRODUCTION

The Klamath Basin contains all the characters and conflict required for a captivating story. In 2001, thousands of protesting farmers formed a bucket brigade to carry water past a closed-off dam.¹ The following year, frustrated fishermen, Indians, and environmentalists delivered dead salmon to the steps of the Department of Interior headquarters in Washington, D.C.² Add to the mix embattled agency scientists,³ congressional attempts to gut the Endangered Species Act (ESA),⁴ and allegations of improper political interference by top Bush administration officials,⁵ and what you get is one epic water saga.

Authors Holly Doremus and A. Dan Tarlock enlist the plot from this ongoing drama as a case study to explore the institutional dysfunctions of managing water-stressed ecosystems. Interweaving the Klamath narrative with detours into legal doctrine, the authors illustrate how many of our environmental laws and institutions run counter to one another and inhibit cooperation or compromise. Further, the authors argue that an overreliance on inherently uncertain science for a “correct” solution to these complex environmental conundrums often exacerbates the controversy.⁶ Ultimately, neither law nor science alone can resolve these conflicts.⁷ Instead, the authors suggest we need a new legal framework that addresses the entire ecosystem and encourages necessary trade-offs among competing interests.⁸

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1. HOLLY DOREMUS & A. DAN TARLOCK, *WATER WAR IN THE KLAMATH BASIN: MACHO LAW, COMBAT BIOLOGY, AND DIRTY POLITICS* 2 (2008).

2. *Id.* at 140.

3. *See id.* at 128.

4. *See id.* at 153.

5. *See id.* at 159–60.

6. *Id.* at 114–18.

7. *Id.* at 17.

8. *Id.* at 192–93.

Doremus, a University of California, Berkeley, law professor who holds a Ph.D. in plant physiology, and Tarlock, a water law expert and professor at the Chicago-Kent College of Law, spell out specific recommendations for the still unresolved Klamath conflict. But more importantly, they seek to extract lessons from the Basin for other western watersheds where communities are struggling to navigate current needs and ecological realities within outdated water systems. Watersheds throughout the West are stretched to their breaking point, the authors write.⁹ The Klamath is just the first place where it broke.

I. WHAT HAPPENED IN THE KLAMATH?

Covering roughly 12,000 square miles, the Klamath is a remote “upside-down” watershed with upper and lower basins that are geographically, biologically, and socially distinct.¹⁰ The flat, arid, upper basin is located mostly in southern Oregon, and includes wildlife refuges and lakes with endangered freshwater sucker fish.¹¹ However, vast tracts of irrigated agricultural land have dominated the region for the last century, ever since the Bureau of Reclamation built a large network of dams and canals beginning in 1906.¹²

By contrast, the steep, lower basin follows the main-stem Klamath River as it carves canyons through forested northern California and drains into the Pacific Ocean within Redwood National Park.¹³ Three federally-recognized Indian tribes reside along the lower basin river,¹⁴ which also provides vital habitat for steelhead trout and chinook and coho salmon.¹⁵ Although coho is the only one of these fish currently listed under the ESA, all salmonid populations are suffering declines¹⁶—caused in part by a series of upstream hydroelectric dams and low instream water flows.¹⁷

Tension between competing Klamath water uses dates back several decades. Doremus and Tarlock describe the reclamation project as long on a “collision course” with wildlife;¹⁸ the Basin even made a 1962 cameo appearance in *Silent Spring*, where Rachel Carson linked a large bird kill in the upper lakes to the presence of agricultural chemical residues.¹⁹ However, the Klamath conflict did not come to a head until the turn of the twenty-first

9. *Id.* at 6.

10. *See id.* at 23–25.

11. *Id.* at 27, 108.

12. *Id.* at 48.

13. *Id.* at 34.

14. *Id.* at 66.

15. *Id.* at 30–31.

16. *Id.* at 31–33.

17. *Id.* at 95.

18. *Id.* at 55.

