

Drinking Water and Exclusion: A Case Study from California's Central Valley

Camille Pannu*

The American West is notorious for its water wars, and California's complex water allocation and governance challenges serve as a bellwether for contemporary water governance across western states. Policy makers and environmental advocates typically represent California's water woes as a regulatory problem—a failure to balance the needs of growing urban populations with ecological preservation and agricultural irrigation. These debates, however, often elide the issue of water deprivation, and they do not adequately address the concerns of an important constituency: low-income, rural communities.

This Comment argues that a focus on regulation misses a fundamental feature of water inequality: the structure and design of local water districts. Utilizing a case study of California's Central Valley to illustrate how these structural barriers operate, I argue that California's complex system of local water districts fractures governance, limits electoral participation, and undermines the State's stated environmental, equity, and utilitarian water goals. I offer suggestions for alternative local water district organization in order to address the constraints of California's current water governance regime.

Copyright © 2012 California Law Review, Inc. California Law Review, Inc. (CLR) is a California nonprofit corporation. CLR and the authors are solely responsible for the content of their publications.

* Equal Justice Works Fellow, Center on Race, Poverty & the Environment; J.D., University of California, Berkeley, School of Law, 2011. I thank Professors Michelle Wilde Anderson and Mary Louise Frampton for their tremendous mentorship and advice throughout the development of this Comment; Tony Rossman, Andrea Peterson, Rick Frank, Holly Wagenet, and Jacob Richards for their comments; the participants and organizers of Willamette University College of Law's Conference on the Human Right to Water; and my family for their patience and support. Monica Briseño, Chad Dorr, Allie Hartry, Matt Larssen, Michelle Leu, Menesha Mannapperuma, Daniel Mistak, Rylan Weythman, Silvana Quintanilla, Evan White, Kristin Bresnahan, and the Editors of the *California Law Review* provided insightful and meticulous editing. Finally, I am indebted to the communities of Fairmead, South Dos Palos, Allensworth, Alpaugh, and Matheny Tract for their generosity, hospitality, and patience in sharing their stories. All errors are, of course, my own.

Introduction.....	224
I. Understanding Water Inequality.....	227
A. The Contours of Central Valley Poverty	228
B. Unincorporated Communities as Loci for Structural Inequality.....	231
C. Lack of Access to Water as Social Inequality.....	235
D. The Water Quality, Infrastructure, and Access Nexus	237
II. The Gap Between Water on the Books and Water on the Ground.....	238
A. The Statutory and Regulatory Scope of Water Protection.....	238
B. The Realities of Rural Drinking Water Quality.....	242
III. The Structure of California Water Governance	245
A. Fractured Governance.....	245
B. Anti-Democratic Governance Models at the State Level	248
C. Anti-Democracy in Local Water Governments	251
1. The Limits of Public Water Districts	253
2. The Pervasiveness of Quasi-Public Governance.....	257
3. Purely Private Governance	258
D. The Limits and Costs of Fragmented Water Governance.....	259
IV. Proposals for Moving Beyond Water Inequality	261
A. Consolidation.....	261
B. Regional Integration and Representation.....	264
C. Enhancing Statutory Protections.....	265
D. Funding Rural Drinking Water Infrastructure	266
Conclusion	268

INTRODUCTION

Three years ago, the neighborhood well ran dry in Fairmead.¹ In the wake of California’s drought, neighboring farms had exhausted the groundwater that sustained the fifty families in the area.² As the summer heat climbed to over 110 degrees Fahrenheit, families were desperate for drinking water. Fairmead’s “mayor”³ cleared out the bed of his pickup truck and drove to the closest city, looking for a grocery store that would sell him water. Drinking water was scarce throughout the county, and stores had begun rationing the amount of water they would sell to individual customers within a given territory. He drove over three-hundred miles before he could buy enough bottled drinking water

1. Community of Fairmead, Testimony at the Workshop on Rural Advocacy for Policy Reform, Third National Summit on Equitable Development, Social Justice, and Smart Growth (Mar. 7, 2008) (on file with author). Fairmead is an unincorporated community southwest of Chowchilla, California, adjacent to California Highway 99.

2. *Id.*

3. Despite their unincorporated status, the community of Fairmead uses the term “mayor” to describe their method of self-organization. Community members elect a “mayor,” although not through a typical general election, but rather, through their neighborhood association.

for his community.⁴ The water that lined his truck bed was then rationed to community members at a quarter-gallon per person per day.⁵ Fairmead went without running water for over a week. Its story never made it to the newspapers; there was no debate before a city council meeting, and there were no hearings in Sacramento. To the outside world, nothing had happened at all.

Fairmead's lack of access to residential water is typical of unincorporated communities throughout California's Central Valley ("Valley"). Further, the water issues facing the Valley⁶ compare to the water challenges facing the prairie and agricultural lands of other western states. The Valley, like other rural regions, is geographically vast with swathes of low-density settlement punctuated by higher-density cities. Within these lower-density settlements, poverty and unemployment are high, tax bases are limited, and access to infrastructure varies significantly. Further, the demand for agricultural water lies in tension with demand for residential water. These structural barriers to water equality are paralleled throughout other rural regions across the nation, where lack of access to clean water remains a constant worry for residents.⁷

As agricultural regions throughout the country—including the West, Midwest, and South—experience longer and more severe periods of drought,⁸

4. Community of Fairmead, *supra* note 1.

5. This amount is less than half of the suggested daily water intake for adult women (the rate is higher for men). Public health organizations suggest the average adult consume at least 0.52 gallons of drinking water, or other primarily water-based drink, per day. *Water: How Much Should You Drink Every Day?*, MAYO CLINIC, <http://www.mayoclinic.com/health/water/NU00283> (last visited Oct. 25, 2011).

6. The phrases "Central Valley" and "Valley" are used interchangeably throughout this piece to refer to the agricultural regions encompassed in California's Sacramento River, San Joaquin River, and Tulare Lake hydrologic basins. This region fully encompasses Amador, Butte, Calaveras, Colusa, El Dorado, Glenn, Fresno, Kings, Lake, Madera, Mariposa, Merced, Nevada, Placer, Plumas, Sacramento, San Joaquin, Shasta, Sierra, Stanislaus, Sutter, Tehama, Tulare, Tuolumne, Yolo, and Yuba Counties and partially encompasses Alameda, Alpine, Contra Costa, Kern, Lassen, Modoc, Napa, Siskiyou, and Solano Counties. The "upper Valley" typically refers to the Sacramento River basin, and the "lower Valley"—or "San Joaquin Valley"—refers to the San Joaquin River and Tulare Lake basin regions.

7. I use the term "unincorporated" to denote non-urban residents; that is, individuals who interface with only one layer of general local government (e.g., the county) as opposed to the two layers of general local government (city and county) that nearly every "urban" or "municipal" resident enjoys. I use "municipal" to refer to formal, incorporated cities, including cities in urban (e.g., Los Angeles) and rural (e.g., Fresno) geographies. This typology is set forth in *Avery v. Midland County*, 390 U.S. 474, 483 (1968). A more expansive description is set forth *infra* Section I.B.

8. Kim Severson & Kirk Johnson, *Drought Spreads Pain from Florida to Arizona*, N.Y. TIMES, July 11, 2011, at A1; *see also Dangerously Dry*, N.Y. TIMES (July 11, 2011), <http://www.nytimes.com/interactive/2011/07/11/us/DROUGHT.html> (citing a study by the National Drought Mitigation Center stating that one-fifth of the contiguous United States, from Baltimore, Maryland, to El Centro, California, faced extreme drought conditions in 2011); Paul Quinlan, *Lake Mead's Water Level Plunges as 11-Year Drought Lingers*, N.Y. TIMES (Aug. 13, 2010), <http://www.nytimes.com/gwire/2010/08/12/greenwire-lake-meads-water-level-plunges-as-11-year-drou-29594.html>; Ari Auber, *Drought Damages Texas Infrastructure*, TEX. TRIB. (Aug. 4, 2011), <http://www.texastribune.org/texas-environmental-news/environmental-problems-and-policies/drought-damages-texas-infrastructure>.

the issue of access to clean residential water has become increasingly salient. While rural communities have historically deployed groundwater pumps and wells to obtain residential water, these water sources often cannot meet the demand for both irrigation and residential water, nor can they affordably sanitize well water.⁹ These twin features—water access and water quality—determine whether communities will be able to obtain clean water. Unfortunately for rural agricultural communities in the West, water is scarce, and its quality is often poor. It is this lack of access to *clean residential water* that poses the most significant health and security challenge to rural survival.

Contaminated drinking water imposes dramatic costs on water users, both in terms of personal health and monetary costs. Despite forty years of statutory water protection regimes,¹⁰ the *New York Times* reports that over 20 percent of American water systems failed key provisions of the U.S. Safe Drinking Water Act¹¹ from 2004 to 2009.¹² The majority of these water violations occurred within small and rural water systems that served fewer than twenty thousand residents.¹³ The U.S. Centers for Disease Control and Prevention (CDC) estimates that lack of access to clean water costs over \$500 million annually¹⁴ and may have much greater long-term consequences in the form of Disability Adjusted Life Years (DALYs).¹⁵

Nonetheless, states often do not measure the public health impacts of excessive water pollution on individual health, and this measurement gap is especially wide for nontraditional, small, and rural water systems. Failure to gather data on the health and development costs of water inequality discourages policy makers from taking action to address rural communities' access to safe,

9. For an example of the costs of obtaining reliable and safe drinking water, see Scott Kraft, *In Tiny Seville, Trouble on Tap*, L.A. TIMES (Nov. 7, 2010), <http://articles.latimes.com/2010/nov/07/local/la-me-seville-water-20101107>. In the article, a Seville resident explains: "I hear people in Hollywood talk about helping people in the Third World get clean water. Well, we need help in our own backyard first . . . Farming is important. But in the end, we can live without the fruit—not without water."

10. Clean Water Act (CWA), 33 U.S.C. § 1361 (2006); Safe Drinking Water Act (SDWA), 42 U.S.C. § 300f (2006).

11. 42 U.S.C. § 300f.

12. Charles Duhigg, *Millions in U.S. Drink Contaminated Water, Records Show*, N.Y. TIMES, Dec. 7, 2009, at A1 (estimating 49 million Americans, or 15.7 percent of the population, drank illegally contaminated water).

13. *Id.* The U.S. Environmental Protection Agency (EPA) defines small water systems as systems that serve fewer than 3,300 people. *Basic Information, Water: Small Systems and Capacity Development*, ENVTL. PROT. AGENCY, <http://water.epa.gov/type/drink/pws/smallsystems/basicinformation.cfm> (last visited Oct. 17, 2011). It states that 94 percent of public water systems qualify as small systems. *Id.*

14. Press Release, U.S. Ctrs. for Disease Control & Prevention (CDC), *Waterborne Diseases Could Cost Over \$500 Million Annually in U.S.* (July 14, 2010), [available at http://www.cdc.gov/media/pressrel/2010/r100714.htm](http://www.cdc.gov/media/pressrel/2010/r100714.htm).

15. *Metrics: Disability-Adjusted Life Year*, WORLD HEALTH ORG. (WHO), http://www.who.int/healthinfo/global_burden_disease/metrics_daly/en/index.html (last visited Oct. 25, 2011).

affordable drinking water. Instead, state legislatures focus on higher-profile water issues, such as determining the allocation of water between urban centers and farms, or setting the parameters for large water infrastructure projects.

As one of the first states to embrace a decentralized system of state and local water governance, California's approach to water policy has served as an archetype for other western states. Like other western states, California invested heavily in the development and irrigation of its rural core.¹⁶ The Valley, then, provides an illustrative example of how water governance can be leveraged to exacerbate or ameliorate water inequality in rural communities.

This Comment examines how the structure of local water districts undermines California's interests in protecting the right to clean, safe drinking water, ensuring environmental protection, and achieving the most beneficial allocation of its water resources. Using the Valley as a case study for local water districts in the West, I argue that California's current models of local water government are untenable and that property-based voting schemes in these districts reify a failing system of governance and exacerbate water inequality for rural residents.

This Comment proceeds by first situating water inequality in the broader landscape of poverty and resource inequality within the Central Valley. Part II reviews California's right to safe, clean drinking water and explores the gap between this enumerated right and the lived experiences of rural residents. Part III explains California's model of water governance, both through state and local water agencies and districts. I argue that this structure, combined with anti-democratic governance models, undermines democratic accountability and the State's interest in the right to safe, clean drinking water. Finally, I conclude with suggestions for reorganizing water governance to better achieve the right to drinking water for rural residents.

I.

UNDERSTANDING WATER INEQUALITY

Water inequality—the lack of access to affordable, safe, clean water—plays a significant role in economic and human development. While water and human health are typically discussed in the context of international development,¹⁷ rural U.S. communities often receive much less support for addressing and financing comparable water poverty challenges.¹⁸ The severity of the water development gap between urban and peri-urban/rural communities

16. NORRIS HUNDLEY, *THE GREAT THIRST: CALIFORNIANS AND WATER, A HISTORY* 234–302 (2d ed. 2001).

17. *See, e.g.*, UNITED NATIONS DEV. PROGRAMME (UNDP), *HUMAN DEVELOPMENT REPORT 2006—BEYOND SCARCITY: POWER, POVERTY AND THE GLOBAL WATER CRISIS* 30–51 (2006).

18. Faqir Singh Bagi, *Small Rural Communities' Quest for Safe Drinking Water*, 17 *RURAL AMER.* 40 (Fall 2002), available at <http://www.ers.usda.gov/publications/ruralamerica/ra173/ra173g.pdf>.

is especially discomfiting in highly developed countries, where human development indicators for health and sanitation are assumed to evince the highest standards of technological development and health quality.

Environmentalists have played an important role in defining the parameters of water policy in the domestic context,¹⁹ and their work typically falls into three domains: water conservation;²⁰ water quality, contamination, and pollution;²¹ and water use.²² This Comment attempts to fill gaps in the last domain, focusing on how communities receive (or do not receive) a share of clean water holdings.

Using the Central Valley as a case study, this Part describes the human development constraints in one of the nation's poorest regions, connects water inequality with rural poverty in the western United States, and explains why the Valley serves as a prototypical case study for other rural western regions. It concludes by explaining how common mechanisms for rural water provision exacerbate economic and human development concerns.

A. *The Contours of Central Valley Poverty*

There are myriad human rights concerns in the Valley, but the greatest threats to the security of unincorporated, rural communities lie at the intersection of environmental health, racial discrimination, and poverty. In California, the Valley experiences some of the state's highest asthma rates,²³

19. See CAL. DEP'T OF WATER RES., 2009 CALIFORNIA COMPREHENSIVE WATER PACKAGE: SPECIAL SESSION POLICY BILLS AND BOND SUMMARY (2009) [hereinafter SPECIAL SESSION POLICY BILLS AND BOND SUMMARY]. See also Bettina Boxall, *California Legislature Passes State Water Conservation Bill*, L.A. TIMES (Nov. 4, 2009), <http://articles.latimes.com/2009/nov/04/local/me-water4> (emphasizing the coastal urban/agricultural divide); Jennifer Steinhauer, *California Water Overhaul Caps Use*, N.Y. TIMES, Nov. 5, 2009, at A16 (same); *California Right to Water Bill Vetoed*, CIRCLE OF BLUE (Oct. 21, 2009, 5:10 PM), <http://www.circleofblue.org/waternews/2009/world/california-right-to-water-bill-vetoed> (explaining that the only water bill to address drinking water was vetoed in support of bond initiatives for surface water).

