

PERSPECTIVES FROM THE FIELD: A REVIEW OF WESTERN
INSTREAM FLOW ISSUES AND RECOMMENDATIONS FOR A
NEW WATER FUTURE

BY
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Water is the West's most precious resource. Water management, water law, and water policy in the West are at a crossroads. A hard look at instream flow issues and a serious commitment to finding lasting water solutions are critical to the region's future. This Article broadly summarizes several instream flow issues on a state specific and regional scale, and makes discrete recommendations for developing a new, more solutions-oriented approach to water problems in the West. The author offers four recommendations for charting a new course in water management, water law, and water policy in the West; building better relationships, viewing instream flow and regulatory certainty as mutually beneficial, promoting physical solutions, and taking bold action. The author concludes that a new water future for the West can be charted. But, it is entirely up to regional stakeholders to get busy now fostering public dialogue and decision making on the water issues in the West to find lasting solutions that manage water for the greatest good.

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I. INTRODUCTION

Water is the West's most precious resource. Water management, water law, and water policy in the West are at a crossroads. In 1889, during the Montana Constitutional Convention, John Wesley Powell proposed that the state of Montana adopt watersheds as county boundaries.¹ Powell believed that governance should be based on "watershed commonwealths."² His advice, offered over one hundred years ago, fell largely on deaf ears.³ The complicated and often controversial water allocation decisions currently facing stakeholders in the West offer a once in a lifetime opportunity for

¹ J.B. Ruhl et al., *Proposal for a Model State Watershed Management Act*, 33 ENVTL. L. 929, 931 n.14 (2003).

² *Id.*

³ See A. Dan Tarlock, *A Brief Examination of the History of the Persistent Debate About Limits to Western Growth*, 10 HASTINGS W.-NW. J. ENVTL. L. & POL'Y 155, 159-60 (2004).

Westerners “to create a society to match its scenery.”⁴ This opportunity is arising in watersheds around the region, from the Klamath River in Oregon and California, to the Lemhi River in Idaho, to the Blackfoot River in Montana, and many places in between.

A hard look at instream flow issues and a serious commitment to finding lasting water solutions are critical to the region’s future. The political and legal approach to water is biased towards small steps and minor adjustments.⁵ Contemporary regional water decisions affect millions of people in the West. Much more is required than the status quo approach to these decisions, and new emphasis must be placed on problem solving and practical results. Slowly around the West, local communities, agencies, governments, and stakeholders are forging negotiated resolutions that apply water fairly to the greatest number of beneficial uses.⁶

The purpose of this Article is to broadly summarize several instream flow issues on a state specific and regional scale, and make discrete recommendations for developing a new, more solutions-oriented approach to water problems in the West. This Article makes general comparisons between state issues and developments, but does not grade or rank individual states. This Article begins in Part II with a limited factual overview of the present water and fish baseline in the region. Part III addresses the developments and challenges ahead for a collection of intermountain western states, the state of Montana, and the state of California. Part IV offers four recommendations for charting a new course in water management, water law and water policy in the West. These recommendations are solutions-based, and if acted on have the potential to produce lasting results to thorny water disputes whereby instream and fishery needs and consumptive water needs are met. The Article argues that the West’s water future hangs in the balance, and concludes that rekindling a Western “pioneer-interest” in participatory democracy is a critical step towards ensuring a healthy water future.

II. THE WATER AND FISH BASELINE

A. Basic Water Overview

Water defines the West either by its abundance or its scarcity. California provides a useful illustration of this hydrological fact, where about seventy-five percent of rainfall occurs in the northern part of the state

⁴ WALLACE STEGNER, *THE SOUND OF MOUNTAIN WATER* 38 (1980).

⁵ See Reed D. Benson, *Maintaining the Status Quo: Protecting Established Water Uses in The Pacific Northwest, Despite the Rules of Prior Appropriation*, 28 ENVTL. L. 881, 890 (1998) (arguing that many western states take a passive approach to changing water use, instead preferring a status quo that protects existing users).

⁶ See, e.g., Barbara Cosens, *Water Dispute Resolution in the West: Process Elements for the Modern Era in Basin-Wide Problem Solving*, 33 ENVTL. L. 949, 952–53 (2003) (noting current changes in water dispute resolution in the West, particularly the expanding use of negotiation and other collaborative processes).

yet about seventy-five percent of the population lives in the southern part of the state.⁷ Water has always been one of law's most politically charged areas.⁸ Therefore, it is hardly surprising that "[w]ater litigation is a weed that flowers in the arid West."⁹

Water is state property.¹⁰ Western states have detailed code and regulation governing water.¹¹ While federal water law exists,¹² and federal water projects move large quantities of water in the West,¹³ the administration of water use is largely left to the individual western states.¹⁴ State based water allocation decisions are crucial to instream flow.¹⁵

Each western state relies on the prior appropriation doctrine.¹⁶ A short set of uniform principles applies under that doctrine. These include: "first in time, first in right," beneficial use without waste, and "use it or lose it."¹⁷ The private property interest in water is a right to the advantage of the use of water.¹⁸ Most western states now recognize fish and wildlife as beneficial uses.¹⁹

⁷ Brian E. Gray, *Dividing the Waters: The California Experience*, 10 HASTINGS W.-NW. J. ENVTL. L. & POL'Y 141, 142 (2004).

⁸ See Reed Benson, *So Much Conflict, Yet so Much in Common: Considering the Similarities Between Western Water Law and the Endangered Species Act*, 44 NAT. RESOURCES J. 29, 32 (2004) (noting the western pastime of fighting about water).

⁹ *United States v. Orr Water Ditch Co.*, 256 F.3d 935, 940 (9th Cir. 2001).

¹⁰ See, e.g., IDAHO CONST. art. XV, § 1 (establishing use of waters as a public use, subject to Idaho regulations and control); IDAHO CODE ANN. § 42-101 (2003) (asserting state control and property rights to water, while also guaranteeing use rights); CAL. WATER CODE § 102 (West 1971) (declaring all water within the state to be property of the people of the state, subject to right to use by appropriation).

¹¹ See, e.g., CAL. WATER CODE §§ 1-81674 (West 1971) (California's water laws as an example of detailed water regulation).

¹² See Reed D. Benson, *A Few Ironies of Western Water Law*, 6 WYO. L. REV. 331, 335 (2006) (transcript of panel).

¹³ See *California v. United States*, 438 U.S. 645, 650 (9th Cir. 1978) (describing Reclamation Act as Congress's "massive program to construct and operate dams, reservoirs, and canals for the reclamation of the arid lands in 17 Western States").

¹⁴ D. CRAIG BELL, W. STATES WATER COUNCIL, WATER IN THE WEST TODAY: A STATE'S PERSPECTIVE 6 (July 1997) ("Significantly, the Federal Government has historically deferred to Western States to administer water use."); see also Benson, *supra* note 8, at 35-37 (describing water law in western states); *California v. United States*, 438 U.S. at 653 (noting "the consistent thread of purposeful and continued deference to state water law by Congress").

¹⁵ See CAL. WATER CODE §§ 1243-1243.5 (West 2006) (requiring the state water agency to consider "the amounts of water required for recreation and the preservation and enhancement of fish and wildlife resources" when reviewing an application for an appropriative right).

¹⁶ See Brian Morris, *When Rivers Run Dry Under a Big Sky: Balancing Agricultural and Recreational Claims to Scarce Water Resources in Montana and the American West*, 11 STAN. ENVTL. L.J. 259, 263 n.16 (1992) (listing prior appropriation states).

¹⁷ See Benson, *supra* note 5, at 886-87 (listing the traditional basic rules of Western water law).

¹⁸ See Melinda Harm Benson, *The Tulare Case: Water Rights, the Endangered Species Act, and the Fifth Amendment*, 32 ENVTL. L. 551, 567 (citing California Water Code and court decisions); see also *Eddy v. Simpson*, 3 Cal. 249, 252 (1853) (determining that property ownership in water "consists not so much of the fluid itself as the advantage of its use").

¹⁹ See, e.g., CAL. WATER CODE § 1243 (West 2006) ("The use of water for recreation and preservation and enhancement of fish and wildlife resources is a beneficial use of water.");

B. Basic Fish Overview

The presence of endemic fish species in the West is especially high. Sixty-nine percent of the native fish in the Colorado River Basin are found nowhere else in the world; in the intermountain Bonneville Basin that figure is forty-five percent, and in the Sacramento and San Joaquin basins in California it is thirty-three percent.²⁰ The diversity that these species represent is irreplaceable.

They are not doing well. In the last century, at least twenty native fish in the West have become extinct.²¹ Salmon and steelhead are in equally dire straits.²²

To take a state specific example, California faces a catastrophe in biodiversity and species loss. Among the fifty states, it ranks second in numbers of freshwater fish species that are declining.²³ Add anadromous fish, and the state leads the nation in species loss and imperilment.²⁴ At one time, California waters contained 116 native fish species.²⁵ Today, sixty-two percent of those species are either extinct or will require serious actions to prevent extinction.²⁶ A leading factor in aquatic and fish species decline is insufficient instream flow in the region's streams, creeks, and rivers.²⁷

COLO. REV. STAT. §§ 37-92-102(3), 37-92-103(4) (2006) (including fishery or wildlife uses as beneficial uses under the water rights determination chapter of the water code); IDAHO CODE ANN. §§ 42-1501 to 42-1502 (2006) (declaring the beneficial uses to be protected under the minimum streamflow chapter of the water code).

²⁰ W.L. Minckley et al., *Sustainability of Western Native Fish Resources*, in AQUATIC ECOSYSTEMS SYMPOSIUM, REPORT TO THE WESTERN WATER POLICY REVIEW ADVISORY COMMISSION 65, 65 (W. L. Minckley ed., 1997), available at <https://repository.unm.edu/bitstream/1928/365/8/AQUA+pt+4.pdf>.

²¹ See *id.* at 73 ("More than 20 native western fishes have nonetheless become extinct in the past century and 100 more are considered imperiled."); Michael A. Bogan, *Changing Landscapes of the Middle Rio Grande*, in 2 STATUS AND TRENDS OF THE NATION'S BIOLOGICAL RESOURCES 562, 562-63 (U.S. Geological Survey ed., 1998) (describing the effects of water diversions and control measures on riparian vegetation in the Rio Grande); see also Benson, *supra* note 8, at 33 (describing Western water law in the context of the Endangered Species Act).

²² Six to 16 million salmon annually returned to the Columbia River system. See NAT'L RES. COUNCIL, UPSTREAM: SALMON AND SOCIETY IN THE PACIFIC NORTHWEST 90 (1996) (discussing historical trends in Columbia River salmon runs). The numbers now are far below historical abundance. *Id.*

²³ CAL. DEP'T OF FISH & GAME, STEELHEAD RESTORATION AND MANAGEMENT PLAN FOR CALIFORNIA 213 (Feb. 1996).

²⁴ *Id.*

²⁵ Gregory A. Thomas, *Conserving Aquatic Biodiversity: A Critical Comparison of Legal Tools for Augmenting Streamflows in California*, 15 STAN. ENVTL. L.J. 3, 5 (1996).

²⁶ *Id.*

²⁷ See, e.g., CAL. DEP'T OF FISH & GAME, RECOVERY STRATEGY FOR CALIFORNIA COHO SALMON 3.11, 3.13 (Feb. 2004).