19. RACHEL CARSON, *SILENT SPRING* 47 (Houghton Mifflin 1962).

century, when a severe drought in 2001 forced federal officials to deny nearly all irrigation deliveries to farmers in favor of protecting the endangered fish.²⁰

The move sparked outrage among the upper basin agricultural community, which, in turn, attracted media attention and tens of millions of dollars in federal drought assistance.²¹ Moreover, it prompted political efforts to gut the ESA,²² as well as an independent, critical review of wildlife agency science by a blue-ribbon National Research Council (NRC) panel.²³ The Interior Department reversed its position the subsequent year and released additional water for the farmers.²⁴ But a massive die-off of tens of thousands of downstream fish ensued, resulting in an economic disaster for fisheries and, unsurprisingly, more rounds of litigation.²⁵

The resolution of the Klamath conflict remains unwritten. The authors describe a “fragile” and “temporary” peace brokered by federal dollars and a string of wet years, neither of which address the root problems.²⁶ Negotiations tied to the Federal Energy Regulatory Commission (FERC) relicensing process for the Klamath hydroelectric dams produced a preliminary agreement in the fall of 2008, which might lead to the removal of four dams beginning in 2020.²⁷ However, the non-binding agreement has yet to be finalized, and many questions about feasibility and funding remain unanswered.²⁸

II. MACHO LAW

The authors refer to western water law and the ESA as inflexible “macho” legal regimes that protect the status quo, encourage conflict, and inhibit compromise.²⁹ Initially, the United States supported development of the West through reclamation and appropriative state water rights—which, by their very nature, became deeply entrenched.³⁰ Decades later, Congress crafted environmental protection statutes like the ESA, but without any real attempt for integration or coherence with the earlier resource exploitation regimes.³¹ Thus,

20. DOREMUS & TARLOCK, *supra* note 1, at 1–2.

21. *Id.* at 123, 156.

22. *See id.* at 153 (“The Senate narrowly rejected (52–48) a rider . . . that would have removed the [Fish and Wildlife Service’s] power to protect fish habitat under the ESA.”).

23. *Id.* at 121.

24. *Id.* at 138.

25. *Id.* at 75–76, 139–140.

26. *Id.* at 113.

27. Press Release, U.S. Dep’t of Interior, Agreement in Principle Marks First Critical Step on Presumptive Path to Remove Four Klamath River Dams (Nov. 13, 2008), http://www.doi.gov/news/08_News_Releases/111308.html.

28. *See, e.g.*, Glen Martin, *A River Runs Through It*, CAL. LAWYER, May 2009, at 18, available at <http://www.callawyer.com/story.cfm?eid=901298&evd=1>.

29. DOREMUS & TARLOCK, *supra* note 1, at xvii.

30. *See id.* at 37–40. The doctrine of prior appropriation grants a superior right to the first person who puts a water source to “beneficial use” and continues to do so over time. *Id.* at 37–38.

31. *See id.* at 87–89.

instead of creating a compromise policy between two extremes, Congress enshrined inherently contradictory interests.³² Further, these environmental laws embolden and encourage advocates to use litigation to provoke crisis.³³ The authors believe that in some cases, like logging in the Northwest, strong enforcement of the ESA catalyzed creative solutions.³⁴ But so far in the Klamath, ESA enforcement has mostly spurred more conflict.³⁵

A. *Water Rights*

As in many landscapes, control of water is the key to the Klamath's destiny.³⁶ One of the first projects authorized under the Reclamation Act of 1902, and the largest of its time,³⁷ the Klamath irrigation system allowed agricultural settlement of the area.³⁸ The reclamation "era" has since been discredited on both environmental and economic grounds,³⁹ yet its legacy—with massive infrastructure and contractual water entitlements—often stands in the way of change.⁴⁰ Klamath water rights are complicated somewhat by the upper basin wildlife refuges and, more so, by inchoate tribal water rights that need not be registered and have yet to be quantified.⁴¹ However, because the ESA has the greatest ability to upset existing power structures like water law, it often ends up at the heart of western environmental battles⁴²—as it did here.

Overall, the federal government's ability to impose regulatory limits on state water rights through the ESA remains hotly contested and unclear.⁴³ For the Basin, the Ninth Circuit in *Klamath Water Users Protective Ass'n v. Patterson* held that irrigators' rights were subservient to the ESA regarding water-use decisions.⁴⁴ However, after the publication of the book, the Oregon Supreme Court in early 2009 agreed to decide a related question certified by the Federal Circuit: whether, under state law, the Klamath irrigators had a property right in the water that they could claim was "taken" by the federal government in violation of the Fifth Amendment.⁴⁵

32. *See id.*

33. *Id.* at 181.

34. *Id.* at 182.