20. See, e.g., Nathan Baker, *Water, Water, Everywhere, and at Last a Drop for Salmon?* NRDC v. Houston *Heralds New Prospects Under Section 7 of the Endangered Species Act*, 29 ENVTL. L. 607 (1999) (biodiversity and habitat preservation); Michael C. Blumm & Thea Schwartz, *Mono Lake and the Evolving Public Trust in Western Water*, 37 ARIZ. L. REV. 701 (1995) (same); Nathaniel H. Clark, *Upstream Struggle: California Attempts to Salvage Wild Salmon and Steelhead Trout*, 40 MCGEORGE L. REV. 563 (2009) (same); Joshua Harris, *A Lasting Proposal for Endangered Bay-Delta Fish Survival: The Environmental Water Account and the Accumulation of Water Contract Rights in the Central Valley Project and the State Water Project*, 26 ENVIRONS ENVTL. L. & POL'Y J. 121 (2002) (same); Ruth Langridge, *Confronting Drought: Water Supply Planning and the Establishment of a Strategic Groundwater Reserve*, 12 U. DENV. WATER L. REV. 295 (2009) (conservation); Gregory A. Thomas, *Conserving Aquatic Biodiversity: A Critical Comparison of Legal Tools for Augmenting Streamflows in California*, 15 STAN. ENVTL. L.J. 3 (1996) (biodiversity and habitat preservation).

21. See, e.g., Linda A. Malone, *The Myths and Truths that Ended the 2000 TMDL Program*, 20 PACE ENVTL. L. REV. 63 (2002) (water quality regulation); Scott M. Rennie, *Selenium in San Joaquin Valley Agricultural Drainage: A Major Toxic Threat to Fish and Wildlife Inadequately Addressed by the Central Valley Project Improvement Act*, 27 PAC. L.J. 303 (1996) (biodiversity and habitat preservation).

22. See SPECIAL SESSION POLICY BILLS AND BOND SUMMARY, *supra* note 19.

23. Laura E. Lund, *Asthma in Adults in California Counties, 2003*, CAL. DEP'T OF HEALTH

diabetes and malnutrition rates,²⁴ rates of pesticide exposure,²⁵ and “blue baby syndrome” (nitrate poisoning) deaths.²⁶ The lower Valley (San Joaquin Valley) is among the nation’s poorest regions, outpacing greater Appalachia in poverty, unemployment, and public assistance usage.²⁷

Table 1: Valley Poverty Indicators Compared to California and the Nation

	Valley	California	Nation
Poverty Rate ²⁸	19.3%	14.2%	14.3%
Unemployment Rate ²⁹	18.0%	12.5%	9.6%
Enrolled in Food Stamps ³⁰	19.3%	7.5%	14.2%

SERVS., CTR. FOR HEALTH STATISTICS (February 2005); Laura E. Lund, *Asthma in Children and Adolescents in California Counties, 2003*, CAL. DEP’T OF HEALTH SERVS., CTR. FOR HEALTH STATISTICS (Feb. 2005).

24. CAL. DIABETES PROGRAM, DIABETES IN CALIFORNIA COUNTIES: PREVALENCE, RISK FACTORS AND RESOURCES 68 (2005); CAL. DIABETES PROGRAM, DIABETES IN CALIFORNIA COUNTIES 67 (2009); CENT. VALLEY HEALTH & NUTRITION COLLABORATIVE & UNIV. OF CAL. COOP. EXTENSION FOR FRESNO CNTY., CENTRAL VALLEY MALNUTRITION IN THE 21ST CENTURY (2008).

25. CAL. DEP’T OF PESTICIDE REGULATION, PESTICIDE-RELATED ILLNESS SURVEILLANCE PROGRAM, EXPOSURE BY TYPE OF ACTIVITY (2006); CAL. DEP’T OF PESTICIDE REGULATION, PESTICIDE-RELATED ILLNESS SURVEILLANCE PROGRAM, AGRICULTURAL DRIFT CASES REPORTED BY CALIFORNIA PHYSICIANS (2006); *see also California’s Central Valley: The Problem with Pesticides*, NAT’L PUB. RADIO (Nov. 11–14, 2002), http://www.npr.org/programs/atc/features/2002/nov/central_valley [hereinafter *The Problem with Pesticides*].

26. Julia Scott, *State’s Nitrates Problem Grows Unchecked*, S.F. CHRON., May 17, 2010, at A1. For an explanation of nitrate poisoning and its implications in the rural context, please see JANICE WOODARD ET AL., VA. COOP. EXTENSION, PUB. NO. 356-484, NITRATES IN HOUSEHOLD WATER (2009), available at http://pubs.ext.vt.edu/356/356-484/356-484_pdf.pdf; Ctrs. for Disease Control & Prevention, *Methemoglobinemia Attributable to Nitrite Contamination of Potable Water Through Boiler Fluid Additives*, 46 MORBIDITY & MORTALITY WKLY. REP. 202 (1997), available at <ftp://ftp.cdc.gov/pub/Publications/mmwr/wk/mm4609.pdf>; *Nitrate and Drinking Water from Private Wells*, CTRS. FOR DISEASE CONTROL & PREVENTION, <http://www.cdc.gov/healthywater/drinking/private/wells/disease/nitrate.html> (last visited Oct. 25, 2011).

27. TADLOCK COWAN, CONG. RESEARCH SERV., RL 33184, CALIFORNIA’S SAN JOAQUIN VALLEY: A REGION IN TRANSITION 2, 50, 53, 56–59, 72–73, 79–82 (2005), available at <http://www.nationalaglawcenter.org/assets/crs/RL33184.pdf>; *Local Area Unemployment Statistics*, BUREAU OF LABOR STATISTICS, <http://data.bls.gov/cgi-bin/dsrv?la> (last visited Oct. 25, 2011) (select “California”; then select the appropriate “Areatype” (“Statewide” or “Metropolitan Areas”); then select the appropriate “Area” (e.g., “MT061254 Bakersfield-Delano, CA Metropolitan Statistical Area”); then select all four “Measures”; then select “Not Seasonally Adjusted”; then click “Next Form”).

28. *Small Area Income and Poverty Estimates: Estimates for California Counties, 2009*, U.S. CENSUS, <http://www.census.gov/did/www/saipc/county.html> (last visited Oct. 26, 2011) (select “2009” and “California” then “Continue;” select the relevant counties, check all variables and click “Display Data”). It is important to note that this rate can vary seasonally to 40–60 percent unemployment in especially small, unincorporated Valley communities. *Id.*

29. *Local Area Unemployment Statistics*, *supra* note 27. The Valley data was calculated from county data, using a weighted average to account for population differences.

30. Matthew Bloch et al., *Food Stamp Usage Across the Country*, N.Y. TIMES (Nov. 11, 2009), <http://www.nytimes.com/interactive/2009/11/28/us/20091128-foodstamps.html>.

These figures only capture a fraction of the impact of underinvestment and exclusion within unincorporated Valley communities. While farm development has received some of the highest state and federal subsidies in the country, these benefits often do not transfer to many Valley residents.³¹ In particular, unincorporated communities lack basic infrastructure, including paved roads, streetlights, sewage, and emergency services.³² These same communities endure the highest environmental health risks in the state, including the highest rates of water contamination exposure.³³ Nevertheless, unincorporated communities receive very little funding to address the structural deficits that exacerbate poverty in their neighborhoods.³⁴

Despite this stark landscape, the Valley's poverty and environmental health concerns are typical of other rural regions in the United States. Throughout the nation, hundreds of unincorporated communities lack access to clean drinking water.³⁵ Moreover, many of these communities experience "extreme" poverty that is similar to the Valley.³⁶ The Valley, then, provides the geographic scale required to evaluate the systemic and structural challenges to accessing clean drinking water.

In informal interviews, Valley residents cited water as the primary issue threatening their security and survival.³⁷ Due to the heightened cost of attaining

31. *California Water Subsidies: Large Agribusiness Operations—Not Small Family Farms—Are Reaping a Windfall from Taxpayer-Subsidized Cheap Water*, ENVTL. WORKING GROUP, <http://archive.ewg.org/reports/Watersubsidies> (last visited Oct. 25, 2011); U.S. GEN. ACCOUNTING OFFICE, GAO/RCED-94-8, WATER SUBSIDIES: IMPACT OF HIGHER IRRIGATION RATES ON CENTRAL VALLEY PROJECT FARMERS (1994). For a case study of water subsidies in the context of a single California water district, see Lloyd G. Carter, *Reaping Riches in a Wretched Region: Subsidized Industrial Farming and Its Link to Perpetual Poverty*, 3 GOLDEN GATE U. ENVTL. L.J. 5 (2009), and Mary Louise Frampton, *The Enforcement of Federal Reclamation Law in the Westlands Water District: A Broken Promise*, 13 U.C. DAVIS L. REV. 89 (1979–1980).

32. Michelle Wilde Anderson, *Cities Inside Out: Race, Poverty and Exclusion at the Urban Fringe*, 55 UCLA L. REV. 1095, 1106–12 (2008) [hereinafter Anderson, *Cities Inside Out*].

33. ENVTL. JUSTICE COAL. FOR WATER, THIRSTY FOR JUSTICE: A PEOPLE'S BLUEPRINT FOR CALIFORNIA WATER 57–58 (2005), available at [http://www.ejcw.org/Thirsty for Justice.pdf](http://www.ejcw.org/Thirsty%20for%20Justice.pdf).

34. Cowan, *supra* note 27, at 134–38.

35. Anderson, *Cities Inside Out*, *supra* note 32, at 1106–12.

36. *Rural Income, Poverty, and Welfare: Poverty Geography*, ECON. RESEARCH SERV. (ERS), <http://www.ers.usda.gov/Briefing/incomepovertywelfare/povertygeography.htm> (last updated Sept. 17, 2011) (containing graphic titled, "Persistent-Poverty Counties, 2000"). ERS's map illustrates the geographic distribution of high-poverty rural counties. The Central Valley does not appear as a "non-metro" or rural region because California's rural cities are sufficiently populous to demarcate nearly every rural California county as a metropolitan, not rural, county. *Id.*; *Measuring Rurality: Rural-Urban Continuum Codes*, ECON. RESEARCH SERV., <http://www.ers.usda.gov/Briefing/Rurality/ruralurbcon/> (last updated Apr. 28, 2004) (containing graphic titled, "Rural-Urban Continuum Codes, 2003").

37. Ctr. on Race, Poverty & the Env't, *Survey of Client Communities* (2010) (unpublished) (results on file with author). The Center on Race, Poverty & the Environment (CRPE) conducts fairly regular surveys of residents within its service communities to better meet client needs. Its surveys are delivered at three- to five-year intervals through a full canvass of a given client community. Through unstructured and informal conversations with approximately forty community members throughout the Central Valley, when asked to identify the most important issues they worried about on a daily basis,

potable water, the adverse health impacts of contaminated water, and the opportunity costs of investing in water as opposed to human development initiatives, residents expressed frustration and dismay over the impacts of poor water access on their futures—impacts as severe as physical displacement.³⁸ Several residents indicated that they hoped to leave their small landholdings to their children for asset wealth, but they doubted the viability of these landholdings in the absence of water.³⁹

B. Unincorporated Communities as Loci for Structural Inequality

Unincorporated communities are prevalent throughout the United States, and they are particularly concentrated in rural and agricultural communities. In the Valley, there are over 450 unincorporated communities.⁴⁰ Within the “lower Valley” alone, there are 220 designated disadvantaged communities,⁴¹ housing over 500,000 residents.⁴² Throughout the Valley, these unincorporated communities are overwhelmingly composed of communities of color who have been structurally excluded from formal cities.⁴³

Throughout the 1900s, waves of migrants drawn by industrial and agricultural job prospects settled in the Valley.⁴⁴ These waves included Dust Bowl migrants, Black farmers from the Great Migration, Latino farm workers, Pilipino migrants, Japanese former internees, and Hmong and Laotian refugees.⁴⁵ Through a combination of social, political, economic, and legal

residents affirmed CRPE’s findings. Community members always listed access to affordable drinking water among their top three concerns for the future of their communities and families.

38. *Id.*

39. *Id.*; Interview with residents of Allensworth, Cal. (May 26, 2010); Interview with residents of Alpaugh, Cal. (May 25, 2010); Interview with residents of Wasco, Cal. (July 13, 2010).

40. José Padilla, Executive Director, California Rural Legal Assistance, Inc., Address on Legal Services for Rural California Communities, Fresno, Cal. (Mar. 5, 2011). In delivering his remarks on the need for greater legal services for rural communities, Padilla summarized new (and at the time of publication, unpublished) survey research showing that the number of unincorporated communities through California’s Central Valley was much higher than previously estimated.

41. *Community Equity Initiative*, CAL. RURAL LEGAL ASSISTANCE, INC., <http://www.crla.org/node/30> (last visited Oct. 25, 2011) [hereinafter CRLA]; *Unincorporated Communities: The Community Equity Initiative*, POLICYLINK, http://www.policylink.org/site/c.lkIXLbMNJrE/b.5160111/k.8DA6/Unincorporated_Communities.htm (last visited Oct. 25, 2011) [hereinafter POLICYLINK]. California Rural Legal Assistance defines designated “disadvantaged communities” as communities within the San Joaquin Valley (or lower Central Valley) that lack potable drinking water, sewer systems, safe housing, public transportation, access to healthy food, sidewalks, streetlights, and parks. CRLA, *supra*.

42. CRLA, *supra* note 41; POLICYLINK, *supra* note 41.

43. Michelle Wilde Anderson, *Mapped Out of Local Democracy*, 62 STAN. L. REV. 931, 107–08 (2010) [hereinafter Anderson, *Mapped Out of Local Democracy*]; see also Table 2, *infra* Section I.B.

44. Phoebe Seaton & Ilene J. Jacobs, *Advocating for Equity in California’s Rural Communities*, RURAL VOICES, Winter 2009–2010, at 15–16; see generally MARK ARAX, WEST OF THE WEST (2009) (narrating the present lives and historic experiences of different Central Valley communities).

45. ARAX, *supra* note 44, at 70, 314; JAMES N. GREGORY, AMERICAN EXODUS: THE DUST BOWL MIGRATION AND OKIE CULTURE IN CALIFORNIA (1989); JAMES N. GREGORY, THE SOUTHERN

factors, these communities were excluded from living within formal cities.⁴⁶ Instead, they were relegated to settlement on the outskirts of Valley cities. As a result, extremely resilient and resource-poor communities formed throughout the Valley.⁴⁷

The exclusion of communities of color and low-income white communities from the Valley's cities was not incidental—it was often an intentional policy choice, reinforced through de jure and de facto race- and class-based segregation.⁴⁸ This pattern of segregation resulted in the creation of unincorporated communities throughout the Valley, many of which are overwhelmingly composed of communities of color. Because many of these unincorporated communities often provide a home to workers, they can often be found either adjacent to cities or adjacent to job opportunities.⁴⁹

Paradoxically, however, several Valley counties have viewed unincorporated communities as a drain on county services. Through intentional practices of withholding essential infrastructure services, including water and sewer services, Valley counties sought to “starve out” unincorporated communities of color through policies of withholding public support.⁵⁰

DIASPORA: HOW THE GREAT MIGRATIONS OF BLACK AND WHITE SOUTHERNERS TRANSFORMED AMERICA 26–31 (2005); GERALD HASLAM, *THE OTHER CALIFORNIA: THE GREAT CENTRAL VALLEY IN LIFE AND LETTERS* 13, 120 (1994); STEPHEN JOHNSON ET AL., *THE GREAT CENTRAL VALLEY: CALIFORNIA'S HEARTLAND* 204 (1993); CRAIG SCHARLIN & LILIA V. VILLANUEVA, PHILIP VERA CRUZ: A PERSONAL HISTORY OF FILIPINO IMMIGRANTS AND THE FARMWORKERS MOVEMENT (2000); Dorothy Fujita Rony, *Rereading Philip Vera Cruz*, 3 J. ASIAN AM. STUD. 139 (2000); Melissa Tav, *Far Removed from Their Homeland, Many Hmong Learn to Thrive in California's Central Valley*, COLLEGIAN (Oct. 12, 2007), <http://collegian.csufresno.edu/2007/10/12/far-removed-from-their-homeland-many-hmong-learn-to-thrive-in-california's-central-valley>; *UFW History: The Rise of the UFW*, UNITED FARM WORKERS, http://www.ufw.org/_page.php?menu=research&inc=history/03.html (last visited Oct. 25, 2011).