III. REGIONAL AND STATE REVIEWS

A. The Intermountain West States of Colorado, Idaho, Utah, and Wyoming

This Article groups Colorado, Idaho, Utah and Wyoming together to analyze regionally similar developments and challenges.

*1. Developments**a. Grappling with Difficult Issues*

These intermountain west states apply traditional approaches to instream flow issues.²⁸ However, in each state there is some reason for instream flow optimism. Colorado is the casebook example of a highly regimented approach to water,²⁹ but it is now possible in that state to obtain “Recreational In-Channel Diversions.”³⁰ In Idaho, many stakeholders and officials are taking notice of watershed-specific partnerships like on the Lemhi River, which is home to a successful flow leasing program.³¹ In 2006, the Utah legislature passed a bill that reauthorized a legislative water issues task force, and directed that the force “shall review and may make recommendations on: (a) instream flow.”³² In Wyoming, during the 2005 legislative session, the state senate overwhelmingly passed a municipal storage bill that would have allowed municipalities to use storage rights in existing reservoirs for nonconsumptive purposes such as fishery flows.³³

²⁸ For example, the ownership of instream flow rights is left to the state. *See* COLO. REV. STAT. § 37-92-102(3) (2005) (vesting the Colorado Water Conservation Board with the exclusive authority, on behalf of the people of the state of Colorado, to appropriate water for minimum streamflows); WYO. STAT. ANN. § 41-3-1002(e) (2006) (establishing that no other person than the state of Wyoming shall own instream flow water rights).

²⁹ *See* Melinda Kassen, *Statutory Expansion of State Agencies' Authority to Administer and Develop Water Resources in Response to Colorado's Drought*, 7 U. DENV. WATER L. REV. 47, 51 (2003) (noting that among all western states employing the prior appropriation doctrine Colorado is the only to have created a court of exclusive jurisdiction for water); *see also* Jesse A. Boyd, *Hip Deep: A Survey of State Instream Flow Law from the Rocky Mountains to the Pacific Ocean*, 43 NAT. RESOURCES J. 1151, 1171–73 (2003) (describing Colorado's water allocation system as the “most regimented” in the nation).

³⁰ COLO. REV. STAT. § 37-92-103 (2005); *see also* Rosemary Winters, *Colorado Supreme Court Turns Tide in Favor of Kayakers*, HIGH COUNTRY NEWS, June 23, 2003, at 3, *available at* http://www.hcn.org/servlets/hcn.Article?article_id=14055.

³¹ *See* TROUT UNLIMITED, IDAHO CROSSROADS: THE CHALLENGE FOR IDAHO'S RIVERS AND STREAMS IN THE 21ST CENTURY at 7, *available at* http://www.tu.org/atf/ct/{0D18ECB7-7347-445B-A38E-65B282BBBD8A}/ID_Crossroads_1.pdf [hereinafter IDAHO CROSSROADS] (describing a water rental pool designed to market natural flow rights in the Lemhi River Basin). The Lemhi is the only watershed in the entire state where specific legislation ensures instream flow rights are usable on a fully appropriated stream. *See* *Lemhi Pact Aims to Protect Salmon*, IDAHO STATESMAN, July 19, 2001, at A1 (describing joint private, federal and state agreement to protect instream flows within the Lemhi River for Salmon).

³² H.B. 357, 2006 Gen. Sess. (Utah 2006), *available at* <http://www.le.state.ut.us/~2006/htm/doc/hbillhtm/HB0357.htm>.

³³ S. File 56, 2005 Gen. Sess. (Wyo. 2005), *available at* http://www.equalitystate.org/lapbook/05legislation/sf056_05.html. This bill was defeated in the state house.

Water scholar Frank Trelease once remarked:

The law is a mechanism for getting things done, for accomplishing the purposes of society, for requiring some things and forbidding others. If the people of the United States or of a state desire to keep water in a stream or to put it back in a stream a law can be framed to do the job.³⁴

In the face of Colorado's worst drought in recorded history, state lawmakers put forward forty-three water bills, which experts observed was remarkable given the state's historical predilection towards turning a blind-eye to careful management of its water resources.³⁵ The fact that these states are slowly but surely addressing difficult instream flow issues is a major reason for regional optimism.³⁶

b. Recreation Is a New Driver

Agriculture has historically been the largest user of water in the West.³⁷ In Idaho, for example, agriculture's presence is overwhelming and accounts for ninety-six percent of water withdrawals and ninety-nine percent of consumptive use.³⁸ Despite this historical dominance,³⁹ agricultural diversions peaked several decades ago.⁴⁰ The "Lords of Yesterday"⁴¹ may rule the natural resources law of the land, but economies are changing around the region.⁴²

³⁴ Craig Anthony Arnold, *Working out an Environmental Ethic: Anniversary Lessons from Mono Lake*, 4 WYO. L. REV. 1, 11 (2004) (quoting dean and water law scholar of the University of Wyoming Law School, Frank Trelease).

³⁵ See Kassen, *supra* note 29, at 48–51 (describing legislative reaction to 2002 drought).

³⁶ See Charles F. Wilkinson, *Land Use, Science, and Spirituality: The Search for a True and Lasting Relationship with the Land*, 21 PUB. LAND & RESOURCES L. REV. 1, 18–19 (noting that "[t]he progress on our rivers is coming achingly slow—the old legal doctrines are deeply entrenched—but it is determined, creative, and real").

³⁷ See Janet C. Neuman, *Beneficial Use, Waste, and Forfeiture: The Inefficient Search for Efficiency in Western Water Use*, 28 ENVTL. L. 919, 969 (1998) (stating that "nearly eighty percent of the water withdrawn in the West is used by agriculture"); see also Reed D. Benson, *The Interior Department's Water 2025: Blueprint for Balance, or Just Better Business as Usual?*, 33 ENV. L. REP. 10,837, 10,843 n.72 (2003) (noting "[i]rrigation accounts for 80% of water withdrawals in California, 81% in the Lower Colorado Basin, 82% in the Pacific Northwest, 85% in the Great Basin, 90% in the Rio Grande Basin, and 95% in the Upper Colorado Basin").

³⁸ IDAHO CROSSROADS, *supra* note 31, at 3.

³⁹ See W. WATER POLICY REVIEW ADVISORY COMM'N, WATER IN THE WEST: THE CHALLENGE FOR THE NEXT CENTURY 2-24 (1998) [hereinafter WATER IN THE WEST]; see also Benson, *supra* note 8, at 33 n.24 (commenting that "[i]rrigation is the biggest user of freshwater in the United States, and ninety percent of U.S. irrigation is in the West").

⁴⁰ See WATER IN THE WEST, *supra* note 39, at 2-22, 2-23.

⁴¹ CHARLES F. WILKINSON, CROSSING THE NEXT MERIDIAN: LAND, WATER AND THE FUTURE OF THE WEST 3 (1992) (quoting the title of the first chapter); see also *id.* at 20–22 (providing an explanation of the specific natural resource issues to which "Lords of Yesterday" refers).

⁴² See A. Dan Tarlock & Sarah B. Van de Wetering, *Growth Management and Western Water Law from Urban Oases to Archipelagos*, 5 HASTINGS W.-NW. J. ENVTL. L. & POL'Y 163, 169 (1999) (noting that "[a]s late as 1940, almost half of the West's people were directly employed in

Recreation is a major new economic player.⁴³ Healthy rivers and natural resources fuel recreation. In 2002, anglers spent approximately \$423 million in Wyoming.⁴⁴ Anglers spend approximately \$46 million annually chasing wild trout on the Henry's Fork and South Fork of the Snake River in Idaho, and would pay *\$32 million more a year* to catch more or bigger fish.⁴⁵ The West is also experiencing rapid growth in urban whitewater recreational kayaking parks, and Colorado is at the forefront of this economic trend.⁴⁶ Recreational instream flow is a wave of the future.⁴⁷

2. Challenges

a. Making the Most of Incremental Successes

Idaho's minimum instream flow laws protect less than one percent of the state's 93,000 stream miles, and are always junior rights, despite the state approving minimum instream flows in 1978.⁴⁸ Even though Colorado adopted an instream flow program in the intermountain west, it was not until 2002 that the program was expanded to allow the Colorado Water Conservation Board to acquire existing rights to improve—rather

farming, ranching, mining and agricultural or mineral processing” but that by 1991 “these combined industries supported less than six percent of the region’s employment and less than five percent of all personal income”).

⁴³ See Rebecca Abeln, *Instream Flows, Recreation As Beneficial Use, and the Public Interest in Colorado Water Law*, 8 U. DENV. WATER L. REV. 517, 518 n.8 (noting that “[f]rom 1969 to 1991, most of the two million new jobs added in the Rocky Mountain West were service-related”).

⁴⁴ TROUT UNLIMITED, *THE ECONOMIC VALUE OF HEALTHY FISHERIES IN WYOMING* 4 (2005), available at http://www.tu.org/atf/cf/{0D18ECB7-7347-445B-A38E-65B282BBBD8A}/Economics_Fisheries_WY.pdf.

⁴⁵ See JOHN LOOMIS, *THE ECONOMIC VALUE OF RECREATIONAL FISHING AND BOATING TO VISITORS AND COMMUNITIES ALONG THE UPPER SNAKE RIVER* 69 (May 2005) (quantifying economic benefits stemming from maintenance of Snake River water flows and water quality); see also Rob Thornberry, *Trout Fishing Brings Big Haul: Anglers Spend \$46M Annually*, IDAHO FALLS POST REG., May 24, 2005 (discussing Loomis report, which was produced by Trout Unlimited and the Henry's Fork Foundation). The annual value of the wild trout fishery on the Henry's Fork covering a fabled 10-mile stretch of the river was estimated to exceed \$5 million in 1996. IDAHO CROSSROADS, *supra* note 31, at 4.

⁴⁶ See Abeln, *supra* note 43, at 520 n.16 (noting that 12 parks have been completed in the state and nine more are planned); see also COLO. WATER BD., *STATEWIDE WATER SUPPLY INITIATIVE REPORT 3* (2005), available at <http://cwcb.state.co.us/SWSI/pdfDocs/SWSI%20Environment%20and%20Recreation%20Needs%20and%20Priorities%20TRT%20Draft%20White%20Paper.pdf> (discussing the impact growth of water sports has on water policy).

⁴⁷ See Dave Philips, *Rapid Development*, THE GAZETTE June 25, 2006, available at <http://outdoors.coloradosprings.com/water/fullStory.jsp?id=3427> (describing specialty housing development on Arkansas River near Buena Vista, Colorado that is centered around environmentally friendly design features and kayaking park).

⁴⁸ See IDAHO WATER RES. BD., *MINIMUM STREAMFLOWS*, <http://www.idwr.idaho.gov/waterboard/> (follow “The minimum streamflows” hyperlink) (last visited Nov. 12, 2006).

than just preserve—the natural environment.⁴⁹ In this region, only the states may hold instream rights and protect those rights.⁵⁰

Change takes time. For example, despite precedent-setting efforts to save Mono Lake in California,⁵¹ the Mono Lake Committee is still working to fully restore critical tributary streams almost thirty years after its landmark legal victories against the City of Los Angeles.⁵² Survival requires keeping your “eyes on the prize.”⁵³ It will remain a serious challenge in these particular intermountain states to find opportunities for instream flow benefit within such rigid systems. Those engaged in instream flow issues in these states should appreciate incremental success and certainly treat it as a victory, because in many regards a small instream flow improvement often means a large fishery or other natural resources benefit.⁵⁴

b. Growth in the Face of Aridity

This challenge may be the largest gorilla in the room. As it was in the beginning, so shall it be in the end: the paramount question in the West is whether nature bounds growth.⁵⁵ Western communities elected to follow at least the spirit, if not the literal meaning, of the maxim “rain follows the plow.”⁵⁶ Western history reflects blind devotion to the belief that technology always prevails over nature.⁵⁷

Cities in the region often defy common sense.⁵⁸ Moreover, America’s fastest growing states are located in the West.⁵⁹ The facts speak for themselves. Consider Utah, which ranks among the driest states (second)⁶⁰ and the fastest growing (seventh) in the nation.⁶¹ By 2030, it is estimated to

⁴⁹ S.B. 156, 2002 Leg. (Colo. 2002) (codified as COLO. REV. STAT. § 37-92-102(3) (2002)).

