

MARY MILNER*

Water Law Meets Participatory Democracy: A Klamath Basin Example

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* Mary Milner is a natural resources attorney (J.D., University of Utah 2014) and professional geologist who lives and practices in Salt Lake City. Special thanks are owed to Professor Robin Craig for her guidance, advice, and willingness to share an unparalleled knowledge of environmental law. Thanks are also due to the JELL staff, whose helpful suggestions greatly improved the manuscript.

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INTRODUCTION

The Klamath Basin Restoration Agreement (“KBRA”)¹ and the Klamath Hydroelectric Settlement Agreement (“KHSA”)² emerged in 2010 in response to ongoing ecosystem calamities in southwestern Oregon and northern California.³ Parties to the agreements include 45

¹ Klamath Basin Restoration Agreement for the Sustainability of Public and Trust Resources and Affected Communities (February 18, 2010) [hereinafter KBRA], *available at* <http://klamathrestoration.gov/sites/klamathrestoration.gov/files/Klamath-Agreements/Klamath-Basin-Restoration-Agreement-2-18-10signed.pdf>.

² Klamath Hydroelectric Settlement Agreement (February 18, 2010) [hereinafter KHSA] *available at* <http://klamathrestoration.gov/sites/klamathrestoration.gov/files/Klamath-Agreements/Klamath-Hydroelectric-Settlement-Agreement-2-18-10signed.pdf>.

³ KBRA, *supra* note 1, at 1.

organizations, including: federal agencies; the States of California and Oregon; PacifiCorp, the hydroelectric utility responsible for operation of dams on the Klamath River; the Karuk, Yurok, and Klamath Tribes; four counties in two states; irrigators and water districts; and conservation and fishing groups.⁴ These regional agreements were the result of decades of negotiation, litigation, and considerable citizen involvement.⁵

Substantively, the agreements call for the removal of four dams on the Klamath River and would implement basinwide water management.⁶ Some consider the final versions atrocities that cater to narrow interests.⁷ Others believe that the agreements create a live framework for future resolution of tenacious water and land use problems.⁸

Regardless, the future of both agreements depends on Congress authorizing their most significant components,⁹ and, as a result, the fate of the agreements remains in flux. The most recent developments include: (1) the expiration of the original KBRA (December 2012) after a Republican Congress that disfavored dam removal refused to implement the agreement; (2) the completion of the 38-year-old Klamath Basin water adjudication, which prioritizes claimed water rights in the basin back to “time immemorial”;¹⁰ (3) the Secretary of

⁴ *Id.*

⁵ *Background*, KLAMATHRESTORATION.GOV, <http://klamathrestoration.gov/about-us/background> (last visited Feb. 12, 2015).

⁶ The Oregonian Editorial Board, *For Klamath Dams, It's Hasta La Vista*, OREGONLIVE (updated Feb. 18, 2010, 2:58 PM), http://www.oregonlive.com/opinion/index.ssf/2010/02/for_klamath_dams_its_hasta_la.html (noting that the agreements “call[] for the breaching of four dams and a water-sharing agreement meant to end one of the most bitter struggles between irrigators and endangered fish in American history”).

⁷ For example, many “off-project” irrigators object to the restoration agreement because it does not guarantee water to ranchers. Klamath County endorsed the agreement in 2010 but later withdrew support. *See, e.g.*, Scott Learn, *Congress Weighs in Again on Klamath Water Crisis, But Isn't Likely to Act*, OREGONLIVE (June 20, 2013, 12:39 PM), http://www.oregonlive.com/environment/index.ssf/2013/06/drought_in_klamath_basin_bring.html.

⁸ PacifiCorp notes that the agreements, including dam removal, would cost less than dam improvements for fish passage, and would open 420 miles of habitat for Coho. The agreements would stabilize water supplies and mandate basin-wide restoration. *Id.*

⁹ CHARLES V. STERN ET AL., CONG. RESEARCH SERV., KLAMATH BASIN SETTLEMENT AGREEMENTS: ISSUES IN BRIEF AT SUMMARY (2013), available at <https://www.hsdl.org/?view&did=745377>.

¹⁰ Press Release, Or. Water Resources Dep't, *The Oregon Water Resources Department Completes Klamath River Basin Adjudication (1975–2013)* (Mar. 7, 2013), available at

the Interior's Final Environmental Impact Statement (EIS) and recommendation, which concluded that four dams on the Klamath River should be removed;¹¹ and (4) a June 2013 call on the river by senior water rights holders in response to another year of intense drought.¹² One might speculate whether Klamath Basin residents looked into the future and saw collapse instead of crisis. Crisis, by definition, is a dramatic but short-lived situation, passing in time to some stable configuration. The endpoint of collapse, on the other hand, is indeterminate at best. In light of these continuing controversies over the Klamath Basin's water, implementing the KBRA and KHSA remains an important next step because they represent an attempt by stakeholders to address long-standing environmental and water problems. Observers characterize these regional problems as a "water war"¹³ and a battle over core values.¹⁴ Aside from the implementation of the agreements, however, the process by which they were crafted—a combination of judicial, administrative, and grassroots maneuverings among disparate interest groups—is at least as instructive as the resulting documents.

The Klamath Basin agreements were a result of an organic process through which the Basin's residents attempted to harmonize and solidify their changing relationship to land and ecosystems. As such, the process of creating the agreements was part of a larger social movement. Social movements are sociopolitical entities that fall somewhere between "disorganized mass[es] of people" and "highly formalized organization[s]."¹⁵ Movements have a number of commonalities: spontaneity, fluid organizational structure, heightened

http://www.oregon.gov/owrd/adj/docs/2013_03_07_Klamath_River_Basin_Adjudication_Media_Release_Final.pdf.

¹¹ Press Release, U.S. Dep't of the Interior, *Interior Department Releases Final Environmental Analysis on Klamath River Dam Removal* (Apr. 4, 2013), available at <http://www.doi.gov/news/pressreleases/interior-department-releases-final-environmental-analysis-on-klamath-river-dam-removal.cfm>.

¹² Scott Learn, *Klamath Tribes and Federal Government Put Out Historic Call for Water Rights in Drought-stricken Klamath Basin*, OREGONLIVE (updated June 11, 2013, 7:56 AM), http://www.oregonlive.com/environment/index.ssf/2013/06/klamath_tribes_and_federal_gov.html.

¹³ See generally HOLLY DOREMUS & A. DAN TARLOCK, *WATER WAR IN THE KLAMATH BASIN: MACHO LAW, COMBAT BIOLOGY, AND DIRTY POLITICS* xvii (2d ed. 2008).

¹⁴ *Id.* at 7 (listing four recurring elements in natural resource battles, including "a clash of fundamental values closely intertwined with natural resource use").

¹⁵ Stacy J. Silveira, Comment, *The American Environmental Movement: Surviving Through Diversity*, 28 B.C. ENVTL. AFF. L. REV. 497, 518 (2001) (citation omitted).

consciousness of a particular social issue, and the desire to spread awareness of that issue.¹⁶ The tendency in the past has been to examine social movements as isolated phenomena, apart from social institutions like law and government; recent scholarship, however, proposes that law, organizations, and social movements overlap, and each shapes the other.¹⁷ Social movements encompass large social issues, but they are composed of many threads, or sub-movements, that develop in parallel, at varying rates, and with separate outcomes.¹⁸ Within this framework, the Klamath Basin water problems can be viewed as a sub-movement that is part of a larger, worldwide environmental movement.

This Article examines the Klamath Basin water management agreements through a social movement lens. Part I describes the background, basin history, and legal landscape underlying water conflicts in the Klamath Basin, while Part II lays out a chronology of events leading to, and culminating in, the signing of the KBRA and KHSA. Part III describes the agreements themselves. Part IV discusses current social movement theory and lays out an eight-stage analysis of social movements,¹⁹ recognizing that citizen activism dovetails with political, legislative, and legal institutions to change social norms and policies.²⁰

Social movements often fail from lack of a strategic plan and lack of a conceptual framework from which to interpret the immediate struggles.²¹ Secondary to this “tunnel vision,” as a reason for failure, is burnout, disillusionment, co-optation, and loss of momentum as the movement incrementally achieves its goals.²² Part IV uses the eight-stage analysis of social movements to build a conceptual framework through which the Klamath Basin water war and the subsequent

¹⁶ *Id.* at 518–19 (citing Jo Freeman, *On the Origin of Social Movements*, in WAVES OF PROTEST: SOCIAL MOVEMENTS SINCE THE SIXTIES 19–20 (Jo Freeman & Victoria Johnson eds., 1999)).

¹⁷ Lauren B. Edelman, Gwendolyn Leachman & Doug McAdam, *On Law, Organizations, and Social Movements*, 6 ANN. REV. L. & SOC. SCI. 653, 653 (2010).

¹⁸ See BILL MOYER ET AL., DOING DEMOCRACY: THE MAP MODEL FOR ORGANIZING SOCIAL MOVEMENTS 42 (2001).

¹⁹ *Id.* at 42–86 (describing evolution of social movements in practical terms for organizers).

²⁰ See generally Edelman et al., *supra* note 17.

²¹ *Id.* at 5.

²² Silveira, *supra* note 15, at 519.

agreements can be understood in the context of the larger environmental movement.

Part IV demonstrates that the Klamath Basin scenario and agreements contain the elements of a classic social movement—one that involves shared resources. Shared resource issues are important because predictions about climate change and population suggest we are at the threshold of an explosion of these problems.²³ This paper concludes, in Part V, by arguing that an actively engaged citizenry that is armed with good science and equipped with real problem-solving skills will be required if democratic functions are to be preserved through an era of resource shortages and probable reallocations. Whether or not Congress approves the Klamath Basin agreements, and whether or not the four dams are removed by 2020 as proposed, the process reinforced participatory democracy in the region, providing a model for all of the increasingly likely resource disputes in coming decades.

I

THE LEGAL FRAMEWORK FOR THE KLAMATH BASIN'S WATER STRESS

A. Klamath Basin Geography

The Klamath Basin evinces the idea that water binds lands and living things in a linked network. The Klamath River flows from its origin in Upper Klamath Lake in south central Oregon, west and south along a winding path through northern California, and empties into the Pacific Ocean.²⁴ The Klamath River's drainage area comprises over 15,571 square miles,²⁵ roughly the size of the state of

²³ Robin Kundis Craig, *Climate Change Means the Death of Sustainability* (Univ. of Utah College of Law Research Paper No. 22), available at <http://ssrn.com/abstract=2189530> (observing that “[w]hen the only constant in life is continual socioecological change, sustainability is a practically meaningless concept. . . . At least three of the four horsemen of the Apocalypse—War, Famine, and Death—are likely to be riding tall and strong through the climate change era . . .”; and that they will likely to be joined by an insidious younger sibling, “Thirst.”). This working paper was utilized in Michael Burger et al., *Rethinking Sustainability to Meet the Climate Change Challenge*, 43 ENVTL. L. REP. 10342, 10344 (2012).

²⁴ DOREMUS & TARLOCK, *supra* note 13, at 24 fig.1.

²⁵ BRIAN R. BARR & STACY J. VYNNE, NAT'L CTR. FOR CONSERVATION SCI. & POLICY & THE CLIMATE LEADERSHIP INITIATIVE, PREPARING FOR CLIMATE CHANGE IN THE KLAMATH BASIN 4 (2010), available at http://www.theresourceinnovationgroup.org/storage/KlamCFRep_5-26-10finalLR.pdf.

Maryland.²⁶ The Basin's rivers, overlain on a rugged and varied geography, connect the region and its inhabitants.

The river originates on a high, faulted volcanic plateau in the Cascade Range, where the relatively slight surface relief allows formation of wetlands and shallow lakes, including six National Wildlife Refuges: Klamath Marsh, Upper Klamath, Bear Valley, Clear Lake, Lower Klamath, and Tule Lake.²⁷ The flatter topography of this plateau holds most of the irrigable agricultural lands in the Klamath Basin.²⁸ Klamath Lake's surface elevation is 4140 feet above sea level;²⁹ at Keno, the western boundary of the Upper Basin, the river level is 4086 feet.³⁰

Most of the hydraulic drop (from 4086 feet to 0 feet at sea level), as well as most of the Basin's storage capacity, occurs in the steeper Lower Basin of the Klamath River, a configuration opposite to that of most river systems.³¹ By the time the Klamath River reaches Iron Gate, the lowermost of the six dams on the mainstem of the Klamath,³² the river's elevation is approximately 2460 feet.³³ The Klamath then passes through the Cascades north of Mount Shasta and zigzags through the Klamath Mountains and the Trinity Mountains, gathering many tributaries along its way, to its ultimate discharge into the Pacific Ocean near Crescent City, just south of the California-Oregon border. Also contrary to most river systems, the majority of runoff in the watershed comes from the lower half of the basin, downstream from irrigators.³⁴ These two geographic factors magnify water resource allocation problems in the Klamath Basin,³⁵ because

²⁶ DOREMUS & TARLOCK, *supra* note 13, at 23.

²⁷ *Klamath Basin National Wildlife Refuges*, OREGON WILD, <http://www.oregonwild.org/waters/klamath/refuges> (last visited Feb. 12, 2015).

²⁸ DOREMUS & TARLOCK, *supra* note 13, at 25.

²⁹ The elevation of Klamath Lake is 1262 m (4140 ft) above sea level. *Water Rights Mapping Tool*, OREGON WATER RESOURCES, <http://apps.wrd.state.or.us/apps/gis/wr/Default.aspx> (last visited Feb. 12, 2015).

³⁰ *Id.*

³¹ *Id.*

³² *Klamath River*, FRIENDS OF THE RIVER, <http://www.friendsoftheriver.org/site/PageServer?pagename=KlamathBackground> (last visited Feb. 12, 2015).

³³ *Water Rights Mapping Tool*, *supra* note 29.

³⁴ DOREMUS & TARLOCK, *supra* note 13, at 25 (citing DAVID RAINS WALLACE, *THE KLAMATH KNOT 52* (Sierra Club Books 1983)) (noting that only twelve percent of annual runoff in the watershed originates in the Upper Basin).

³⁵ *Id.*

the greatest need for water is in the Upper Basin while the largest supplies and best storage are downstream in the Lower Basin.

This remote and rugged terrain is only sparsely inhabited, with a population of approximately 120,000 people.³⁶ The Basin's two largest cities are Klamath Falls, Oregon (population 21,005), and Yreka, California (population 7,679).³⁷ The tribal population of the six Native American groups residing in the Klamath Basin in Oregon and northwestern California is approximately 16,000.³⁸

Although approximately 70 percent of lands in the Klamath watershed are federally owned or managed,³⁹ the relatively small area designated as agricultural lands in the Upper Basin occupies a geography that is most sensitive to pollution and most critical for overall ecosystem well-being.⁴⁰ Not surprisingly, crop and grazing lands hug the northwest-southeast trending river valleys (gray areas in Figure 1 below). Water supply in the Upper Klamath Basin, as in much of the West, varies considerably from year to year, and the flat terrain and shallow lakes provide little storage.⁴¹

³⁶ U.S. DEP'T OF THE INTERIOR & CAL. DEP'T OF FISH & GAME, KLAMATH FACILITIES REMOVAL FINAL ENVIRONMENTAL IMPACT STATEMENT/ENVIRONMENTAL IMPACT REPORT 1-1 (2012) [hereinafter FINAL EIS], available at http://klamathrestoration.gov/sites/klamathrestoration.gov/files/Additional%20Files%20/1/4/Volume%20I_FEIS.pdf.

³⁷ *Id.*

³⁸ *Id.* at 1-10 ("Six federally recognized Indian Tribes live, work, hunt, and fish within the basin, including the Klamath Tribes, Quartz Valley Indian Community, Karuk Tribe, Hoopa Valley Tribe, Yurok Tribe, and Resighini Rancheria.").

³⁹ *Id.* at 3.14-1.

⁴⁰ *Id.*

⁴¹ DOREMUS & TARLOCK, *supra* note 13, at 53 ("Upper Klamath Lake is not capable of storing surplus water in wet years to buffer the system in critically dry years. . . . The Klamath Project is at the mercy of the weather every year; a single dry year can put water supplies at risk.").