46. Seaton & Jacobs, *supra* note 44, at 15.

47. Victor Rubin et al., *Unincorporated Communities in the San Joaquin Valley: New Responses to Poverty, Inequity, and a System of Unresponsive Governance 2* (2007) (unpublished manuscript) (on file with author).

48. Anderson, *Cities Inside Out*, *supra* note 32, at 1101. Anderson has tracked the characteristics and existence of unincorporated communities as well as provided a theoretical framework for understanding patterns of underinvestment and exclusion of unincorporated communities. See generally Anderson, *Mapped Out of Local Democracy*, *supra* note 43 (developing a theoretical framework for evaluating and understanding racially exclusive urban annexation patterns across the nation and the potential role for county governments in remediating the legacy of racially exclusive disparate impacts for unincorporated low-income communities and communities of color).

49. Anderson, *Cities Inside Out*, *supra* note 32, at 1096–97 (discussing the Valley community of Bret Harte).

50. TULARE CNTY. PLANNING DEP'T, TULARE COUNTY GENERAL PLAN (1971); Rubin et al., *supra* note 47, at 2, 16, 18–19.

Table 2: Racial Demographics for Nine Unincorporated Communities⁵¹

Community	Race and Hispanic/Latino Identity					
	API	Black	Native	Multiracial	White	Latino
Allensworth ⁵²	1.7%	4.7%	0.0%	0.8%	7.3%	92.5%
Biola ⁵³	19.6%	0.4%	2.6%	3.3%	3.7%	73.7%
Bret Harte	1.6%	1.0%	1.0%	2.5%	34.4%	82.9%
Fairmead	0.5%	6.1%	1.6%	4.7%	30.0%	68.0%
Kennedy	8.0%	6.1%	0.7%	4.4%	9.3%	77.2%
Kettleman City	0.1%	0.3%	0.6%	4.2%	2.7%	96.1%
South Dos Palos	2.2%	8.3%	0.6%	3.5%	39.3%	77.9%
Tooleville	2.4%	1.5%	6.2%	3.5%	31.0%	82.3%
Weedpatch ⁵⁴	0.5%	0.0%	2.9%	4.1%	5.6%	93.5%

For example, Tulare County, one of the poorest counties in the lower Valley, identified strategies for removal through underinvestment in its 1971 General Plan:

51. *Race, Hispanic or Latino, Age, and Housing Occupancy: 2010, 2010 Census Redistricting Data (Public Law 94-171) Summary File*, U.S. CENSUS BUREAU, <http://factfinder2.census.gov> (last visited Oct. 25, 2011) (search by entering “QT-PL” in the “Topic or Table Name” box and the name of the community in the “Geography” box). Because Hispanic/Latino identity is categorized as ethnicity in the census, population figures sometimes overlap with racial subgroups (including “Asian & Pacific Islander,” “Black,” and “Multiracial”). Within this table, the column “White” refers to non-Hispanic/Latino whites. The communities drawn in this sample represent the “average” unincorporated community within each Valley county south of the Sacramento River. Information for all unincorporated communities within each Valley county was aggregated and evaluated to determine “typical” population and poverty trends within a given county. After selecting the most representative sample community, I report information on these communities to illustrate racial demographics across Valley counties. Data for unincorporated regions north of the Sacramento River was less robust and not evenly available across all unincorporated communities.

52. Allensworth is the first African American city established west of the Mississippi. A destination for African Americans leaving Jim Crow regimes in the South, Allensworth has remained a significant city for the West’s African American population. ALICE C. ROYAL ET AL., ALLENSWORTH, THE FREEDOM COLONY: A CALIFORNIA AFRICAN AMERICAN TOWNSHIP (2008).

53. Biola, a census-designated place (CDP) outside of Fresno, is named for the Bible Institute of Los Angeles. DAVID L. DURHAM, CALIFORNIA’S GEOGRAPHIC NAMES 1003 (1998). While the Bible Institute is no longer headquartered in the community of Biola, its legacy continues through Biola University, a private Christian university. *See History & Heritage*, BIOLA UNIV., <http://www.biola.edu/about/history> (last visited Oct. 25, 2011).

54. The Weedpatch labor camp was established during the Great Depression to house Dust Bowl migrants. In *THE GRAPES OF WRATH*, John Steinbeck tells the story of the Joad family, a group of Oklahoma refugees who have moved to California in search of jobs. The Joads spend a significant amount of time in Weedpatch, which remains today as an unincorporated community located southwest of the Central Valley city of Bakersfield in Kern County. JOHN STEINBECK, *THE GRAPES OF WRATH* 254, 361 (Penguin 2002) (1939). For additional information on the Weedpatch camp, see WEEDPATCH CAMP, <http://weedpatchcamp.com> (last visited Oct. 25, 2011) (maintained by the Kern County Housing Authority); Hirotsugu Inoue, *The Weedpatch Camp as a Symbol of American Democracy*, in JOHN STEINBECK—ASIAN PERSPECTIVES: SELECTED PAPERS FROM THE THIRD INTERNATIONAL STEINBECK CONGRESS 215 (Kiyoshi Nakayama et al. eds., 1990); WOODY GUTHRIE, *Do Re Mi*, on DUST BOWL BALLADS (RCA Victor Records 1940).

Public commitments to communities with little or no authentic future should be carefully examined before final action is initiated. These non-viable communities would, as a consequence of withholding major public facilities such as sewer and water systems, enter a process of long term, natural decline as residents depart for improved opportunities in nearby communities.⁵⁵

The plan identified fifteen “non-viable” communities, all of which housed primarily minority populations.⁵⁶ The policy positions outlined in the plan also failed to address how to incorporate these communities into city populations to avoid displacement.⁵⁷ Many of these communities had been relegated to the least attractive and least fertile regions in the Valley when they arrived.⁵⁸ Now, after years of neglect, uncertainty regarding the availability of regular water or other essential services has depressed home values,⁵⁹ making it nearly impossible for individuals within unincorporated communities to relocate within their own counties. For example, despite forty years of withholding infrastructure benefits, thirteen of the original fifteen “non-viable” communities remain.⁶⁰ The continuing existence of these unincorporated communities suggests that efforts to withhold development do not encourage consolidation, annexation, or relocation from unincorporated communities to cities. Instead, the policy of withholding investment from these communities deepens infrastructure inequality and ultimately maintains bleak levels of poverty.

In part because of decades of structural neglect and non-investment, these communities experience overwhelming infrastructure deficits. Among those deficits, lack of access to water and sanitation drives instability and lack of certainty in long-term viability.

55. TULARE CNTY. PLANNING DEP'T, *supra* note 50, at § 2.D.3.

56. Census data for these communities is difficult to gather prior to 1990. Nevertheless, examples of such “non-viable” communities included Allensworth, the first African American community created west of the Mississippi. ROYAL ET AL., *supra* note 52. Established to escape racism in the South and within Valley cities, Allensworth’s history is similar to the history of other unincorporated communities throughout Tulare. *Id.* It is difficult to understand what marked Allensworth, which thrived modestly but independently until the 1980s, for elimination beyond animus towards these economically disadvantaged communities of color.

57. TULARE CNTY. PLANNING DEP'T, *supra* note 50, at § 2.D.3.

58. Anderson, *Cities Inside Out*, *supra* note 32, at 1097; Anderson, *Mapped Out of Local Democracy*, *supra* note 43, at 935–41.

59. For example, the median price for a home in Bret Harte, an unincorporated community located by the Valley city of Modesto, is less than half the price for a home in Modesto proper. *Compare Bret Harte CDP, California*, U.S. CENSUS, <http://factfinder.census.gov/home/saff/main.html> (last visited Oct. 27, 2011) (median value, owner-occupied homes: \$144,700), *with City of Modesto, California*, U.S. CENSUS, <http://factfinder.census.gov/home/saff/main.html> (last visited Oct. 27, 2011) (same: \$314,500) (search by entering town and state into the “Fast Access to Information” search box). Because the complete 2010 census has not yet been released for several rural CDPs, this comparison uses the Census Bureau’s 2005–2009 American Community Survey data.

60. *Forgotten Voices*, CTR. ON RACE, POVERTY & THE ENV'T, http://www.crpe-ej.org/crpe/index.php?option=com_content&view=article&id=105&Itemid=103 (last visited Oct. 25, 2011).

C. Lack of Access to Water as Social Inequality

Because of water's central role in human settlement and development, water inequality often compounds poverty and social inequality. Lack of water, or lack of access to water, undermines human stability in at least three ways. First, lack of access to water disrupts individuals' reasonable expectations of their ability to survive, and thrive, where they live. Second, lack of access to water undermines human health and development. Finally, investments required to bridge water access gaps displace resources that could be directed to other economic development initiatives.

At the individual and family levels, water plays a crucial role in enabling positive social and human development outcomes. Access to water helps prevent exposure to life-threatening diseases and improves public health.⁶¹ Significantly, water has played a historic and continuing role in managing public health quality.⁶² At the most basic level, proper water sanitation minimizes the risk of exposure to water-borne diseases, but it also minimizes the risk of concomitant diseases and their communicability.⁶³ Access to clean water increases life expectancy and quality of life outcomes (as measured in DALYs), and it decreases total health expenditures on medical treatment and care.⁶⁴ As a result, improved personal health has been shown to have significant positive effects on school attendance, educational achievement, and long-term earning potential.⁶⁵ These primary and secondary human development effects play a significant role in determining Valley residents' ability to develop wealth through their own personal human capital.

Moreover, because water serves an essential role in human survival, health, and safety, individuals will invest in procuring water regardless of its proximity, affordability, or availability. These investments displace other essential development goals, including investments in community welfare and education. By investing in access to water, then, counties and local water districts could absorb the burden of water provision and allow communities to pursue their own development goals. Such public investments could allow communities to build asset wealth, attain food security, and redirect costs and hours spent procuring safe water toward other beneficial activities.

61. UNDP, *supra* note 17, at 27 ("Whether viewed from the perspective of human rights, social justice or economic common sense, the damage inflicted by deprivation in water and sanitation is indefensible. Overcoming that deprivation is not just a moral imperative and the right thing to do. It is also the sensible thing to do because the waste of human potential associated with unsafe water and poor sanitation ultimately hurts everybody.")

62. *Id.* at 68–72; *Healthy Water*, CTRS. FOR DISEASE CONTROL & PREVENTION, <http://www.cdc.gov/healthywater> (last visited Oct. 25, 2011).

63. *Id.*; WHO & U.N. WATER, UN-WATER GLOBAL ANNUAL ASSESSMENT OF SANITATION AND DRINKING WATER I (2010).

64. UNDP, *supra* note 17, at 27.

65. *Health & Academics*, CTRS. FOR DISEASE CONTROL & PREVENTION, http://www.cdc.gov/HealthyYouth/health_and_academics (last visited Oct. 25, 2011).

Further, long-term investments in property depend upon steady access to affordable, safe residential water.⁶⁶ The reliability of water availability, in turn, increases home and land values and stabilizes long-term settlement patterns.⁶⁷ The relationship between water, land valuation, and permanence suggests that lack of access to affordable, safe water severely undermines attempts to build intergenerational property wealth. Instead of seeing returns on investments made to improve residential property, water insecurity either eliminates these benefits or results in depreciation over the lifetime of a single homeowner. Unreliable or inadequate water access, then, plays a major role in undermining asset wealth in the short- and long-term.

Beyond individual property holdings and health, water also plays an essential role in regional economic and land development. In addition to ensuring a healthy workforce, water enables settlement and the creation of new projects and programs. In the lower Central Valley, unincorporated communities have clamored for water access to foster community-wide improvements, such as building community gardens to address systemic hunger.⁶⁸ Water is essential for building housing, establishing community centers, and creating jobs and new enterprises. Therefore, lack of access to water detrimentally circumscribes the boundaries of economic development for unincorporated communities by limiting the size of these communities and by limiting residents' ability to invest in local business enterprises or lot improvements.

Finally, the cost of securing water displaces other potential investment opportunities, including investments in education, local improvement, and business.⁶⁹ For communities that bear disproportionate costs to obtain water, the time and funding required to acquire residential water for survival purposes limits the ability to put money and time toward other, perhaps more lucrative, uses. Residents of rural, unincorporated communities often struggle to cover

66. UNDP, *supra* note 17, at 77; HESPERIAN FOUND., WATER FOR LIFE: COMMUNITY WATER SECURITY 4 (2005). Note, however, that "water security" can also be used to refer to homeland security initiatives. See *Water Security*, U.S. ENVTL. PROTECTION AGENCY, <http://water.epa.gov/infrastructure/watersecurity> (last visited Feb. 12, 2011).

67. Raymond B. Palmquist & V. Kerry Smith, *The Use of Hedonic Property Value Techniques for Policy and Litigation*, in THE INTERNATIONAL YEARBOOK OF ENVIRONMENTAL RESOURCE ECONOMICS 2002/2003, at 115 (Thomas H. Tietenberg & Henk Folmer eds., 2003); François Des Rosiers et al., *Environment and Value: Does Drinking Water Quality Affect House Prices?*, 17 J. PROP. INV. & FIN. 444, 450–58 (1999). For general literature on water quality (but not drinking water access) and home values, see generally DAVID RICARDO, ON THE PRINCIPLES OF POLITICAL ECONOMY & TAXATION (1817); Melissa A. Boyle & Katherine A. Kiel, *A Survey of House Price Hedonic Studies of the Impact of Environmental Externalities*, 9 J. REAL EST. LITERATURE 117, 123–26 (2009); J.H. Dales, *Land, Water, and Ownership*, 1 CAN. J. ECON. 791 (1968); Margaret Palmer et al., *Ecology for a Crowded Planet*, 304 SCI. 1251 (2004).

68. Interview with residents of Allensworth, *supra* note 39; Interview with residents of Alpaugh, *supra* note 39; Interview with residents of Wasco, *supra* note 39.

69. UNDP, *supra* note 17, at 27, 78 ("There is . . . an inverse relationship between price and ability to pay: millions of the world's poorest people pay some of the world's highest prices for water, to the detriment of their productive potential and well-being.").

the basic costs of food and water access, let alone longer-term investments or educational opportunities.⁷⁰ This hand-to-mouth existence raises the costs of building intergenerational wealth, investing in long-term savings, and pursuing certain educational and employment opportunities. Higher water costs, then, add to other structural burdens, limiting rural residents' freedom to pursue other investment opportunities.