35. *Id.*

36. *Id.* at 76.

37. *Id.* at 47.

38. *Id.* at 56.

39. *Id.* at 46, 56–57, 147; *see also* MARC REISNER, *CADILLAC DESERT: THE AMERICAN WEST AND ITS DISAPPEARING WATER* (rev. ed. 1993) (critiquing the Reclamation Bureau for spending vast amounts of federal dollars on unnecessary dams that flooded Western rivers and encouraged over-consumption of water supplies).

40. *Id.* at 37.

41. *Id.* at 42.

42. *Id.* at xv.

43. *Id.* at 95–96.

44. *Klamath Water Users Protective Ass'n v. Patterson*, 204 F.3d 1206, 1213 (9th Cir. 1999).

45. *Klamath Irrigation Dist. v. United States*, 202 P.3d 159 (Or. 2009).

B. ESA Too Far?

Although environmental advocates often embrace the ESA as their strongest weapon, the authors believe it is also a high-risk strategy and inadequate tool.⁴⁶ The story of the ESA, they suggest, is one of trying to use a device designed for single-species preservation to achieve the modern goal of biodiversity conservation.⁴⁷ The law is really a tool to prevent new harms to listed species, and, in that respect, works much like western water law by protecting the status quo.⁴⁸ Moreover, although aggressive ESA implementation may be the strongest lever environmental interests have to bring other players to the negotiating table, the authors warn that pushing enforcement to its extreme also invites retaliation.⁴⁹ In the Klamath, for instance, water users responded with political attempts to roll back the ESA and attacks on the science behind its implementation.⁵⁰ The Klamath irrigators also won a precedent-setting Supreme Court decision establishing that they had standing to challenge ESA enforcement.⁵¹

In the end, the authors urge all sides to rethink their winner-take-all legal approaches. Although litigation in the Klamath has produced disconnected results helpful to various interests, it has not fundamentally changed water allocation practices, reduced ecosystem pressures, or produced new visions for the Basin.⁵² The Klamath's continued status as a troubled landscape after two decades of nearly constant litigation underscores the limited reach of such an approach.⁵³ Courts cannot resolve complex environmental conflicts or devise comprehensive solutions; at most, they can stimulate the political branches to more directly address a problem.⁵⁴ Thus, the authors argue for new laws and institutions that take a broader view of the landscape and empower competing parties to make necessary trade-offs.⁵⁵ Until now, most parties in the Klamath have acted negatively, using politics and litigation to cancel or block gains made by other interests.⁵⁶ For any real breakthrough to occur, the authors

46. DOREMUS & TARLOCK, *supra* note 1, at 169–70.

47. *Id.* at 90.

48. *Id.* at 169.

49. *Id.* at 170.

50. *See id.* at 121, 137.

51. *Bennett v. Spear*, 520 U.S. 154, 176–77 (1997) (“[Besides conserving species,] another objective (if not indeed the primary one) [of the ESA] is to avoid needless economic dislocation produced by agency officials zealously but unintelligently pursuing their environmental objectives.”); *see also* DOREMUS & TARLOCK, *supra* note 1, at 18.

52. DOREMUS & TARLOCK, *supra* note 1, at 182.

53. *Id.* at 166–67.

54. *Id.* at 166.

55. *Id.* at 207.

56. *Id.* at 145.

conclude that all stakeholders must surrender some security from the “macho” legal regimes on which they currently rely.⁵⁷

III. COMBAT BIOLOGY

After critiquing the parties’ legal approach, *Water War* also seeks to “explode the myth” that science can provide the solution for conflicts like the Klamath.⁵⁸ The authors pledge their strong belief in science, and agree that it must play a role in informing and guiding natural resource management decisions.⁵⁹ But they also recognize its inherent limits—noting that data is often both lacking and unclear, and that humans interpret ambiguous evidence in ways that reinforce their preexisting beliefs.⁶⁰ Thus, overemphasizing science can often heighten controversy.⁶¹ Opposing interests end up battling for the scientific high ground instead of finding common ground on the substantive issues they know to exist. Further, the final management decisions by their very nature must include value and policy judgments.⁶² Science can help us understand the consequences of various choices, but the authors admonish that it cannot ultimately tell us which choices to make.⁶³