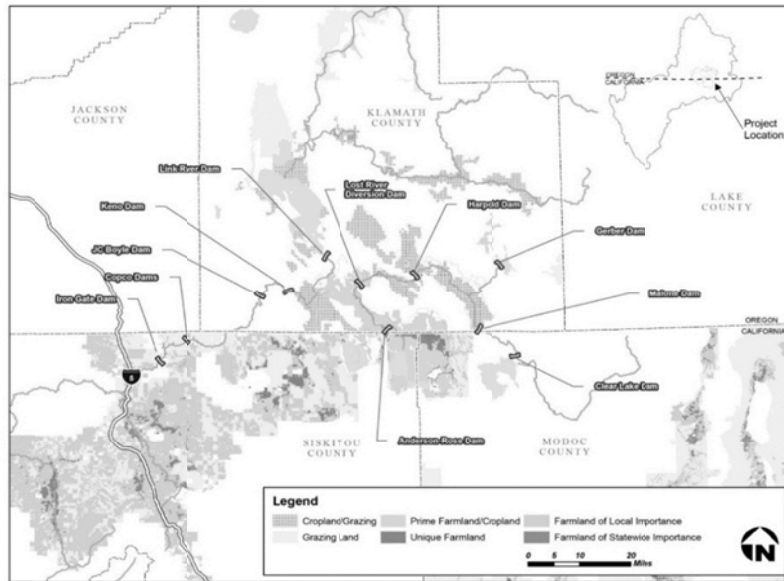


Figure 1. National Wildlife Refuges and Agricultural Designations in and around the Reclamation's Klamath Project (Source: Final EIS, Figure 3.14-2)

B. Klamath Basin Legal Regimes for Water and Water Stress

The reality that asserts itself in ever more visible ways, and is recognized by all parties in the Klamath Basin, is that the supply of water is less than the combined needs of its users and dependents. “[W]ater scarcity . . . reached a crisis point in the early 2000s, with drastic reductions in irrigation water deliveries to farms in the upper Klamath Basin in 2001, and a major salmon die-off in the Lower Klamath River in 2002, due in part to reduced river flows that would have supported anadromous fish species.”⁴² As this description indicates, water stress in the Klamath Basin is not just a human issue; indeed, several fish listed for protection under the federal Endangered Species Act—including Lost River and shortnose suckers,⁴³ and Coho salmon⁴⁴—have been the immediate focus of many of the Basin’s

⁴² U.S. DEP’T OF THE INTERIOR, U.S. DEP’T OF COMMERCE, NAT’L MARINE FISHERIES SERVICE, KLAMATH DAM REMOVAL OVERVIEW: REPORT FOR THE SECRETARY OF THE INTERIOR 3 (2012), available at <http://www.klamathrestoration.gov/sites/klamathrestoration.gov/files/2013%20Updates/Final%20SDOR%20/0.Final%20Accessible%20SDOR%2011.8.2012.pdf>.

⁴³ 53 Fed. Reg. 27,130 (July 18, 1988).

⁴⁴ 62 Fed. Reg. 24,588 (May 6, 1997).

legal confrontations.⁴⁵ The panoply of water-related problems in the Basin have continued, manifested as the growth of toxic algae behind two Klamath River dams in 2005, reduced salmon populations in 2006, continued impacts to the Klamath Tribe fisheries, and repeated reductions in water deliveries to irrigators in 2010.⁴⁶ In 2013, another drought year, senior water rights holders (irrigators served by the Klamath Project and Indian Tribes) “called the river,” once again reducing available water for some parties.⁴⁷

Several legal regimes structure the assertion of water rights (discussed in Subpart C) in the Klamath Basin: the Reclamation Act and the Klamath Project, the Federal Power Act and the Federal Energy Regulatory Commission’s licensing of hydropower projects, and the Endangered Species Act’s protections for listed species. This subpart will discuss each regime in turn.

1. The Reclamation Act, the U.S. Bureau of Reclamation, and the Klamath Project

Since the early twentieth century, U.S. irrigation and reclamation policy has protected its beneficiaries against the long-standing facts of climate and geography and, until recently, the law was constructed largely to maintain this situation.⁴⁸ Change, however, has been coming: “[t]he Reclamation Act shaped the water status quo, and the [Endangered Species Act] perturbed it.”⁴⁹

The Reclamation Act of 1902⁵⁰ created the U.S. Bureau of Reclamation (“BOR” or “Reclamation”) and launched the country’s long-term and large-scale ventures into irrigation.⁵¹ The BOR’s Klamath Project, started in 1906 and completed in the 1960s,⁵² was among the first wave of projects that Congress funded for the new agency.⁵³ The Klamath Project comprises a series of dams and canals in the Upper Basin that continue to provide water for irrigation to

⁴⁵ United States v. Adair (*Adair II*), 723 F.2d 1394 (9th Cir. 1984); Kandra v. United States, 145 F. Supp. 2d 1192 (D. Or. 2001); Pac. Coast Fed’n of Fishermen’s Ass’ns v. Bureau of Reclamation, 138 F. Supp. 2d 1228 (N.D. Cal. 2001).

⁴⁶ U.S. DEP’T OF THE INTERIOR ET AL., *supra* note 42, at 3.

⁴⁷ Learn, *supra* note 12.

⁴⁸ DOREMUS & TARLOCK, *supra* note 13, at 165.

⁴⁹ *Id.*

⁵⁰ 43 U.S.C. §§ 372–600(e).

⁵¹ DOREMUS & TARLOCK, *supra* note 13, at 46.

⁵² FINAL EIS, *supra* note 36, at ES-1.

⁵³ DOREMUS & TARLOCK, *supra* note 13, at 47.

approximately 1,400 farms, including nearly 1,000 full-time farms, covering about 235,000 acres in the Upper Basin.⁵⁴ A number of off-project irrigators also use water from Klamath tributaries in the Upper Basin.⁵⁵ Nevertheless, the project acreage, about 367 square miles, represents just over two percent of the total Upper Basin area, which encompasses an estimated 15,688 square miles.⁵⁶

At present, PacifiCorp, a public utility, owns and operates five dams on the mainstem Klamath River that comprise the Klamath Project: the Keno, J.C. Boyle, Copco 1, Copco 2, and Iron Gate Dams.⁵⁷ The BOR owns the uppermost dam, Link River Dam, but PacifiCorp operates it;⁵⁸ the Keno Dam regulates upstream water levels, but does not generate power.⁵⁹ The dams and stored water form a network in the Upper Basin that allows agriculture in an area that would otherwise be too dry for farming.

2. *The Federal Power Act, Hydropower, and FERC Licensing*

Hydroelectric power generation in the Klamath Basin is closely intertwined with the Klamath Project's irrigation, and most of the dams on the mainstem Klamath River serve both purposes. The Klamath Hydroelectric Project was started in 1911, and it provides power for irrigators and Basin residents.⁶⁰

The Federal Energy Regulatory Commission (FERC) licensed PacifiCorp's five hydroelectric dams. The Federal Power Act (FPA),⁶¹ passed in 1920, created FERC's precursor, the Federal Power Commission, whose mission was to license the construction and operation of private hydroelectric projects.⁶² FERC licenses last

⁵⁴ KYNA POWERS ET AL., CONG. RESEARCH SERV., KLAMATH RIVER BASIN ISSUES AND ACTIVITIES: AN OVERVIEW 18 (2005).

⁵⁵ OREGON WILD, KLAMATH RIVER BASIN ADJUDICATION –WHAT DOES IT MEAN FOR WILDLIFE?, available at <http://www.classroomlaw.org/files/Adjudication-Fact-Sheet-Oregon-Wildlife-8.1.13.pdf>.

⁵⁶ COMMITTEE ON HYDROLOGY, ECOLOGY, AND FISHES OF THE KLAMATH RIVER, HYDROLOGY, ECOLOGY, AND FISHES OF THE KLAMATH RIVER BASIN 26 (2008), available at http://www.nap.edu/catalog.php?record_id=12072.

⁵⁷ FINAL EIS, *supra* note 36, at ES-5.

⁵⁸ *Id.*

⁵⁹ *Id.*

⁶⁰ DOREMUS & TARLOCK, *supra* note 13, at 54.

⁶¹ Federal Water Power Act, 16 U.S.C. §§ 791–825 (2012).

⁶² David N. Allen, *The Klamath Hydroelectric Settlement Agreement: Federal Law, Local Compromise, and the Largest Dam Removal Project in History*, 16 HASTINGS W.-NW. J. ENVTL. L. & POL'Y 427, 433 (2010).

for fifty years and are renewable for successive thirty- to fifty-year periods.⁶³

In March 2006, PacifiCorp's FERC licenses for the five dams on the Klamath River—Keno, J.C. Boyle, Copco 1, Copco 2, and Iron Gate Dams—expired.⁶⁴ The FERC relicensing process for these dams became a key trigger for changes in Klamath Basin water policy, as will be elaborated in Part V.2.d.

3. *The Endangered Species Act and ESA-Listed Klamath Fish*

As the above discussions indicate, U.S. government policy and practice have traditionally favored water extraction and economic development at the expense of the environment.⁶⁵ Accordingly, in the Klamath Basin, management decisions involving the Bureau of Reclamation dams⁶⁶ have long favored irrigators at the expense of fish, habitat, and downstream users.⁶⁷ However, recent litigation pursuant to the federal Endangered Species Act (ESA)⁶⁸ and National Environmental Policy Act (NEPA)⁶⁹ “may finally have tipped the balance” in the Klamath Basin in favor of fish and habitat protection.⁷⁰

The ESA,⁷¹ enacted in 1973, tasked all federal agencies with the protection of endangered species, declaring: “the policy of Congress that all Federal departments and agencies shall seek to conserve endangered species and threatened species and shall utilize their

⁶³ Relicensing terms are for a duration FERC determines to be in the public interest “but not less than 30 years, nor more than 50 years. . . .” 16 U.S.C. § 808(e) (2012).

⁶⁴ DOREMUS & TARLOCK, *supra* note 13, at 176.

⁶⁵ See, e.g., Joseph L. Sax, *The Challenge of Sustainability: Ownership, Property, and Sustainability*, 31 UTAH ENVTL. L. REV. 1, 5–6 (2011) (explaining that historically, American land was valued in economic terms only, meant to be consumed, and property law was “constructed and reconstructed to drive this process forward”).

⁶⁶ POWERS ET AL., *supra* note 54 (explaining that “[t]he Klamath Project—which includes 7 dams and miles of irrigation channels—regulates the timing and distribution of flows originating in the Upper Basin”).

⁶⁷ DOREMUS & TARLOCK, *supra* note 13, at 5 (noting the federal government’s willingness to “ignore both law and science to protect the historic resource extraction economy”). “[U]ntil recently, the law strongly favored water development [in the Klamath Basin], providing little protection for the interests of either Indian tribes or the environment.” *Id.* at 88.

⁶⁸ Endangered Species Act, 16 U.S.C. §§ 1531–1544 (2012).

⁶⁹ National Environmental Policy Act, 42 U.S.C. §§ 4321–4370 (2012).

⁷⁰ DOREMUS & TARLOCK, *supra* note 13, at 88.

⁷¹ 16 U.S.C. §§ 1531–1544 (2012).

authorities in furtherance of the purposes of this chapter.”⁷² Early litigation clarified that species protection occupied a position of utmost priority, superseding other policy and economic considerations.⁷³

Two federal agencies—the U.S. Fish and Wildlife Service (USFWS) and the National Marine Fisheries Service (NMFS)—are primarily responsible for implementing the ESA, under authority delegated by the U.S. Department of the Interior and the U.S. Department of Commerce, respectively.⁷⁴ To oversimplify how ESA operates, endangered or threatened species are first recognized and listed through a science-based administrative process,⁷⁵ and the implementing agencies also identify their critical habitat.⁷⁶ Federal agency actions that might adversely affect a listed species can proceed only after consultation with either the FWS or NMFS (depending on the species involved),⁷⁷ which then advise the federal agency through a Biological Opinion (BiOp) whether the proposed action would jeopardize the continued existence of the species or damage or destroy its critical habitat, and what “prudent and reasonable alternatives” might be available.⁷⁸ Simultaneously, all persons are prohibited from “taking” listed species.⁷⁹

The ESA matters to the Klamath Basin because the Klamath River provides habitat for three ESA-listed species of fish. The Lost River and shortnose suckers that live in Klamath Lake in the Upper Basin were listed as endangered in 1988⁸⁰ and are FWS’s responsibility to manage and recover. Coho salmon once existed throughout the Basin but are now extinct above Iron Gate, the lowermost Klamath mainstem dam that blocks fish passage.⁸¹ This salmon species was

⁷² *Id.* §1531(c)(1) (2012).

⁷³ *Tennessee Valley Auth. v. Hill*, 437 U.S. 153, 194 (1978) (“Congress has spoken in the plainest of words, making it abundantly clear that the balance has been struck in favor of affording endangered species the highest of priorities, thereby adopting a policy which it described as ‘institutionalized caution.’”).

⁷⁴ 16 U.S.C. § 1532(15).

⁷⁵ *Id.* § 1533.

⁷⁶ *Id.*

⁷⁷ *Id.* § 1536(a).

⁷⁸ *Id.* § 1536(b).

⁷⁹ “Take” means to “harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or attempt to engage in any such conduct.” 16 U.S.C. § 1532(19).

⁸⁰ 53 Fed. Reg. 27,130 (July 18, 1988).

⁸¹ *DOREMUS & TARLOCK*, *supra* note 13, at 31.

listed as threatened in 1997⁸² and is NMFS's responsibility to manage and recover.⁸³

These three species of fish have been the subject of much water management debate and litigation in the Klamath Basin,⁸⁴ often because their needs for minimum water levels in Klamath Lake and minimum flows in the Klamath River compete with the water needs of human water users in the Basin.⁸⁵ The ESA has undoubtedly tipped the balance of power in the Klamath Basin in favor of fish, wildlife, and ecosystem preservation.⁸⁶ In the Klamath Basin, as elsewhere, strict judicial interpretation of the ESA has been an effective tool to overcome appropriative rights in favor of instream water uses,⁸⁷ as will be discussed in more detail in Part II.

The cost of ESA litigation, ongoing ecological disasters, and PacifiCorp's decision to abandon relicensing of four dams on the Klamath River all set the stage for the resident Tribes, farmers, fishermen, counties, and states to negotiate an agreement for water sharing, restoration, and ultimate removal of the four dams. These interconnected agreements, signed in 2010, are the KBRA⁸⁸ and KHSA.⁸⁹ However, the final pieces of the background puzzle are the individual and federal water rights in the Klamath Basin, the topic of the next subpart.

B. Water Rights in the Klamath Basin

1. Private Water Rights: Prior Appropriation and Dual Systems

"Water law [at least in the West] is the absolute antithesis of sharing."⁹⁰ That assertion may seem hyperbolic, but an examination of the law shows that it has foundation in fact. The prior appropriation doctrine, the basis of most water law in the western United States, allocates water rights based on who first started using water from a

⁸² 62 Fed. Reg. 24,588 (May 6, 1997).

⁸³ *Id.*

⁸⁴ POWERS ET AL., *supra* note 54, at 3.

⁸⁵ *Id.*

⁸⁶ DOREMUS & TARLOCK, *supra* note 13, at 89.

⁸⁷ *Id.* at 148 (observing that "only strict interpretation of the ESA has allowed any inroads to be made on the traditional allocation of water to out of stream uses").

⁸⁸ KBRA, *supra* note 1.

⁸⁹ KHSA, *supra* note 2.

⁹⁰ Janine Robben, *Navigating Water Law in Oregon*, 69 OR. ST. BAR BULL. 17, 17 (Nov. 2008), available at <http://www.osbar.org/publications/bulletin/08nov/water.html> (quoting Carl Ullman, attorney for the Klamath Tribes).

particular source.⁹¹ Users are prioritized by a rule of “first in time, first in right,” until (and often beyond the point where) all water in the system is used.⁹² In addition, unlike the eastern riparian rights doctrine,⁹³ which traditionally restricted water use to the lands adjacent to water bodies,⁹⁴ the prior appropriation doctrine encourages export of water for “beneficial use” offsite,⁹⁵ which often increases overall water stress.