⁵⁰ See *supra* note 28.

⁵¹ See *infra* Part III.C.1.a and accompanying discussion.

⁵² See Arnold, *supra* note 34, at 49 (noting that Mono Lake “has not reached its target level and its feeder streams have not been completely restored” despite ongoing restoration efforts).

⁵³ *Eyes on the Prize: America’s Civil Rights Years (1954–1965)* (PBS award winning documentary 1987).

⁵⁴ For example, there are about 93,000 stream miles in Idaho, but the state’s minimum instream flow law protects less than one percent (approximately 675 miles). Protecting one more mile should be counted as a success. IDAHO CROSSROADS, *supra* note 31, at 6.

⁵⁵ See *generally* Tarlock, *supra* note 3, at 155–56 (broadly describing historical analysis of relationship between society and climate).

⁵⁶ *Id.* at 155.

⁵⁷ *Id.* at 157.

⁵⁸ See MARC REISNER, CADILLAC DESERT: THE AMERICAN WEST AND ITS DISAPPEARING WATER 1–14 (1986) (describing settlement in the western states and the region’s attempt to provide water to an otherwise arid portion of the country).

⁵⁹ See U.S. CENSUS BUREAU, CENSUS 2000 PHC-T-2, TABLE 3, STATES RANKED BY PERCENT POPULATION CHANGE: 1990 TO 2000 (Apr. 2, 2001), available at <http://www.census.gov/population/cen2000/phc-t2/tab03.pdf>.

⁶⁰ Albert L. Fisher, Physical Geography of Utah, http://historytogo.utah.gov/utah_chapters/the_land/physicalgeographyofutah.html (last visited Nov. 12, 2006).

⁶¹ Press Release, U.S. Census Bureau, Nation Adds 3 Million People in Law Year; Nevada Again Fastest Growing State (Dec. 22, 2004), available at <http://www.census.gov/Press-Release/www/releases/archives/population/003153.html>.

add over another million new residents.⁶² Balanced against growth implications is the health of the state's 14,000 miles of perennial streams, and the habitat that those streams provide for Bonneville, Colorado River, Lahontan, and Yellowstone cutthroat trout and other native species.

California is an extreme example of growth and water use in the West. Californians use more water than any other state in the union.⁶³ And, the state is expected to add approximately twelve million people—almost fifty percent of its current population—by 2030.⁶⁴ This number is roughly equal to the current population of Pennsylvania.⁶⁵

The severity of drought conditions during the last several years in the intermountain west adds a complicating dynamic to this particular challenge. The 2002 drought in Colorado resulted in the lowest streamflows in the state in at least 100 years and probably in 500 years.⁶⁶ Clearly, western communities can exist—indeed thrive—in western climatic conditions. However, growth management and therefore water management in the face of aridity and drought will remain a serious challenge for western communities. Fact must prevail over fiction.

B. Montana

Since 1969, it has been possible under Montana water law for water rights to be used to protect fish in the state's waters,⁶⁷ making it in many ways a more progressive state than its intermountain neighbors discussed in this article.⁶⁸

⁶² U.S. CENSUS BUREAU, TABLE 1: INTERIM PROJECTIONS: RANKING OF CENSUS 2000 AND PROJECTED 2030 POPULATION AND CHANGE: 2000 TO 2030 (Apr. 21, 2005), *available at* <http://www.census.gov/population/projections/PressTab1.xls>.

⁶³ U.S. Geological Survey, Water Science for Schools: Water Questions and Answers: Water Use, <http://ga.water.usgs.gov/edu/qausage.html> (last visited Nov. 12, 2006).

⁶⁴ U.S. CENSUS BUREAU, *supra* note 62.

⁶⁵ U.S. CENSUS BUREAU, *supra* note 59.

⁶⁶ Kassen, *supra* note 29, at 48.

⁶⁷ *See In re the Adjudication of the Existing Water Rights to the Use of All the Water, Both Surface & Underground, Within the Mo. River Drainage Area, Including All Tributaries of the Mo. River in Broadwater, Cascade, Jefferson & Lewis & Clark Counties, Mont. (Basin 41I) (Bean Lake III)*, 55 P.3d 396, 399 n.1 (Mont. 2002) ("The 1969 Montana Legislature created a procedure by which the Fish and Game Commission could appropriate instream flows for fish, wildlife and recreation purposes on certain designated streams." (citation omitted)); *see also* TROUT UNLIMITED, PRIVATE WATER LEASING—A MONTANA APPROACH 5, *available at* http://www.tu.org/atf/cf/{0D18ECB7-7347-445B-A38E-65B282BBBD8A}/MT_WaterReport.pdf. [hereinafter MONTANA APPROACH] (discussing Montana's use of private water leasing to improve streamflows for trout).

⁶⁸ *See* COLO. CONST. art. XVI, § 6 ("The right to divert the unappropriated waters of any natural stream to beneficial uses shall never be denied.").

*1. Developments**a. Water for Fish Becomes a Reality*

Instream flow for fish is now an accepted part of life in Montana. Montana's approach to water leasing is the best example of this development, and one of the best success stories is the restoration work underway in the Blackfoot River Basin.⁶⁹ Partnerships between local stakeholders, irrigators, and three state and two federal agencies have resulted in a sustained and hugely successful water leasing program that has restored viable native fish populations and increased aquatic integrity.⁷⁰ Innovative leasing solutions for instream flow can also assist in drought response.⁷¹

Native bull trout and cutthroat trout make their home in the North Fork of the Blackfoot River in Montana.⁷² Drought and diversions can strand fish as they are migrating between the North Fork and the mainstem of the Blackfoot.⁷³ The conservation organization Trout Unlimited and local landowners negotiated a water leasing agreement that resulted in an additional 18.5 cubic feet per second (cfs) of water remaining instream in a typically dewatered section of the river in exchange for irrigation efficiency upgrades for the landowners including pumps, pipes, a center-pivot irrigation system, and a solar-powered stock-watering well.⁷⁴

At the start of the twenty-first century, however, the future of Montana's water leasing program was uncertain. In 1989, the state legislature passed a leasing pilot project.⁷⁵ Under the project, the state Department of Fish, Wildlife, and Parks (DFWP) could lease rights on four specific streams.⁷⁶ Two legislative sessions later, in 1991, the legislature increased the number of eligible streams and lengthened the pilot to ten years.⁷⁷ In 1995, the legislature passed an additional statute to allow temporary instream flow transactions between water users and private parties, and authorized the private leasing program until 2005, requiring additional legislative action to extend the program past that date.⁷⁸ Then, in 1999, the legislature amended the private program to extend the lease period maximum up to thirty years for certain leases.⁷⁹

⁶⁹ MONTANA APPROACH, *supra* note 67, at 7.

⁷⁰ *Id.*

⁷¹ *Id.* at 21; *see also* Boyd, *supra* note 29, at 1178–80 (discussing drought plans for the Blackfoot River).

⁷² MONTANA APPROACH, *supra* note 67, at 7.

⁷³ *Id.*

⁷⁴ *Id.*

⁷⁵ *Id.* at 6.

⁷⁶ *Id.*

⁷⁷ *Id.*

⁷⁸ *Id.* at 8–9.

⁷⁹ *Id.* at 9.

From 1989 to 1999, the DFWP completed ten leases.⁸⁰ The political mood also changed dramatically over the 1990s. The debate started with fierce argument in the early-90s between instream and consumptive use interests, but began to diffuse in the mid-90s because of the success of locally based, collaboratively-endorsed pilot projects that were good for fish and good for farmers.⁸¹ By the end of the decade, the legislature had passed positive amendments to the leasing program. At the start of the 2005 legislative session, support from a broad range of interests rolled in for water leasing.⁸² In 2005, the Montana legislature passed, and Governor Schweitzer signed, House Bill 308, making the state's private water leasing program permanent.⁸³

b. Forward Looking Legal Results

In 2002, in the *In re the Adjudication of the Existing Water Rights to the Use of All the Water, Both Surface and Underground, Within the Missouri River Drainage Area, Including All Tributaries of the Missouri River in Broadwater, Cascade, Jefferson, and Lewis & Clark Counties, Montana (Basin 411) (Bean Lake III)* case,⁸⁴ the Montana Supreme Court reaffirmed that fish, wildlife, and recreation are beneficial uses, and held that the prior appropriation doctrine is flexible enough to allow an instream right even without a physical diversion of water.⁸⁵ According to the court, the "touchstone" in the analysis is the application of water to beneficial use.⁸⁶ Thus, so long as water is put to beneficial use, diversion is unnecessary.⁸⁷ In other states, overemphasis on diversion has limited instream legal advancements.⁸⁸

⁸⁰ *Id.* at 6; *see also* MONT. CODE ANN. § 85-2-436 (2005) (laying out the goals and requirements of water leasing study).

⁸¹ *See* John Youngberg et al., *Guest Opinion: Cooperation Produces Landmark Water Lease*, BILLINGS GAZETTE, Oct. 15, 2001, *available at* <http://www.billingsgazette.net/articles/2001/10/15/opinion/export40447.txt>.

⁸² *See* Editorial, *Our Opinion: Water Lease Program Should Be Permanent*, BOZEMAN DAILY CHRON., Dec. 26, 2004, *available at* <http://bozemandailychronicle.com/articles/2004/12/26/opinions/01water.txt> (editorial opinion urging the Montana legislature to make the private water leasing program permanent).

⁸³ *See* H.B. 308, 2005 Leg., Reg. Sess. (Mont. 2005) ("An act . . . repealing the termination date on leasing for the purpose of maintaining or enhancing streamflows to benefit the fishery . . .").

⁸⁴ *Bean Lake III*, 55 P.3d 396, 399 (Mont. 2002).

⁸⁵ *Id.* at 404.

⁸⁶ *Id.* at 406.

⁸⁷ *Id.* at 401; *see also* Alex C. Sienkiewicz, *Instream Values Find Harbor in Bean Lake III, Drown in Prior Appropriation*, 25 PUB. LAND & RESOURCES L. REV. 131, 133 (2004) (discussing the holding of *Bean Lake III* and its effects).

⁸⁸ *See* Cal. Trout v. State Water Res. Control Bd., 153 Cal. Rptr. 672, 675 (Cal. Ct. App. 1979) (effort by organization to acquire appropriation for instream use. Court held appropriation of water necessary for new right); Fullerton v. State Water Res. Control Bd., 153 Cal. Rptr. 518, 527-28 (Cal. Ct. App. 1979) (effort by Department of Fish and Game to acquire appropriation for instream use).