A. *The NRC and “Junk Science”*

ESA implementation inevitably puts science under the microscope because the statute mandates that agencies rely on the best available science.⁶⁴ Thus, ESA enforcement was bound to ignite a scientific battle in the Klamath, where a simmering hostility had federal biologists already removing government license plates from their vehicles.⁶⁵ Upper basin water interests challenged the federal wildlife agencies’ science as far back as 1993, shortly after the listing of freshwater sucker fish species.⁶⁶ However, the real “combat” occurred over the Fish and Wildlife Service and National Marine Fisheries Service Biological Opinions that provided the rationale for the irrigation closure in 2001.⁶⁷ Initially, water users attacked the wildlife agencies with litigation and legislative efforts to reform the ESA.⁶⁸ But, in what proved to be

57. *See id.*

58. *Id.* at 113–14.

59. *Id.* at 115.

60. *Id.* at 116–17.

61. *Id.* at 118.

62. *Id.*

63. *Id.* at 117.

64. Endangered Species Act § 7(a)(2), 16 U.S.C. § 1536(a)(2) (2006); *see also* DOREMUS & TARLOCK, *supra* note 1, at 119.

65. DOREMUS & TARLOCK, *supra* note 1, at 128.

66. *Id.* at 108.

67. *Id.* at 100–11.

68. *See id.* at 121.

an adept political strategy, regulation opponents also helped commission the NRC to independently review the agencies' Biological Opinions.⁶⁹

Released in early 2002, the preliminary NRC report cut the legs out from the main agency recommendations about water diversions, concluding there was no substantial scientific basis to justify withholding water from the farmers.⁷⁰ Irrigators used the preliminary report as political ammunition, garnering national media headlines with allegations of "pseudoscientific reasoning" and "junk science"—even though the report endorsed other aspects of the agency science and equally criticized the Bureau of Reclamation's proposal to decrease lake levels and river flows.⁷¹ The final NRC report, released two years later with much less media fanfare, expressly rejected charges that the embattled wildlife agencies used "junk science."⁷² However, the final report maintained its core conclusion that there was no substantial evidence to support the dramatic water curtailments.⁷³

B. Lessons Learned

The authors use the NRC report to suggest that science no longer reliably works in favor of environmental interests.⁷⁴ The flashpoint for disagreement is often the appropriate burden of proof: proponents of environmental regulation want agencies to apply the precautionary principle and impose regulations even if supporting evidence is less than certain, while opponents exploit uncertainties and argue in favor of the status quo absent strong evidence that new regulation is warranted.⁷⁵ This tactic of promoting "sound science" had been building for about a decade, but the Klamath NRC report was the first high-profile case that squarely threatened to undermine the law's authority and legitimacy.⁷⁶ Perhaps unwittingly, the report revealed how thin scientific data supporting policy decisions often can be.⁷⁷

Even so, the authors suggest that the preliminary NRC report was misused.⁷⁸ Finding that controversial water-use policies lacked evidentiary support did not mean they were wrong or unjustified—even though that is how irrigation interests and many members of the media interpreted it.⁷⁹ In fact, the NRC panel agreed that the limited data available could neither prove nor

69. *Id.*

70. *Id.* at 123.

71. *Id.*

72. *Id.* at 123–24.

73. *Id.*

74. *See id.* at 119.

75. *Id.* at 118.

76. *Id.* at 119.

77. *Id.* at 129.

78. *Id.* at 191.

79. *Id.* at 130.

disprove specific fishery impacts from the different water levels.⁸⁰ And because there is virtually never enough data or research, environmental management decisions always require some degree of extrapolation and precaution.⁸¹

In the end, *Water War* faults regulatory agencies that fail to express doubt or acknowledge the limitations of their scientific findings.⁸² Instead, agencies and environmental advocates should be more upfront about scientific uncertainty, and more transparent about where scientific judgments end and policy decisions begin.⁸³ In the Klamath, the authors conclude, there is no empirical “right mix” of agriculture, ecosystems, and fish.⁸⁴ Environmental management decisions can and must draw on science.⁸⁵ But ultimately, choosing what actions to take involves value and policy judgments as well. Science can inform, but not determine, those choices.⁸⁶