In the Klamath Basin, both California and Oregon operate under “dual systems” of water law that are based on prior appropriation doctrine but still incorporate principles of eastern riparian rights.⁹⁶ Classic riparianism not only limits water allotments to lands adjacent to water bodies, it also restricts water use to on-site applications and requires sharing among riparian users so that each is assured use of the resource in its natural condition.⁹⁷

Through legislation and judicial decisions in the mid-nineteenth century, California embraced prior appropriation but also recognized modified riparian rights.⁹⁸ The modification was clarified in a constitutional amendment in 1928 that preserved riparian rights but limited the right to the amount of water required for a specific reasonable and beneficial use.⁹⁹ California riparian landowners may use natural flows for beneficial purposes onsite without a permit, but appropriative rights require a permit.¹⁰⁰

Oregon adopted a prior appropriation system in 1909,¹⁰¹ largely replacing the preexisting system of riparian rights.¹⁰² As a result, the riparian rights vested (put to beneficial use) before that date

⁹¹ ROBERT W. ADLER, ROBIN KUNDIS CRAIG & NOAH D. HALL, *MODERN WATER LAW* 135 (2013).

⁹² *Id.*

⁹³ *Id.* at 23.

⁹⁴ *Id.*

⁹⁵ *Id.*

⁹⁶ *Id.* at 106.

⁹⁷ *Id.* at 23.

⁹⁸ *Id.* at 106.

⁹⁹ *Id.* at 105–06 (citing *Pleasant Valley Canal Co. v. Borrer*, 61 CAL. APP. 4th 742 (1998)).

¹⁰⁰ FINAL EIS, *supra* note 36, at 3.8-2 to 3.8-3.

¹⁰¹ *DOREMUS & TARLOCK*, *supra* note 13, at 40.

¹⁰² ADLER ET AL., *supra* note 91, at 106.

continued, but after 1909, further assertions of riparian rights were cut off.¹⁰³

Private water rights holders include the roughly 1,400 family farmers to whom the BOR's Klamath Project supplies irrigation water,¹⁰⁴ as well as many non-project farmers who tap the tributaries to the Klamath.¹⁰⁵

2. Tribal and Other Federal Reserved Water Rights

According to the U.S. Supreme Court's decision in *Winters v. United States*,¹⁰⁶ when the federal government creates reservations for Native Americans, it also reserves water rights on behalf of the Tribes.¹⁰⁷ The *Winters* doctrine gives Tribes, as a matter of *federal* law, sufficient water to fulfill the purposes of the reservation.¹⁰⁸ Moreover, unlike state appropriative rights, these reserved water rights are for present and future uses, may be exercised at any time, and are not forfeited through non-use.¹⁰⁹ Federal reserved water rights may be quantified and administered by states, but are otherwise governed by federal, not state, law.¹¹⁰ Water rights date from the creation of the reservation, or time immemorial, in the case of some implied reservation of rights for tribes.¹¹¹

The Klamath Tribes of the Upper Basin have federal reserved water rights—specifically, preexisting water rights including instream flow rights to protect fish¹¹²—even after the federal government extinguished their reservation.¹¹³ In the Lower Basin, the Yurok and Hoopa Tribes also have reserved water rights to support fishing that

¹⁰³ *Id.* at 106.

¹⁰⁴ *E.g.*, DAN KEPPEN, KLAMATH WATER USERS ASSOCIATION, THE KLAMATH PROJECT AT 100: CONSERVING OUR RESOURCES, PRESERVING OUR HERITAGE 2 (2004), available at <http://nebula.wsimg.com/32eef7685dfbe3422fba25c7b1a7b461?AccessKeyId=F79F3BB35D44F5CEBBA5&disposition=0&alloworigin=1>.

¹⁰⁵ *Id.*

¹⁰⁶ *Winters v. United States*, 207 U.S. 564 (1908).

¹⁰⁷ *Id.* at 577.

¹⁰⁸ *Id.*

¹⁰⁹ FINAL EIS, *supra* note 36, at 3.8-1.

¹¹⁰ *Id.*

¹¹¹ *Id.* at 3.8-3.

¹¹² *United States v. Adair (Adair II)*, 723 F.2d 1394, 1412 (9th Cir. 1983) (holding that: the Klamath Tribe's water rights were effective even after the Tribe lost its land; Indian successors to allotted reservation lands had the right to water; water rights accompanied the Tribe's right to hunt and fish and carried a priority date for appropriation of time immemorial).

¹¹³ Klamath Termination Act of 1954, 25 U.S.C. § 564 (2012).

accompany their federally recognized hunting and fishing rights.¹¹⁴ The Karuk Tribe of the Lower Basin does not have a ratified treaty, and therefore does not have federally recognized hunting, fishing, or reserved water rights,¹¹⁵ leaving them with minimal land and uncertain rights.

3. Klamath River Adjudication

Both California and Oregon control allocation of water rights through permit systems.¹¹⁶ However, because some appropriative rights predate the establishment of permit programs, issues such as non-use, forfeiture, and the existence of unquantified federal reserved waters rights in the system create uncertainty for users. Such issues are settled by basin-wide stream adjudications, which would quantify and establish priority dates for individual and federal water rights.¹¹⁷

California has not initiated a comprehensive Klamath Basin Adjudication that includes federal reserved water rights.¹¹⁸ Nevertheless, the State Water Resources Control Board (SWRCB), which governs water rights in California, declared that the mainstem of the Klamath River from Iron Gate Dam to the Pacific Ocean had been fully appropriated as of 2010.¹¹⁹

In contrast, the Oregon Water Resources Department (OWRD) began Oregon's Klamath Basin Adjudication in 1975.¹²⁰ This adjudication concluded in March 2013¹²¹ and included federal water right claims for and by the Klamath Tribes, for National Wildlife Refuges, for the U.S. BOR's Klamath Project, and for several segments of river set aside by Congress as "wild and scenic."¹²² A second phase of Oregon's adjudication, which began in 2013, allows

¹¹⁴ DOREMUS & TARLOCK, *supra* note 13, at 74.

¹¹⁵ *Id.* at 75.

¹¹⁶ See ADLER ET AL., *supra* note 91, at 232, 254.

¹¹⁷ *Id.* at 233 (describing functions of state permit systems).

¹¹⁸ *Id.*

¹¹⁹ FINAL EIS, *supra* note 36, at 3.8-3 ("The SWRCB has determined the mainstem of the Klamath River, from 100 yards downstream from Iron Gate Dam to the Pacific Ocean, is fully appropriated during the entire calendar year.").

¹²⁰ Or. Water Resources Dep't, *supra* note 10.

¹²¹ *Id.*

¹²² FINAL EIS, *supra* note 36, at 3.8-2.

claimants who dispute final determinations of their water rights to file exceptions in court.¹²³

On March 7, 2013, the OWRD issued a final order, completing phase one of its 35-year adjudication.¹²⁴ Water rights of the Klamath Tribes were determined to be most senior, dating from “time immemorial.”¹²⁵ Claims held by Klamath Tribe members and non-Indian parties inside former Klamath tribal lands have priority dates of 1864.¹²⁶ Federal Klamath Project irrigators and agricultural leases on National Wildlife Refuges have priority dates of 1905.¹²⁷ However, unleased land on National Wildlife Refuges, managed for wildlife, have priority dates ranging from 1925 to 1927.¹²⁸ Priority dates for off-project irrigators range from 1846 to the 1960s.¹²⁹

II

ANATOMY OF A COLLAPSE: THE KLAMATH BASIN IN WATER CRISIS

A. Impacts of Hydropower and Irrigation Dams on the Klamath Basin Fish Populations

Dams on the Klamath River, like all dams, block fish passage and disrupt migration and spawning, especially in seagoing (anadromous) species. The Klamath Basin is home to a variety of fish that spawn in its inland waters. Chinook, steelhead, and Coho salmon are all native to the Lower Klamath River, and salmon runs from the Pacific Ocean have been blocked upstream of the Iron Gate dam since the dam’s completion in 1961.¹³⁰ The dam also contributed to increased water

¹²³ OR. WATER RES. DEP’T, KLAMATH RIVER BASIN ADJUDICATION: SUPPLEMENTAL MEDIA MATERIALS AND FREQUENTLY ASKED QUESTIONS (2013), *available at* http://www.oregon.gov/owrd/ADJ/docs/2013_03_07_Klamath_Adjudication_FAQs.pdf.

¹²⁴ *Klamath River Basin Adjudication*, OREGON.GOV, <http://www.oregon.gov/owrd/Pages/adj/index.aspx> (last visited Feb. 17, 2015).

¹²⁵ Or. Water Resources Dep’t, *supra* note 10.

¹²⁶ *Id.*

¹²⁷ OREGON WILD, *supra* note 55.

¹²⁸ *Id.*; *see also* Kandra v. U.S., 145 F. Supp. 2d 1192, 1204–08 (D. Or. 2001) (holding that the priority of purposes for which the federal government must manage water in the Klamath Basin is: species listed under the ESA, Tribal trust responsibilities, contract irrigation water, and the National Wildlife Refuges).

¹²⁹ OREGON WILD, *supra* note 55.

¹³⁰ DOREMUS & TARLOCK, *supra* note 13, at 31; *see Iron Gate Dam*, OR. HIST. PROJECT, http://www.ohs.org/education/oregonhistory/historical_records/dspDocument.cfm?doc_ID=15065FB8-E3B9-EDB2-F14D8495A372179A (last visited Jan. 17, 2015).

temperature, low flows, reduced water quality, and toxic algae blooms.¹³¹ As a result of dam-related alterations, agriculture, and other environmental changes, Klamath Basin fisheries have suffered long-term declines of 92% to 98% for wild Chinook salmon, 67% for steelhead trout (since 1960), and from 52% to 95% for Coho salmon.¹³² Tribes of the Lower Basin and commercial fishermen experienced losses and fishery closures because of the reduced salmon populations.¹³³ Populations of Lost River and shortnose suckers, once pervasive in the Upper Klamath Basin rivers and lakes, have declined sharply.¹³⁴ Scientists attribute this decline to draining of lakes for agriculture, reduced water quality, trapping of fish in dam works, and loss of spawning habitat.¹³⁵ The Upper Basin Klamath Tribes were most affected by loss of sucker populations. The fish were once a major food source for the Tribes, but their catch is now limited to only ceremonial takings.¹³⁶ In addition, the Klamath Tribes have been without a salmon fishery for about ninety years, since the completion of the Copco dam.¹³⁷

Litigation has been the tool most often wielded to seek accommodation among the competing Basin interests.¹³⁸ Litigation typically focuses on a limited set of facts and declares one side a winner. In particular, one federal statute, the ESA, has been the center of much litigation.

B. The Injection of the ESA

Even though rumblings that water demand exceeded supply have been evident for years,¹³⁹ the Klamath Basin's current water-shortage dilemma is usually attributed to the 2001 enforcement of the ESA to protect tribal interests in endangered suckers, which threatened to flip

¹³¹ U.S. DEP'T OF THE INTERIOR, ET AL., *supra* note 42, at 1–3.

¹³² *Id.* at 4.

¹³³ *Id.*; *Background*, *supra* note 5.

¹³⁴ *See* U.S. DEP'T OF THE INTERIOR ET AL., *supra* note 42, at 1.

¹³⁵ DOREMUS & TARLOCK, *supra* note 13, at 79–80.

¹³⁶ *Id.*

¹³⁷ U.S. DEP'T OF THE INTERIOR ET AL., *supra* note 42, at 1–3.

¹³⁸ DOREMUS & TARLOCK, *supra* note 13, at 16.

¹³⁹ *See* Robben, *supra* note 90, at 19 (quoting an attorney for the Klamath Tribes as stating that the first formal adjudication of water rights was in the early twentieth century—evidence that even then “water resources were stretched”).

the legal status quo.¹⁴⁰ As noted, FWS listed the shortnose and Lost River suckers as endangered in 1988.¹⁴¹ Likewise, Coho salmon suffered population declines because of pollution, drought, and loss of habitat, resulting in their listing under the ESA as threatened in 1997.¹⁴²

Efforts by downstream interests to allocate water to ESA-listed fish reduced water available for irrigation—a fact that became dramatically visible (and legally actionable) during a drought in the summer of 2001. In a reversal of past decisions, a court enjoined deliveries of water to irrigators who were part of the BOR's Klamath Project.¹⁴³ In 2001, the BOR was thus faced with an injunction prohibiting delivery of water to irrigators¹⁴⁴ and a BiOp from FWS and NMFS indicating that its current operating plan would jeopardize both salmon and suckers. In response, it curtailed deliveries of water to irrigation contractors in its Klamath Project.¹⁴⁵ Because 2001 was a critically dry year, little other water was available for irrigation in the Upper Klamath Basin.¹⁴⁶ The BOR reduced irrigation deliveries in 2001 by 90% to protect the endangered fish.¹⁴⁷ Approximately 1,400 growers lost potato, onion, horseradish and other crops, cattle farmers lost grazing land, and waterfowl and bald eagles in wildlife refuges experienced habitat loss because of the water reallocation.¹⁴⁸ Estimates of crop losses in the Klamath Basin following the 2001 crisis vary from \$161 to \$222 million;¹⁴⁹ though, one study estimated

¹⁴⁰ See, e.g., POWERS ET AL., *supra* note 54. (“Water and species management issues were brought to the forefront when severe drought in 2001 exacerbated competition for scarce water resources and generated conflict among several interests—farmers, Indian tribes, commercial and sport fishermen, other recreationists, federal wildlife refuge managers, environmental groups, and state, local, and tribal governments.”); Robben, *supra* note 90, at 17, 19.

¹⁴¹ 50 C.F.R. § 17.11 (2014).

¹⁴² 62 Fed. Reg. 24,588 (May 6, 1997).

¹⁴³ Pac. Coast Fed'n of Fishermen's Ass'ns v. U.S. Bureau of Reclamation, 138 F. Supp. 2d 1228, 1251 (N.D. Cal. 2001).

¹⁴⁴ *Id.*

¹⁴⁵ DOREMUS & TARLOCK, *supra* note 13, at 110.

¹⁴⁶ *Id.*

¹⁴⁷ *Id.* at 2.

¹⁴⁸ Eric Brazil, *Farmers Protest Loss of Water / 10,000 Protest Water Cutoffs / Klamath Basin Farmers Losing Irrigation to Save Endangered Fish*, SFGATE (May 8, 2001, 4:00 AM), <http://www.sfgate.com/news/article/Farmers-protest-loss-of-water-10-000-protest-2924237.php>.

¹⁴⁹ DOREMUS & TARLOCK, *supra* note 13, at 150.

the loss of net farm revenue between \$27 and \$46 million, after considering federal disaster payments and adaptive strategies.¹⁵⁰

The backlash against the BOR's curtailment decision was far-reaching. Tit-for-tat litigation continued at every step, but ordinary citizens were compelled to act as well.irate farmers protested at Iron Gate Dam, symbolically and peacefully at first, but later accelerating to "self-help" remedies, such as piping water to canals and forcing irrigation gates open.¹⁵¹ Local opposition groups formed to protest the BOR's action.¹⁵² Nationwide media coverage prompted political posturing by opponents of the ESA¹⁵³ and opened the federal "disaster relief spigot"¹⁵⁴ for irrigators who suffered crop losses. A National Research Council report, requested by the Departments of the Interior and Commerce, criticized the FWS's minimum lake level requirement, effectively "cut[ting] the legs out from under the BiOp."¹⁵⁵

In reaction, the BOR modified its operations in 2002, another drought year, despite FWS and NMFS BiOps suggesting that its plan to provide full water deliveries to irrigators¹⁵⁶ would jeopardize both salmon and suckers in violation of the ESA.¹⁵⁷ Instream flow and lake levels consequently dropped,¹⁵⁸ and over 60,000 Chinook and Coho

¹⁵⁰ *Id.* at 150.

¹⁵¹ *Id.* at 2–4.

¹⁵² For example, the Klamath Bucket Brigade "was formed to promote the rally and parade that drew 18,000 people to the Klamath Basin on May 7th, 2001." *A History of the Klamath Bucket Brigade*, KLAMATH BUCKET BRIGADE, http://klamathbucketbrigade.org/a_history_of_KBB.htm. Its stated mission is to "[P]romote individual and property rights that are vital to the safety, social and economic well-being of the United States." *Mission Statement*, KLAMATH BUCKET BRIGADE, http://klamathbucketbrigade.org/kbb_mission_statement.htm.