The *Bean Lake III* decision takes a common-sense approach to water.⁸⁹ It also makes economic sense given that recreational angling in the state generates approximately \$300 million annually.⁹⁰ The vociferousness of opponents, however, indicates that water law evolution in Montana is risky business.⁹¹

More recently, the Montana Supreme Court waded into groundwater issues in the state. In spring 2006, in *Montana Trout Unlimited v. Montana Department of Natural Resources & Conservation*,⁹² the Court held that the state Department of Natural Resources and Conservation's (DNRC) consideration of hydrologic connectivity between surface flow and groundwater use failed to "account for impacts to surface flow caused by the prestream capture of tributary groundwater."⁹³ In the early 1970s, the Montana legislature revamped the state's administrative approach to its water rights system, including determining that certain basins were over appropriated.⁹⁴ During that reorganization, the state also enacted "a moratorium on new applications in the over-appropriated basins."⁹⁵ The basin closures included watersheds in the upper Missouri Basin, and specifically the Smith River.⁹⁶ The Smith River is home to a world class recreational trout fishery, and low instream flows have harmed that fishery.⁹⁷

Exceptions exist to the general closure law. The most notable exception is for new groundwater applications. To qualify for an exception, the new groundwater application cannot be "immediately or directly connected" to any surface water.⁹⁸ Yet, despite the heavy lifting required of that phrase, the legislature failed to define "immediately or directly connected to surface water."⁹⁹ As water users turned to groundwater to supplement limited surface water supply, the state agency's perspective on this phrase came under serious scrutiny from many corners.

⁸⁹ *Bean Lake III*, 55 P.3d at 401.

⁹⁰ Sienkiewicz, *supra* note 87, at 145.

⁹¹ See Perry J. Moore, *Bar Wrong About Bean Lake Reaction*, 31 MONT. LAW. 28 (Nov. 2005) (strongly criticizing treatment of individual irrigators and establishment of "new rights"); see also J. Vincent Jones, *The Bean Lake Saga: The End of the Diversion Requirement in Pre-1973 Water Appropriation Claims in Montana*, 7 GREAT PLAINS NAT. RESOURCES J. 64, 68 (2003) (discussing dissent in *Bean Lake III*).

⁹² 133 P.3d 224 (Mont. 2006).

⁹³ *Id.* at 232.

⁹⁴ See *id.* at 226 (discussing the evolution of Montana's water appropriation system).

⁹⁵ *Id.* at 226.

⁹⁶ *Id.*

⁹⁷ See Laura S. Ziemer, Eloise Kendy & John Wilson, *Ground-Water Management in Montana: On the Road from Beleaguered Law to Science-Based Policy*, 27 PUB. LAND & RESOURCES L. REV. 75, 83 (2006).

⁹⁸ See *Montana Trout Unlimited*, 133 P.3d at 226 (stating that "the Basin Closure Law . . . forbids the processing of new applications for groundwater that is 'immediately or directly connected' to the Upper Missouri River basin's surface water").

⁹⁹ *Id.* at 227, 232.

In *Montana Trout Unlimited*, the court reviewed the DNRC's interpretation of this phrase.¹⁰⁰ The court acknowledged the discretion vested in the agency to define and create methods to process applications,¹⁰¹ but ultimately ruled that the plain meaning of the basin closure law was to prohibit any processing or granting of groundwater applications that have "an immediate connection to surface flows or . . . a direct connection to surface flows, or both."¹⁰² DNRC had identified two ways in which groundwater pumping affects streamflow in the Smith River Basin. DNRC identified the first way as prestream capture, which is when pumping intercepts groundwater that would otherwise become surface streamflow.¹⁰³ DNRC called the second way induced infiltration, which is when pumping pulls surface water away from the stream towards the groundwater well.¹⁰⁴ The agency's analysis showed that prestream capture is more harmful to surface flow than induced infiltration.¹⁰⁵ DNRC, according to the court, had only considered one connection—induced infiltration—at the expense of another—prestream capture, which the agency admitted caused direct impact.¹⁰⁶

The court noted that Montana water law was designed to protect both senior water rights holders *and* surface flows in the state's rivers.¹⁰⁷ It is now clear that in the closed upper Missouri River Basin in Montana, state law prohibits granting or *even processing* groundwater applications where the end result of the groundwater use would be less surface flow.¹⁰⁸ In *Montana Trout Unlimited*, the court correctly took an approach to the relationship between groundwater and surface water based on basic science and hydrologic fact.

2. Challenges: Building Alliances to Find and Implement Integrated Solutions

There may be no greater water issue in Montana than the need for uniform, programmatic treatment of groundwater use in "closed" basins in the state. Finding integrated solutions is a serious challenge. Alliances between unlikely partners can help find and implement solutions.¹⁰⁹

¹⁰⁰ *Id.* at 231–32.

¹⁰¹ *See id.* at 231 (discussing the district court's analysis of the level of deference owed to the DNRC's decisions).

¹⁰² *Id.* at 232.

¹⁰³ *Id.* at 226.

¹⁰⁴ *Id.* at 227.

¹⁰⁵ *See id.* at 227, 232 (stating that the DNRC concluded "that a stream takes longer to recover from prestream capture . . . than from . . . induced infiltration").

¹⁰⁶ *Id.* at 232.

¹⁰⁷ *See id.* (speaking about surface flows and water rights holders along the Smith River Basin).

¹⁰⁸ *See id.* at 231–32 (holding that the DNRC's interpretation of the exceptions to the legislature's prohibition on the processing or granting of new water appropriations in the Missouri River Basin was beyond its discretion).

¹⁰⁹ *See* Mary Sexton, Guest Opinion, *Catching up on Water Rights*, HELENA INDEP. RECORD, Dec. 30, 2005, at 4A (noting that bill to increase staff for water claim processing was supported by the Farm Bureau, Montana Stockgrowers, Montana Graingrowers, Trout Unlimited, and

Moreover, alliances are often needed between federal and state agencies who share authorities for the protection and restoration of aquatic species and water management.

Gallatin County, Montana, is an example of the pressing need to find comprehensive and integrated solutions for groundwater management in the state. This county, located on the northern border of Yellowstone National Park, is Montana's fastest growing.¹¹⁰ Since 1986, the number of new groundwater appropriations has doubled.¹¹¹ In December 2003, the Gallatin River had its lowest flow level in recorded history because of a prolonged drought and the increase in groundwater reliance.¹¹²

Unique alliances have formed to file administrative protests to new groundwater appropriation applications.¹¹³ The subsequent administrative process has fostered citizen-based initiatives designed to address mitigation for groundwater impacts to surface water instream flow levels.¹¹⁴ These include the creation of a County Task Force and the Greater Gallatin Watershed Council.¹¹⁵ The risk and expense of contested administrative hearings have also spurred parties to reach innovative settlements.¹¹⁶

The Big Hole River Basin in Montana is an example of proactive agency collaboration. The federal and state agency alliance in that basin should serve as a model for other parts of the state dealing with difficult instream flow issues. In the Big Hole, the Arctic grayling (*Thymallus arcticus montanus*) are struggling to survive. It is the last refuge for the grayling in the lower forty-eight states.¹¹⁷ Insufficient instream flow is a limiting

others).

¹¹⁰ Ziemer, Kendy & Wilson, *supra* note 97, at 97; *see also* MONT. DEP'T OF COMMERCE, MONTANA COUNTY DECENNIAL CENSUS REPORT (Mar. 21, 2001), *available at* <http://ceic.commerce.state.mt.us/C2000/PL2000/ctypop9000.xls> (showing Montana population information by county).

¹¹¹ *See* Eloise Kendy, John Wilson & Laura Ziemer, *Groundwater in Montana: Management in Search of Science and Reason*, 19 THE WATER REPORT 14, 14 (Sept. 15, 2005) [hereinafter THE WATER REPORT] (noting that in 1986 the number of permitted wells in Gallatin County was 6,877 and today the number is over 12,300); *see also* Montana Department of Natural Resources and Conservation Water-Right Query System, <http://nris.state.mt.us/dnrc/waterrights/default.aspx> (last visited Nov. 12, 2006) (searchable database which allows the user to search water rights claims within the state of Montana by various parameters).

¹¹² *See* S. R. Kinsella, *Conserving the West's Groundwater Resources*, 46 TROUT: THE J. OF COLDWATER FISHERIES CONSERVATION 19, 23 (Summer 2004).

¹¹³ *See* THE WATER REPORT, *supra* note 111, at 18 (discussing the public's response to a developer's application for a new water permit).

¹¹⁴ *Id.* (discussing a citizen-formed organization whose primary mission is to address the groundwater-surface connection in the Gallatin River watershed).

¹¹⁵ *Id.*

¹¹⁶ For example, in the Utility Solutions settlement agreement, irrigators, conservation groups, local citizens, and the project proponent (Utility Solutions) reached agreement on mechanisms to offset streamflow depletion caused by the groundwater use, including changing the use of senior surface rights to augment surface flow and specifying criteria to ensure augmentation occurs. *See* Ziemer, Kendy & Wilson, *supra* note 97, at 97 (citing Consent to Entry of Administrative Orders, *In re* Application Nos. 41H-30012025, 41H-30013629, & 41H-30014080, by Utility Solutions (Dep't of Natural Res. & Conservation of the State of Mont. Dec. 19, 2005).

¹¹⁷ *See* Mont. Animal Field Guide, Montana Arctic Grayling, http://fwp.mt.gov/fieldguide/detail_AFCHA07011.aspx (last visited Nov. 12, 2006).

factor.¹¹⁸ The United States Fish and Wildlife Service and Montana Fish, Wildlife, and Parks (FWP) are in the process of developing a multi agency, multi stakeholder, basin-wide fish restoration program that includes developing and implementing a strategy for improving instream flow for the grayling.¹¹⁹

The rapid growth in the greater Yellowstone area underscores the necessity for integrated approaches to groundwater use. The Big Hole example concerning the future of the Artic grayling highlights the need for agencies to be willing and able to work across agency boundaries. Sound hydrologic understanding should form the basis for those solutions. Strong alliances between instream flow advocates and agricultural communities should be formed to develop solutions.

C. California

Water management, water law, and water policy in California are more complex than in any other place in the West.¹²⁰ California, however, may be the envy of instream flow advocates in other states.

1. Developments

a. The Public Trust Doctrine

In 1983, the California Supreme Court determined in *National Audubon Society v. Superior Court*¹²¹ (*National Audubon*) that the state as a sovereign entity has the authority and the duty “to protect the people’s common heritage of streams, lakes, marshlands and tidelands.”¹²² This power and responsibility exist *sui generis*.¹²³ Los Angeles Department of Water and Power (DWP) had been diverting almost all surface flow from four out of the five tributary streams of Mono Lake to supply the city with water.¹²⁴ This diversion was occurring pursuant to rights granted in the 1940s, and had significantly impacted the lake.¹²⁵ In *National Audubon*, the Court held that

¹¹⁸ Mont. Partners for Fish & Wildlife, Big Hole Watershed Conservation Strategies, <http://montanapartners.fws.gov/mt3c2.htm> (last visited Nov. 12, 2006).

¹¹⁹ See Environmental Assessment and Receipt of an Application for a Permit To Enhance the Survival of the Fluvial Arctic Grayling in the Upper Big Hole River in Southwestern Montana Through an Umbrella Candidate Conservation Agreement With Assurances, 70 Fed. Reg. 70,877, 70,878 (Nov. 23, 2005) (identifying threats to Arctic grayling including instream flow and describing program for conservation and recovery).