D. The Water Quality, Infrastructure, and Access Nexus

Water infrastructure deficits play a significant role in undermining both water quality and access to water. Ailing and outdated water treatment systems often fail to ensure that drinking water meets the quality standards outlined in federal and state safe drinking water provisions.⁷¹ As old pipes, wells, and pumps degrade, the risk of water contamination, including heavy metal contamination, rises.⁷² Self-help infrastructure—such as water catchment containers or wells—risk exposure to contaminated rain and groundwater.⁷³ The cost of monitoring devices can vary widely, and water treatment options, such as chlorine tablets, are often insufficient for purifying water within regularly-used public water systems.⁷⁴ As water systems fail to meet quality standards, states are left with two options: the State can impose tariffs and fees on noncompliant systems, or it can shut them down.

As a result, failing water infrastructure and poor water quality have direct impacts on access to potable water. Water infrastructure is inherently expensive, but it is even more so in rural contexts where sprawling geographies and low population density undermine effective water delivery. Small water systems⁷⁵ can rarely afford the financing required for infrastructure

70. See Bloch et al., *supra* note 30 (showing that U.S. counties with the highest percentage of residents on food stamps were rural counties with low populations); PUB. POLICY INST. CAL., *POVERTY IN CALIFORNIA* (2009).

71. U.S. ENVTL. PROTECTION AGENCY, *AGING WATER INFRASTRUCTURE RESEARCH PROGRAM: ADDRESSING THE CHALLENGE THROUGH INNOVATION 1* (2007); Hamida Kinge, *What's on Tap: America's Failing Water Infrastructure*, NEXT AM. CITY, Fall 2009, at 33–35.

72. U.S. ENVTL. PROTECTION AGENCY, *supra* note 71, at 1; Kinge, *supra* note 71, at 33.

73. U.S. ENVTL. PROTECTION AGENCY, *supra* note 71, at 1.

74. Fourth Amended Complaint at 4–5, 11, 12, *Kennedy v. City of Zanesville*, 505 F. Supp. 2d 456 (S.D. Ohio 2008) (No. 2:03-CV-1047), 2005 WL 6165393 (describing the costs of installation and maintenance of drinking water infrastructure, the costs of water treatment, and the costs of procuring bottled water as a replacement for unsafe tap water); Reed N. Colfax, *Kennedy v. City of Zanesville: Making the Case for Water*, HUM. RTS., Fall 2009, http://www.americanbar.org/publications/human_rights_magazine_home/irr_hr_fall09_home/irr_hr_fall09_colfax.html; Thomas J. Prohaska, *Water Monitoring Seen as Cost Saver*, BUFFALO NEWS (Sept. 13, 2010), <http://www.buffalonews.com/city/article188856.ece>; *Poor Water Quality and Human Health*, U.S. ENVTL. PROTECTION AGENCY, <http://water.epa.gov/drink/info/well/health.cfm> (last visited Oct. 22, 2011); *Healthy Water*, *supra* note 62.

75. U.S. EPA defines “small public water systems” as systems that serve fewer than 3,300 users. *Small Systems and Capacity Development*, U.S. ENVTL. PROTECTION AGENCY, <http://water.epa.gov/type/drink/pws/smallsystems/basicinformation.cfm> (last visited Oct. 25, 2011).

improvements, nor can their water users afford to fund improvements through increased water rates or bonding. This stalemate imposes an ugly choice on rural unincorporated water users: either residents can report water quality violations and risk eliminating all access to residential water, or they can choose not to report violations and risk exposure to unsafe water.

These equity features, combined with practical limitations, create a double bind for residents of rural unincorporated communities. This disharmony is driven, in part, by a lack of varied remediation options, but it is also driven by California's contradictory approach to ensuring its citizens receive the benefits of the state's water scheme.

II.

THE GAP BETWEEN WATER ON THE BOOKS AND WATER ON THE GROUND

Water has been a crucial feature of California's development since its admission to the Union. Early battles over water led to a populist movement that provided the State with regulatory authority to manage and allocate water resources for the greater benefit of the public. This governing authority is echoed in the state constitution and in its statutory framework. This Part reviews California's statutory commitments regarding water distribution and compares its stated policy goals to the realities of water use and access for rural unincorporated residents.

A. The Statutory and Regulatory Scope of Water Protection

The California legislature assigned the authority to regulate and allocate surface water rights to the California Water Commission in 1914, and, in 1928, California voters adopted Article X Section 2 into the California Constitution, requiring all water uses in the state be "reasonable and beneficial."⁷⁶ California had adjudicated water rights since the Gold Rush, but disagreements on water allocation, particularly between riparian farmers and proposed dam builders, prompted the 1928 initiative.⁷⁷ After adopting constitutional water protections, the State commissioned water boards to implement water policy around infrastructure, water quality, water rights allocation, and water management.⁷⁸

To effectuate the State's regulatory priorities and values, the California Constitution provides that

the general welfare requires that the water resources of the State be put to beneficial use to the fullest extent of which they are capable, and that the waste or unreasonable use or unreasonable method of use of water be prevented, and that the conservation of such waters is to be

76. *Joslin v. Marin Mun. Water Dist.*, 429 P.2d 889, 893 (Cal. 1967).

77. *Id.*

78. *Id.*

exercised with a view to the reasonable and beneficial use thereof in the interest of the people and for the public welfare.⁷⁹

With this constitutional provision, the State established a water code that created an elaborate and often contradictory system of state agencies and local water districts to effectuate its goals of applying water to the “most beneficial uses.”⁸⁰ This utilitarian rhetoric justified and drove both the state and federal government’s heavy investment in water infrastructure projects.⁸¹ These projects include an elaborate system of diversions, dams, canals, and storage basins to irrigate the Central Valley and arid southern California.⁸²

While the contours of “beneficial” and “reasonable” uses have varied over time,⁸³ California courts have consistently held that domestic water use falls within the range of beneficial uses and has the highest priority among water uses.⁸⁴ Their discussions of domestic water use often focus on municipal water (for city residents) or on general household uses of water, including the use of water for watering lawns or bathing. Further, the courts have interpreted protection of the state’s “water resources” to include groundwater wells and pumps,⁸⁵ which historically have been viewed as private water systems beyond the reach of government regulation.⁸⁶ Under contemporary water jurisprudence,

79. CAL. CONST. art. 10, § 2.

80. *Id.*

81. For background on California water politics and the development of its massive water projects, see generally DAVID CARLE, INTRODUCTION TO WATER IN CALIFORNIA (2004) (providing a primer to California water issues); ROBERT DE ROOS, THE THIRSTY LAND: THE STORY OF THE CENTRAL VALLEY PROJECT (1948) (explaining the complex system of water infrastructure referred to as the federal Central Valley Project); SHERIDAN DOWNEY, THEY WOULD RULE THE VALLEY (1947) (discussing the federal government’s water infrastructure projects in California); ENVTL. JUSTICE COAL. FOR WATER, *supra* note 33 (detailing the lack of access to drinking water across California’s low-income communities and suggesting methods of improving water equity); HUNDLEY, *supra* note 16 (a comprehensive history of California water); MARC REISNER, CADILLAC DESERT: THE AMERICAN WEST AND ITS DISAPPEARING WATER (1993) (reviewing the ways in which massive water projects fueled the growth of Los Angeles); George Skelton, *Water Still Divides the State*, L.A. TIMES, Nov. 16, 2009, at A2 (discussing persistent disagreements between the State’s northern cities, central farms, and southern cities over water allocation); see also *Arizona v. California*, 292 U.S. 341 (1934), 298 U.S. 558 (1936), 373 U.S. 546 (1963), 376 U.S. 340 (1964), 383 U.S. 268 (1968), 439 U.S. 419 (1979), 460 U.S. 605 (1983), 466 U.S. 144 (1984), and 531 U.S. 1 (2000) (detailing the continuing and epic battle between the States of California and Arizona over the water resources and management of the Colorado River Basin).

82. HUNDLEY, *supra* note 16, at 123–71 (Los Angeles), 234–75 (Central Valley Project); see generally DE ROOS, *supra* note 81.

83. See *Dugan v. Rank*, 372 U.S. 609 (1963); *Greeson v. Imperial Irrigation Dist.*, 59 F.2d 529 (9th Cir. 1931); *City of Barstow v. Mojave Water Agency*, 5 P.3d 853 (Cal. 2000); *Rancho Santa Margarita v. Vail*, 81 P.2d 533 (Cal. 1938); *Williams v. Costa*, 198 P. 1017 (Cal. Ct. App. 3d 1921).

84. *Rank v. Krug*, 142 F. Supp. 1, 114–15, 184 (S.D. Cal. 1956), *aff’d and rev’d in part on other grounds sub nom. Dugan v. Rank*, 372 U.S. 609 (1963); *Cent. & W. Basin Water Replenishment Dist. v. S. Cal. Water Co.*, 135 Cal. Rptr. 2d 486, 502–03 (Ct. App. 2d 2003).

85. *City of Barstow*, 5 P.3d 853; *Baldwin v. County of Tehama*, 36 Cal. Rptr. 2d 886 (Ct. App. 3d 1994); *State v. Super. Ct. of Riverside County*, 93 Cal. Rptr. 2d 276 (Ct. App. 4th 2000); *Central & W. Basin Water Replenishment Dist.*, 135 Cal. Rptr. 2d 486 (Ct. App. 2d 2003).

86. See Clean Water Act, 33 U.S.C. § 1251 (2006) (restricting federal regulation to navigable,

California courts have also held that beneficial uses include water conservation and ecosystem protection.⁸⁷

As part of a nationwide effort to protect and distinguish the crucial importance of drinking water from other water uses, the federal government passed the U.S. Safe Drinking Water Act in 1974.⁸⁸ California voters passed a more expansive analogue, the Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65), to address a variety of environmental health concerns, including drinking water contamination.⁸⁹ A decade later, the California Legislature adopted the California Safe Drinking Water Act (SDWA) to develop public health goals regarding water quality standards for drinking water.⁹⁰

Yet throughout California's water legislation and case law, there is no mention of the significance of drinking water for rural users, and there is surprisingly little focus on drinking water, generally.⁹¹ To a certain extent, California courts have subsumed drinking water within the larger idea of municipal domestic water use. However, courts' evaluation of domestic water uses takes for granted the amenities of city life, assuming that municipal water treatment and sanitation plants and piped water are available to all domestic water users in the state. Unfortunately, these characterizations fail to account for the inherent differences between rural drinking water and municipal drinking water. As a result, current jurisprudence is unable to fully address domestic water needs for unincorporated rural communities because it relies on a model of domestic water delivery that is largely meaningless to rural water users. Despite the necessity of ensuring access to drinking water for preserving human life and health, rural water is almost wholly overlooked in state case law. Even cases that focus on municipal water make little distinction between residential water use for non-survival purposes, such as recreation, and essential uses, such as drinking and cooking.⁹²

and thus primarily surface, waters of the United States).

87. HUNDLEY, *supra* note 16, at 303–08; *see also* Nat'l Audubon Soc'y v. Superior Court (*Mono Lake* case), 658 P.2d 709, 728 (Cal. 1983) (holding that “[t]he state has an affirmative duty to take the public trust into account in the planning and allocation of water resources, and to protect public trust uses whenever feasible,” including reversing usufructuary allocations that undermine ecosystem stability and conservation).

88. 42 U.S.C. § 300f (2006).

89. CAL. HEALTH & SAFETY CODE § 25249.5–.13 (Deering 2011).

90. *Id.* § 116270.

91. A notable exception to this trend is CRLA's recent court victory requiring the implementation of California's right to safe, clean drinking water. *Newton-Enloe v. Horton*, 193 Cal. App. 4th 1480 (2011). CRLA successfully argued that the State Department of Public Health was required to create a safe drinking water implementation plan for communities in which water quality failed to meet minimum standards for human consumption and residential use. *Id.*; *Asociación de Gente Unida por el Agua (AGUA) v. Horton*, Case No. 09CEG03979, Stipulated Settlement Agreement & Proposed Order (Fresno County Super. Ct., Nov. 8, 2011).

92. Rank v. Krug, 142 F. Supp. 1 (S.D. Cal. 1956), *aff'd and rev'd in part on other grounds sub nom.* Dugan v. Rank, 372 U.S. 609 (1963); Cent. & W. Basin Water Replenishment Dist. v. S. Cal. Water Co., 135 Cal. Rptr. 2d 486 (Ct. App. 2d 2003).

In the rural context, cases addressing water allocation overwhelmingly focus on agricultural irrigation districts.⁹³ Through a series of state and federal programs, California has subsidized and prioritized the provision of water for agricultural irrigation, but it has not yet intervened in agricultural contamination of rural drinking water sources, particularly when those sources draw upon groundwater. The result is a rural water approach that focuses almost exclusively on irrigation while missing the importance of ensuring clean drinking water for rural, non-city residents.

Further, despite adopting drinking water quality standards, most of California's compliance efforts have been directed toward pre-existing water districts. That is, California counties and cities rarely monitor private water sources—such as wells and pumps—or non-municipal water sources created after 1974.⁹⁴ While the SDWA includes fairly broad definitions of “public water system”⁹⁵ and “source[s] of drinking water”⁹⁶ to capture informal water provision networks, very small water systems are often unmarked and untested.⁹⁷

Regardless of this monitoring gap, the State Legislature expanded the breadth of the SDWA in 2006 to declare, “Every citizen of California has the right to pure and safe drinking water.”⁹⁸ This right, enshrined in the California Health and Safety Code, outlines comprehensive monitoring and information-gathering responsibilities for the State Department of Public Health (DPH).⁹⁹

93. *Greeson v. Imperial Irrigation Dist.*, 59 F.2d 529 (9th Cir. 1931); *Herminghaus v. So. Cal. Edison Co.*, 252 P. 607 (Cal. 1926); *Turner v. James Canal Co.*, 99 P. 520 (Cal. 1909); *Lux v. Haggin*, 10 P. 674 (Cal. 1886).

94. According to the California Department of Public Health, “[p]rivate domestic wells are not regulated by” the State’s Drinking Water Program. Instead, well-users are responsible for their own monitoring and compliance. *Drinking Water Program*, CAL. DEP’T OF PUB. HEALTH, <http://www.cdph.ca.gov/programs/pages/dwp.aspx> (last visited Oct. 25, 2011).

95. CAL. HEALTH & SAFETY CODE § 116275(h) (“‘Public water system’ means a system for the provision of water for human consumption through pipes or other constructed conveyances that has 15 or more service connections or regularly serves at least 25 individuals daily at least 60 days out of the year.”).

96. CAL. HEALTH & SAFETY CODE § 25249.11(d) (“‘Source of drinking water’ means either a present source of drinking water or water which is identified or designated in a water quality control plan adopted by a regional board as being suitable for domestic or municipal uses.”).

97. The U.S. EPA defines public water systems (PWSs) as those systems which have at least fifteen connections or that serve at least twenty-five individuals. Definition of a Public Water System in SDWA Section 1401(4) as amended by the 1996 SDWA Amendments, 63 Fed. Reg. 41,940 (Aug. 5, 1998). Conversely, rural wells are often household-specific, or they may serve a small cluster of households. While some wells provide water for an entire unincorporated community and *are* subject to the SDWA, whether wells are tested or whether they qualify as PWSs varies by the size of a community and the reliability of its well water. There are a few exceptions to this monitoring gap; for example, heavy metal contamination or uranium contamination may be governed by the State Department of Toxic Substances Control and may require remediation under the federal EPA’s “Superfund” (CERCLA) and Toxic Substances Control Act provisions.