¹⁵³ Michael Milstein, *Endangered Species Act Reform Urged*, THE OREGONIAN, June 17, 2001, at A17.

¹⁵⁴ See DOREMUS & TARLOCK, *supra* note 13, at 113 (discussing "aftershocks" of the 2001 BOR decision); see also *id.* ("The Bush administration has proposed \$20 million in relief for the Klamath Basin.").

¹⁵⁵ *Id.* at 123.

¹⁵⁶ *Id.*

¹⁵⁷ NAT'L MARINE FISHERIES SERV SW. REGION NO. CAL. OFFICE & U.S. FISH & WILDLIFE SERV., Pac. Sw. Region Klamath Falls Fish & Wildlife Office, BIOLOGICAL OPINIONS ON THE EFFECTS OF PROPOSED KLAMATH PROJECT OPERATIONS FROM MAY 31, 2013, THROUGH MARCH 31, 2023, ON FIVE FEDERALLY LISTED THREATENED AND ENDANGERED SPECIES 2 (2013), available at <http://www.fws.gov/klamathfallsfwo/news/2013%20BO/2013-Final-Klamath-Project-BO.pdf> [hereinafter 2013 BiOp].

¹⁵⁸ *Id.*

salmon died in a fish kill in the Lower Klamath Basin in September 2002.¹⁵⁹ The direct cause of this fish kill was a combined bacterial and parasitic disease,¹⁶⁰ but many believed that water management decisions in the Upper Basin contributed to the kill.¹⁶¹

The disasters of 2001 and 2002 were but two obvious attestations to the ongoing and cascading symptoms of ecosystem stress in the Basin. More recent, if less dramatic, events continue:

- In 2006, the commercial salmon fishing season was closed along 700 miles of the West Coast to protect weak Klamath River and other major river salmon stocks.¹⁶²
- In 2010, because of drought conditions, Reclamation's Klamath Project reduced its water deliveries to farmers resulting in short-term idling of farmland and increased groundwater pumping.¹⁶³
- In 2010, the Lost River suckers fishery for the Klamath Tribes was closed for the twenty-fourth year, limiting the Tribes to only a ceremonial harvest.¹⁶⁴
- A species of smelt—the Southern DPS eulachon—that inhabits the Pacific Ocean from California to Alaska and spawns in coastal rivers including the Klamath, was listed as a threatened species under the ESA in 2010.¹⁶⁵
- Southwest Oregon remains in moderate to severe drought into late 2013.¹⁶⁶
- “Flows into the Upper Klamath Lake were only 40% of normal [in 2013], reducing irrigation deliveries and flows vital for fish, including the endangered shortnose and Lost River suckers, and prompting Klamath Tribes and irrigators to make formal calls for water.”¹⁶⁷

¹⁵⁹ Robben, *supra* note 90, at 19; POWERS ET AL., *supra* note 54, at 19.

¹⁶⁰ NAT'L MARINE FISHERIES SERV SW. REGION NO. CAL. OFFICE ET AL., *supra*, note 157, at 2.

¹⁶¹ POWERS ET AL., *supra* note 54, at 19.

¹⁶² *Background*, *supra* note 5.

¹⁶³ *Id.*

¹⁶⁴ *Id.*

¹⁶⁵ 2013 BiOp, *supra* note 157, at 49.

¹⁶⁶ Anrhony Artusa, *U.S. Drought Monitor: Oregon*, OREGON.GOV (Dec. 4, 2014), http://www.oregon.gov/owrd/pages/wr/drought.aspx#Current_Conditions_in_Oregon.

¹⁶⁷ Bettina Boxall, *Winners in Harsh Battle for Klamath River Water Claim Their Rights*, L.A. TIMES, June 10, 2013, <http://articles.latimes.com/2013/jun/10/local/la-me-klamath-call-20130611>.

Meanwhile, as scientists study the issues, nature alternately placates with wet years and exacerbates with drought years, and the parties litigate, lobby, and negotiate—everyone looking for relief. The basic policies of subsidized irrigation have not changed; climate change is expected to accelerate drought conditions; and species continue to decline.

C. The Transition to Problem-Solving: From Litigation to Negotiation

Just as the Klamath Basin's water problems spring from long-standing facts of climate and geography, the coping mechanisms employed by its residents also have historical precursors. Bare-knuckle, winner-take-all litigation over water issues has been going on "at least since the late 1800s."¹⁶⁸ Likewise, cooperative agreements have historical precursors in the West Coast region, particularly revolving around dam licensing.¹⁶⁹ After the "rotating catastrophes"¹⁷⁰ of the early 2000s, stakeholders in the Klamath Basin began to realize that existing policies and legal remedies failed to reach the interrelated regional issues at the root of the problem.¹⁷¹ FERC's licensing proceedings became a model forum for negotiation among the parties.¹⁷²

PacifiCorp's FERC relicensing process provided a collaborative framework through which stakeholders—including citizens, environmental groups, recreationists, and government agencies—could participate in relicensing decisions.¹⁷³ The process was modeled after contract negotiations and encouraged face-to-face meetings and dispute resolution among stakeholders.¹⁷⁴ However, such a process

¹⁶⁸ Robben, *supra* note 90, at 19 (quoting Carl Ullman, attorney for the Klamath Tribes).

¹⁶⁹ See Michael C. Blumm & Andrew B. Erickson, *Dam Removal in the Pacific Northwest: Lessons for the Nation*, 42 ENVTL. L. 1045, 1048 (2012); DOREMUS & TARLOCK, *supra* note 13, at 178.

¹⁷⁰ Carl Ullman, *Adjudicating Water Rights While Addressing Broad Resource Policy Issues: Fitting A Round Peg into A Square Hole*, ABA WATER RESOURCES COMM. NEWSL. (ABA Section on Env't, Energy, & Res, Chi., Ill.), 3-4 (May 2010), at 3-4, http://apps.americanbar.org/enviro/committees/waterresources/newsletter/may10/WaterRes_May10.pdf.

¹⁷¹ *Id.*

¹⁷² DOREMUS & TARLOCK, *supra* note 13, at 178.

¹⁷³ *Id.*

¹⁷⁴ *Id.*

differs from administrative notice-and-comment rulemaking, which is typically used in a relicensing process, because stakeholders in negotiations may agree to keep discussions confidential.¹⁷⁵ Collaborative management that includes representatives from a majority of interest groups was viewed as an alternative to ad hoc crisis management for enormous regional problems that, most agree, are not going away.¹⁷⁶

III

THE KLAMATH BASIN AGREEMENTS

A. *The Parties to the Agreements*

A key characteristic adding complexity to the Klamath Basin disputes is the sheer number of involved parties, with alternately conflicting or aligned interests. Signatories to the Klamath Hydroelectric Settlement Agreement (KHSAs) included forty-eight parties,¹⁷⁷ most notably:

- The Bureau of Reclamation
- USFWS and NMFS
- PacifiCorp
- Fishermen (Lower Basin)
- Irrigators (Upper Basin)
- California and Oregon tribes
- Local governments
- Environmental organizations
- Wildlife protection organizations.

Signatories to the Klamath Basin Restoration Agreement (KBRA) were the same parties, with the exception of the federal government and PacifiCorp.¹⁷⁸ The following table is a simplified representation of the parties, interests, and strategies:¹⁷⁹

¹⁷⁵ *Id.*

¹⁷⁶ See, e.g., *The Klamath River Basin: Hearing Before the S. Comm. on Energy & Natural Res.*, 113th Cong. (2013) (opening remarks of Ron Wyden, Chairman, S. Comm. on Energy & Natural Res.) available at <http://www.gpo.gov/fdsys/pkg/CHRG-113shrg82613/pdf/CHRG-113shrg82613.pdf> (noting that Basin residents recognize the need for long-term solutions that minimize damage to all parties).

¹⁷⁷ KBRA, *supra* note 1, at 1–3.

¹⁷⁸ *Id.*

¹⁷⁹ This table summarizes the discussion in DOREMUS & TARLOCK, *supra* note 13, at 146.

Party	Interest	Strategy
Bureau of Reclamation	Minimum change to status quo; mainly aligned with irrigators; institutional inertia; must comply with ESA.	Comply with ESA mandate; perpetuate original policy; actions are subject to political flux.
Irrigators	Promote agriculture; maximum water and power at minimum cost; maintain status quo; decommission or get rid of ESA.	Politics; litigation.
USFWS, NMFS	Revive ecosystems; reduce agriculture; halt damage and degradation; mainly aligned with environmental organizations.	Comply with ESA mandate; negotiation; actions are subject to political flux.
Environmental Organizations	Revive ecosystems; reduce agriculture; reduce human impacts; halt damage and degradation.	Litigation in unfavorable political climate; legislation and politics in favorable political climate.
Tribes	Protect traditional fisheries; revive ecosystems; reduce agriculture; reduce human impacts.	Litigation, negotiation; use of ESA as a protective sword.
Fishermen	Maximize natural flow in Klamath; revive ecosystems; reduce human impacts; halt damage and degradation.	Litigation in unfavorable political climate; legislation, politics in favorable times.
PacifiCorp (KHSa only)	Profit; maximize shareholder benefit.	FERC negotiation process; slow withdrawal of interest.

Figure 2. Parties to the Klamath Basin Agreements

The purported interests listed in the table above are generalized; a review of media materials and commentary shows a wide spectrum of variations that occurred within these broad party categories. Over time, there has been a notable change in shared interests: the majority of the parties now seek to reduce human impact on the environment and restore whole ecosystems. This represents a marked change from the traditional ways that stakeholder groups dealt with land conflicts, which sought to protect property rights against challengers or garner resources for individuals. An optimistic observer might interpret this

as a shift in “the role of Homo Sapiens from conqueror of the land community to plain citizen of it.”¹⁸⁰

B. The Klamath Basin Restoration Agreement

The Klamath Basin Restoration Agreement (KBRA)¹⁸¹ reflects a basinwide approach to addressing the current resource challenges.¹⁸² The agreement was negotiated concurrently with the KHSA and was signed by most of the same parties, with the exception of the federal government and PacifiCorp.¹⁸³

The goals of the KBRA were: to restore and sustain natural fish production; to provide reliable water and power supplies for agricultural uses, communities, and National Wildlife Refuges; and to address or offset property tax, economic, and tribal fishing losses.¹⁸⁴

The key negotiated outcomes of the KBRA include agreements by the Klamath, Karuk, and Yurok Tribes to limit the exercise of reserved water right claims to accommodate Reclamation’s Klamath Project water users.¹⁸⁵ In return, project water users agreed to accept water diversions from Upper Klamath Lake and the Klamath River that are smaller than traditional allotments.¹⁸⁶ The gains for environmental and downstream parties include more support for fisheries restoration; Upper Basin irrigators gain greater certainty about water deliveries; and both parties gain a commitment to work collaboratively in the future.¹⁸⁷ The Agreement lays out detailed water management procedures, habitat restoration, and provides for continued research and monitoring. It also sets limits on diversions for irrigation, outlines mediative steps by irrigators, and creates programs to retire irrigated lands for cash.¹⁸⁸ Undoubtedly, the holy grail of the KBRA is the Indian Tribes’ permanent assurances not to assert tribal water or fishing rights (including instream flow),

¹⁸⁰ ALDO LEOPOLD, *A SAND COUNTY ALMANAC* 238–39 (Oxford University Press 1966).

¹⁸¹ KBRA, *supra* note 1, at 18–19.

¹⁸² *See id.* at 18–19.

¹⁸³ *Id.* at 18.

¹⁸⁴ *Id.* at 18–19.

¹⁸⁵ *Id.* at 19.

¹⁸⁶ *Id.*

¹⁸⁷ *Id.*

¹⁸⁸ *See generally id.*

especially since the 2013 adjudication confirmed top priority to those rights.¹⁸⁹

Total funding for the KBRA is approximately \$1 billion, 90 percent of which is committed to fish restoration and water provisions.¹⁹⁰ Sixty percent of the total is a redirection of federal funds already allocated elsewhere in the Basin; the federal government funds the remaining 40 percent.¹⁹¹

Although the KBRA achieved a broad consensus among stakeholders, environmental groups and some Tribes felt that the environmental protections were insufficient to ensure water for endangered species.¹⁹² In addition, the Klamath County Commission withdrew as a signatory to the KBRA in a 3–0 vote in March of 2013.¹⁹³

Aside from the unique water management considerations encompassed by the KBRA, the Agreement is significant from a social movement perspective because citizen groups used a set of protocols in an existing forum (the FERC licensing process) to negotiate a solution to regional problems.¹⁹⁴ As discussed in Part IV.C.2.c, the KBRA process applied some, if not all, the elements of participatory democracy to a shared resource problem.

C. The Klamath Hydroelectric Settlement Agreement

The Klamath Hydroelectric Settlement Agreement (KHSAs)¹⁹⁵ proposed removal of four PacifiCorp dams on the Klamath River by 2020—the J.C. Boyle, Copco No. 1, Copco No. 2, and Iron Gate dams.¹⁹⁶ The KHSAs, signed concurrently with the KBRA, contemplated interim operation of the four PacifiCorp dams during the pending relicensing proceeding, and laid out a plan for the

¹⁸⁹ *Id.* at 79–97.

¹⁹⁰ Allen, *supra* note 62, at 453–54.

¹⁹¹ *Id.* at 454.

¹⁹² *Id.* at 454–55; Robben, *supra* note 90, at 20.

¹⁹³ Scott Learn, *Oregon Gives Tribes Top Claims to Water in Much of Klamath Basin* OREGONLIVE (last updated Mar. 07, 2013, 7:46 PM), http://www.oregonlive.com/environment/index.ssf/2013/03/oregon_gives_tribes_top_claims.html.

¹⁹⁴ *See, e.g.*, DOREMUS & TARLOCK, *supra* note 13, at 177–78.

¹⁹⁵ KHSAs, *supra* note 2.

¹⁹⁶ *Id.*

transfer, decommission, and removal of the dams.¹⁹⁷ Signatories of the KBRA agreed to support the KHSA.¹⁹⁸

As noted earlier, PacifiCorp's FERC licenses for the dams on the Klamath River—the Klamath Hydroelectric Project—expired in March of 2006, but it began its application for relicensing in 2004.¹⁹⁹ Relicensing required consultation with the expert agencies, FWS and NMFS, because endangered salmon, suckers, and their critical habitat was involved.²⁰⁰ In addition to agency environmental impact studies, PacifiCorp engaged in two years of stakeholder meetings and collaborative negotiations, using the FERC's protocols.²⁰¹ PacifiCorp objected to the agencies' prescriptions, but it was determined to relicense the dams. It therefore proposed alternative prescriptions.²⁰² The proposal did not include fishways, but instead used a "trap and haul" program to truck fish around the dams.²⁰³ However, the EPA ruled in favor of FWS and NMFS in 2005, and the final prescriptions, which were presented to FERC in 2006, included construction of fish ladders at three dams, a redesigned ladder at one dam, and, at all four dams, screens, bypasses, tailrace barriers, and spillway modifications.²⁰⁴ The prescriptions also required minimum flows, a minimum water level at Keno dam, and streamflow monitoring around the project area.²⁰⁵ PacifiCorp's license also hinged on state certifications required by the Clean Water Act;²⁰⁶ both California and Oregon considered the applications inadequate, and threatened to deny certification.²⁰⁷

FERC's final EIS in 2007 estimated that PacifiCorp's generating capacity would be reduced by 25 percent, leaving its operating costs 40 percent over the price of electricity generated, and rendering the project economically infeasible.²⁰⁸

¹⁹⁷ *Id.* at 3.

¹⁹⁸ KBRA, *supra* note 1, at 3.

¹⁹⁹ DOREMUS & TARLOCK, *supra* note 13, at 176; *see also* Allen, *supra* note 62, at 446–47 (describing PacifiCorp's relicensing process).

²⁰⁰ 16 U.S.C. § 1536(a)(2) (2012).

²⁰¹ This is described further *infra*, Part III.C.

²⁰² Allen, *supra* note 62, at 447.

²⁰³ *Id.* at 448.

²⁰⁴ *Id.* at 448–49.

²⁰⁵ *Id.*

²⁰⁶ 33 U.S.C. § 1341 (2012).

²⁰⁷ Allen, *supra* note 62, at 449–50.

²⁰⁸ *Id.* at 449.