IV. DIRTY POLITICS

Despite including it in their title, the authors find that charges of “dirty politics” in the Klamath were mostly overblown.⁸⁷ Doremus and Tarlock identify three kinds of politics: “plain vanilla politics,” otherwise known as typical representative governance; “cash-flow politics,” which involve redistributive funding decisions; and “dirty politics,” where someone uses legislative or executive power to cancel or block the results of true representative democracy.⁸⁸ In the Klamath, the authors find that the major political response involved “cash-flow” decisions.⁸⁹

A. “Plain Vanilla” Attempts to Gut the ESA

Following the 2001 headgates closure, the Klamath agricultural community enlisted their elected officials—most notably, then-U.S. Senator Gordon Smith (R-Oregon)—to sponsor attempts to roll back and even repeal the ESA.⁹⁰ Some of these attempts came remarkably close to passage; by a vote of 52 to 48, the Senate narrowly rejected a rider put forth by Senator Smith that would have eliminated the Fish and Wildlife Service’s ability to protect fish

80. *Id.* at 133.

81. *Id.* at 130–31.

82. *See id.* at 116 (“[A]gencies can use the cloak of scientific objectivity to hide, and therefore to evade political responsibility for, their value choices.”), 120 (“The [Fish and Wildlife Service] did not confess to any significant doubt.”).

83. *See id.* at 21.

84. *Id.* at 117.

85. *Id.* at 118.

86. *Id.* at 118, 130.

87. *Id.* at 159–61.

88. *Id.* at 151–52.

89. *Id.* at 152.

90. *Id.* at 153.

habitat under the ESA.⁹¹ Several other Republican-led congressional efforts to weaken the law followed, though they were largely abandoned after the leading ESA critic, former House Resources Committee chairman Richard Pombo (R-California), lost his reelection bid in the 2006 midterm elections.⁹²

B. Allegations of “Dirty” Involvement by Rove and Cheney

Mainstream national newspapers reported two major allegations of improper political interference in the Klamath Basin.⁹³ In 2003, the *Wall Street Journal* reported that White House political strategist Karl Rove lobbied top Interior officials behind the scenes to ensure that the Interior Department would side with the agricultural community in the Klamath water dispute.⁹⁴ President Bush lost the state of Oregon by less than a percentage point in the 2000 election, and Rove reportedly wanted to shore up support in the then-swing state.⁹⁵

Later, during the denouement of the Bush administration, a Pulitzer Prize-winning *Washington Post* investigative series on Vice President Dick Cheney reported details of his deep involvement in Klamath decision making, allegedly reaching far down the chain of command to influence Interior Department officials.⁹⁶ The *Post* reported that the Vice President explored ways to “get around” the ESA, but instead engineered the NRC review of agency science as a more effective way to undermine ESA implementation in the Klamath.⁹⁷

Although these articles generated significant interest outside of the Basin, *Water War* concludes that the evidence is thin on direct White House interference.⁹⁸ A Department of Interior Inspector General investigation determined Rove’s influence did not drive water delivery decisions, and the NRC denies Cheney played any part in empanelling the Klamath review committee.⁹⁹ Thus, the authors suggest that the White House exerted indirect influence at most.¹⁰⁰

C. A “Cash-Flow” Moral Hazard

The major political response to the Klamath involved the flow of dollars. Following the closing of the headgates in 2001, federal politicians “turned on

91. *Id.*

92. *Id.*

93. *Id.* at 159–60.

94. Tom Hamburger, *Water Saga Illuminated Rove’s Methods*, WALL ST. J., July 30, 2003, at A4.

95. *See id.*

96. Jo Becker & Barton Gellman, *Leaving No Tracks*, WASH. POST, June 27, 2007, at A1, available at http://voices.washingtonpost.com/cheney/chapters/leaving_no_tracks.

97. *Id.*

98. DOREMUS & TARLOCK, *supra* note 1, at 160.

99. *Id.* at 159–60.