98. CAL. HEALTH & SAFETY CODE § 116270(a).

99. CAL. HEALTH & SAFETY CODE §§ 116325–116345.

However, the California SDWA offers few enforcement mechanisms,¹⁰⁰ and as a practical matter, the State has not moved to protect or guarantee the right to pure and safe drinking water.¹⁰¹ The gap between rights on the books and rights on the ground is particularly stark in the Valley.

B. The Realities of Rural Drinking Water Quality

The Valley is home to California's most contaminated drinking water sources, and many of the state's most at-risk communities fall off the regulatory monitoring grid.¹⁰² By their unique geographic configuration, rural communities require alternate water infrastructures from the types of infrastructure typically employed in urban municipalities. For the thousands of families living in unincorporated communities in the Valley, the primary water source is not municipal water services, but rather networks of public and private wells.¹⁰³

Further, the cost of accessing water is particularly high as a fraction of total household income.¹⁰⁴ Community organizational surveys show that

100. DPH's only recourse for addressing water contamination that endangers human health is to order remediation, petition that a system be placed in receivership, or shut down violative water systems. CAL. HEALTH & SAFETY CODE §§ 116625, 116650–116675. In a region with very little access to drinking water, shutting down a well, even a well above its maximum contaminant levels, can effectively eliminate all running water for a community. *See also* Rose Francis & Laurel Firestone, *Implementing the Human Right to Water in California's Central Valley: Building a Democratic Voice Through Community Engagement in Water Policy Decision Making*, 47 WILLAMETTE L. REV. 495, 514–15 n.77 (2011) (detailing the water costs and quality challenges facing several unincorporated communities in the Valley's Tulare County).

101. At the time of this draft, California had adopted a series of drinking water provisions that entered into force through Senate Bill 2X1 (2007–08 Session). In addition to integrating drinking water quality into its continually updated state water plan, revisions to California's water management statutes created a fund for community-driven research, but not for infrastructure investment, for unsafe drinking water systems.

102. CAL. DEP'T OF PUB. HEALTH, DRINKING WATER PROGRAM, ANNUAL COMPLIANCE REPORT FOR PUBLIC WATER SYSTEMS 2006 app. A–B [hereinafter 2006 ANNUAL COMPLIANCE REPORT], available at <http://www.cdph.ca.gov/certlic/drinkingwater/Documents/DWdocuments/AnnualComplianceReport2006.pdf>; *see also* *The Problem*, COMMUNITY WATER CENTER, <http://www.communitywatercenter.org> (last visited Oct. 22, 2011). The California Department of Public Health explains in its annual drinking water quality reports that most private wells do not report to the water quality assessment program. The Community Water Center shows that throughout the Central Valley, and in particular in the southern San Joaquin Valley and Tulare County, the vast majority of water users receive their residential water through private, relatively unregulated, wells.

103. Nearly 90 percent of unincorporated communities in the San Joaquin Valley rely on groundwater for their drinking water needs. Francis & Firestone, *supra* note 100, at 498; Laurel Firestone, Executive Director, Community Water Center, Testimony before the California Assembly Committee on Water, Parks, and Wildlife regarding Management of California's Groundwater Resources (Feb. 1, 2011); *see also* Carolina Balazs, *Third World Problems in California?: A Case Study of Drinking Water in Tulare County 3* (May 9, 2005) (unpublished manuscript) (on file with author) (providing a case study of groundwater contamination and reliance in the unincorporated Valley community of Alpaugh).

104. In some households, these costs are as high as 10 percent of monthly income. Phoebe Seaton, Cal. Rural Legal Assistance, Presentation on Central Valley Drinking Water at the

unincorporated, low-income, rural communities of color spend over 10 percent of their annual incomes purchasing residential water, often through a combination of payments to local water districts and purchases of bottled drinking water.¹⁰⁵ This figure is four times larger than U.S. EPA's recommended threshold payment level for affordable water.¹⁰⁶

For example, one resident of Matheny Tract, an unincorporated community adjacent to Tulare City, expressed deep anxiety over whether she could afford sufficient drinking water for her children.¹⁰⁷ As a resident of two water districts, this Matheny resident paid over \$900 per year in water district rates and fees, in addition to hundreds of dollars to procure bottled drinking water.¹⁰⁸ She relied on bottled water for cooking and drinking water because the well in her resident water district had been exposed to ground-injected hazardous waste from a nearby pesticide processing plant.¹⁰⁹

Water contamination in the Central Valley is driven by its industrial agricultural economy. While California did not regulate water contamination from agricultural lands or projects until 2011,¹¹⁰ the legacy of agricultural pollution persists throughout the Valley. Pesticide and fertilizer runoff is the principal source of water contamination in Valley counties,¹¹¹ with industrial manufacturing waste and heavy metals constituting the remainder of water quality pollutants.¹¹² These agro-industrial contaminants include nitrates (NO₃)¹¹³ derived from fertilizer; coliforms, a product of animal waste;¹¹⁴ and

Environmental Justice Symposium, University of California, Berkeley, School of Law (Feb. 2009); *see also* Interview with the citizens of Matheny Tract, Cal., (Oct. 30, 2010). Within Matheny Tract (Tulare City), Fairmead (Chowchilla), Parkview (Modesto), and Alpaugh (Wasco), communities pay as much as \$400 per year for irrigation districts from which they receive no water, on top of \$1,800 per year for residential water. *Id.*; Interview with citizens of Alpaugh, *supra* note 39; Community of Fairmead, *supra* note 1; Interview with citizens of Wasco, *supra* note 39. Given an average individual income of \$9,000 and an annual average household income of \$18,000 of those interviewed, this translates to a cost of over 12 percent of annual income. This is approximately five times the EPA's suggested levels for "affordable water." U.S. ENVTL. PROTECTION AGENCY, RECOMMENDATIONS OF THE NATIONAL DRINKING WATER ADVISORY COUNCIL TO U.S. EPA ON ITS NATIONAL SMALL SYSTEMS AFFORDABILITY CRITERIA 17 (July 2003).

105. Sofia Parino, *Ctr. on Race, Poverty & the Env't*, Presentation on the Tulare County General Plan, Delano, Cal. (May 28, 2010).

106. *Small Drinking Water Systems Variances—Public Water Systems*, U.S. ENVTL. PROTECTION AGENCY, <http://water.epa.gov/infrastructure/drinkingwater/pws/affordability.cfm> (last visited Oct. 25, 2011) (explaining that EPA regulations state that a system is affordable if annual water costs fall within 2.5 percent of local median income).

107. Because this interview was conducted in an informal setting, the identity of the speaker has been withheld to protect her privacy. Interview with residents of Matheny Tract, *supra* note 104.

108. *Id.*

109. *Id.*

110. *The Problem with Pesticides*, *supra* note 25.

111. Brian Cohen & Richard Wiles, *Pouring It On: Nitrate Contamination of Drinking Water*, ENVTL. WORKING GROUP (Feb. 1996), <http://www.ewg.org/reports/nitrate>.

112. 2006 ANNUAL COMPLIANCE REPORT, *supra* note 102.

113. Nitrates constituted over 80 percent of all inorganic Maximum Contamination Level (MCL) violations. *Id.* at app. A.

heavy metals and chemical compounds, such as benzene, selenium, and cadmium.¹¹⁵ The majority of nitrate violations are concentrated in Tulare County, while coliform contamination persists across at least 70 percent of public water systems throughout the Valley.¹¹⁶

As a result of this agricultural industrial economy, water quality in the region is notoriously poor, and the number of water contamination violations has steadily increased since DPH began monitoring rural drinking water systems in 2006.¹¹⁷ In 2006, over 20 percent of the Valley's public water systems tested above the state's Maximum Contamination Level (MCL).¹¹⁸ In 2007, 56 percent of all MCL violations in the state took place in the Valley, while only 18.1 percent of California's population resided in the Valley.¹¹⁹ Further, because these figures do not include most small and well-based water systems, even the State's current measures of drinking water contamination in rural areas are significantly understated.

The health impact of these MCL violations is dramatic. Prolonged exposure to nitrate pollution can result in hormone disruption among adults, often undermining reproductive ability or increasing the likelihood of birth defects and miscarriages.¹²⁰ Among infants and children, nitrates disrupt the body's ability to carry oxygen in the blood, resulting in slow, painful suffocation ("blue baby syndrome").¹²¹ Coliforms and other biological contaminants, particularly *Escherichia coli* (*E. coli*) and *Giardia*, are primary

114. Coliforms constituted over 75 percent of all drinking water MCL violations. *Id.*

115. *Id.* at 6. In 2007, California water systems posted 805 MCL violations; 456 (56.6 percent) of these violations came from total coliforms. CAL. DEP'T OF PUB. HEALTH, DRINKING WATER PROGRAM, ANNUAL COMPLIANCE REPORT FOR PUBLIC WATER SYSTEMS 2007 app. D (2009) [hereinafter 2007 ANNUAL COMPLIANCE REPORT], available at <http://www.cdph.ca.gov/certlic/drinkingwater/Documents/DWdocuments/2007ComplianceReportAmendedAug182009corrected.pdf>.

116. 2006 ANNUAL COMPLIANCE REPORT, *supra* note 102, at app. C; 2007 ANNUAL COMPLIANCE REPORT, *supra* note 115, at 5; see also Carolina Balazs, Presentation on Water Contamination in California's Central Valley at the Environmental Justice Symposium, University of California, Berkeley, School of Law (2009) (mapping MCL violations in the State and demonstrating that the most acute incidence of violations occurs in Central Valley counties).

117. In 2006, the State Department of Public Health reported that total water quality violations had increased 19 percent, and that this growth was largely driven by an explosive increase (311 percent) in nitrate contamination. 2006 ANNUAL COMPLIANCE REPORT, *supra* note 102, at app. A–B. Nitrate contamination was significantly concentrated in agricultural California communities. *Id.*

118. 40 C.F.R. § 141.2 (2011) ("Maximum contaminant level means the maximum permissible level of a contaminant in water which is delivered to any user of a public water system."); 2006 ANNUAL COMPLIANCE REPORT, *supra* note 102, at app. C. The California Safe Drinking Water and Toxic Enforcement Act of 1986 (Cal. SDWA) sets cutoff points for the state's Maximum Contamination Levels. CAL. HEALTH & SAFETY CODE §§ 25249.5, 116270 (Deering 2011). Levels of contamination below the MCL are not necessarily safe, but they do not rise to a high enough level to merit enforcement under the federal or state SDWA.

119. 2007 ANNUAL COMPLIANCE REPORT, *supra* note 115, at app. D. Of the 805 MCL violations in the state, 478 violations took place in Central Valley communities.

120. Firestone, *supra* note 103; see also WOODARD ET AL., *supra* note 26 (describing blue baby syndrome and explaining its prevalence in agricultural communities).

121. WOODARD ET AL., *supra* note 26.

vectors for waterborne diseases, including dysentery and other severe gastrointestinal diseases that may result in dehydration and death.¹²²

These water-based health costs exacerbate vulnerability for communities that already face extreme toxic exposure and public health concerns.¹²³ In addition to underwriting the State's failure to protect their statutory right to clean, pure drinking water, communities throughout the Central Valley are unable to penetrate California's complex system of water government to advocate for policy change. Nevertheless, bridging the gap between the State's stated drinking water policy and the impacts for water users is severely impaired by California's labyrinthine, fragmented, and outdated system of state and local water governance.

III.

THE STRUCTURE OF CALIFORNIA WATER GOVERNANCE

At both state and local levels, California's system of water management is highly fragmented. The California Water Code, while innovative, reveals a history of tacking new local government models on to older ones that failed to meet the needs of municipalities and industry.¹²⁴ Similarly, its allocation of regulatory responsibility across state agencies illustrates the State's hodge-podge, "design as you go" system. Describing both the allocation of responsibility and mechanisms for public input at the state and local levels, this Part illustrates the structural barriers to accomplishing the State's statutory goals around safe and clean drinking water.

A. Fractured Governance

After establishing the State's constitutional authority to manage water resources, California created statewide and local boards to implement water policy around infrastructure, water quality, and water management.¹²⁵ In 1956, it created the Department of Water Resources to monitor water infrastructure

122. *Global Water, Sanitation, and Hygiene*, CTRS. FOR DISEASE CONTROL & PREVENTION, http://www.cdc.gov/healthywater/global/wash_diseases.html (last visited Oct. 26, 2011).

123. For a heartbreaking, yet quintessential, example of these cumulative harms, see Jacques Leslie, *What's Killing the Babies of Kettleman City?*, MOTHER JONES, July/Aug. 2010, at 44, available at <http://motherjones.com/environment/2010/07/kettleman-city-toxic-birth-defect-cluster>. See also Titania Kumeh, *Kettleman City's Toxic Web*, MOTHER JONES, July/Aug. 2010, at 48, available at <http://motherjones.com/environment/2010/07/kettleman-city-toxic> (mapping cumulative environmental health risks around the unincorporated community of Kettleman City).

124. The California Water Code provides for a large array of potential local water districts. This move towards localism was seen as a net benefit, allowing the vastly different ecological regions of the state to adopt water management systems that were appropriate to their needs and climate. As a result, the Water Code has served as a model for water localism within other western states. As is discussed further in this section, this structure may fall short of ensuring coordinated and responsive water management.

125. *Joslin v. Marin Mun. Water Dist.*, 429 P.2d 889, 893 (Cal. 1967).

projects and to provide planning for water use.¹²⁶ In 1967, the legislature established the State Water Resources Control Board to authorize water allocations and arbitrate water rights.¹²⁷ Together, these departments were intended to provide a unified vision and a set of uniform policies for water planning and use throughout the state.

While this early organization of water governance sought to provide comprehensive, integrated water resource management, the state's system for allocating riparian rights, managing water infrastructure, ensuring water quality, and meeting its environmental and ecological water goals is highly fragmented. Instead, over ten separate state agencies and sub-agencies regulate and monitor California's long- and short-term water planning and use, often with overlapping and contradictory mandates.¹²⁸ For example, the State Water Resources Control Board is most concerned with allocating water rights, but the State Department of Fish and Game is charged with maximizing water resources in order to support sustainable aquaculture and recreational fishing.¹²⁹ In times of water scarcity, these competing mandates often set agencies at opposite ends as they attempt to distinguish the proper priority and weight each water use should hold.

As a result, the State's commitment to clean drinking water is divided from its water quality enforcement provisions, and its allocation of water rights is segregated from its other policy priorities for water. As of 2006, when the legislature created California's statutory right to "pure and clean" drinking water, no single agency claimed responsibility for evaluating the delivery of residential water to effectuate this right. Further, the State made little effort to evaluate access to drinking water beyond collecting monitoring data in compliance with the federal and state Safe Drinking Water Acts.

126. *Id.*; CAL. WATER CODE § 120 (Deering 2011).

127. *History of the Water Control Boards*, STATE WATER RES. CONTROL BOARD, http://www.swrcb.ca.gov/about_us/water_boards_structure/history.shtml (last updated Sept. 20, 2011).

128. *See infra* Table 3.