As PacifiCorp faced the environmental costs of continued dam operation, its bargaining position shifted, which left a power gap and set the conditions for a dam removal agreement.²⁰⁹ The KHSA's option of dam removal contributed in two ways to facilitate the KBRA. First, KBRA negotiations developed concurrently with the collaborative FERC relicensing process, and adopted its protocols.²¹⁰ Second, the KHSA put dam removal on the table; it forced Basin stakeholders to seriously consider an alternative to the status quo of irrigated agriculture supported by dams—namely a restored, ecologically functional landscape, and a harmonious relationship with land that had not been experienced in half a century.

In addition to dam removal procedures, the KHSA covers power replacement for communities, cost distribution, and interim operations.²¹¹ Implementation of the agreement depends on environmental review by the Secretary of the Interior, and a determination that it is in accord with the public interest.²¹² The most contentious aspect of the KHSA is its price tag.²¹³ The agreement specifies \$450 million for dam removal—\$200 million would be sourced through PacifiCorp's Oregon and California customers, and another potential \$250 million from bonds in California.²¹⁴ Dam removal is contingent on approval by state legislatures, and the California Public Utilities Commission.²¹⁵ In addition, signatories to the KBRA and KHSA have agreed to execute the agreements concurrently.²¹⁶

The Secretary of the Interior's Final Determination, issued in April 2013, found that dam removal is in the public interest.²¹⁷

²⁰⁹ *E.g.*, DOREMUS & TARLOCK, *supra* note 13, at 179–80 (noting that FERC's EIS considered removal of two dams as an alternative, and PacifiCorp's determination for relicensing was wavering).

²¹⁰ Allen, *supra* note 62, at 453–54.

²¹¹ *See generally* KHSA, *supra* note 2.

²¹² *Id.* at 19. The dam removal must (i) advance restoration of the salmonid fisheries, and (ii) be in the public interest, including consideration of potential impacts on affected local communities and Tribes. *Id.*

²¹³ Allen, *supra* note 62, at 461.

²¹⁴ *Id.* at 459.

²¹⁵ *Id.* at 459–60.

²¹⁶ *Id.* at 453.

²¹⁷ U.S. Dep't of the Interior, *supra* note 11.

IV

SOCIAL MOVEMENT ASPECTS OF THE KLAMATH WATER WAR

Events in the Klamath Basin since 2001 illustrate a complex response to shared resource problems using an organization of citizens, their collective action efforts, application of federal environmental statutes through legal actions, and regional problem-solving through agency notice-and-comment rulemaking. This Part correlates the Klamath Basin settlement process to processes employed in other social movements. Part IV.A. identifies the Klamath Basin events as a submovement within the larger environmental movement because it shares the underlying consciousness shift, and the incorporation of a land ethic. Part IV.B. then presents an overview of social movement theory and describes how current models cast the activist phases of social movements as part of a larger political process.²¹⁸ Finally, Part IV.C. lays out an eight-stage analysis of social movements,²¹⁹ recognizing that citizen activism dovetails with political, legislative, and legal pathways to change social institutions and policies. It concludes by applying the eight stages to Klamath Basin water wars and the subsequent agreements.

*A. The Klamath Basin as Part of a Consciousness Shift and the
“Fourth Wave” Environmental Movement*

As noted, the environmental consequences of the BOR's Klamath Project are now evident in the Klamath Basin. Species loss, water pollution, and habitat degradation stem directly from the policies of irrigated agriculture.²²⁰ The premise supporting agriculture in marginally suitable places is that communities of small farms are an ideal social organization for settling the west, the “founding vision of the Bureau of Reclamation.”²²¹ Not all necessary endeavors are cost-effective, however, the public subsidizes them anyway (through the government) because of belief and culture.

²¹⁸ See MOYER ET AL., *supra* note 18, at 105 (discussing of social movement theories).

²¹⁹ *Id.* at 42–86 (describing evolution of social movements in practical terms for organizers).

²²⁰ DOREMUS & TARLOCK, *supra* note 13, at 7–8 (“Irrigated agriculture is the root of an environmental and social crisis that was long in the making.”).

²²¹ *Id.* at 8; FREDERICK H. NEWELL, IRRIGATION IN THE UNITED STATES 406 (T.Y. Crowell 1902) (“The dead and profitless deserts need only the magic touch of water to make arable land that will afford homes for our overcrowded Eastern cities. . .”).

According to authors and scholars familiar with the Klamath Basin, a clash of values lies at the root of the current conflicts.²²² Irrigated agriculture “has been viewed as [an] inherently moral and civilizing activit[y],”²²³ the loss of which is feared by farm communities. At the same time, loss of salmon and suckers, wetland habitat destruction, and the impacts brought about by severely anthropocentric policies are deemed intolerable by Tribes, fishing communities, and others who depend on functioning ecosystems. The struggles over resources in the Klamath Basin are an attempt by dependent communities to evolve beyond a nineteenth-century agrarian vision that is visibly failing, to another, newer vision.

1. The Land Ethic: A Shift in Consciousness

The naturalist Aldo Leopold famously observed that a harmonious relationship between humans and the environment (referred to in Leopold’s time, the 1940s and 1950s, as “conservation”) could not proceed in the United States until people embraced what he called “a land ethic.”²²⁴ An ethic is defined as a self-imposed limitation on freedom of action in the context of the struggle for existence.²²⁵ Leopold reasoned that humans, as interdependent beings, evolve toward modes of cooperation and that our ecological evolution has progressed in three parts. The first ethic governs relations between individuals; the second ethic rules interactions between individuals and society; and the third ethic, yet to be realized, pertains to humans’ ethical relation to land, animals, and plants.²²⁶ Leopold considered the “conservation movement” to be “the embryo of such an affirmation.”²²⁷

There is as yet no ethic dealing with man’s relation to land and to animals and plants which grow on it. Land, like Odysseus’ slave-girls, is still property. The land-relation is still strictly economic, entailing privileges but not obligations.

²²² DOREMUS & TARLOCK, *supra* note 13, at 9–11. “The water conflicts in the basin are in part an illustration of the inevitable tension between an extractive economy and an ecosystem service economy.” *Id.* at 10.

²²³ *Id.* at 11 (quoting NATIONAL RESEARCH COUNCIL, A NEW ERA FOR IRRIGATION 28 (1996)).

²²⁴ LEOPOLD, *supra* note 179, at 238.

²²⁵ *Id.*

²²⁶ *Id.*

²²⁷ *Id.* at 239.

. . . [A] land ethic changes the role of Homo Sapiens from conqueror of the land community to plain citizen of it. It implies respect for his fellow-members, and also respect for the community as such.²²⁸

This passage, penned in 1949, bears a remarkable similarity to theories of the modern environmental movement.²²⁹ However, the evolution of the theories has not been smooth; many legislative and regulatory concessions to environmental principles made in the 1970s stemmed more from a concern for consequences to humans than from a sense of ethical obligation.²³⁰

Leopold predicted what this third stage of ecological evolution would look like: “No important change in ethics was ever accomplished without an internal change in our intellectual emphasis, loyalties, affections, and conviction. The proof that conservation has not yet touched these foundations of conduct lies in the fact that philosophy and religion have not yet heard of it.”²³¹ Sixty-five years after Leopold’s observations, however, there is evidence that environmental principles have reached the realms of philosophy and religion. Many mainstream religious leaders are taking up the mantle of environmentalism, “pleading the Earth’s case from the pulpit,”²³² and environmental thought has spawned an extensive literature.²³³

2. Resisting Environmentalism and the “Fourth Wave”

Wholesale change in societal values is never easy. Promoters of social change tend to be seen as threats to entrenched interests; their proposed changes conflict with the previously negotiated positions of

²²⁸ *Id.* at 238–39.

²²⁹ For example, deep ecology theory “subordinates economic to ecological and ethical criteria, with the goal of promoting an egalitarian existence.” César Cuauhtémoc García Hernández, *Radical Environmentalism: The New Civil Disobedience?*, 6 SEATTLE J. FOR SOC. JUST. 289, 300 (2007). “[D]eep ecologist [Dave] Foreman advocates ‘[r]eclaiming the roads and plowed land’ to their pre-industrial state, destroying many of the large dams in the USA, and creating and maintaining more ‘blank spots’ on the map where human development gives way to wilderness.” *Id.* (citations omitted).

²³⁰ See, e.g., *Tenn. Valley Auth. v. Hill*, 437 U.S. 153, 178 (1978). During the legislative proceedings around passage of the Endangered Species Act, Congress estimated that “the value of [our] genetic heritage is, quite literally, incalculable” because endangered plants and animals are potential future resources. *Id.*

²³¹ LEOPOLD, *supra* note 180, at 246.

²³² SALLY G. BINGHAM, *LOVE GOD HEAL EARTH: 21 LEADING RELIGIOUS VOICES SPEAK OUT ON OUR SACRED DUTY TO PROTECT THE ENVIRONMENT* i (2009).

²³³ In Leopold’s tradition are writings by Rachel Carson, Wendell Berry, Dave Foreman, and Peter Singer, to scratch the surface.

organized groups.²³⁴ The long list of failures and extinctions of strands of environmental activism are scars that this reality has inflicted. As in many conflicts where values are at stake, environmentalists have made a number of near-fatal errors, perhaps the worst of which has been “to misread and underestimate the fury of their antagonists.”²³⁵

Despite resistance, the endurance of the U.S. environmental movement has flummoxed social movement scholars, who regularly predict its demise,²³⁶ and movement activists, who interpret transformations as death knells.²³⁷ However, the fits and starts of environmentalism’s progress fall into perspective when environmentalism is viewed more broadly as a fundamental, societal values shift, as Leopold foresaw. This values shift attempts to replace old, anthropocentric ideas that humans are “the crown of evolution,” supremely entitled to use and destroy all that they encounter,²³⁸ with a brand of thinking and activism that “protect[s] ecosystems, biodiversity, habitats, and aquifers,”²³⁹ and from which human health benefits naturally derive.

Mark Dowie, former publisher and editor of *Mother Jones*, writing in 1995, envisioned a “fourth wave” of American environmentalism and used Leopold’s “citizen of nature” language to describe it.²⁴⁰ This

²³⁴ John D. McCarthy & Mark Wolfson, *Consensus Movements, Conflict Movements, and the Cooptation of Civic and State Infrastructures*, in *FRONTIERS IN SOCIAL MOVEMENT THEORY* 273, 277 (Aldon D. Morris & Carol McClurg Mueller eds., 1992) (discussing how consensus movements shift to conflict movements as they encounter organized opposition).

²³⁵ MARK DOWIE, *LOSING GROUND: AMERICAN ENVIRONMENTALISM AT THE CLOSE OF THE TWENTIETH CENTURY* xiii (MIT Press 1995).

²³⁶ See, e.g., *id.* at 205–06.

²³⁷ E.g., compare, MICHAEL SHELLENBERGER & TED NORDHAUS, *THE DEATH OF ENVIRONMENTALISM: GLOBAL WARMING POLITICS IN A POST-ENVIRONMENTAL WORLD* 6 (2004), available at http://www.thebreakthrough.org/images/Death_of_Environmentalism.pdf (observing that “[o]ver the last 15 years environmental foundations and organizations have invested hundreds of millions of dollars into combating global warming. We have strikingly little to show for it.”), with Michael Shellenberger & Ted Nordhaus, *The Long Death of Environmentalism*, *THE BREAKTHROUGH INSTITUTE* (Feb. 25, 2011), http://thebreakthrough.org/archive/the_long_death_of_environmenta (delivering a post-mortem on Al Gore and the venture into addressing climate change through a “green economy”).

²³⁸ DOWIE, *supra* note 235, at 254–55 (noting the consciousness shift: humans are now just another species, either endangered or dangerous).

²³⁹ *Id.*

²⁴⁰ *Id.*

would be an evolutionary step, he said, in which “[h]uman beings would reapply for membership in the biosphere.”²⁴¹ In their second century, Americans show signs of assimilation to the land that supports them. The strains of American environmentalism present today share in Leopold’s vision, varying only in how far they are willing to tread on the path to species parity.²⁴²

The consequences of old, failed policies and emerging, new, redistributive policies are playing out across the United States, with property law as ground zero. Property, a highly fortified area of law, is notoriously resistant to change.²⁴³ Irrigated lands of the West, and the river basins that surround them, including the Klamath Basin, are windows into the environmentalist consciousness shift at its most granular level. The responses of activists, government, and law to the Klamath Basin water and environmental crises hold important lessons because democracy requires citizen participation, and the pertinent skills are learnable.

3. *Social Movements Realize Consciousness Shift*

Social movements are sustained collective actions that exist outside institutions for the purpose of challenging or defending institutional or cultural authority.²⁴⁴ Because a large-scale consciousness-shift alters power relationships, generates resistance, and initiates collective action, it fits squarely within the wheelhouse of current social movement theory. Consciousness shift is recognized as an element of social movements; indeed, some social movement theorists suggest that it is a necessary condition of social movements.²⁴⁵

²⁴¹ *Id.* (quoting deep ecologist Thomas Berry).

²⁴² *E.g.*, Silveira, *supra* note 15, at 511–19.

²⁴³ *E.g.*, Sax, *supra* note 65, at 2–3 (noting that notions of property ownership are at the heart of our “difficulty [] in coming to terms with our historical assault on natural systems and the challenges we face in achieving sustainability”); Arthur McEvoy, *Markets and Ethics in U.S. Property Law*, in *WHO OWNS AMERICA?: SOCIAL CONFLICT OVER PROPERTY RIGHTS* 94, 94 (Harvey M. Jacobs ed., 1998) (“[T]he fundamental liberty of private owners to develop their property as they please is the cornerstone of American civil and economic freedom. . . . This pro-development bias is a historical artifact, built into our law over the course of the nineteenth century by courts, legislatures, and private citizens.”).

²⁴⁴ David A. Snow, Sarah A. Soule & Hanspeter Kriesi, *Mapping the Terrain*, in *THE BLACKWELL COMPANION TO SOCIAL MOVEMENTS* 11 (Snow, Soule & Kriesi eds., 2004).

²⁴⁵ *See, e.g.*, FRANCES FOX PIVEN AND RICHARD A. CLOWARD, *POOR PEOPLE’S MOVEMENTS: WHY THEY SUCCEED, HOW THEY FAIL* 3–4 (Pantheon Books 1977) (“The

The Klamath Basin's struggle to incorporate environmental principles into water management decisions qualifies as a social movement because it originated in episodes of collective action outside legal and political channels, and because it challenged the existing idea that irrigation and hydroelectric generation trumped all other interests. The reaction of irrigators to the interruption of water deliveries from the BOR's Klamath Project and the nationwide repercussions in sympathy with that reaction can be characterized as a counter-movement.²⁴⁶

In the Upper Klamath Basin, agricultural communities have grown up around the BOR's Klamath Project, depending on its subsidized water and power and creating a local economy based on irrigated wheat, malt barley, potatoes, onions, and alfalfa, as well as cattle grazing.²⁴⁷ Income from agriculture in the Upper Klamath has decreased over time, "like other extractive industries that sustained the West up to a generation ago."²⁴⁸ Nevertheless, farming still defines the identity of its residents—a value outside the realm of economics.²⁴⁹

The BOR's involvement only intensifies the resistance of this cultural identity. Once government action addresses a public goal, the government's assumptions and premises become institutionalized, often achieving the status of myth.²⁵⁰ Values become entrenched, and policy develops to maintain the project.²⁵¹ In this way, institutions gain inertia, and policies are held in place by "sunk legitimacy costs."²⁵²

As culture and social identities evolve to adapt to physical and climatic realities, social movement theory and modeling can help to

emergence of a protest movement entails a transformation both of consciousness and of behavior.").

²⁴⁶ McCarthy & Wolfson, *supra* note 234, at 275 (describing a counter-movement as a "set of opinions and beliefs in a population opposed to a social movement").

²⁴⁷ POWERS ET AL., *supra* note 54, at 5.

²⁴⁸ DOREMUS & TARLOCK, *supra* note 13, at 29.

²⁴⁹ *Id.* (noting that the attachment of irrigators to farming "is tied to a sense of heritage and obligation to preceding and succeeding generations of basin farmers").

²⁵⁰ See, e.g., McCarthy & Wolfson, *supra* note 234, at 282 (discussing how institutions are perpetuated by their sunk costs).