100. *Id.* at 160–61.

the disaster relief spigot”¹⁰¹ and appropriated some \$20 million for direct payments to the roughly 1100 irrigated farmers.¹⁰² Then, after the massive salmon die-off downstream, the Commerce Department appropriated more than \$60 million for the economic fishery disaster.¹⁰³

The authors examine these payments in a larger context, and note that Klamath agriculture from the outset has persisted on federal funding—whether through the reclamation project,¹⁰⁴ low hydroelectric rates,¹⁰⁵ or traditional agricultural subsidies.¹⁰⁶ Like much of the western United States, widespread settlement never made much sense in the dry upper basin,¹⁰⁷ with its lack of water, short growing season, and killing frosts.¹⁰⁸

Doremus and Tarlock criticize the de facto domestic policy that doles out payments for so-called “natural disasters,” even though the ensuing economic impacts are largely of the result of settlement folly.¹⁰⁹ As an alternative, they cite an Australian policy that recognizes the need to shrink agriculture in drought-prone regions by shifting funds from post-drought damage payments to pre-drought preparedness and risk management.¹¹⁰ The American approach instead creates a moral hazard—bailing out those who choose to tempt nature’s fate.¹¹¹ The authors suggest that any additional federal funding should be withheld from the Klamath until the users of the Basin have articulated realistic, substantive goals.¹¹²

V. AN ALTERNATIVE VISION

The authors admit that most of the lessons they draw are not particularly hopeful for a sustainable balance in the Basin.¹¹³ However, they recommend that Klamath stakeholders develop a new approach that takes a broad view of the Basin as an entire ecosystem and articulates an alternative, viable vision for the human place within it.¹¹⁴ Such an approach will likely require new laws and institutions, as the current system engenders both conflict among parties and burdensome overlap among agencies.¹¹⁵

101. *Id.* at 112.

102. *Id.* at 156.

103. *Id.* at 141.

104. *Id.* at 37.

105. *Id.* at 54–55.

106. *Id.* at 157.

107. *Id.* at 9.

108. *Id.* at 26.

109. *Id.* at 153–56.

110. *Id.* at 156.

111. *Id.* at 155–56.

112. *Id.* at 21.

113. *Id.* at 145.

114. *See id.* at 192.

115. *See id.* at 207.

Doremus and Tarlock claim the Basin illustrates the tragedy of the “regulatory commons.”¹¹⁶ Some twenty-five inter-agency and regional working groups exert authority in the Basin,¹¹⁷ but because none have full responsibility, there is little incentive for any particular agency to take the risks required for adequate problem solving.¹¹⁸ There is plenty of regulation overall, but each agency has a narrow focus that cannot address the full scope of the problem.¹¹⁹ Thus, ecosystem management becomes a messy process of “muddling through” this maze of overlapping, contradictory, and outdated laws and institutions.¹²⁰

Instead, the Basin needs a centralized, streamlined approach that looks at the overall picture. The authors suggest that perhaps the most striking aspect of the Klamath story is the complete absence of focus on the ecosystem as a whole.¹²¹ Partly, this absence is because Congress created its environmental protection laws in the 1970s, before the notion of ecosystem-based management developed.¹²² But the final NRC report strongly emphasized the need for a holistic ecological approach in the Klamath—a finding virtually ignored in the subsequent media coverage, though one that Doremus and Tarlock believed to be a crucial piece of the NRC report.¹²³ The authors are skeptical of ad-hoc, regional planning efforts—which result in a great deal of “problem-solving activity,” but often no overall road map or vision.¹²⁴ Alternatively, they suggest that Congress should create place-based governance regimes, granting new institutions broad authority and clear lines of responsibility over areas defined by bioregionalism.¹²⁵

Further, just as no agency has taken ownership of the whole suite of problems affecting the Basin, no one has articulated a vision that takes account of the differing interests and provides a platform for trade-offs among them.¹²⁶ The authors believe that a necessary starting point for maintaining a healthy ecosystem in a working landscape is developing a vision that addresses ecological needs, but does not write people out of the picture.¹²⁷ The carrying capacity concept should guide this vision, though without focusing on the existence of a particular species or crop pattern, because doing so creates a

116. *Id.* at 147.

117. *Id.* at 113.

118. *Id.* at 147.

119. *Id.*

120. *Id.* at 193.

121. *Id.* at 192.

122. *Id.* at 193.

123. *Id.* at 192–93.

124. *Id.* at 113.

125. *Id.* at 207.

126. *Id.* at 192.

127. *Id.* at 207.

preference for quick fixes as opposed to long-term solutions.¹²⁸ Finally, all stakeholders must be willing to surrender some security from their existing legal regimes and embrace science as a shared tool for understanding trade-offs, as opposed to a weapon to use against one another.¹²⁹

CONCLUSION

Water War in the Klamath Basin succeeds on multiple levels. It is likely a useful read for experienced policy makers, advocates, and attorneys who work on similar water conflicts elsewhere in the West. But the story is also enticing enough to engage the general nonfiction reader. The authors provide just enough background on water rights, Native American law, and the ESA to make the legal aspects accessible. That being said, the Klamath plotline is so complex that the book may have benefited from an appendix that included a timeline of events, as well as a list of the many lawsuits the conflict engendered.