129. CAL. PUB. RES. CODE § 5096.357 (Deering 2011); CAL. FISH & GAME CODE §§ 700, 15100 (Deering 2011).

Table 3: Water Policy and Enforcement Power by State Agency¹³⁰

Function	State Agency										
	Natural Resources Agency					State Agency					
	DWR	DPR	DFG	CBDA	SWRCB	DPH	DTSC	EPA	OEHHA	DFA	DPW
Sanitation					X	X					
Quality				X	X	X	X	X	X		
Drinking Water						X					
Surface Water									X		
Contamination			X		X			X	X	X	
Ground Water											
Contamination							X				
Rights Allocation					X						
Conservation	X				X	X		X			
Reclamation	X	X			X						
Infrastructure and Energy	X			X							X
Irrigation				X						X	
Flood Management	X				X						
Ecosystem Support	X	X	X	X				X			X

Notes: This list of functions is not exhaustive, but rather, focuses on the primary regulatory functions of these agencies.

Abbreviations: Department of Water Resources (DWR); Department of Parks and Recreation (DPR); Department of Fish and Game (DFG); California Bay Delta Authority (CBDA); State Water Resources Control Board (SWRCB); Department of Public Health (DPH); Department of Toxic Substances Control (DTSC); Environmental Protection Agency (EPA); Office of Environmental Health Hazard Assessment (OEHHA); Department of Food and Agriculture (DFA); Department of Public Works (DPW).

130. Data collected from numerous provisions of the California Code. See generally CAL. GOV. CODE (Deering 2011); CAL. NAT. RES. CODE; CAL. WATER CODE (describing the responsibilities and purview of statewide agencies with some element of regulatory power over state waterways and water systems).

B. Anti-Democratic Governance Models at the State Level

In addition to the heavy fragmentation of regulatory responsibility, California does not afford its citizens any rights to elect the directors of their statewide water management agencies.¹³¹ Instead, all department heads, agency secretaries, and board members are appointed by the governor and confirmed by the state senate.¹³² In some cases, representatives are appointed by county boards of supervisors or by federal agencies.¹³³ Regional water quality boards, the only state agencies with a mandated responsibility to their service region, are also appointed directly by the governor as sub-entities of the State Water Resources Control Board.¹³⁴ There is no voter review or approval of these appointments, nor is there a mechanism for voter-led removal from office. In fact, confirmation is routine, and agency directors and board members are rarely removed from office. In effect, state water management agencies, unlike comparable analogues such as the State Office of Public Instruction, are formed and guided in a democratic vacuum.¹³⁵

There are strategic advantages to an appointment-only method of selection. For example, an appointment-based system insulates decision makers from populist movements that may not serve the long-term interests of the state, and it creates a mechanism for appointing water experts while also delineating standards for technical expertise. Nearly every board has strict statutory provisions regarding membership qualifications, which ensure a baseline level of expertise or specialized training in disciplines that impact water governance. These provisions attempt to maintain balance across stakeholders when partisan administrations change, but these provisions also seek to ensure that the wide variety of skills required to effectively manage water are consolidated in one governing body.

131. See *infra* tbl.4a.

132. See *id.*

133. See *id.*

134. CAL. WATER CODE § 13200. While there is a statutory preference for regional residents on the Regional Water Control Boards, there is no residency requirement or requirement that board members be water users within the region. *Id.*

135. From the State's inception, California voters established a publicly-elected, executive-level Superintendent of Public Instruction to oversee the state's public education system. CA. CONST. OF 1849, tit. XI, § 1. Voters reaffirmed direct election of the Superintendent—as opposed to appointment by the Governor or State Board of Education—indicating that educational policy was seen as a core feature of the state's growth and economic development. Dr. Edwin F. Klotz, Testifying on Senate Resolution 357, *Analysis of the Relationship of the State Board of Education and the State Superintendent of Public Instruction* (1967) (available at <http://www.cde.ca.gov/nr/re/hd/documents/yr1967hd.doc>).

Table 4a: Water Governance and Resident Participation at the State Level¹³⁶

Authority	Method of Representation			Area of Governance	Authority
	Selection Process	Selector(s)			
California Natural Resources Agency	Appointed	Governor		State	Pub. Utils. Code
Department of Water Resources	Appointed	Governor		State	Water Code
State Water Resources Control Board	Appointed	Governor		State	Water Code
Regional Water Quality Boards	Appointed	Governor		Region	Water Code
California Water Commission	Appointed	Governor		State	Water Code
Watermaster Service Areas	Petition	15% of landowners		Region	Water Code
Central Valley Flood Protection Board	Appointed	Governor		Region	Water Code
Sacramento, San Joaquin Drainage District	Appointed	Governor		Region	Water Code
California Bay-Delta Authority	Appointed	Various		Regional	Water Code
Colorado River Board	Appointed	Governor		Interstate	Water Code
Bay Area Water Agency	Appointed	Governor		Regional	Water Code
SF Bay Area Water Financing Authority	Appointed	County Boards		Regional	Water Code

136. Data collected from numerous provisions of the Code identified in the "Authority" column. See generally CAL. PUB. UTIL. CODE (Deering 2011); CAL. WATER CODE.

Nevertheless, allocating the power of water resources management to the governor's appointees departs from the state's traditional system for governing constitutional resources and rights. Allowing the governor to select appointees enables powerful donors, lobbying interests, and advocacy groups to prevail through the appointments process. Further, an appointments-based governance system for water falls out of step with other core rights created through the California Constitution.

For example, in addition to electing the governor, lieutenant governor, attorney general, and state controller as executive officers, California voters elect the state superintendent of public instruction and the state insurance commissioner.¹³⁷ The nonpartisan position of state superintendent oversees coordination and the fulfillment of California's constitutional commitment to public K–12 education.¹³⁸ The position of insurance commissioner was created by proposition in 1988 to monitor, audit, license, and regulate insurance within the state.¹³⁹ Despite the enormous role water has played in the development, politics, and future of the state since the Gold Rush, the state has subordinated water oversight compared to other state constitutional rights.

As a result of the state's lack of investment in water oversight, California's citizens have no method of redress or petition to state boards beyond narrow regulatory exchanges or commentary at public hearings. If a concern does not fit neatly into the mandate of an agency, it may be deferred or ignored entirely. There is no transparent or clear system of accountability, except by directing complaints regarding the actions of an agency, director, or board directly to the legislature or governor. The cost of traveling to lobby the State and of moving sufficient votes to achieve a policy directive is especially high for rural residents who lack concentrated geographic populations that could support traditional community organizing methods, let alone lobbying resources. Instead, urban residential users and large agricultural interests dominate water policy debates, crowding out the voices of rural residents.

By virtue of its current structure, California's water governance system obscures the challenges rural communities face surrounding water prioritization and allocation. It further evades review and input by relying solely on the governor to provide democratic accountability. By focusing on balancing industry and conservation demands, the State has skipped over the needs of a large yet silenced third constituency—non-municipal residential water users.

137. CAL. CONST. art. 5, § 14(f).

138. CAL. CONST. art. 3, § 8(l), art. 5 § 14(f), art. 9 § 2; *see generally* CAL. EDUC. CODE §§ 33110–33133 (Deering 2011).

139. CAL. CONST. art. 5, § 14(f); SEC'Y OF STATE OF CAL., CALIFORNIA BALLOT PAMPHLET: GENERAL ELECTION NOVEMBER 9, 1988, 98–101, 140–44, *available at* http://traynor.uchastings.edu/ballot_pdf/1988g.pdf; SEC'Y OF STATE OF CAL., HISTORY OF CALIFORNIA INITIATIVES 7 (2002), *available at* http://www.sos.ca.gov/elections/init_history.pdf; *About Us: Introduction to CDI Operations*, CAL. DEP'T INS., <http://www.insurance.ca.gov/0500-about-us/0100-cdi-introduction> (last visited Oct. 26, 2011).

Beyond state agencies, California relies on a complex system of public and quasi-public local water districts to distribute and allocate water. In the rural context, a number of “self-help” districts have been created to fill the gap between state regulation and the geographic limits of municipal water. However, as discussed below, this system of local water government fails to bridge the gap between state and local needs and instead tends to further fracture water governance.

C. Anti-Democracy in Local Water Governments

Given the high costs for small communities in attempting to move state water governance structures—whether agencies or the legislature—the battleground for day-to-day water management and access takes place within local water governments. There are over 3,877 water districts in the western United States alone, representing 29.9 percent of all special purpose local governments in the West.¹⁴⁰ The California legislature recognized the superior flexibility and responsiveness of localities in addressing water needs within the Water Code:

The Legislature hereby finds and declares as follows:

- (a) The various regions of the state differ widely in the availability of water supplies and in the need for water to meet beneficial uses.
- (b) Decisions regarding operations to meet water needs can depend in part upon regional differences.
- (c) *Many water management decisions can best be made at a local or regional level, to the end that local and regional operational flexibility will maximize efficient statewide use of water supplies.*¹⁴¹

The State has further charged local governments with ensuring state policy goals are met, but it is less clear whom residents may petition if drinking water quality has failed.¹⁴²

California’s local water governance structure provides for at least fourteen ways through which local water government districts can be formed to manage and distribute water.¹⁴³ When a given water district structure failed to meet the needs of its water users, different industrial enterprises, developers, and communities experimented with new water district formations, which were

140. *Governments—Individual State Descriptions*, in U.S. CENSUS OF GOVERNMENTS (2007), available at http://www2.census.gov/govs/cog/all_ind_st_desc.pdf. Further, water districts constitute 18.8 percent of all local governments in the American West. This designation does *not* include school districts or tribal governments. The phrases “western United States” and “American West” include the states of Arizona, California, Colorado, Idaho, Montana, Nevada, New Mexico, Oregon, Texas, Utah, Washington, and Wyoming.

141. CAL. WATER CODE § 380 (Deering 2011) (emphasis added).

142. *Id.* §§ 380, 66473.7(b)(1).

143. *See infra* Table 4b.

chaptered into the State's Code.¹⁴⁴ Originally this plethora of organizational options was designed to support and prioritize local experimentation.¹⁴⁵ Today, these divisions continue to fragment the State's water management apparatus, resulting in high-cost, inaccessible, and undemocratic management systems at the local level.

In creating a framework that enables a wide array of local water governments, the California legislature embraced a water management system that would prioritize local flexibility and experimentation.¹⁴⁶ Originally formulated to serve urban localities, the State Water Code now encompasses an inordinate number of ways to pursue local water governance. Its local management system is divided into "public," "quasi-public," and "private" management systems at the local level.¹⁴⁷

Public systems are those systems in which all residents within the boundaries of a water district may vote and participate in the decisions of that district. These systems are most common in California's northern cities, and they operate on traditional notions of local government, including notice of rate changes or changes to district operations, as well as a "one person, one vote" voting scheme for election of public water system governors. Public systems retain the full authority and powers of local governments, including the powers of eminent domain, taxation, and bonding.¹⁴⁸

The State Water Code also enables the creation of quasi-public water systems, which enjoy the powers of a public water district (taxation, bonding, eminent domain) but limit the franchise to landowners within their boundaries. Unlike public systems, quasi-public systems do not allow all residents within their boundaries to participate in decision making. Instead, the power to vote within the district over essential decisions—such as water rates, infrastructure projects, or whether or not to flood land—is limited only to landowners.¹⁴⁹ Although individuals who live within the region but own less than one acre of land are excluded from voting in quasi-public districts, quasi-public districts have the power to levy fees upon non-voting residents.

Finally, private water systems are self-organized associations and corporations. One of the largest private water systems, the for-profit California Water Service Company, sells water to local water districts throughout Southern California.¹⁵⁰ Private water systems may be private real property

144. *See id.*

145. CAL. WATER CODE §§ 380, 66473.7(b)(1) (Deering 2011).

146. *Id.* § 370(c).

147. *See infra* Table 4b.

148. CAL. WATER CODE §§ 71690–71700, 31040–31054 (property, contract, and eminent domain); *id.* §§ 71852–71854, 31370–31372 (bonding); *id.* §§ 72090–72102, 31615–31618 (taxation); *id.* §§ 71590–71601, 31000–31016 (general powers).

149. *See, e.g., id.* §§ 35003–35006, 30700.5, 41000–41020, 21553–21554 (delineating land-based voting systems for several types of quasi-public water districts).

150. *About Cal Water*, CAL. WATER SERV. CO., <http://www.calwater.com/about/index.php>

holdings (e.g., a private well on one's land), water cooperatives, or formal water companies.¹⁵¹ These systems own their water rights under the framework of the common law of real property, and all acquisitions or investments in water infrastructure are made from their own profits and income, not from bonding or taxation.¹⁵²

Tulare County, with the highest nitrate contamination levels in the state and a majority Latino population, offers a prime example of the bureaucratic nightmare that unincorporated residents face when attempting to petition their local governments. At the state level, Tulare County's water is regionally managed by the Central Valley Regional Water Quality Control Board, under the auspices of the State Water Resources Control Board.¹⁵³ Within the county, there are over thirteen water governance schemes in a region with only three urbanized areas.¹⁵⁴ This includes a water commission, whose function is to advise the county supervisors and whose members are appointed by the board of supervisors. There are nine sewage districts and three irrigation districts. The California Water Service provides drinking water to Visalia and other cities within Kern County, the county neighboring Tulare to the south.

I argue that this hyperdivision at the local level, combined with the state's system of agency fragmentation, undermines the ability of both the State and localities to prioritize human welfare in water planning. This Part will map the public, quasi-public, and private management established in the Water Code to explain how these different management systems limit, layer, and exclude water uses and water users.

1. The Limits of Public Water Districts

A public water district is a form of local water government that provides domestic water to all residents within its territory. These districts, like a city redevelopment agency or town council, hold regular public meetings and make their minutes and agendas publicly available. These districts are tax exempt and enjoy the powers of eminent domain, bonding, and taxation (i.e., determination of user rates).

Only half of California's statutory water districts allow residents to have a direct, electoral influence on the formation and governance of a water

(last visited Oct. 26, 2011).

151. CAL. PUB. UTIL. CODE § 2701.

152. *Id.* §§ 2725–2729.

153. As an example of the extent to which even regional boards, which are not elected, serve the interests of municipalities, the Central Valley Regional Water Quality Control Board has been engaged in a three-year plan to assess contamination in public water systems, primarily in city water supplies.

154. These areas include Visalia/Woodlake, Porterville, and Dinuba. While there are several more incorporated municipalities in Tulare, with the exception of these “urban” regions, population density is relatively uniform between the remaining unincorporated and incorporated regions.

district.¹⁵⁵ Residents within the district are able to vote for the election of district directors, and they often vote to authorize the issuance of bonds for specific infrastructure projects.¹⁵⁶ Residents also participate in scoping plans and long-term management plans to invest in water infrastructure and account for population growth.¹⁵⁷ The most common participatory districts¹⁵⁸ include municipal districts, county water districts, and municipal water districts.¹⁵⁹ However, these “public” water districts all require a critical mass of residents in order to reach the economies of scale necessary to affordably build water infrastructure.¹⁶⁰

Because so many rural communities in the Valley are composed of fewer than 1,000 residents, they are often unable to reach the scale required to build new water infrastructure.¹⁶¹ While rural Valley communities have attempted to utilize generalized “special-purpose districts” (or special districts)¹⁶² to pool resources for local water delivery, these districts also fail to reach the scale required to ensure safe water delivery.