¹²⁰ Boyd, *supra* note 29, at 1161–62.

¹²¹ 658 P.2d 709 (Cal. 1983).

¹²² *Id.* at 724.

¹²³ *Id.* at 718–19.

¹²⁴ Craig Anthony Arnold & Leigh A. Jewell, *Litigation’s Bounded Effectiveness and the Real Public Trust Doctrine: The Aftermath of the Mono Lake Case*, 8 HASTINGS W.-NW. J. ENVTL. L. & POL’Y 1, 5 (2001).

¹²⁵ *Id.* at 5–6 (detailing rapid drop in lake level and resulting endangerment of gull nesting areas and population).

the state water agency (State Water Resources Control Board) should reconsider DWP's water rights based on public trust concerns.¹²⁶ While relatively few judicial decisions have followed *National Audubon*, the State Water Resources Control Board (SWRCB) has further developed and defined a powerful public trust role in water allocation in California.¹²⁷

Charles Wilkinson wrote that “[t]he recognition of the public trust doctrine in water law is the single strongest statement that historic uses must accommodate modern needs.”¹²⁸ This doctrine expressly requires consideration of public trust resources and instream flow needs in water planning and allocation based on twenty-first century knowledge.¹²⁹ California is the birthplace of the public trust doctrine in water law. No other case in water or environmental law has generated as much buzz or sustained as long a movement for the restoration and protection of a single place—Mono Lake—than this one.¹³⁰

b. State Water Resources Control Board

“The history of California is written on its waters—from the Eel River, to the Salton Sea, to the Colorado River, to Lake Tahoe,”¹³¹ and in a perfectly Californian way this history has even made it to the bright lights of Hollywood.¹³² Today, the chief architect of California's water future concerning instream flows is SWRCB.¹³³ SWRCB is a state agency with hundreds of employees, an operating annual budget of hundreds of millions of dollars, and a five member board.¹³⁴ Consideration of fish and

¹²⁶ 658 P.2d at 728–29.

¹²⁷ Gregory S. Weber, *Articulating the Public Trust: Text, Near-Text and Context*, 27 ARIZ. ST. L.J. 1155, 1156–57 (1995).

¹²⁸ Charles F. Wilkinson, *Western Water Law in Transition*, 56 U. COLO. L. REV. 317, 336 (1985).

¹²⁹ See *National Audubon*, 658 P.2d at 728 (discussing need for reconsideration of prior allocation decisions based on current knowledge and needs).

¹³⁰ See Arnold, *supra* note 34, at 3–4 (discussing the impact of the Mono Lake conflict on the use of environmental law and litigation achieving environmental conservation).

¹³¹ State Water Resources Control Board Cases, 39 Cal. Rptr. 3d 189, 200 (Cal. Ct. App. 2006) (multi-case coordination of challenges to SWRCB Water Rights Decision 1641).

¹³² CHINATOWN (Paramount Pictures 1974). The 1974 classic film CHINATOWN tells Hollywood's version of William Mulholland's and Los Angeles' efforts to drain the Owens River for Los Angeles' benefit.

¹³³ See Weber, *supra* note 127, at 1157 (“[T]he Board has begun to develop a view of the doctrine [public trust] that gives the Board the fullest possible power to allocate and reallocate surface water diversions.”); see also Harrison C. Dunning, *California Instream Flow Protection Law: Then and Now*, 36 MCGEORGE L. REV. 363, 372 (2005) (noting that “the principal source of protection of instream uses is the process of the . . . [SWRCB] administration of water rights”); GOVERNOR'S COMM'N TO REVIEW CAL. WATER RIGHTS LAW, FINAL REP. 105 (Dec. 1978), available at <http://www.swrcb.ca.gov/general/publications/docs/1584a.pdf> (discussing SWRCB's authority to regulate instream uses).

¹³⁴ See Water Boards, About the State and Regional Water Quality Control Boards, <http://www.swrcb.ca.gov/about/swrcb.html> (last visited Nov. 12, 2006) (discussing composition of board and regional offices); Water Res. Control Bd., Enacted Budget-3950, <http://govbud.dof.ca.gov/Enacted/StateAgencyBudgets/3890/3940/department.html> (last visited Nov. 12, 2006)

wildlife preservation and enhancement is an overarching statutory requirement for SWRCB.¹³⁵ Indeed, SWRCB instream flow determinations are a condition precedent to issuance of new water rights.¹³⁶

In 1983, the California Supreme Court concluded in *National Audubon* that: “[T]he function of the Water Board has steadily evolved from the narrow role of deciding priorities between competing appropriators to the charge of comprehensive planning and allocation of waters.”¹³⁷ Great opportunity comes with this mandate. SWRCB can undertake regional, integrated water planning efforts to meet this responsibility regarding instream flow. For example, in the 2004 legislative session, Governor Schwarzenegger signed Assembly Bill 2121, requiring that SWRCB develop instream flow guidelines from San Francisco Bay north to the Mattole River, Mendocino County, which is an area that covers Marin, Napa, Sonoma, Mendocino, and southern Humboldt counties.¹³⁸ The geographic scope of this regional instream flow effort is larger than many northeastern states.

SWRCB has not ignored opportunities to expand its authority to protect and enhance instream flow.¹³⁹ Very recently, the California courts provided additional impetus for SWRCB to act. Countless scholars have analyzed SWRCB’s ongoing efforts to balance its adjudicatory role regarding water quality objectives and water rights in the San Francisco Bay-Sacramento-San Joaquin Delta.¹⁴⁰ In February 2006, the Third Appellate District for California determined that SWRCB’s “power to subject appropriative water rights to terms and conditions necessary to carry out water quality control plans” is more mandatory than permissive.¹⁴¹

Saltwater intrusion is the major water quality limitation in the Bay-Delta.¹⁴² Freshwater outflow helps address this limitation.¹⁴³ SWRCB Decision 1641, in part, sought to assign water quality objectives to water rights holders, including to the federal Central Valley Project and the

(showing SWRCB expenditures of more than 630 million dollars and employment of more than 1,500 positions for 2006–2007 fiscal year).

¹³⁵ CAL. WATER CODE § 1257 (West 2006).

¹³⁶ See *id.* § 1243.5 (“In determining the amount of water available for appropriation, the board shall take into account . . . the amounts of water needed to remain in the source for protection of beneficial uses . . .”).

¹³⁷ *National Audubon*, 658 P.2d 709, 726 (Cal. 1983).

¹³⁸ Assemb. B. 2121, 2003–2004 Reg. Sess., 2004 Cal. Legis. Serv. Ch. 943 (Cal. 2004) (codified at CAL. WATER CODE §§ 1259.2, 1259.4 (West 2006)).

¹³⁹ See Weber, *supra* note 127, at 1173 (discussing the state water board’s role as the principal developer of public trust text since the California Supreme Court’s decision in *National Audubon*).

¹⁴⁰ E.g., David R.E. Aladjem, *Innovation Within a Regulatory Framework: The Protection of Instream Beneficial Uses of Water in California, 1978 to 2004*, 36 MCGEORGE L. REV. 305, 311–14 (2005); see also *id.* at 311 n.33 (providing a lengthy list of scholarly reviews).

¹⁴¹ State Water Res. Control Bd. Cases, 39 Cal. Rptr. 3d 189, 235 (Cal. Ct. App. 2006).

¹⁴² *Id.* at 206 (quoting *United States v. State Water Res. Control Bd.*, 227 Cal. Rptr. 161, 172 (Cal. Ct. App. 1986)).

¹⁴³ *Id.*

State Water Project.¹⁴⁴ Multiple parties objected to the allocation of responsibility and appealed.¹⁴⁵

In *State Water Resources Control Board Cases (Robie)*, the court determined that:

when a water quality control plan calls for a particular flow objective to be achieved by allocating responsibility to meet that objective in a water rights proceeding, and the plan does *not* provide for any alternate, experimental flow objective to be met on an interim basis, the decision in that water rights proceeding must fully implement the flow objective provided for in the plan.¹⁴⁶

Because SWRCB had clearly identified in its 1995 water quality plan that the subsequent water rights proceeding would serve as the enforcement mechanism to ensure attainment of water quality objectives,¹⁴⁷ it was required to exercise this power “for the public at large” and apply terms and conditions to the subject water rights in order to comply with its own water quality plan.¹⁴⁸ The result is the merging of quality and quantity before SWRCB in water rights proceedings. More legal analysis of this decision is surely on the way. However, this much is clear: The *Robie* decision will greatly influence the next generation of water rights disputes in California and the activities of SWRCB on the instream flow front.

c. Water Transfers and Markets

California’s water code is one of the most advanced for instream flow transfers and markets.¹⁴⁹ California is unlike Montana, which only has a leasing program.¹⁵⁰ It is also unlike other intermountain west states, which allow only the state to hold such rights.¹⁵¹ In California, *any* person or entity may own or dedicate an existing water right to instream beneficial use for fish and wildlife and recreation benefit *in perpetuity*.¹⁵² The one restriction is a prohibition on dedications of new rights.¹⁵³ The transfer and dedication of existing rights to instream use effectively creates a legal

¹⁴⁴ See *id.* at 200–01 (explaining how SWRCB sought to apportion responsibility for meeting flow-dependent water quality objectives in the Bay-Delta’s water quality control plan among water rights holders).

¹⁴⁵ See *id.* at 202 (describing how the objecting parties filed eight notices of appeal and three notices of cross-appeal in seven of the coordinated cases).

¹⁴⁶ *Id.* at 233.

¹⁴⁷ See *id.* (explaining that the water rights proceeding’s allocation of responsibility among water rights holders was necessary to achieve water quality objectives).

¹⁴⁸ *Id.* at 235.

¹⁴⁹ See CAL. WATER CODE § 1707 (West 2006) (permitting any water rights holder to petition for a change for purposes of preserving or enhancing wetlands habitat, fish and wildlife resources, or recreation in or on the water).

¹⁵⁰ See *supra* Part III.B.1.a and accompanying discussion.

¹⁵¹ See *supra* note 28 and accompanying text.

¹⁵² CAL. WATER CODE § 1707 (West 2006).

¹⁵³ Thomas, *supra* note 25, at 48; see also *supra* note 88 and accompanying text.

work-around that avoids the precondition of physical possession of water for obtaining a new right.¹⁵⁴

2. Challenges

a. Groundwater

The existing regulatory approach to groundwater in California overlooks basic science. SWRCB believes that it may only take permitting authority over groundwater use after a series of complicated physical criteria tests are met.¹⁵⁵ The practical effect is that SWRCB takes jurisdiction less often, and groundwater use exists relatively unregulated compared to surface water use.¹⁵⁶ The most troubling aspects of this particular challenge are the lack of political will and the complete absence of a forward-thinking consensus for revisiting the issue. These failures persist despite one of the state's leading water experts providing a solutions-roadmap at SWRCB's request.¹⁵⁷

In 1977, Governor Brown of California convened what became known as the Governor's Commission to Review California Water Rights Law.¹⁵⁸ The commission's final report underscored that "groundwater is subject to what has been called the 'tragedy of the commons.'"¹⁵⁹ Almost thirty years have passed since this landmark report, and little has changed.¹⁶⁰

California should develop a comprehensive approach to groundwater that effectively and fairly blends local needs with a comprehensive state

¹⁵⁴ See Aladjem, *supra* note 140, at 315–16 (describing how the California legislature and water users have developed innovative ways to transfer water in order to protect instream beneficial uses without formal appropriation for those purposes, specifically citing the transfer petitions allowed under the state water code).