The sections about science are particularly strong and timely. The authors raise issues that recur in many environmental conflicts, including the ongoing debate over climate change policy. The authors note this connection by referencing an infamous memorandum from political consultant Frank Luntz, who urged Republican lawmakers to emphasize the need for “sound science” when opposing action on global warming.¹³⁰ Meanwhile, prominent figures on both sides of the issue continue to overstate scientific findings that run in their favor, distracting and delaying the necessary policy discussions grounded in strong scientific consensus and the precautionary principle.¹³¹

Along these lines, I question whether “Water War” is an appropriate title for the book. The authors acknowledge in their preface that it may seem dramatic.¹³² But I believe the phrase borders on a dangerous cliché in the United States, where our conflicts over water—even if for the “survival” of farming and fishing communities—are relative luxuries compared to the billion-plus people on the planet that lack access to safe drinking water.¹³³ When overused, the hyperbole may diminish or distract from the many incidents of real violence in water conflicts abroad.¹³⁴

Unfortunately, the Klamath conflict is likely a harbinger of things to come. How to manage working landscapes in water-stressed ecosystems will

128. *See id.* at 20.

129. *Id.* at 207.

130. *Id.* at 116.

131. Andrew C. Revkin, *In Climate Debate, Exaggeration Is a Pitfall*, N.Y. TIMES, Feb. 25, 2009, at A14, available at <http://www.nytimes.com/2009/02/25/science/earth/25hype.html>.

132. DOREMUS & TARLOCK, *supra* note 1, at xvii.

133. *See, e.g.*, Pacific Institute, Global Water Crisis, http://pacinst.org/topics/water_and_sustainability/global_water_crisis (last visited July 14, 2009).

134. *See, e.g.*, PETER H. GLEICK, PACIFIC INSTITUTE, WATER CONFLICT CHRONOLOGY (2008), available at <http://www.worldwater.org/conflictchronology.pdf>.

become an increasingly imperative inquiry as the warming climate disrupts hydrological patterns and threatens the survival of more aquatic species.¹³⁵ One need not look very far from the Klamath to find a similar train wreck coming down the tracks. The authors sprinkle *Water War* with references to the San Francisco Bay Delta¹³⁶—a water system that is actually connected to the Klamath system through the diversion of the Trinity River, a major Klamath tributary.¹³⁷ The Bay Delta faces crashing salmon fisheries, a \$31 billion agricultural industry, an obscure, federally-listed indigenous aquatic species, and some 24 million state residents who rely on the system for at least some of their drinking water.¹³⁸ With Governor Arnold Schwarzenegger proclaiming a state of emergency for California's third year of consecutive drought,¹³⁹ a conflict much larger than the Klamath's is likely in the making.¹⁴⁰ The authors hope that lessons from the Klamath—both positive and negative—may prove instructive.¹⁴¹

135. See, e.g., GLOBAL CLIMATE CHANGE IMPACTS IN THE UNITED STATES 41, 87 (Thomas R. Karl et al. eds., 2009), <http://downloads.globalchange.gov/usimpacts/pdfs/climate-impacts-report.pdf>.

136. DOREMUS & TARLOCK, *supra* note 1, at 19, 169, 188–89, 206, 210–211.

137. *Id.* at 210.

138. CALFED Bay-Delta Program, About the Delta, <http://calwater.ca.gov/delta/about/index.html> (last visited July 14, 2009).

139. Press Release, Cal. Office of the Governor, Gov. Schwarzenegger Takes Action to Address California's Water Shortage (Feb. 27, 2009), <http://gov.ca.gov/press-release/11556>.

140. See DOREMUS & TARLOCK, *supra* note 1, at 210 (“If the Klamath is a Verdi tragedy, the Bay Delta is a Wagnerian one.”).

141. *Id.* at 211.

We welcome responses to this Book Review. If you are interested in submitted a response for our online companion journal, *Ecology Law Currents*, please contact ecologylawcurrents@boalt.org. Responses to articles may be viewed at our website, <http://www.boalt.org/elq>.