While many unincorporated communities lack access to clean drinking water, it is not for want of local water governments. Most Valley communities live within the boundaries of at least two water districts, a phenomenon paralleled in other rural communities in the West.¹⁶³ Despite living within the

155. See *infra* Table 4b.

156. CAL. WATER CODE, §§ 71940–71947.

157. *Id.* §§ 10910–10915.

158. I use the phrases “participatory districts” and “participatory water districts” to distinguish between local governments in which all residents of a geographic territory are allowed participation in water district formation and election of district commissioners. These districts are contrasted by “quasi-public” districts, which link the franchise to landownership, weighting votes in favor of landowners with greater land acreage or land value and limiting voter eligibility for resident renters and small landholders.

159. See *Governments—Individual State Descriptions*, *supra* note 140, at 37–47; *Local Governments and Public School Systems by Type and State: 2007*, U.S. CENSUS BUREAU, <http://www2.census.gov/govs/cog/2007/GovOrgTab03ss.xls> (last visited Oct. 25, 2011). Municipal (city) districts and municipal water districts are distinct in that they are governed by different parameters through California.

160. Bagi, *supra* note 18, at 40.

161. ALEJANDRA LOPEZ, CTR. FOR COMPARATIVE STUDIES IN RACE & ETHNICITY, LATINO COMMUNITIES OF THE CENTRAL VALLEY: POPULATION, FAMILIES, AND HOUSEHOLDS 7 (2001); see also Anderson, *Cities Inside Out*, *supra* note 32, at 1125–30 (discussing urban unincorporated areas, including unincorporated pockets around the City of Modesto); see generally ALEJANDRA LOPEZ, CTR. FOR COMPARATIVE STUDIES IN RACE & ETHNICITY, RACE AND POVERTY IN CALIFORNIA: CENSUS 2000 PROFILES (2002) (highlighting that the state’s poverty—and non-white populations—is concentrated in the Central Valley).

162. CAL. GOV’T CODE § 16270 (Deering 2011). The phrase “special-purpose district” is a local government law term of art; it refers to any local government formed with a fairly narrow or specific purpose in mind. California offers a general authorization to form special districts, provided members of that district can meet certain statutory requirements, so that its residents can self-organize to invest in community improvements when another model of local government may be insufficient or ill suited for such a narrow purpose.

163. *Local Governments and Public School Systems by Type and State*, U.S. CENSUS OF GOVERNMENTS (2007), <http://www2.census.gov/govs/cog/2007/GovOrgTab03ss.xls> (last visited Oct.

boundaries of water districts, most rural districts are quasi-public, ensuring that residents of the area cannot formally participate in the district's decisions regarding water allocation, flood planning, and water infrastructure development.¹⁶⁴

Moreover, the California Water Code allows each water district a “first in time” right to trump any pre-existing county policies regarding water management.¹⁶⁵ Because water districts have narrow mandates compared to general local governments, such as counties, the Water Code grants primacy to water districts over counties, even if those water districts are formed later in time.¹⁶⁶ The Code ensures that each water district can enforce its claims to water against nearly all other water users, including any younger water districts.¹⁶⁷ For example, if landowners establish an irrigation district, and later tenants establish a special drinking water district, the irrigation district takes precedence in water decision-making and allocations, *even if these districts seek to manage the same water resources*. While these overlapping districts battle for allocations from the same “pot” of water resources, rural residents continue to lack access to reliable, safe water.

As a result, communities often pay double: once for unfit residential water and once again for bottled water to meet their drinking and cooking needs. After paying these baseline costs, communities are typically subjected to improvement and remediation fees for irrigation and other water districts that do not provide residential water.¹⁶⁸ Domestic water costs for unincorporated rural residents are therefore extravagant when compared to their urban peers.¹⁶⁹

26, 2011).

164. *Id.*

165. CAL. WATER CODE § 20500 (Deering 2011).

166. *Id.*

167. *Id.* Water districts *may not*, however, displace pre-existing municipal (city) water policies.

168. Interview with citizens of Matheny Tract, *supra* note 104; *see also* discussion *supra* note 104 and accompanying text (describing these fees as a percentage of average annual household income).

169. UNDP, *supra* note 17, at 78 (“There is also an inverse relationship between price and ability to pay: millions of the world’s poorest people pay some of the world’s highest prices for water.”).

Table 4b: Water Governance and Resident Participation at the Local Level

Governance District	Method of Representation				Authority
	Selection Process	Selectors	Area of Governance	Authority	
Public Districts					
Municipal (City) Water ¹⁷⁰	Elected	City Residents	City	Government Code	
Municipal Utility Districts ¹⁷¹	Elected	District Residents	Utility Area	Pub. Utilities Code	
Municipal Water Districts ¹⁷²	Elected	District Residents	Utility Area	Water Code	
County Water Districts ¹⁷³	Elected	District Residents	County	Water Code	
Water Conservation Districts ¹⁷⁴	Elected	District Residents	District	Water Code	
Water Replenishment Districts ¹⁷⁵	Elected	District Residents	District	Water Code	
Levee Districts ¹⁷⁶	Elected	District Residents	District	Water Code	
Wastewater Districts ¹⁷⁷	Elected	District Residents	District	Water Code	
Special Districts ¹⁷⁸	Elected	District Residents	District	Government Code	
Quasi-Public Districts					
Mutual Water Company ¹⁷⁹	Incorporated	Shareholders	Shareholder Property	Pub. Utilities Code	
California Water Districts ¹⁸⁰	Elected	Title-Holders	District	Water Code	
County Drainage Districts ¹⁸¹	Elected	Title-Holders	County	Water Code	
Improvement Districts ¹⁸²	Elected	District Residents	County	Water Code	
Distribution Districts ¹⁸³	Elected	Title-Holders	District	Water Code	
California Water Storage Districts ¹⁸⁴	Elected	Title-Holders	District	Water Code	

170. CAL. GOV'T CODE § 34000 (Deering 2011).

171. CAL. PUB. UTIL. CODE § 11501 (Deering 2011).

172. CAL. WATER CODE § 7100 (Deering 2011).

173. *Id.* § 30000.174. *Id.* § 74000.175. *Id.* § 60000.176. *Id.* § 70000.177. *Id.* §§ 1210–1212.

178. CAL. GOV'T CODE §§ 16270–16279.5 (Deering 2011).

179. CAL. WATER CODE § 2701.

180. *Id.* § 34000.181. *Id.* § 5600.182. *Id.* § 75000.183. *Id.* § 23500; *id.* § 36460.184. *Id.* § 39000.

2. *The Pervasiveness of Quasi-Public Governance*

Quasi-public water districts also appear in the Water Code, but in practice these are private, tax-exempt districts with State-delegated powers of eminent domain, taxation, and the authority to issue public bonds.¹⁸⁵ The most common quasi-public districts in California's Central Valley include irrigation districts, reclamation districts, and improvement districts,¹⁸⁶ and the total number of quasi-public districts in the Valley outpaces the number of public water districts.¹⁸⁷ Similarly, irrigation districts and river districts are the most common water districts in the American West.¹⁸⁸

While these districts technically allow electoral participation, they limit voting rights to individuals (not necessarily residents) who own title to land within the district's area of focus.¹⁸⁹ Most quasi-public districts weigh voting in relation to the value of a landowner's property: that is, the larger a person's property holdings (in acres) or the greater the value of the holding, the more votes that are allocated to that owner.¹⁹⁰ Effectively, those who own more land have more political power, and those who do not own land (or who own small plots) are ineligible to vote in these districts. As a result, large landholders not only control the boards for these districts, but they also control policy and the frequency of elections.¹⁹¹ Additionally, this structure allows corporations, as landowners, to vote within these water districts.¹⁹²

The U.S. Supreme Court has consistently upheld this system of land-based participation in water districts, particularly in irrigation districts.¹⁹³ In *Salyer Land Company v. Tulare Lake Basin Water Storage District*¹⁹⁴ and *Ball v. James*,¹⁹⁵ the Supreme Court held that limiting the right to vote for water board directors could be reasonably limited to landowners.¹⁹⁶ Even though these districts were considered quasi-public water districts that had been authorized under the state codes of California and Arizona, respectively, the Court held that a land-based system of voting did not violate the Fourteenth Amendment's Equal Protection Clause's "one person, one vote" principle.¹⁹⁷ In so holding, the Court emphasized the "narrow" nature of both projects, indicating that

185. *Salyer Land Co. v. Tulare Lake Basin Water Storage Dist.*, 410 U.S. 719, 735–42 (1973) (Douglas, J., dissenting).

186. *Governments—Individual State Descriptions*, *supra* note 140.

187. *Id.*

188. *Id.*

189. *See infra* Table 4b.

190. CAL. WATER Code §§ 20930, 30700.5–30700.6, 36490, 39903 (Deering 2011).

191. *Salyer Land Co. v. Tulare Lake Basin Water Storage Dist.*, 410 U.S. 719, 735–42 (1973) (Douglas, J., dissenting).

192. *Id.* at 741–42.

193. *Id.* at 726–30 (majority opinion); *Ball v. James*, 451 U.S. 355 (1981).

194. *Salyer Land Co.*, 410 U.S. 719.

195. *Ball*, 451 U.S. 355.

196. *Salyer Land Co.*, 410 U.S. at 421; *Ball*, 451 U.S. at 358.

197. *Salyer Land Co.*, 410 U.S. at 728.

landowners held much stronger interests than tenants or small landholders for issues related to water allocation and reclamation.¹⁹⁸ The *Salyer* opinion, based in the Valley, minimized the intensity of the underlying political battle for water and failed to acknowledge that in many rural western regions there are no substitute sources of water: decisions at the local level can determine the life or death of rural communities.¹⁹⁹ The majority opinion additionally failed to recognize that water distribution issues are heavily contested, even at the local level, throughout the American West.

Salyer and *Ball* failed to grasp the complex ways in which water districts function in western states. Reading the authorizing sections of the State Code instead of the totality of policies codified in these statutes, the Court did not account for the “crowding out” function of specialized water districts. Because so many Valley water districts are quasi-public irrigation districts, their vast geographic boundaries limit the territorial reaches of public water districts, undermining public districts’ abilities to balance and negotiate the array of demands for water.

3. Purely Private Governance

Within purely private governance schemes, water may be allocated, bought, or distributed through private associations. Mutual water companies are private companies composed for the purpose of water distribution.²⁰⁰ A shareholder who invests in the services of a company owns the mutual water company itself.²⁰¹ Mutual water companies are not authorized to deliver water to non-shareholders until after all shareholders receive their water orders.²⁰² Water may also be distributed through private utility companies (PUCs), who benefit from economies of scale but do not have the same degree of vulnerability to State action as public utility agencies.

The most prevalent private water system in the Valley, the California Water Service Company (CWSC), manages water within the southern tip of the Valley, where water is especially scarce.²⁰³ One of the state’s largest private water purveyors, CWSC sells water to public water districts, which then deliver it to water users in their territories.²⁰⁴ Because private management systems are treated as private corporations or associations, not as entities with a responsibility to the public at large, these companies may sell water at high prices to water-poor districts, which then pass along these costs to water users

198. *Id.* at 728–30.

199. *Id.* at 737–39 (Douglas, J., dissenting).

200. CAL. PUB. UTIL. CODE § 2725 (Deering 2011).

201. *Id.*

202. *Id.* § 2728.

203. *About Cal Water*, *supra* note 150.

204. *Your District*, CAL. WATER SERV. CO., http://www.calwater.com/your_district/index.php (last visited Oct. 26, 2011).

in the form of higher rate payments.²⁰⁵ The primary goal of large private systems, such as CWSC, is to maximize profit for their shareholders, not to invest their water resources in initiatives with low or non-existent profit margins.²⁰⁶ While this system may maximize economic welfare for private associations themselves, their individual interests may cut against efforts to maximize social welfare.

Finally, water may be delivered independently through private water holdings, for example, if a person has a stream running through her property or if she drills a private well. Under California's clean water regimes, there are few regulations regarding the water quality of groundwater.²⁰⁷ As a result, private water use is almost completely unregulated for well users. Moreover, neither state nor federal regimes govern water quality or set performance standards for individual private wells, leaving thousands of rural residents in a regulatory dead zone.²⁰⁸ Because the State does not place limits on groundwater withdrawal, residential users and agricultural enterprises compete for the same limited water sources. When groundwater resources are exhausted or fail to recharge in time for individual use, rural residents are left without alternative water sources.²⁰⁹

While these three typographies of local water governance—public, quasi-public, and pure private—provide an extremely diverse array of governance models, their competing goals and methods of accountability continue to present challenges in the delivery of clean, safe water to rural residents. The result is a diverse, yet highly fractured, system of local management in which low-income, rural communities are lost between the gaps of governance.

D. The Limits and Costs of Fragmented Water Governance

While at first glance California's vast array of local water districts appears to enhance local experimentation and choice of governance, the existence of multiple overlapping and uncoordinated districts undermines effective governance of the state's aquifers. Instead, these districts limit residents' political choices in two ways. First, the type of district residents may select for drinking water and wastewater sanitation (sewage) limits their governance

205. Rick Holguin, *Water District Ends Rationing Program*, L.A. TIMES, Apr. 2 1992, at A1; Jerry Martin, Op-Ed, *Round 2 in Rural Water Wars—YES: We Must Assure a Future Supply*, REPORTER (Vacaville, Cal.), Jan. 28, 2001; Ira E. Stoll, *Water Agency Plans 3%-4% Rate Increase*, L.A. TIMES, Feb. 17, 1995, at B1; Curtis S. Updike, *Retailer Plans to Sell Water*, DAILY NEWS L.A. (Thousand Oaks ed.), Nov. 18, 1991, at 1.

206. CAL. PUB. UTIL. CODE § 2701 (Deering 2011).

207. CAL. WATER CODE § 10750–10750.10 (Deering 2011) (limiting groundwater regulation to the study of groundwater recharge and supplies). While the State theoretically retains a right to govern groundwater supplies, it has not exercised this power. *Id.* §§ 104–105.

208. Definition of a Public Water System in SDWA Section 1401(4) as amended by the 1996 SDWA Amendments, 63 Fed. Reg. 41,940 (Aug. 5, 1998).

209. *Id.*

options, and residents' ability to opt into a method of organization is circumscribed by a variety of factors, including their access to funding, the pre-existence of competing districts in the area, and the property interests of landowners. Second, their choices are limited through the careful segregation of water functions and subsequent political alienation of residents. By dividing the many aspects of water access and management, even if communities were able to access drinking water, they must compete with other neighboring water uses to ensure that water remains available, sanitary, and sustainable. Auxiliary water uses, such as irrigation, may have a significant impact on water availability, but non-landowning residents are prohibited from participating in decisions governing the distribution of water to landholders. Further, residential landowners, by virtue of their small landholdings, cannot compete with the relative weight of agricultural landowners within landowner-only voting schemes.

California's complex system of local water management subordinates the rights that county residents enjoy as citizens of the county to the rights that municipal residents enjoy. By creating a tiered structure for local water governments, the Water Code sets levels of citizenship, belonging, and participation, and these relationships are directly connected to wealth and power. By removing the ability of communities to seek redress and effectively persuade local authorities, the State balances the burden of its environmentally unfriendly agricultural policies on the backs of its most vulnerable communities. Many of these communities, in turn, provide the labor required to ensure the State's agriculture economy succeeds. But the State has created a system in which it is accountable to no one, and communities "off the grid" must bear the disproportionate burden of infrastructure inequality on top of the harms they already experience by virtue of their socioeconomic standing.