²⁵¹ *Id.*

²⁵² *Id.* at 282 ("Once a group or a state element becomes publicly committed to a social change effort, its sunk legitimacy costs are likely to make withdrawal of support difficult.").

explain the shared resource dilemmas unfolding in the Klamath Basin and elsewhere. The institutions involved in Klamath Basin are the Bureau of Reclamation, its irrigation policy, and the hydroelectric and irrigation law and projects in operation since the early twentieth century.²⁵³ Environmental groups, wildlife advocates, Native Tribes, fishermen, and others who depend on healthy rivers and fish populations for their livelihoods have become the social movement activists. The change sought is the recognition that fish, wildlife, habitat, and ecosystem services have intrinsic value beyond that assigned by the anthropocentric calculus of irrigation and hydropower interests. The following section, Part IV.B., examines current social movement theory and draws analogies to the Klamath Basin water wars and agreements.

B. Social Movement Theory and the “Fourth Wave” Environmental Movement

Social movements, the collective actions by which ordinary people challenge social conditions and policies,²⁵⁴ are the mechanism of choice when the values of a population evolve, leaving institutions behind.²⁵⁵ A recent example is the incremental acceptance of same-sex marriages, a protracted process involving protest, litigation, and grassroots efforts.²⁵⁶ Collective action, the mainstay of social movements, is “a drastic action to change society,”²⁵⁷ that “short-circuit[s] the routine small and gradual adjustments.”²⁵⁸

Scholars once viewed collective action as abnormal and disruptive behavior and tried to explain why people did it in order to “fix” or

²⁵³ MARC REISNER, *CADILLAC DESERT* 51 (Penguin 1993) (describing “a half-century rampage of dam-building and irrigation development” in the American west as a self-perpetuating monster, resulting in natural and economic wreckage).

²⁵⁴ *E.g.*, MOYER ET AL., *supra* note 18, at 1; BERT KLANDERMANS, *THE SOCIAL PSYCHOLOGY OF PROTEST* 2 (1997) (“Social movements . . . are ‘collective challenges, by people with common purposes and social solidarities, in sustained interaction with elites, opponents, and authorities.’” (quoting SIDNEY G. TARROW, *POWER IN MOVEMENT: SOCIAL MOVEMENTS AND CONTENTIOUS POLITICS* 9 (3d ed. 2011))).

²⁵⁵ MOYER ET AL., *supra* note 18, at 14 (noting that social movements are based on grassroots “people power”; they are capable of overcoming the resistance of entrenched corporate and state institutions).

²⁵⁶ *Same-Sex Marriage, Civil Unions, and Domestic Partnerships*, N.Y. TIMES (Dec. 17, 2013), http://topics.nytimes.com/top/reference/timestopics/subjects/s/same_sex_marriage/index.html (summarizing 2013 events related to same-sex unions).

²⁵⁷ Clarence Y.H. Lo, *Communities of Challengers in Social Movement Theory*, in *FRONTIERS IN SOCIAL MOVEMENT THEORY* 225 (Morris & Mueller eds., 1992).

²⁵⁸ *Id.*

prevent it.²⁵⁹ Power-holders resisting social change still rely on these characterizations as a tactic to defuse movements.²⁶⁰ Later social movement theories viewed past movements as reactionary, short-lived spurts that released pent-up energy and studied the conditions for their formation.²⁶¹ A new theoretical paradigm emerged in the 1980s and 1990s, “New Social Movement” theory,²⁶² encompassing the understanding that social movements are a part of the political process.²⁶³ New Social Movement theory recognizes fourth-wave, grassroots environmentalism (the American version) as a legitimate social movement,²⁶⁴ because fourth-wave activism advocates for citizen politics based on direct action, participatory decision making, and decentralized structures.²⁶⁵

Most recently, social movement scholars examine law, organizations, and social movements concurrently, as overlapping fields.²⁶⁶ Social movements affect law and organizations in four ways: (1) by shaping legal practice (e.g., through test-case litigation and lobbying for legislation, both of which are central tools of activists); (2) by influencing the emergence of new organizational fields (e.g., for-profit recycling); (3) by changing structures and practices of organizations (e.g., “green” businesses); and (4) by affecting actors within organizations (e.g., by reducing sex-based discrimination and sexual harassment in workplaces).²⁶⁷ Applying social movement theory to events in the Klamath Basin shows that the protests, litigation, political action, citizen-based agreements for ecosystem restoration, and the ultimate incorporation of ecocentric values in

²⁵⁹ See generally NEIL J. SMELSER, THEORY OF COLLECTIVE BEHAVIOR (Free Press of Glencoe 1963); WILLIAM KORNHAUSER, THE POLITICS OF MASS SOCIETY (Free Press 1959).

²⁶⁰ E.g., MOYER ET AL., *supra* note 18, at 57 (explaining counter-tactics of powerholders in Stage 4).

²⁶¹ E.g., PIVEN & CLOWARD, *supra* note 245, at 1–37 (examining the power dynamics and trajectory of insurgencies).

²⁶² Silveira, *supra* note 15, at 524–25 (using the environmental, peace, antinuclear, feminist, and gay and lesbian movements as examples of New Social Movement theory, and more recently, “a backlash of single-issue right-wing groups supporting causes like anti-busing, anti-abortion, and anti-gun control groups”).

²⁶³ MOYER ET AL., *supra* note 18, at 105.

²⁶⁴ Silveira, *supra* note 15, at 525.

²⁶⁵ *Id.* at 525.

²⁶⁶ Lauren B. Edelman, Gwendolyn Leachman & Doug McAdam, *On Law, Organizations, and Social Movements*, 6 ANN. REV. LAW SOC. SCI. 653, 656 (2010).

²⁶⁷ *Id.* at 656–59.

mainstream institutions—are a continuum rather than discrete and conflicting methods. These processes encompass a complete (or ongoing) “social movement” cycle.

C. *The Eight Stages of the Klamath Basin Social Movement*

1. *The Movement Action Plan Model*

The Movement Action Plan (MAP), devised in the mid-1980s by nonviolent social activist Bill Moyer, breaks down social movements into eight stages for the purpose of strategic analysis and practical training of social organizers.²⁶⁸ The eight stages, shown in Figure 2, follow the unfolding of social movements in time, while tracking shifts in power dynamics, and take an integrative approach of the most recent social movement theorists. The model is based on Moyer’s experience in organizing antinuclear, civil rights, gay and lesbian, and anti-globalization movements.²⁶⁹

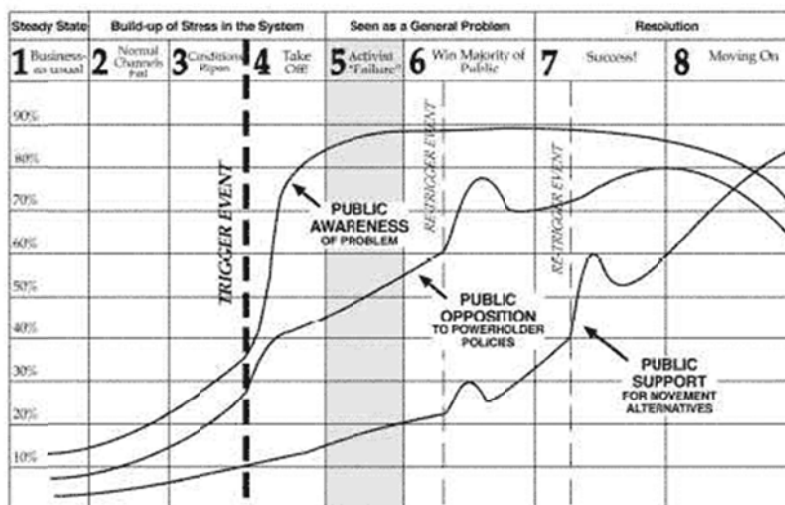


Figure 3. From Bill Moyer, *The Movement Action Plan* (1987), available at [http://www.turning-the-tide.org/files/Moyers%20Movement%20Action %20Plan.pdf](http://www.turning-the-tide.org/files/Moyers%20Movement%20Action%20Plan.pdf).

²⁶⁸ See generally, MOYER ET AL., *supra* note 18.

²⁶⁹ *Id.*

The eight stages are: (1) normal times, (2) prove the failure of institutions, (3) ripening conditions, (4) take-off, (5) perception of movement failure, (6) majority public opinion, (7) success, and (8) continuing the struggle.²⁷⁰ Moyer's action plan is based on the premises that social problems are a result of power being concentrated in a few elite individuals and institutions acting out of self-interest, and that participatory democracy is a key to resolving those problems.²⁷¹ Through education, dissemination of critical information, and citizen participation, the public will eventually be able to dismantle failed policies or institutions, allowing new ones to emerge.²⁷² Citizen activism, and the MAP in particular, focus on overcoming the institutional-capture and -entrenchment problems that threaten democracy in the United States and other post-industrial societies.²⁷³

The MAP strings together elements from social movement theory, such as trigger events, mobilization methods, opposition groups, and counter-tactics, and places them in a time relationship.²⁷⁴ The resulting framework invites an understanding of social movements as organic processes, consisting of submovements, and often spanning decades.²⁷⁵ The strategic model is designed to help activists set goals, plan, choose tactics, avoid pitfalls, and identify and disable counter-movement strategies.²⁷⁶

Movements often fail for lack of a strategic plan and lack of a conceptual framework from which to interpret immediate struggles.²⁷⁷ As a result, a critical aspect of training for organizers is recognizing power relationships and strategies, and analyzing the larger context of submovements. Figure 3 presents a generalized flow of the social movements in terms of key power relationships, power shift points, and historical examples, throughout the eight stages of the MAP model.

²⁷⁰ *Id.* at 42–43.

²⁷¹ *Id.* at 19.

²⁷² *Id.*

²⁷³ *Id.* at 2; *see also* LEE STAPLES, *ROOTS TO POWER: A MANUAL FOR GRASSROOTS ORGANIZING*, xvii (Praeger 2004) (describing a bottom-up organizing methodology by which “The People Shall Rule”).

²⁷⁴ MOYER ET AL., *supra* note 18, at 42–43.

²⁷⁵ *Id.* at 5.

²⁷⁶ *Id.*

²⁷⁷ *Id.*

Stage	Characteristics	Power Balance	Powerholder Actions	Changer Actions	Examples
Stage 1. Normal Times	Problems present but invisible to majority of public	Few opponents of status quo; 5-10% public awareness	Official policy façade hides actual policy; control strategy: 1) hide the issue, 2) cultivate powerlessness, 3) isolate citizens	Inform public; document situation; build organizations; promote belief in change	Civil Rights pre-1950; Vietnam War pre-1966;
Stage 2. Prove Failure of Institutions	Failure of official channels and processes to address problems; growing awareness	Unjust, unlawful policies uncovered; violation of public trust demonstrated; public awareness 10-20%	Powerholders easily win challenges; promote powerlessness; ignore, hide, deny problems	Exhaust official paths of change; legal challenges, lobbying; goal is not to win, but to document problem and build expertise	20 years of litigation before Brown v. Board of Ed.; Edward Snowden leak of NSA spy programs
Stage 3. Ripening Conditions	Worsening, personalized problem; rising expectations; growth of grassroots activism	Status quo unthreatened; social, political, and media institutions used to hide problem; public awareness 20-30%	Intensified three-pronged control strategy	Existing organizations and structures used as resources, support, strategy; grassroots growth; creation of a network of solidarity	Black churches and colleges in supporting Civil Rights Movement
Stage 4. Take-Off	Trigger event—usually a highly publicized, shocking incident	Powerholders visibly linked to problem; veil of ignorance/secretary disturbed; public awareness rises rapidly to 40-50%	Failure of control tactics; powerholders take hard-line defense of policies; attack changers as radical, dangerous, communist, led by outsiders	Civil disobedience, non-violent demonstrations; dilemma demonstrations. Goal: spotlight disparity between policy façade and actual policy	Rosa Parks bus seat refusal; lunch counter sit-ins in 1960s; Battle of Seattle WTO demonstrations 1999
Stage 5. Perception of Failure	Majority public opinion gained BUT powerholders mount counter-movement	Public awareness 50/50; social myth, institutions still biased toward status quo	Fear control tactics; stray violence justifies repressive response; negative rebels used to scapegoat movement	Some activists disillusioned, negative rebels; strategy shifts to long-term grassroots struggle	Backlash against animal rights arsons, 1990s

Stage	Characteristics	Power Balance	Powerholder Actions	Changer Actions	Examples
Stage 6. Majority Public Opinion	Long-term, grassroots struggle erodes powerholder policies TRANSITION SIGNALS: splits among powerholders; forced change of position; issue hotly debated by legis.	Public awareness 60-75% BUT 50% fear alternatives more than they detest status quo	Crisis management: reactivate social myths; corporation and govt. PR campaigns; co-opt movement ideas and rhetoric ("sustainability," "clean coal"); co-opt movement groups; fund bogus orgs ("astroturf coalitions"); hire scientific experts; bogus negotiations	Massive public education effort; broad-based, inclusive message; emergence of participatory democracy; large citizen actions that defy policies and model alternatives. Retrigger events replay Stage 4 take-off. Goal: overcome fear	Gandhi's citizen defiance of British prohibitions on domestic salt and clothing manufacture
Stage 7. Success	Plateau and endgame	Majority of public opposes status quo and supports alternatives	Three endgames: 1) dramatic showdown-"Custer's last stand," 2) quiet showdown-revise policy and declare victory; 3) attrition-stubborn holdout	Maintain broad grassroots orgs; counter bogus claims of change; promote alternatives and consciousness shift	1965 voting Rights Act
Stage 8. Continuing Struggle	Expand and seek social change	Power tipped in favor of public' consensus supports new consciousness; some risk of backlash or reversal	Powerholders pass agreements or laws to dissipate opposition, then fail to implement; vigorous counterattacks; cut funding for unwanted legislation	Watchdog role to prevent reversals; legal and political methods	Defunding of EPA after landmark environmental laws pass; pro-life movement after Roe v. Wade

Figure 4. Summary of the characteristics of the eight stages of social movements, from Moyer et al., *Doing Democracy* (2001)

2. Applying the MAP Model to the Klamath Basin

a. Stages 1-3: The Early Stages

In terms of the Klamath Basin's water management, life along the Klamath River from the 1950s through the 1980s could be best described as business-as-usual—the status quo that is characteristic of Stage 1 of social movements.²⁷⁸ Gradual but measurable habitat

²⁷⁸ *Id.* at 43.

degradation and loss of sucker and salmon populations were accepted as inevitable and were made less visible by the fact that the groups most affected by the damage, the Klamath and Lower Basin Tribes, had relatively little political power.²⁷⁹ Despite damage to habitat and fish, the status quo was easily maintained by the existing prior appropriation doctrine that favored the economic interests of the BOR, PacifiCorp, and Upper Basin irrigators.²⁸⁰

Stage 2 of the MAP model is characterized by intermittent failure of institutions and the gradual growth of public awareness.²⁸¹ This is the fact-gathering stage of a social movement, during which the few people aware of the problems do research and gather evidence.²⁸² At the same time, activists exhaust all the normal channels available for effecting change through the democratic process.²⁸³ Stage 2 in the Klamath Basin corresponds to the period preceding 2001, during which the parties addressed water and environmental disputes ad hoc, through individual lawsuits.²⁸⁴

In Stage 3 of social movements, conditions ripen toward more concentrated citizen action. Although numbers remain small, activists commonly use existing cultural or economic organizations to help garner resources and provide a mechanism for building solidarity.²⁸⁵ In the Klamath Basin, long-standing organizations sympathetic to changes in BOR policy included the Klamath and Modoc Tribal organizations,²⁸⁶ environmental groups like Earthjustice,²⁸⁷ the Pacific Coast Federation of Fishermen's Associations,²⁸⁸ and many others.

²⁷⁹ DOREMUS & TARLOCK, *supra* note 13, at 59–60.

²⁸⁰ *Id.* at 43 (describing a 1957 interstate compact between California and Oregon that generally prioritized domestic and irrigation use above all other beneficial uses).

²⁸¹ MOYER ET AL., *supra* note 18, at 50–51.

²⁸² *Id.* at 49.

²⁸³ *Id.*

²⁸⁴ DOREMUS & TARLOCK, *supra* note 13, at 43 (describing lengthy process for settling water rights claims).