¹⁵⁵ N. Gualala Water Co. v. State Water Res. Control Bd., 43 Cal. Rptr. 3d 821 (Cal. Ct. App. 2006).

¹⁵⁶ See Jan Stevens, *Instream Uses Twenty-Five Years Later: Incremental Progress or Revolving Door?*, 36 MCGEORGE L. REV. 393, 402–03 (2005) (discussing how California's regulation of surface water is more extensive than its regulation of groundwater).

¹⁵⁷ See *id.* at 403 (discussing a report dealing with the relation between groundwater and subterranean streams filed by one of the state's leading authorities on water law that was filed but never seriously considered by SWRCB); see also JOSEPH L. SAX, REVIEW OF THE LAWS ESTABLISHING THE SWRCB'S PERMITTING AUTHORITY OVER APPROPRIATIONS OF GROUNDWATER CLASSIFIED AS SUBTERRANEAN STREAMS AND THE SWRCB'S IMPLEMENTATION OF THOSE LAWS 96–97 (Jan. 19, 2002) (report commissioned by SWRCB), available at [http://www.waterrights.ca.gov/hearings/SaxReport/SubStreamRpt\(2002-01-20\).pdf](http://www.waterrights.ca.gov/hearings/SaxReport/SubStreamRpt(2002-01-20).pdf); Joseph L. Sax, *We Don't Do Groundwater: A Morsel of California Legal History*, 6 U. DENV. WATER L. REV. 269, 315–16 (2003) (discussing California's failure to treat groundwater and surface water under a single legal regime).

¹⁵⁸ Ronald B. Robie, *The Governor's Commission: A Reminiscence*, 36 MCGEORGE L. REV. 13, 14 n.7 (2005).

¹⁵⁹ Anne J. Schneider, *Retrospective on the Governor's Commission*, 36 MCGEORGE L. REV. 23, 23 (2005).

¹⁶⁰ See Eric L. Garner & Jill N. Willis, *Right Back Where We Started From: The Last Twenty-Five Years of Groundwater Law in California*, 36 MCGEORGE L. REV. 413, 414 (2005) ("[T]he state of groundwater law and groundwater management remains as uncertain, if not more so, than it was when the Commission's Final Report was issued.").

perspective.¹⁶¹ California has taken an atypical “cannot do” approach to this important issue, which is all the more surprising because the experts are in consensus regarding the need to fix this regulatory problem.¹⁶²

b. Where Is the Market?

A “quiet revolution” for instream flow took place in California in 1992 when the state legislature amended the water code with section 1707.¹⁶³ This section is one of the West’s most advanced water code provisions for instream transactions. Unfortunately, it is very likely that the number of section 1707 transactions in California can be counted on two hands.¹⁶⁴ Instream flow advocates in California are correct to ask: Where is this market?

Administrative processing hurdles and cost are two limitations to an active section 1707 market.¹⁶⁵ Because section 1707 is styled as an instream transfer, rigorous transfer standards apply, including the “no-injury” rule.¹⁶⁶ Moreover, because so few section 1707 transfers have occurred, inter and intra agency procedures are convoluted and not easily understood, which of course increases willing transferors’ and transferees’ transaction costs.¹⁶⁷

A bigger obstacle is California’s fascination with all things large. The state’s water politics have always been preoccupied with the movement of water from north to south.¹⁶⁸ Indeed, the federal Central Valley Project and the State Water Project are designed to facilitate transfers of huge quantities of water.¹⁶⁹ Institutional structures like the Environmental Water Account also emphasize trading large quantities of water in the Delta and Central Valley.¹⁷⁰ However, a drastically different scale exists. On that scale, a transfer of ten cfs or less can make the crucial difference in instream flow

¹⁶¹ “California is the only western state that still treats surface water and groundwater under separate and distinct legal regimes.” *N. Gualala Water Co.*, 43 Cal. Rptr. 3d 821, 831 (Cal. Ct. App. 2006). In this case, the First Appellate District in California concluded that the gap between case law, agency approach, and the science of hydrology creates “an Alice-in-Wonderland quality.” *Id.*

¹⁶² For example, in a recent symposium on the Governor’s Commission, McGeorge Law Review published seven articles dealing with or mentioning groundwater, many of which are cited herein. Symposium, *25th Anniversary of the Report of the Governor’s Commission to Review California Water Rights Law*, 36 MCGEORGE L. REV. 1 (2005).

¹⁶³ CAL. WATER CODE § 1707 (West 1971 & Supp. 2006); Thomas, *supra* note 25, at 48.

¹⁶⁴ See, e.g., Aladjem, *supra* note 140, at 316 n.63 (listing transactions).

¹⁶⁵ Gregory A. Thomas, *The Future of Water Law Reform in California a Quarter Century After the Governor’s Commission*, 36 MCGEORGE L. REV. 495, 513 (2005).

¹⁶⁶ See CAL. WATER CODE § 1707(b) (West 1971 & Supp. 2006) (subjecting approval to the condition that it will not “unreasonably affect any legal user of water”); see also Aladjem, *supra* note 140, at 316 (stating that transfer petition is subject to limitations similar to those of other transfers).

¹⁶⁷ Boyd, *supra* note 29, at 1170.

¹⁶⁸ *Robie*, 39 Cal. Rptr. 3d 189, 203–05 (2006).

¹⁶⁹ *Id.*

¹⁷⁰ See Barton H. Thompson, Jr., *Uncertainty and Markets in Water Resources*, 36 MCGEORGE L. REV. 117, 136 (2005) (explaining the theory behind the EWA).

for fishery or other natural resource needs. This scale is unfortunately too often overlooked to the detriment of instream flow opportunities and the natural resources reliant on such flow. Section 1707 is a perfectly placed legal tool to correct this oversight.

c. Living up to Potential: Permitting Systems that Work for All Stakeholders

California's regional communities and water stakeholders are faced with the challenge of fixing the state's water rights permitting system. This challenge is playing out north of San Francisco where there are approximately *six hundred* or more pending applications for new appropriative water rights and surface diversions, mostly in the Russian River basin, in Sonoma and Mendocino counties.¹⁷¹ Many of these applications have been pending ten or more years.¹⁷² In some watersheds where applications are pending, which are also watersheds for endangered or threatened anadromous fish, the level of unauthorized diversion is as high as seventy-seven percent.¹⁷³ In some cases, the unauthorized diversion has been ongoing for decades.¹⁷⁴

The California Legislative Analyst's Office recently concluded that:

existing funding levels allow the [water board] to process around 150 applications annually. However, the [water board] currently has a backlog of over 680 pending applications. Even with no new applications for permits, it would take over four years to process all of the backlogged applications at the current rate. . . . Currently over 1,000 permittees are waiting to be inspected and licensed. In addition, staff inspect about 120 water rights annually at current funding levels. This reflects annual monitoring of less than 1 percent of the water rights under the [water board's] enforcement jurisdiction.¹⁷⁵

¹⁷¹ See Trout Unlimited and the Peregrine Chapter of the National Audubon Society's Petition for Timely and Effective Regulation of New Water Diversions in Central Coast Streams, *In re* (1) Applications for Water Rights and Related Regulatory Approvals and (2) Unauthorized Diversions Affecting Steelhead and Coho Salmon Fisheries in Central Coast Streams in Marin, Sonoma, Napa, Mendocino, and Humboldt Counties (State Water Resources Control Bd. Oct. 27, 2004), available at http://www.waterrights.ca.gov/coastal_streams/docs/tupetition/tupetitiononly102704.pdf [hereinafter Water Rights Petition] (administrative petition submitted to SWRCB). The Water Rights Petition alleged more than 276 pending applications. *Id.* at 1. Since October 2004, that number has risen to around 617. CAL. STATE AUDITOR, REPORT NO. 2005-113, STATE WATER RESOURCES CONTROL BOARD: ITS DIVISION OF WATER RIGHTS USES ERRONEOUS DATA TO CALCULATE SOME ANNUAL FEES AND LACKS EFFECTIVE MANAGEMENT TECHNIQUES TO ENSURE THAT IT PROCESSES WATER RIGHTS PROMPTLY 39 (MAR. 2006), available at <http://www.bsa.ca.gov/pdfs/reports/2005-113.pdf> [hereinafter AUDITOR REPORT].

¹⁷² Assemb. B. 2121, 2003-2004 Reg. Sess., 2004 Cal. Legis. Serv. Ch. 943 (Cal. 2004) (codified at CAL. WATER CODE §§ 1259.2, 1259.4 (West 2006)).

¹⁷³ Water Rights Petition, *supra* note 171, at 35.

¹⁷⁴ See *id.* at 36 (noting administrative record correspondence concerning unauthorized diversion taking place for over forty years).

¹⁷⁵ AUDITOR REPORT, *supra* note 171, at 42 (quoting LEGISLATIVE ANALYST'S OFFICE, ANALYSIS

There is no dispute that the “orderly and efficient administration of the water resources of the state” is in the best interest of all stakeholders.¹⁷⁶ This challenge creates a clear choice for Californians. In this region, stakeholders can either look the other way while a wild, wild west approach to water continues, or they can take action and develop consensus solutions for an effective and timely permitting system that works for all beneficial uses, including monitoring, compliance, and enforcement. The problems will only worsen in the absence of common-sense, good government reforms to the water permitting system in northern California.

IV. RECOMMENDATIONS FOR A NEW WATER FUTURE

A. Relationships Matter When It Comes to Water

Aldo Leopold wrote that “[t]here are two things that interest me, the relationship of people to their landscape and of people to each other.”¹⁷⁷ In the West, it may be more important to scrutinize the relationship of people to water and of people to each other *about* water. At the end of the day, law, policy, and science matter far less than relationships when water is at stake.

The Klamath River, for example, was once the third largest salmon producing river in the West, behind the Sacramento and Columbia River systems,¹⁷⁸ and it is the West’s third largest river.¹⁷⁹ The ecosystem diversity of the Klamath Basin is extraordinary.¹⁸⁰ The cultural and social diversity is remarkable. Native American peoples have lived in the area for more than ten thousand years.¹⁸¹ The farming community is a strong presence in the basin, and proudly identifies with the generational and life-style choice of farming the land.¹⁸² The commercial fishing industry in northern California and southern Oregon plays an important role in Klamath River issues.¹⁸³

OF THE 2003–04 BUDGET BILL (2005)).

¹⁷⁶ CAL. WATER CODE § 174 (West 1971).

¹⁷⁷ Gloria Flora, *Towards a Civil Discourse: The Need in Public Land Management*, 21 PUB. LAND & RESOURCES L. REV. 25, 25 (2000) (quoting ALDO LEOPOLD, A SAND COUNTY ALMANAC (1949)).

¹⁷⁸ Holly Doremus & A. Dan Tarlock, *Fish, Farms, and the Clash of Cultures in the Klamath Basin*, 30 ECOLOGY L.Q. 279, 289 n.26 (2003).

¹⁷⁹ Matthew G. McHenry, *The Worst of Times: A Tale of Two Fishes in the Klamath Basin*, 33 ENVTL. L. 1019, 1022 (2003).

¹⁸⁰ See *id.* (noting, for example, that there are several wildlife refuges in the upper Klamath Basin, and the Basin once supported a high concentration of “waterfowl, wildlife, and fish.”)

¹⁸¹ *Id.* at 1024.