²⁸⁵ MOYER ET AL., *supra* note 18, at 52.

²⁸⁶ *See, e.g., Tribal Administration Implements Tribal Policy through Departments*, KLAMATH TRIBAL ADMINISTRATION, <http://www.klamathtribes.org/administration> (last visited Feb. 18, 2015). The Klamath Tribal administration functions as a small government, providing administrative, legal, cultural, and social services for its members.

²⁸⁷ Earthjustice is a U.S. nonprofit public interest law organization founded in 1971, dedicated to environmental issues. *About Us*, EARTHJUSTICE, <http://earthjustice.org/about> (last visited Feb. 18, 2014).

²⁸⁸ Pacific Coast Federation of Fishermen's Associations is an "umbrella" group, or federation, of different port and commercial fishermen's marketing associations along the west coast. Its organizational structure is "bottom-up," based on individual fishermen, and

Growing discontent around water and environmental issues had developed over many years, extending Stage 3's duration. A widening grassroots network formed as activists and their allies organized and cultivated the sense that citizens can effectuate change.²⁸⁹ According to social movement theory, consciousness shift occurs when forces acting to maintain the status quo violate widely held societal values.²⁹⁰ In the Klamath Basin, this consciousness shift occurred as institutionalized BOR irrigation practices violated the Tribes', fishermen's, and environmentalists' new land ethic—the signal of a new relationship with the natural world²⁹¹—by visibly and repeatedly destroying important fish and natural habitat.

The ideas and legal strictures memorialized in the Endangered Species Act (ESA) and federal Clean Water Act²⁹² had been largely ignored in the Klamath Basin for years, at the expense of Tribes, fishermen, and wildlife.²⁹³ As is typical with water problems, this “normal” condition became less tolerable as successive droughts highlighted and accelerated the damage.²⁹⁴ For example, in 1993, the federal government had reduced the Chinook harvest for Klamath Tribal fishing;²⁹⁵ suckers had been listed as endangered under the ESA since 1988²⁹⁶ but continued to suffer die-offs in Upper Klamath Lake from 1995 to 1997;²⁹⁷ and in 1997 NMFS listed Coho salmon as a threatened species under the ESA.²⁹⁸

concerned with the long-term survival of commercial fishing “as a productive livelihood and way of life.” *What is PCFFA?*, PAC. COAST FED’N. FISHERMEN’S ASS’NS., <http://www.pcffa.org/> (last visited Feb. 18, 2014).

²⁸⁹ MOYER ET AL., *supra* note 18, at 51 (describing the effects of solidarity and self-consciousness on grassroots movements in Stage 3).

²⁹⁰ *Id.* at 52; *see also* FRANCES FOX PIVEN & RICHARD A. CLOWARD, *supra* note 245, at 3–4.

²⁹¹ Carolyn Merchant, *The Theoretical Structure of Ecological Revolutions*, 11 ENVTL. REV. 265, 266 (1987) (“Ecological revolutions are major transformations in human relations with non-human nature. They arise from changes, tensions, and contradictions that develop between a society’s mode of production and its ecology, and between its modes of production and reproduction. Those dynamics in turn support the acceptance of new forms of consciousness, ideas, images, and world views.”).

²⁹² 33 U.S.C. §§ 125–1387 (2012).

²⁹³ *E.g.*, DOREMUS & TARLOCK, *supra* note 13, at 5, 88.

²⁹⁴ *See, e.g.*, POWERS ET AL., *supra* note 54, i.

²⁹⁵ The 1993 fall Chinook was reduced to 50% of total available harvest by the Federal Government. FINAL EIS, *supra* note 36, at ES- 8.

²⁹⁶ 53 Fed. Reg. 27,130 (July 18, 1988).

²⁹⁷ FINAL EIS, *supra* note 36, at ES-9.

²⁹⁸ 62 Fed. Reg. 24,588 (May 6, 1997).

As noted above, the emerging clash of values in the Klamath Basin—environmental interests versus farming communities—came to a legal head in 2000 to 2001. Irrigators successfully challenged earlier attempts to set minimum water levels to protect fish, through FWS Biological Opinions (BiOps).²⁹⁹ After a critically dry winter in 2000 to 2001, NMFS and the FWS again issued BiOps³⁰⁰ advising the BOR that its operating plan for the Klamath Dams was “likely to jeopardize the continued existence” of Coho salmon and suckers.³⁰¹ This time, however, a suit filed by the Pacific Coast Federation of Fishermen’s Associations and other groups resulted in an injunction that prevented water deliveries to irrigation deliveries to irrigators on the Klamath Project whenever Klamath River flows at Iron Gate Dam dropped below the minimum recommended by FWS.³⁰² The BOR was forced to respond to the 2001 BiOps and comply with the ESA by drastically curtailing deliveries of water to irrigators in the summer 2001, which effectively upset over 30 years of Bureau policy. The action forced the water issue into public view, and sparked a counter-movement in response.³⁰³ The conditions were ripe for Stage 4.

b. Stage 4: Take-Off

The take-off stage, or Stage 4 of the MAP model, is the stereotypical embodiment of social movement actions—the one that grabs the attention of the media and a previously unsuspecting public.³⁰⁴ Historical examples are the dramatic and well-publicized events we associate with civil disobedience, such as Rosa Parks’ refusal to take a seat at the back of a Montgomery bus or the lunch

²⁹⁹ In 1998 irrigators got the courts to strike down minimum water elevations for several Upper Basin lakes that were prescribed in FWS’ BiOp. *DOREMUS & TARLOCK*, *supra* note 13, at 137. The court held that there was insufficient evidence that minimum lake elevations would help avoid jeopardy to suckers. *Bennett v. Spear*, 5 F. Supp. 2d 882, 882 (D. Or. 1998).

³⁰⁰ U.S. FISH & WILDLIFE SERV. & KLAMATH FALLS FISH & WILDLIFE OFFICE, BIOLOGICAL/CONFERENCE OPINION REGARDING THE EFFECTS OF OPERATION OF THE BUREAU OF RECLAMATION’S KLAMATH PROJECT ON THE ENDANGERED LOST RIVER SUCKER (*DELTISTES LUXATUS*), ENDANGERED SHORTNOSE SUCKER (*CHASMISTES BREVIROSTRIS*), THREATENED BALD EAGLE (*HALIAEETUS LEUCOCEPHALUS*), AND PROPOSED CRITICAL HABITAT FOR THE LOST RIVER/SHORTNOSE SUCKERS 2001, available at <http://soda.sou.edu/awdata/021111c1.pdf>.

³⁰¹ 16 U.S.C. § 1536(a) (2012).

³⁰² *Pac. Coast Fed’n of Fishermen’s Ass’ns v. Bureau of Reclamation*, 138 F. Supp. 2d 1228, 1251 (N.D. Cal. 2001).

³⁰³ *McCarthy & Wolfson*, *supra* note 234, at 275 (defining counter-movement).

³⁰⁴ *MOYER ET AL.*, *supra* note 18, at 51.

counter sit-ins during the 1960s Civil Rights Movement.³⁰⁵ Stage 4 starts with a trigger event that “dramatically reveals a critical social problem to the general public in a vivid way.”³⁰⁶ The existence of a crystallizing event that triggers collective action is well documented in social movements, and social movement scholars note that “protest movements do not arise during ordinary periods; they arise when large-scale changes undermine political stability.”³⁰⁷ In the classic movement take-off, 40 to 50 percent of the population responds to the crystallizing event with moral outrage and is mobilized in accord with the movement’s message.³⁰⁸ The public outcry and protests following the shooting of 17-year-old Trayvon Martin, an unarmed black youth, by a neighborhood watch volunteer in Florida in 2012 is a recent example.³⁰⁹

In the case of the Klamath Basin, the best example of a Stage 4 trigger event is not citizen actions against BOR policies, but the counter-movement reaction to the court’s injunction.³¹⁰

The crystallizing event, indicative of a Stage 4 take-off, was in the summer of 2001 when the BOR shut off water to irrigators, a result of the injunction. The shutoff triggered a counter-movement fight to maintain the status quo, and the first wave of citizens that mobilized were those opposing policy change. Specifically, it was Upper Basin irrigators who were outraged and, in response, organized protest groups, like the Klamath Bucket Brigade.³¹¹ The irrigation cutbacks

³⁰⁵ *Id.* at 54.

³⁰⁶ *Id.*

³⁰⁷ *See, e.g.,* PIVEN & CLOWARD, *supra* note 245, at 3–4 (noting transformation of consciousness as an element of collective action).

³⁰⁸ MOYER ET AL., *supra* note 18, at 56.

³⁰⁹ *See, e.g.,* Julia Dahl, *Trayvon Martin Shooting: A Timeline of Events*, CBS NEWS (July 12, 2013, 5:11 PM), <http://www.cbsnews.com/news/trayvon-martin-shooting-a-time-line-of-events/>.

³¹⁰ The appearance of organized backlash in the form of counter-movements is more typical of Stage 5, where some major goals have been realized, and powerholders are in a defensive stance. *See* MOYER ET AL., *supra* note 18, at 61 fig. 3. Parts of the environmental movement were farther advanced regionally, compared with the Klamath Basin; for example, dam removals and coastal protection elsewhere on the coast were already progressing through favorable legislation and court decisions typical of Stages 6 and 7. *See infra* Parts V.C.2.d.–e.

³¹¹ More than 20,000 people held a “bucket brigade” in Klamath Falls, Oregon on May 7 to protest the federal government’s decision to cut off irrigation water that serves more than 90 percent of the farmers in the area. . . . Participants passed 50 buckets of water, one for each state, through the heart of the town to illustrate their

resulted in “violence, street protests, some comic political drama,”³¹² and other responses “that continue to reverberate throughout the West.”³¹³ The BOR’s closure of the Klamath irrigation project headgates represented a critical point in the struggle for social change—the point at which the traditional beneficiaries of challenged policies are negatively impacted by the demanded change.³¹⁴

Ultimately, 2001 and 2002 provided multiple triggers for the Klamath Basin social movement, inciting both sides to action. The BOR’s forced curtailment of water deliveries reversed longstanding irrigation policy and sparked a counter-movement, but this proved only the opening salvo. The following year, the Natural Resource Council’s report,³¹⁵ assembled at the request of the Bush administration and Departments of Interior and Commerce, refuted the finding of the 2001 BiOp that higher water levels would protect suckers.³¹⁶ Although many believed the report was politically driven, the BOR’s 2002 operating plan restored water to irrigators and dropped water levels to half those called for in 2001.³¹⁷ In 2002, the fish kills on the Lower Klamath River³¹⁸ outraged Tribes, fishermen, and environmentalist interests.³¹⁹

displeasure at the government’s decision to give first priority in the drought-stricken region to the protection of sucker fish and Coho salmon.

Heartlander Environment & Climate News Staff, *Klamath Falls Bucket Brigade Protests Water Shutoff*, HEARTLAND INST. (July 1, 2001), <http://news.heartland.org/newspaper-article/2001/07/01/klamath-falls-bucket-brigade-protests-water-shutoff>.

³¹² DOREMUS & TARLOCK, *supra* note 13, at 2.

³¹³ *Id.*

³¹⁴ Adjustments in a community’s fundamental consciousness tend to redistribute existing property rights. See, for example, Sax, *supra* note 65, n.8: “Harm in its broadest sense embraces changing community notions of justice, such as the imposition of minimum-wage and child-labor laws or the enactment of Married Women’s Property Acts, all of which are redistributive of preexisting property rights.”

³¹⁵ NAT’L RESEARCH COUNCIL COMM. ON ENDANGERED & THREATENED FISHES IN THE KLAMATH RIVER BASIN, ENDANGERED AND THREATENED FISHES IN THE KLAMATH RIVER BASIN: CAUSES OF DECLINE AND STRATEGIES FOR RECOVERY 6 (2004), available at <http://www.nap.edu/catalog/10838/endangered-and-threatened-fishes-in-the-klamath-river-basin-causes>.

³¹⁶ *Id.* at 6 (“[D]espite theoretical speculations, there is no basis in evidence for optimism that manipulation of water levels has the potential to moderate mass mortality of suckers in Upper Klamath Lake.”); see also DOREMUS & TARLOCK, *supra* note 13, at 121.

³¹⁷ DOREMUS & TARLOCK, *supra* note 13, at 124–25.

³¹⁸ POWERS ET AL., *supra* note 54, at 17 (noting that in September 2002, thousands of adult Chinook salmon, as well as Coho salmon, steelhead, trout, and other species, died in the lowermost 40 miles of the Klamath River mainstem).

³¹⁹ See, e.g., Associated Press, *Tribes Protest Salmon Die-off on Klamath River*, SEATTLE PI (Oct. 11, 2002, 10:00 PM.), <http://www.seattlepi.com/news/article/Tribes>

Stage 4 thus precipitated rapid mobilization and growth on both sides of the Klamath Basin social movement. Powerholders and those who relied on the status quo understood that the balance of power was precarious and changing. A grassroots network became activated, and the issue of water management was front and center before the public, setting the conditions for Stage 5.³²⁰

c. Stages 5-6: The Klamath Basin Social Movement Continues

In contrast to the highly publicized, conflict-charged, take-off phase of Stage 4, movements tend to shift gears in Stages 5 and 6 to the less dramatic and less visible work of fixing and maintaining gains from earlier efforts.³²¹ The majority public opinion developed in earlier stages must be mobilized to promote alternatives, and overcome the full-blown counter-tactics mounted by opponents of change.³²² Stage 5 is a transition phase during which some activists become frustrated when instant victory is not forthcoming.³²³ The result is a perception of failure; activists unprepared for the routine drudgery of grassroots organizing may resort to violence, presenting the opposition with scapegoating opportunities.³²⁴

In Stage 6, majority public opinion firmly supports social change, but change still cannot happen because half of the population fears the alternative more than it detests the status quo.³²⁵ Powerholders, instead of changing their policies, switch to a crisis management mode in order to retain legitimacy.³²⁶ The courts' lurching changes in direction, and the BOR's shifting operating plans for the Klamath Project after 2001, are examples of crisis management as the agency responded to competing scientific views and political pressure.³²⁷

Powerholders resort next to scare tactics; they work to convince the public that "life would be intolerable with the current policies in

-protest-salmon-die-off-on-Klamath-River-1098282.php (reporting that members of a downstream Klamath River tribe demonstrated against the federal government's irrigation policy in Klamath Falls, displaying dead and decaying salmon. Two pickups carrying counter protesters drove by the rally yelling "You guys poisoned the fish.").

³²⁰ MOYER ET AL., *supra* note 18, at 58.

³²¹ *Id.* at 64.

³²² *Id.*

³²³ *Id.* at 60.

³²⁴ *Id.* at 61.

³²⁵ *Id.* at 73–74.

³²⁶ *Id.* at 72.

³²⁷ *See supra* Part III.B.

place.”³²⁸ In the Klamath Basin, the threat to private property rights and the demise of traditional family farming are powerful linchpins of Reclamation’s status quo.³²⁹ Thus, fear of change is the next obstacle activists must overcome in order to achieve a consciousness shift.

Stage 6 arguably reflects the current state of affairs in the Klamath Basin with respect to water management. During this stage, grassroots organizations carry out a massive education campaign, support and develop alternatives, and resist the decoy policy changes of powerholders;³³⁰ they coopt existing structures and resources, including government organizations, to promote the social change agenda.³³¹ According to social movement theory, cooptation, or the commandeering of existing structures or resources for a use other than their original use,³³² is a common and documented method of collective mobilization.³³³ An often-cited example is black and white churches during the Civil Rights Movement.³³⁴ Cooptation of civic structures is especially prevalent in “consensus” movements—movements that enjoy near consensus (80%–90%) in a geographically bound population.³³⁵ In the Klamath Basin, Tribes, environmental groups, and fishermen are frequently, but not always, aligned with FWS and state water authorities through policies prescribed by environmental statutes like the ESA.³³⁶ Aligned individuals and sympathetic bureaucrats are positioned to support the movement goals of social change.³³⁷

³²⁸ MOYER ET AL., *supra* note 18, at 84.

³²⁹ Some Upper Basin irrigators see the KBRA and KHSAs as threats to private property rights, tentacles of government intrusion, and threats to the future of farming. *See, e.g., Welcome to the Klamath Bucket Brigade’s Internet Home*, KLAMATH BUCKET BRIGADE, klamathbucketbrigade.org (last visited Feb. 18, 2015) (“Our Mission Statement: Promote individual and property rights that are vital to the safety, social and economic well-being of the United States.”).

³³⁰ MOYER ET AL., *supra* note 18, at 68–72 (describing twelve phases to accomplish Stage 6 goals).

³³¹ *Id.* at 65.

³³² *See, e.g.,* McCarthy & Wolfson, *supra* note 234, at 273.

³³³ *Id.* at 274 (“The cooptation of civic and state structures by social movements, when successful, can greatly facilitate collective mobilization.”).

³³⁴ *Id.* at 282.

³³⁵ *Id.* at 274.

³³⁶ DOREMUS & TARLOCK, *supra* note 13, at 146.

³³⁷ *Id.* (noting that many career FWS and NMFS employees identify strongly with environmentalists).

Finally, Stage 6 marks the emergence of participatory democratic structures.³³⁸ A dominant and most noted aspect of the Klamath Basin water struggles is the completion of two regional agreements, the KBRA and KHSA, driven largely by citizen groups.³³⁹ As noted in Part III.A, the protocols used in reaching the agreements exhibit elements of participatory democracy.

Participatory democratic process embraces a nonhierarchical, decentralized mode of organizing composed of branching networks³⁴⁰ that support a horizontal power distribution. An organization chart resembles, not coincidentally, the root system of grasses or mushrooms. A key tool of participatory democracy is consensus decision making, by which groups shape decisions through member participation, while maximizing efficiency.³⁴¹ Horizontally organized groups using consensus decision making embrace several key principles: (1) inclusion, (2) open-mindedness, (3) empathy, (4) collaboration, and (5) shared ownership.³⁴² The collaborative process prescribed by FERC, and used to reach consensus in the KBRA and KHSA, has been criticized by some for its non-inclusiveness and tolerance of confidential negotiations.³⁴³ However, it is modeled at least in part after participatory democratic principles, and is designed to be open to all stakeholders and to encourage collaboration.³⁴⁴ Thus, the KBRA and KHSA represent Stage 6, the emergence of participatory democracy.

d. Stage 7: FERC Relicensing as a Regional Political Opportunity

As discussed above, social movements are composed of many local submovements, spanning different geographic areas that do not

³³⁸ MOYER ET AL., *supra* note 18, at 67.

³³⁹ See, e.g., DOREMUS & TARLOCK, *supra* note 13, at 178–79; Allen, *supra* note 62, at 452; Ullman, *supra* note 170, at 4; Hannah Gosnell & Erin Clover Kelly, *Peace on the River? Social-Ecological Restoration and Large Dam Removal in the Klamath Basin, USA*, 3 WATER ALTERNATIVES 361, 371 (2010).

³⁴⁰ Myra Marx Ferree & Carol McClurg Mueller, *Feminism and the Women's Movement: A Global Perspective*, in THE BLACKWELL COMPANION TO SOCIAL MOVEMENTS 576, 593 (David A. Snow et al. eds., 2004) (discussing modes of organization in social movements).

³⁴¹ See, e.g., TIM HARTNETT, CONSENSUS-ORIENTED DECISION-MAKING, xx (2011) (stating the two goals of consensus decision making are maximum participation and maximum efficiency).

³⁴² *Id.* at 7.

³⁴³ DOREMUS & TARLOCK, *supra* note 13, at 178.

³⁴⁴ *Id.*

necessarily progress at the same rate.³⁴⁵ Success in one movement may upset the balance of power and create an opportunity for change in another submovement. PacifiCorp's decision to withdraw its relicensing application for the Klamath dams is an example of this type of submovement interaction. The decision process, which involved community input, reflects Stage 7 of a social movement, where majority public opinion favors dam removal, but political factors prevent execution.³⁴⁶ In the MAP model, Stage 7 is characterized as the plateau and endgame phase, where power shift is a foregone conclusion, and powerholders succumb in one of three ways: by a dramatic showdown, a quiet showdown, or by attrition.³⁴⁷ In the case of FERC dam licensing, these dynamics have played out case-by-case, over a decade or more as states implement fish and habitat protections mandated by environmental laws.³⁴⁸

While the relative isolation and powerful vestiges of the agricultural economy perpetuated the dominance of irrigation's status quo in the Upper Klamath Basin,³⁴⁹ elsewhere in the Pacific Northwest, the myth of reclamation fell from favor.³⁵⁰ Diminished salmon runs and degraded water quality had taken a toll for many years, and people were considering dam removal as a part of fish recovery plans.³⁵¹

The Federal Power Act (FPA) obliges FERC to cooperate with federal wildlife agencies to "require the construction, maintenance, and operation . . . [of] fishways as may be prescribed."³⁵² The FPA calls for administrative hearings on the record, and a hearing opportunity for any "disputed issues of material fact with respect to such fishways."³⁵³ Nevertheless, during the agency's first sixty years,

³⁴⁵ MOYER ET AL., *supra* note 18, at 7.

³⁴⁶ *Id.* at 75.

³⁴⁷ *Id.* at 75–76.

³⁴⁸ *See, e.g.*, Blumm & Erickson, *supra* note 169, at 1045.

³⁴⁹ DOREMUS & TARLOCK, *supra* note 13, at 57.

³⁵⁰ *See* Blumm & Erickson, *supra* note 169.

³⁵¹ *Id.*

³⁵² 16 U.S.C. § 811 (2012).

³⁵³ *Id.* ("The license applicant and any party to the proceeding shall be entitled to a determination on the record, after opportunity for an agency trial-type hearing of no more than 90 days, on any disputed issues of material fact with respect to such fishways.").

and despite the built-in protection for fisheries, licensing decisions gave no consideration to environmental effects.³⁵⁴

By the 1960s, effects of dams on fish populations were apparent, and citizen groups began to demand consideration of wildlife as a part of FERC licensing and relicensing.³⁵⁵ Over the past three decades, a series of court cases determined that FERC relicensing was subject to Section 401 of the Clean Water Act,³⁵⁶ including conditions imposed by states,³⁵⁷ and was subject to the prescriptions of wildlife agencies.³⁵⁸ Furthermore, statutes and case law surrounding FERC relicensing were interpreted so that “the FPA demand[ed] a new look at the project based on today’s values and regulations.”³⁵⁹

The cumulative result of incorporating environmental principles in FERC relicensing is that the process has and does trigger dam removal considerations. License conditions with mandatory prescriptions for fish passage under the FPA and other environmental laws change the economics of dam projects.³⁶⁰ PacifiCorp had been negotiating its relicensing application through a notice-and-comment process since 2000.³⁶¹ In March 2006, PacifiCorp’s FERC license expired for the five dams on the Klamath River that make up the Klamath Hydroelectric Project.³⁶² Operations continued under annual extensions, while the relicensing process was still in progress.³⁶³

³⁵⁴ Michael C. Blumm & Viki A. Nadol, *The Decline of the Hydropower Czar and the Rise of Agency Pluralism in Hydroelectric Licensing*, 26 COLUM. J. ENVTL. L. 81, 87 n.35 (2001) (quoting *American Rivers v. FERC*, 201 F.3d 1186, 1192 n.6 (9th Cir. 2000)).

³⁵⁵ DOREMUS & TARLOCK, *supra* note 13, at 177 (citing *Scenic Hudson Pres. Conference v. Fed. Power Comm’n*, 354 F.2d 608 (2d Cir. 1965); *Udall v. Fed. Power Comm’n*, 387 U.S. 428, 440 (1967) (noting that promotion of hydropower is not FERC’s sole mission)).

³⁵⁶ 33 U.S.C. § 1341 (2012).

³⁵⁷ See PUD No. 1 of Jefferson Cnty. v. Washington Dep’t of Ecology (Dosewallips), 511 U.S. 700, 701 (1994); *Am. Rivers v. FERC*, 129 F.3d 99 (2d Cir. 1997).

³⁵⁸ See *Am. Rivers v. FERC*, 201 F.3d 1186 (9th Cir. 1999) (holding that “FERC lacked authority to reject fishway prescriptions proposed by Secretaries of Commerce and Interior”).

³⁵⁹ See Blumm & Nadol, *supra* note 354, at 83 n.5. (citing H.R. Rep. No. 99-934 at 22 (1986)) (“Projects must undergo the scrutiny of today’s values.”); see also *Confederated Tribes and Bands of the Yakima Indian Nation v. FERC*, 746 F.2d 466, 470–71 (9th Cir. 1984) (explaining that the relicensing process is the functional equivalent of an initial licensing).

³⁶⁰ See Blumm & Nadol, *supra* note 354, at 126.

³⁶¹ DOREMUS & TARLOCK, *supra* note 13 at 176.

³⁶² *Id.*

³⁶³ *Id.*

Finally, however, in 2009, PacifiCorp stated that it favored dam removal rather than relicensing for economic reasons:

The federal government and the states of California and Oregon have made their intentions quite clear that they prefer a presumptive path toward dam removal, and we have negotiated with them and the numerous stakeholders in good faith to keep our customers out of legal harm's way and keep their costs and risks as low as possible when compared against the option of relicensing the dams.³⁶⁴

PacifiCorp's decision, responding in part to a broader, regional submovement (dam removals), interacted with the then-existing Stage 6 conditions of the Klamath Basin (water war), and shifted the power balance, pushing the process to Stage 7. PacifiCorp was a buttress supporting ongoing BOR policy—the status quo; when PacifiCorp's interests were no longer served (continued dam operation was no longer economic), that buttress disappeared. The other, possibly greater, significance of PacifiCorp's license withdrawal was that it broke the mental barrier against the unthinkable, unimaginable future: life without dams. Development of alternatives to the status quo is a characteristic movement function starting in Stage 6, and continuing through Stage 7.³⁶⁵ The option of dam removal became a classic “political opportunity,” another key element of social movements.³⁶⁶

e. Stage 8: The ESA and the Continuing Struggle

In Stage 8 of the MAP model, social change becomes possible because the majority of the public is opposed to the status quo, believes the current policies must change, and is willing to accept alternatives.³⁶⁷ However, the risk of reversal or backlash still continues, especially as laws favoring new ethics are implemented.³⁶⁸ Activists typically adopt a watchdog role, often in the form of professional opposition organizations. Examples in the environmental

³⁶⁴ Press Release, PacifiCorp, *Statement Regarding Draft Klamath Hydro Electric Agreement* (Sept. 30, 2009), available at http://www.pacificorp.com/content/dam/pacificorp/doc/About_Us/Newsroom/PP_Press_Release_PDFs/PacifiCorp.pdf.

³⁶⁵ MOYER ET AL., *supra* note 18, at 68.

³⁶⁶ Social movement theorists cite three factors that lead to the formation of social movements: political opportunities, mobilizing structures, and framing processes (crafting of message and meaning that create solidarity). See COMPARATIVE PERSPECTIVES IN SOCIAL MOVEMENTS: POLITICAL OPPORTUNITIES, MOBILIZING STRUCTURES, AND CULTURAL FRAMINGS 2 (Doug McAdam, John D. McCarthy & Mayer Zald eds., 1996).

³⁶⁷ MOYER ET AL., *supra* note 18, at 84–85.

³⁶⁸ *Id.* at 84.

movement are Greenpeace, Sierra Club, and other large, traditionally structured organizations. Endgame strategies by powerholders continue in Stage 8, including passing laws to dissipate opposition, then failing to implement them.³⁶⁹ Defusing the unwanted law by cutting off funding is a standard strategy, and the ESA is an example of this tactic.³⁷⁰ Vigorous counterattacks to roll back changes are another endgame strategy, also known as counter-movements (for example, the pro-life movement that formed after *Roe v. Wade*).³⁷¹

Parts of the national environmental agenda hashed out in the 1970s were, and are, in a protracted Stage 8 condition. The ESA,³⁷² NEPA,³⁷³ and other landmark federal statutes are still routinely ignored or opposed within the government and by private interests. In the Klamath Basin, some Upper Basin irrigators have formed campaigns to roll back ESA protections.³⁷⁴

Because Stage 8 represents the culmination of large-scale consciousness shift, it is reasonable to expect ongoing opposition, including legislative and judicial action.

CONCLUSIONS

Many observers of social movements believe democracy is a process best practiced by citizens³⁷⁵ and that the process requires particular skills.³⁷⁶ An informed public with a set of organizing skills that can be learned by all participants creates nonhierarchical “distributed leadership” that can facilitate social change.³⁷⁷ Skills can

³⁶⁹ *Id.* at 81.

³⁷⁰ *Id.*

³⁷¹ *Id.* at 83.

³⁷² 16 U.S.C. §§ 1531–1544 (2012).

³⁷³ 42 U.S.C. §§ 4321–4370 (2102).

³⁷⁴ One typical commentary labels the ESA a “radical, out-of-control pit bull” and promised to “rally all Republican Central Committees and all Tea Patriot groups and other appropriate groups in the Western United States to Reform the ESA, so farmers, ranchers, timber industry employees, fishing industry employees, mining employees and other employees can keep their jobs and make an acceptable living.” Frank Galusha, *Reform of ESA Demanded*, MYOUTDOORBUDDY.COM, http://www.myoutdoorbuddy.com/outdoor_report.php?outdoor=3094 (last visited Feb. 18, 2015).

³⁷⁵ See MOYER ET AL., *supra* note 18, at 10–11.

³⁷⁶ See, e.g., Aldon D. Morris & Suzanne Staggenborg, *Leadership in Social Movements* 182–83, in THE BLACKWELL COMPANION TO SOCIAL MOVEMENTS 171 (David A. Snow, Sarah A. Soule & Hanspeter Kriesi eds., 2004).

³⁷⁷ *Id.* (citing M. Helen Brown, *Organizing Activity in the Women’s Movement: An Example of Distributed Leadership*, 2 INT’L SOC. MOVEMENT RES. 225, 231–36 (1989)).

be learned, but they can also be forgotten, devalued, outsourced, or snatched by those with an authoritarian inclination. The absence of required skills for self-advocacy and leadership is a significant roadblock to effective citizen participation.³⁷⁸

Social movement theorists observe that extreme inequality, as currently reigns in the United States, erodes the functions of representative democracy because it aggravates the problem of politicians for hire.³⁷⁹ It is also the case that participation among citizens is empirically correlated with income.³⁸⁰ Bottom-up structures that teach and use participatory democracy offer a way to promote change outside unresponsive or broken systems (the definition of social movements).³⁸¹ Faced with rapid climate change, resource problems, and struggles with our own relationship with the natural world, the tools of participatory democracy seem especially appropriate.

Analyzing shared resources problems in a social movement framework helps to interpret the escalations, stalls, and reversals of a movement in terms of power dynamics and process.³⁸² Advocates for social change can use this analysis to predict outcomes for future similar instances, and to facilitate the planning and choosing of strategies essential to movement success. Activists who promote a wholesale change in societal consciousness—an ecological revolution, if you will—can take away important lessons from the Klamath Basin events.

The first takeaway is that real, fundamental change takes a long time—think decades. As the MAP eight stage model suggests, we often, in our short-sightedness, impatience, and fatigue, interpret progress as failure. Second, social movement activities dovetail and fuse with legal, legislative, and other mechanisms for change, and evolve in parallel. Tenacious shared resource problems require an “all hands on deck” approach for efficient solutions. Third, it helps to remember that a single person, a single organization, or a whole social movement plays multiple roles in facilitating change. These roles evolve and recreate themselves over time as individual

³⁷⁸ *E.g.*, PIVEN & CLOWARD, *supra* note 245, at 3–4 (“Most people equate electoral participation with democracy.”).

³⁷⁹ *Id.* at 12.

³⁸⁰ *Id.* (citing SYDNEY VERB ET AL., *VOICE AND EQUALITY: CIVIC VOLUNTARISM IN AMERICAN POLITICS* (1995)).

³⁸¹ Snow, Soule & Kriesi, *supra* note 244.

³⁸² Silveira, *supra* note 15, at 525 (noting that all scientific fields use models).

consciousness evolves. Finally, because of sheer size, duration, and complexity, the Klamath Basin water wars are a living laboratory for addressing shared resource problems through participatory democracy. Seeing the conflicts in terms of shifting power relationships and an evolving land ethic shed light on past events and guide next steps.