¹⁸² See Doremus & Tarlock, *supra* note 178, at 298 (detailing how irrigation grew to be relied upon among early settlers in the upper Klamath Basin). In 1902, Congress passed the Reclamation Act, and Bureau of Reclamation’s (BOR) Klamath Project was authorized in 1905 with construction beginning the following year and first water deliveries in 1907. *Id.*

¹⁸³ See Glen Spain, Nw. Reg’l Dir. of the Pac. Coast Fed’n of Fisherman’s Ass’n, *Public Property Rights Must Prevail*, ENVTL. FORUM, Mar.–Apr. 2002, at 50–51 (discussing how downriver commercial fishermen joined in a lawsuit that finally limited irrigation use in 2001 following decades of economic losses); see also Doremus & Tarlock, *supra* note 178, at 322 (noting losses of \$80 million annually claimed).

And, the conservation and environmental organization community is deeply involved in the basin.

Conflict has been the norm in this basin.¹⁸⁴ These multiple interests have continually clashed. The result is a cycle of conflict similar to the ecological principle of competitive exclusion.¹⁸⁵ This cycle exists because stakeholders (knowingly and unknowingly) have fostered a controversy whose dominant trait is a battle for exclusive right over a scarce resource.

¹⁸⁴ Seven identifiable crucible events shape the Klamath River Basin today. First, the summer of 2001 was a critical drought for the basin. *See* Doremus & Tarlock, *supra* note 178, at 319–22 (stating that the winter of 2000–2001 was very dry); McHenry, *supra* note 179, at 1027 (stating that 2001 “was one of the driest [years] on record for the Klamath Basin”). Second, in response to those hydrological conditions Fish and Wildlife Service (FWS) and NOAA Fisheries (NOAA) issued biological opinions for their respective species of jurisdiction that required: a) certain lake levels to prevent harm to suckers (FWS), and b) certain releases from Iron Gate Dam to prevent harm to salmon (NOAA). NAT’L ACAD. OF SCIENCES, NAT’L RESEARCH COUNCIL, FINAL REPORT FROM THE COMMITTEE ON ENDANGERED AND THREATENED FISHES IN THE KLAMATH BASIN, ENDANGERED AND THREATENED FISHES IN THE KLAMATH RIVER BASIN: CAUSES OF DECLINE AND STRATEGIES FOR RECOVERY 1 (2003) [hereinafter NRC REPORT]. BOR subsequently produced a 2001 Operations Plan for the Klamath Project, which favored water for species obligations over irrigation deliveries. *See* Doremus & Tarlock, *supra* note 178, at 320 (discussing impact of final operations plan and drought on irrigation interests). Third, for the first time in Reclamation history, BOR closed the headgates of a project. *Id.* at 283. After protests erupted, Secretary of Interior Norton ordered a limited release of water for irrigation. *See id.* at 322 (release of 70,000 acre feet). Fourth, in 2001, the Bush Administration rejected a request from the Pacific Legal Foundation to elevate the controversy over the ESA in the basin to the “God Squad.” *See id.* at 323 (discussing Bush Administration’s response to Klamath Basin controversy). However, shortly thereafter the Administration requested the formation of a National Academy of Sciences, National Research Council committee to review and judge the science behind the NOAA and FWS biological opinions that formed the basis of BOR’s 2001 Operations Plan and restrictions to water deliveries. *Id.* at 324; *see also* NRC REPORT, *supra*, at 2–3 (discussing history and mission of committee). Fifth, BOR water deliveries in 2002 met irrigation demands. *See* McHenry, *supra* note 179, at 1028 (describing how Bush Administration changed water allocation priorities based on NRC findings); *see also* Doremus & Tarlock, *supra* note 178, at 334–35 (describing event where Interior Secretary Norton, Agriculture Secretary Veneman, and Senator Gordon Smith (R-Or.) opened a main headgate in the spring of 2002). Sixth, the largest fish kill on the west coast occurred in September 2002. At least 33,000 fish died. NRC REPORT, *supra*, at 8–9. Parasitic disease was the primary factor, which was exacerbated and amplified by crowding of returning fish in low, warm waters in the lower reaches of the Klamath. Doremus & Tarlock, *supra* note 178, at 335. It remains a hotly disputed matter whether BOR operations and insufficient water releases downstream contributed to the mortality. Finally, in spring 2006, the commercial fishery along 700 miles of the West Coast was severely curtailed because of the beleaguered state of Klamath River salmon. *See* Jeff Barnard, *Closures Force Fishermen to Troll for Disaster Relief*, SEATTLE POST-INTELLIGENCER, Apr. 8, 2006, available at http://seattlepi.nwsource.com/local/266037_shrinkingsalmon08.html (discussing fishing restrictions and impact on commercial fishing industry in Oregon and California); *see also* Pac. Fishery Mgmt. Council, Pacific Fishery Management Council Backgrounder: 2006 Klamath Salmon Issues 1 (2006), http://www.pcouncil.org/newsreleases/salmon_packet/2006_backgrounder.pdf (last visited Nov. 12, 2006) (issued before the closure was ordered and predicting that the 2006 ocean salmon season might have to be completely closed off the coasts of California and Oregon, and noting that a closure of such great proportions “has never before been required”).

¹⁸⁵ *See* Charlton H. Bonham, *Devils Tower, Rainbow Bridge, and the Uphill Battle Facing Native American Religion on Public Lands*, 20 LAW & INEQ. 157, 194–97 (2002) (explaining the competitive exclusion principle and application to human resource conflicts).

Relationships are the key to ending this water war. Only when these parties start listening to each other and working with each other for a common good—peace on the river—will the necessary space emerge for them to problem solve these tricky water issues in a way that produces viable solutions. No other approach holds any promise for lasting outcomes in the Klamath.

It is difficult to overestimate the importance of building bridges and partnerships. Yet, it is very easy to put off undertaking the time-intensive due diligence to build authentic relationships. It takes time. It is difficult. Healthy and successful relationships require stakeholders to engage in give-and-take. The most important prerequisites, however, are the ability and willingness to listen and learn from those who hold different views and opinions.

The rewards from these non-traditional relationships and partnerships for instream benefits are potentially huge. In 2005, Utah ranchers visited successful water leasing projects in Montana and had the opportunity to listen to their Montana counterparts' experiences with leasing. The exchange visit generated favorable press coverage in Utah. The *Provo Daily Herald* called the Montana effort a “groundbreaking . . . program [that] has allowed farmers and ranchers to earn money for unused water while benefiting wildlife,” and quoted one participant in the exchange, who offered his opinion that “where it is a willing-seller, willing-buyer situation, those things should be allowed.”¹⁸⁶ The first step is a united dialogue. The parallel step is to insist on civility.¹⁸⁷

Finding solutions is tough, but in this regard our mothers and fathers and elders were absolutely right—treat people with respect and just as you would want them to act in return. There is simply no justifiable reason for the scale and intensity of hatred in water issues around the West. All of that misguided energy spent on hostility drives stakeholders farther apart, and would be much better directed towards problem solving. We are all in this together—like it or not. Let us collectively check the vitriolic gamesmanship that takes place in the public marketplace at the door. Water stakeholders must self-initiate a united, relationship-based dialogue on a regional scale and in individual cases. They must ensure the spirit and tone of this dialogue does not make us feel embarrassed because of the vulgarity and mean-temperedness, but rather makes us feel proud to know, live, and work beside each other in our regional communities.

B. Instream Flow and Regulatory Certainty Can Go Hand in Hand

In Montana, one of the biggest challenges facing water stakeholders is increased pressure to meet surface water limitations with groundwater use in closed basins.¹⁸⁸ This challenge puts fishery and aquatic resources at risk

¹⁸⁶ Caleb Warnock, *Farmers Give Water Back*, PROVO DAILY HERALD, Jan. 7, 2006, at A1, available at <http://www.heraldextra.com/content/view/full/159294/>.

¹⁸⁷ See Flora, *supra* note 177, at 25–26 (discussing experience as federal land manager).

¹⁸⁸ See *supra* Part III.B.2 and accompanying text.

and threatens senior water rights holders. In California, regulatory uncertainty associated with the permitting of surface water rights applications north of San Francisco produces extreme business risk for the regulated community.¹⁸⁹ Indeed, not knowing whether, when, and how SWRCB will process an application for appropriative right greatly undermines business planning. Moreover, in some instances, existing senior water rights holders suffer the consequences of competitors gaining an unfair business advantage through unauthorized diversion. This situation also directly impacts the recovery of coho salmon and steelhead in coastal California streams.¹⁹⁰

Instream flow protection and regulatory certainty can, and should, occur simultaneously and in conjunction. For example, Gallatin County is now home to many emerging reforms that require mitigation for groundwater impacts to surface water instream flow levels.¹⁹¹ In that basin, unlikely alliances between fishery advocates and senior water rights holders helped develop these ideas.¹⁹² Conservation organizations, state resources agencies, private owners of hydroelectric dams, and surface water irrigator associations joined forces in protest of new pumping permits. Together they worked to address groundwater-surface water connections and impacts so that instream needs and senior water rights holders were adequately protected. In the California example, a broad and diverse working group including Trout Unlimited has emerged for the purpose of working together to create a more timely and effective permitting system that provides regulatory certainty for applicants and protects fishery needs. A potential consequence of such a collaboratively-created system could be the diminished need for parties to protest future applications.

Instream flow advocates and water users have let the gulf between them widen too far. Better relationships between instream flow advocates and water users should daylight creative options for solving problems. Finding solutions is tough, but satisfaction of instream flow needs and water rights certainty can fit together just as nicely as apple pie and baseball. Do not let anyone convince you otherwise. Water stakeholders must understand and embrace this positive dynamic, and then build solutions that sustain and enhance the compatibility between these seemingly disparate interests.

C. We Need More Physical Solutions

For far too long, water stakeholders in the West have argued over whose water use is more important. Arguments framed that way guarantee losers. Conflict will rule the West's water future as long as stakeholders continue to mistakenly believe that they are required to choose between

¹⁸⁹ *See id.*

¹⁹⁰ *See* Assemb. B. 2121, 2003–2004 Reg. Sess., 2004 Cal. Legis. Serv. Ch. 943 (Cal. 2004) (codified at CAL. WATER CODE §§ 1259.2, 1259.4 (West 2006)) (mandating that SWRCB annually prepare a written summary of pending applications to appropriate water).

¹⁹¹ *See supra* Part III.B.2 and accompanying text.

¹⁹² *See id.*

mutually exclusive outcomes. It is imprudent to allow rigidity to control solutions. The discussion does not have to always be about fish *or* farms, people *or* the environment.

Stakeholders need to reframe the questions facing them. A world of opportunity awaits those stakeholders who ask and answer how to best manage and optimize the scarce resource of water to maximize multiple interests and beneficial uses. It can be about fish *and* farms, people *and* the environment.

The physical solution doctrine is the key to this reframing. Although the doctrine is based on principles of equity, scarcity of water is the contemporary motivator.¹⁹³ The scarcity of water and its preciousness require critical and collaborative thinking to put it to maximum use for the most purposes.

Investing in a physical solution approach means stakeholders will undertake critical analysis to locate and exploit opportunities for mutual gain. As Gregory Thomas puts it, “[p]hysical solutions are the devices crafted by the courts in California to reduce conflicts among competing water users.”¹⁹⁴ Mechanisms to achieve such reconciliation include conservation and efficiency strategies, reservoir re-operation, delivery adjustments, groundwater banking and conjunctive use programs, and transfers.¹⁹⁵ A physical solution is to a water allocation challenge like high-speed internet is to information exchange. Both rely on expanding options and capacity to manage a resource (water or data) across the broadest range possible.

The Yuba Accord in California is a good example. The Yuba River originates on the Sierra Nevada Range’s west slope and drains approximately 1,339 square miles of Sierra, Placer, Yuba, and Nevada counties.¹⁹⁶ The Yuba flows into the Feather River below Marysville, California, and the Feather in turn is a tributary to the Sacramento River.¹⁹⁷ The lower Yuba River wild chinook population is one of the most significant remaining populations in the entire Central Valley¹⁹⁸ and is also home to one of the last naturally self-sustaining steelhead populations.¹⁹⁹

The Yuba River has been at the center of one of California’s longest-running water disputes.²⁰⁰ In short, the California SWRCB exercised its

¹⁹³ See Harrison C. Dunning, *The “Physical Solution” in Western Water Law*, 57 U. COLO. L. REV. 445, 458–59 (1986) (discussing the equitable and necessary bases of physical solution doctrine).

¹⁹⁴ Thomas, *supra* note 165, at 507.

¹⁹⁵ See *id.* at 517–23 (discussing various strategies for bringing new water into the system and improving operations of water storage and delivering facilities).

¹⁹⁶ CAL. DEP’T OF FISH & GAME, LOWER YUBA RIVER FISHERIES MANAGEMENT PLAN 2 (Feb. 1991).

¹⁹⁷ *Id.* at 1.

¹⁹⁸ See *id.* at 7.

¹⁹⁹ CAL. DEP’T OF FISH & GAME, STEELHEAD RESTORATION AND MANAGEMENT PLAN FOR CALIFORNIA 47 (Feb. 1996), available at <http://www.dfg.ca.gov/nafwb/pubs/swshplan.pdf> (“The Yuba River is essentially the only wild steelhead fishery remaining in the Central Valley.”).

²⁰⁰ See Dunning, *supra* note 133, at 390–91 (The Yuba River instream flow controversy started in 1988 and is still ongoing, compared to the Mono Basin controversy, which took 15 years to resolve.); see also Ryan S. Bezerra & Yvonne M. West, *Submerged in the Yuba River*:

continuing authority over Yuba County Water Agency's (YCWA) water rights in 2001 and revised those rights to require more water instream for fishery resources in the lower Yuba River in SWRCB Decision 1644.²⁰¹ That decision represented the culmination of approximately fifteen years of controversy.²⁰² During subsequent state court litigation challenging Decision 1644, parties negotiated a complex proposed settlement agreement called: *The Proposed Lower Yuba River Accord*.²⁰³

The hallmark of the proposed settlement is the physical solution doctrine whereby a fisheries agreement would establish higher instream flows during periods of the year; a water purchase agreement would create long-term purchase agreements between YCWA and the United States Bureau of Reclamation and California Department of Water Resources; and, a conjunctive use agreement would establish a comprehensive program between YCWA and its customers to integrate surface water and groundwater resources.²⁰⁴ Seventeen parties are involved in the integrated agreements, and the accord would optimize operations and water use in the Yuba River system to significantly increase instream flow, produce the first major long-term water acquisition for the state's Environmental Water Account, and generate revenue for YCWA to implement flood control improvements.²⁰⁵ The physical solution approach helped parties broker the proposed end to this long-running water dispute.

Finding solutions is tough, but allowing the frame of the allocation discussion to remain only about competition rather than cooperation will slow instream flow efforts going forward. It does not have to always be about winning or losing. The most short-sighted definition of success is beating the other side. Water stakeholders must unpack and then repack the community dialogue so that the operative spirit is collective problem-solving. A physical solution perspective can help with this necessary shift.

The State Water Resources Control Board's Prioritization of the Governor's Commissions Proposals, 36 MCGEORGE L. REV. 331, 332-34 (2005) (discussing Yuba River environmental litigation dating back to 19th century hydraulic gold mining).

²⁰¹ Water Right Decision 1644 at 173-83, *In re* Fishery Resources and Water Right Issues of the Lower Yuba River, at 173-83 (SWRCB Mar. 1, 2001), available at <http://www.waterrights.ca.gov/hearings/decisions/WRD1644.pdf> (SWRCB order requiring greater instream flows in the lower Yuba River); Water Right Order WR 2003-0016 at 51-57, *In re* Fishery Resources and Water Right Issues of the Lower Yuba River, at 51-57 (SWRCB July 16, 2003), available at <http://www.waterrights.ca.gov/hearings/WaterRightOrders/WRO2003-16.pdf> (revising Water Right Decision 1644).

²⁰² See Dunning, *supra* note 133, at 390 (stating that as of 2004, the instream flow protection controversy initiated in 1988 was still underway for the Lower Yuba River).

²⁰³ THE PROPOSED LOWER YUBA RIVER ACCORD: A COLLABORATIVE SETTLEMENT INITIATIVE, available at http://www.ycwa.com/images/Other/Proposed_Yuba_Accord_Booklet.pdf (The accord is currently undergoing joint federal and state environmental review).

²⁰⁴ See *id.* at 6-8 (discussing the terms of the agreement).

²⁰⁵ *Id.* at 7-8.

D. Doing Nothing Is Unacceptable

Water stakeholders must be proactive. Doing nothing about water issues will not cut it anymore. Failure to find lasting, community-supported solutions to the West's water challenges will substantially affect the economy and environment of the entire region. The challenges will only worsen in scale and complexity if not addressed now.

One precise example previously discussed in this article proves that inaction is simply untenable. In northern California in 1990, the number of pending applications for new appropriative water rights and surface water diversion was relatively small. In 1997, at the time California's State Water Board's Staff Report on these issues was published, the number was approximately eighty-one for the Russian River watershed.²⁰⁶ In 2004 when Trout Unlimited and the Peregrine Chapter of the Audubon Society filed an administrative petition with SWRCB requesting solutions for these problems, there were over 276 pending applications in just five counties.²⁰⁷

It would have been far cheaper and easier to address the problems associated with eighty-one pending applications than with 276. This, of course, just definitively proves Marc Reisner's astute point that "[i]n the West, of course, where water is concerned, logic and reason have never figured prominently in the scheme of things."²⁰⁸ Today, the number of pending applications is approximately 600.²⁰⁹

So much more is needed than business as usual for the regional and state water issues and challenges discussed in this article. The status quo cannot carry the day on water issues in the West. Finding solutions is tough, but if you listen carefully to the success stories in this Article and to other similar stories, a movement is on the horizon and an opportunity is coming around the corner that may only come once. Do not let it pass.

When called to serve their country, Americans stand up. When challenged to go to the moon, Americans responded. Westerners must stand up and respond now because our collective water future is on the line. Stakeholders have to take the scary step together and rush in where others have feared to tread in the past, if for no other than reason that the alternatives are far more grim. Water stakeholders must find the willingness to grapple with these unquestionably thorny issues concerning water management, water law, and water policy in the West. Step up to the plate and take action. Time is wasting. The challenges are not going away.

²⁰⁶ SWRCB, DIVISION OF WATER RIGHTS, STAFF REPORT: RUSSIAN RIVER WATERSHED, PROPOSED ACTION TO BE TAKEN BY THE DIVISION OF WATER RIGHTS ON PENDING WATER RIGHT APPLICATIONS WITHIN THE RUSSIAN RIVER WATERSHED 1 (Aug. 15, 1997), *available at* http://www.waterrights.ca.gov/coastal_streams/docs/russianriver/russianriver_rpt081597.pdf.

²⁰⁷ AUDITOR REPORT, *supra* note 171, at 42.

²⁰⁸ REISNER, *supra* note 58, at 14.

²⁰⁹ AUDITOR REPORT, *supra* note 171, at iii.

V. CONCLUSION

Winston Churchill is widely considered to have remarked that “Americans always can be counted on to do the right thing, after they have tried everything else.”²¹⁰ Either stakeholders across the West come together to determine a shared water future or they do not. We have already tried everything else. The lives of millions of people and the region’s remarkable natural resources hang on this pivot point.

The West’s water future lays exposed in the balance. The fact of the matter is like a sharp blow to the gut: none of us can live without water. Rekindling a Western, pioneer interest in participatory democracy is a critical step towards ensuring a healthy water future. The scholar Donald Snow notes that observers have consistently applauded Americans’ ability to work together and “individual willingness to engage in local problem-solving and political action.”²¹¹ Powell’s watershed commonwealths conceptualized a “participatory democracy” for natural resources decisions.²¹² The West’s legacy is one of people who faced adversity both pragmatically and head on. Democracy requires involvement not passivism. It is a direct contact sport. We need to rekindle a pioneer-like spirit, which I define as active community involvement to overcome adversity together. We need to then use this spirit to chart a new and responsible water future for the West. A review of instream flow issues and water management, water law, and water policy around the West uncovers many challenges. Some of the challenges, like drought, have been around since the beginning. Others, like advancing water markets, are relatively new on the scene.

It comes down to all of us right here and right now. One by one, individual by individual, community by community, a reapplied belief in the Western ability to solve tough problems can translate to renewed commitment. We must rescue ourselves from ourselves.

Coming together to discuss water issues is true to Powell’s vision of watershed commonwealths. This concept implies joint ownership and joint effort derived from common hydrological circumstances. It suggests a commitment to a common allegiance of living and working together because of those shared circumstances. Through a civil discourse and sitting down together we may discover how to conduct ourselves and in the process find a shared “lived ethics.”²¹³ This “ethic” is a “kind of community instinct in-the-making.”²¹⁴ Water is an appropriate resource around which to build such a community ethic.

²¹⁰ Mark A. Peterson, *Thinking, Talking, Acting*, 21 J. HEALTH POL. POL’Y & L. 1, 1 (1996) (remarking on countless uses of quote).

²¹¹ Donald Snow, *The Persistence of Powell: The Idea of Watersheds and Participatory Democracy*, 23 J. LAND RESOURCES & ENVTL. L. 31, 32 (2003) (describing Alexis De Tocqueville’s observations on American democracy).

²¹² *Id.*

²¹³ See Alyson C. Flournoy, *In Search of an Environmental Ethic*, 28 COLUM. J. ENVTL. L. 63, 65 n.6 (2003) (explaining that an ethic found through studying how we conduct ourselves is consistent with characterizing environmental ethics as “lived ethics”).

²¹⁴ ALDO LEOPOLD, A SAND COUNTY ALMANAC 239 (1949).

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The West is a mythical place. It oozes confidence and optimism. There is much to be excited about from an instream flow perspective. Stakeholders can come together and forge resolutions that apply water to the greatest number of beneficial uses in a fair way.²¹⁵ Physical solutions prove that point. So too do the many success stories described in this article. A new water future can be charted, but it is entirely up to us. Only if we take collective action now to foster public dialogue and decision making on the water issues in the West will we find lasting solutions that manage water for the greatest good. Finding those solutions also holds the remarkable promise of finding peace with each other over water at the same time. Those solutions are our best chance to ensure healthy natural systems and communities, and finally produce a society that does justice to the region's natural beauty and people.

²¹⁵ See Cosens, *supra* note 6, at 949–1018 (assessing whether water dispute resolution processes utilized in the Milk River Basin in Montana and the Truckee River Basin in California and Nevada were fair, efficient, and will lead to durable outcomes).