The complex partitioning of management across state agencies and local water governments has created a water distribution, management, and allocation structure that lacks transparency, accountability, and affordability. Having let these structures grow without a global vision for water, there are few avenues or channels for popular participation in decision making, water planning, and resource allocation. California's water governance system has effectively enacted barriers to participation that have grown with its water infrastructure itself. It has imposed code-made structures that do not allow for traditional political participation and engagement around water governance.

Through its local water district design, the State has effectively transferred rights away from citizens of unincorporated territories towards landholding and city-dwelling residents. The right to drinking water is downgraded while the demands of citizens with superior access to wealth or resources, by virtue of their landholdings or residence/membership within a municipality, are given primacy. In effect, citizens' rights are amplified or minimized based on their pre-existing power relationships within the region.

The State's decision to allocate political participation rights according to land-holdings and wealth does not violate current local government jurisprudence, but it fails to appropriately include all the state's stakeholders in discussions of water allocation. This failure undermines the State's constitutional and statutory policy objectives of ensuring that water is allocated to the most beneficial uses and that every citizen is able to access safe, clean drinking water. In its current formulation, safe and clean drinking water will remain an unattainable policy goal without significant policy change.

IV.

PROPOSALS FOR MOVING BEYOND WATER INEQUALITY

California's structural water governance woes need not create a permanent barrier to achieving the right to clean and safe drinking water. By restructuring its current water governance model, encouraging integrated water management, providing suggested guidelines for ensuring clean drinking water, and funding water projects in the most at-risk and vulnerable communities, the State has the ability, and an obligation, to go beyond current inequalities and ensure access to the most essential element of life for its millions of residents.

A. Consolidation

At the state and local level, California's system of water governance is deeply fractured. By consolidating water responsibilities—from long-term planning, infrastructure, water allocation, reclamation, quality and contamination, monitoring, and enforcement—into a single agency, the State has the opportunity to concentrate expertise and address the full range of water policy concerns.

Local government scholars disagree on whether fragmentation, and by contrast, consolidation, result in better administration or management of resources.²¹⁰ In the contexts of natural resources and environmental policy,

210. For example, Megan Mullin has indicated that fragmentation itself cannot account for water scarcity or water management failures within urban water districts. MEGAN MULLIN, *GOVERNING THE TAP: SPECIAL DISTRICT GOVERNANCE AND THE NEW LOCAL POLITICS OF WATER* 177–78 (2009). She argues that specialization provides a net benefit that integrated water districts could not provide. *Id.* at 178, 182–85. Conversely, Christopher Berry has argued that specialization may frustrate efforts at integrated management. CHRISTOPHER R. BERRY, *IMPERFECT UNION: REPRESENTATION AND TAXATION IN MULTILEVEL GOVERNMENTS* 129–47 (2009). Rick Schragger has argued that decentralization does not always provide better coordination or services in the context of urban economic development. Richard C. Schragger, *Decentralization and Development*, 96 VA. L. REV. 1837, 1893–97, 1901–06 (2010).

The literature on fragmentation and consolidation within administrative law is also helpful, although it may not translate to local water governments. See Eric Biber, *Too Many Things to Do: How to Deal with the Dysfunctions of Multiple-Goal Agencies*, 33 HARV. ENVTL. L. REV. 1 (2009); William W. Buzbee, *Recognizing the Regulatory Commons: A Theory of Regulatory Gaps*, 89 IOWA L. REV. 1 (2003); Anne Joseph O'Connell, *The Architecture of Smart Intelligence*, 94 CALIF. L. REV. 1655 (2006).

scholars are divided as to what level of consolidation or fragmentation would result in optimal resource management and coordination.²¹¹ Similarly, determining an appropriate level of consolidation at both the state and local levels would require balancing the need for better oversight with ensuring greater public transparency, accountability, and participation.

Currently, the State has charged the California Department of Water Resources with the responsibility of drafting and updating a State Water Plan every five years.²¹² Until 2009, this report did not incorporate planning input or information from other state agencies.²¹³ While the report takes stock of water flows and aquifer recharge, it does not offer clear policy prescriptions or goals for water management and distributional equity. Instead, the Water Plan focuses on sharing information with local water managers regarding water-maximizing technologies; it does not offer pathways for achieving integrated statewide water planning.

Instead of relying on inter-agency cooperation to ensure a comprehensive water plan, consolidation would allow the State to charge a single department or agency with the responsibility of identifying California's water policy priorities and targets, as well as with providing the technical support and data necessary for water system organizers to make informed decisions over conservation, reclamation, allocation, and sanitation. In effect, consolidation would create space for the State to mobilize its resources and research to ensure clear guidance and provide comprehensive water policy options.

Given the State's persistent financial woes, consolidation would also allow the State to maximize its limited resources while also better protecting the public interest. Instead of financing the full apparatus of competing agencies, consolidation could allow information sharing across agencies, decrease the practical fixed costs of funding ten different offices, and could create a central clearinghouse for information. Further, consolidation could help ensure agencies are sufficiently staffed, allowing them to better serve the public. For example, California's State Water Resources Control Board (SWRCB), the primary enforcement agent for water violations, is shamefully understaffed and unable to achieve consistent protection of its own agency

211. See, e.g., Holly Doremus, *CALFED and the Quest for Optimal Institutional Fragmentation*, 12 ENVTL. SCI. & POL'Y 729, 729–30 (2009) (evaluating management in the context of CALFED); Alejandro E. Camacho, *Transforming the Means and Ends of Natural Resources Management*, 89 N.C. L. REV. 1405, 1417–23 (2011) (applying principles of natural resources law and management to climate change). But see Alejandro E. Camacho, *Adapting Governance to Climate Change: Managing Uncertainty Through a Learning Infrastructure*, 59 EMORY L.J. 1, 26–29 (2009).

212. *California Water Plan*, CAL. DEP'T OF WATER RES., <http://www.waterplan.water.ca.gov> (last visited Oct. 22, 2011).

213. CAL. DEP'T OF WATER RES., CALIFORNIA WATER PLAN UPDATE 2009—HIGHLIGHTS 12 (2009), available at http://www.waterplan.water.ca.gov/docs/cwpu2009/0310final/highlights_cwp2009_spread.pdf.

goals.²¹⁴ Instead of segregating specialists across different agencies, a single agency would benefit from allowing different forms of expertise to cross-pollinate within a single “home.” This would allow for more thoughtful, and perhaps more comprehensive, water policy and management, and it would also decrease staff needs across agencies by aggregating all staff expertise under one roof (as opposed to requiring each agency to hire a full staff of scientists, lawyers, engineers, etc.). Instead of battling and competing for dominance for disparate policy goals, these goals would be managed and balanced within a single entity.

Furthermore, consolidation would also allow for a single, accountable agent. Instead of citizens and decision makers falling into a black hole of water governance, residents would be able to demand accountability from a consolidated state water agency. This would better allow for public participation and feedback, and citizens would know to expect water policies, regulations, and hearings to be supervised by a single state entity.

Going beyond consolidation, citizens of the state should also consider creating and electing an independent executive water officer. Similar to the state superintendent for public instruction, the state water commissioner would serve as a nonpartisan and independent executive officer charged with effectuating the State’s water policies. Bringing water management into the public election cycle would also bring water policy out of the shadows of the California legislature, allowing greater transparency and participation among members of the general public. Despite fears of populist retaliation or water grabs, voters have passed visionary water initiatives in the past, and it is likely that their understanding of the limitations of water scarcity would inform an electoral process both at the state and local level.

The creation of a state water commissioner position would also allow the State to adopt a more forward-thinking approach to water policy; instead of waiting for water disasters (drought, infrastructure failure, increased demand), candidates would be expected to provide an integrated vision for California water during each elections cycle. While an electoral model still runs the risk of coastal dominance in the elections cycle, it has a much stronger chance of allowing rural regions of the state a direct voice, and a direct method of petition, in water policymaking.

214. It is important to note that gross understaffing is no fault of the SWRCB; the Board has been consistently underfunded by the State, and throughout California’s current multi-year budget crisis the SWRCB has faced deep cuts that have placed it on a survivalist budget. Loretta Kalb, *State Water Quality Board Wants to Cut Back on Inspections*, SACRAMENTO BEE, Oct. 18, 2010, at A1; Kate Campbell, *CA Governor: Taxes, Cuts and Agriculture*, NAT. RES. REP. (Jan. 21, 2011), <http://naturalresourcereport.com/2011/01/ca-governor-taxes-cuts-and-agriculture>; see also Kate Campbell, *State Budget Gap Totals \$19 Billion; Cuts, Fees Planned*, AGALERT (May 19, 2010), <http://www.agalert.com/story/?id=1542> (detailing the impact of the State’s budgetary crisis on the Water Resources Control Board).

However, consolidation is not a panacea for California's structural water management challenges. While proponents of state-enforced rights often see consolidation as a preferred method of organization, agencies that are too big—either in scope or in geographic coverage—run the risk of becoming unresponsive and inaccessible to the public. A single state water agency could be a one-stop clearinghouse, or it could be an impenetrable regulatory force, internalizing California's complex water management system and rendering this system less transparent and less cogent to the public at large.

B. Regional Integration and Representation

Following agency consolidation, the State should consider restructuring its current panoply of local water districts to create regionally integrated water boards. Instead of battling over the same water resources, these integrated water boards would have the ability to track the geography of hydrological basins, and they would be able to transcend the somewhat arbitrary borders of counties. Further, integrated boards would displace current quasi-public boards, creating unified and public local water governments throughout the state. Board elections would be open to all water users within its territorial bounds, embracing the “one person, one vote” principle and bolstering accountability across diverse water uses and users.²¹⁵

A regional model would help the State maintain its value for local experimentation and responsiveness, and it would also allow regions to create a holistic vision of water management. Marshaling their collective expertise, local water districts would not have to recreate data or remap the contours of their regions. Instead, they could offer comprehensive data on local hydrology, on the array of water users and uses, and on water infrastructure needs. They could also levy rates and costs more equitably, issuing taxes or fees for specific water uses instead of allocating costs by geographic region (regardless of an individual user's water uses). This model may also provide room for the creation of “lifeline rates”²¹⁶ for residential water use, allowing a regional board to offer more thoughtful price points based on quantifiable use levels.

Integrated boards would retain their tax-exempt status, as well as their powers of eminent domain, bonding, taxation, and enforcement. Most importantly, they would retain the responsibility to consider the full array of local water issues—from flood management and reclamation to irrigation,

215. While *Salyer* and *Ball* hold that land-based voting schemes are constitutional in the context of special-purpose districts, they do not require land-based voting schemes. The California legislature, and similarly state legislatures throughout the country, have the power to amend their special district statutes to require a “one person, one vote” voting scheme.

216. Lifeline rates are often utilized to provide differential pricing for low-income or economically vulnerable utility users. Rates may be set by consumption levels or by socioeconomic factors. See *Affordability Considerations*, U.S. ENVTL. PROTECTION AGENCY, <http://water.epa.gov/infrastructure/sustain/affordability.cfm> (last visited Oct. 26, 2011).

wastewater and residential use—within a single, locally responsive entity. By providing residents the opportunity to vote, and to vote with parity, integrated water boards ensure that public resources are leveraged for public initiatives instead of being held captive by powerful corporate interests.

While integrated boards are prone to capture, they are less likely to overweight the interests of the most financially powerful when compared to landownership-based voting schemes or schemes that prioritize municipal government over alternative methods of local organization.²¹⁷ Further, the State can prioritize geographic, socioeconomic, and residential diversity in its regional boards. Similar to its requirements for representation on Local Agency Formation Commissions (LAFCOs), the State could require regional representation from small water system users, from unincorporated users, from urban users, and from local governments.²¹⁸ It could ensure representation from certain localities, and it could also prioritize and ensure significant rural representation on its boards. Designated seats within a regional board would provide a dramatic representational improvement over current models where there are no guarantees for unincorporated rural representation on public or quasi-public water district boards.

C. Enhancing Statutory Protections

Throughout the 2009–2010 legislative session, the California legislature considered and passed what it later referred to as the Omnibus Water Bill of 2009.²¹⁹ Among these bills was the California Human Right to Water Bill, which proposed codifying the prioritization of domestic water as the most important water use and providing directives and enforcement hooks to state agencies to ensure and effectuate the human right to clean, affordable, and accessible domestic water for all Californians.²²⁰ In his veto message, the Governor argued that the bill was redundant and that the failure to ensure safe, accessible, and affordable domestic water was a matter of financial concern, not a failure of legal coverage.²²¹ The Governor issued this statement at the

217. See generally KAY LEHMAN SHLOZMAN & JOHN T. TIERNEY, ORGANIZED INTERESTS AND AMERICAN DEMOCRACY (1996) (explaining the role of organized interests in subverting the democratic process); THE POLITICS OF REGULATION (James Q. Wilson ed., 1980) (explaining the role of regulated industries in reshaping agency behavior away from the public interest and towards particular special interests).

218. The legislature chartered the creation of local agency formation commissions (LAFCOs) to assist in managing urban sprawl. CAL. GOV'T CODE §§ 56300–56301 (Deering 2011). Among their powers, LAFCOs may review, approve, or disapprove the establishment of any local government districts within their formal boundaries or “spheres of influence.” *Id.* §§ 56375–56388. In an attempt to balance the demands of pre-existing local governments within the region, LAFCOs are required to include representatives from the county, cities within the county, members of independent special districts, and a member of the general public. *Id.* §§ 56325–56337.

219. SPECIAL SESSION POLICY BILLS AND BOND SUMMARY, *supra* note 19.

220. Assemb. B. 1242, 2009–2010 Leg., Reg. Sess. (Cal. 2009).

221. Governor’s Veto Message, Assemb. B. 1242, 2009–2010 Leg., Reg. Sess. (Cal. 2009),

same time that he authorized over five billion dollars in water infrastructure projects²²² unrelated to projects that would vindicate or support California's "well-established"²²³ priority for pure, safe, drinking water and domestic water.

Ensuring access to affordable water is more than a question of political will; it also requires addressing how California's water governance system results in structural inequality in the management and distribution of the state's water resources. While California provides an affirmative right to "pure and safe" drinking water,²²⁴ the State has not taken a similarly affirmative step toward bridging the water governance gap for rural residents.

Beginning with the re-adoption of the Human Right to Water Bill, the legislature should consider expanding its provisions for enforcing and ensuring California's right to pure, safe, and affordable domestic and drinking water. While the final version of the Human Right to Water Bill redacted provisions ensuring high-quality water "regardless of individual economic circumstances,"²²⁵ the legislature should consider reintroducing these measures and earmarking greater funding to ensure the delivery of affordable, safe, accessible water.²²⁶ While the Human Right to Water Bill exempted the State from investing in water infrastructure to achieve its stated right to clean, affordable, and accessible drinking water,²²⁷ California should invest in significant infrastructure improvements for residential water supplies, particularly for communities already exposed to out-of-compliance water systems.

D. Funding Rural Drinking Water Infrastructure

Both California and the federal government have invested heavily in the development of monolithic water infrastructure projects, ranging from the creation of the Governor Edmund G. Brown California Aqueduct to the complex system of canals and dams built on the Colorado, Owens, and San Joaquin Rivers.²²⁸ A great deal of California's infrastructure efforts have

available at [ftp://www.leginfo.ca.gov/pub/09-10/bill/asm/ab_1201-1250/ab_1242_cfa_20100917_162710_asm_floor.html](http://www.leginfo.ca.gov/pub/09-10/bill/asm/ab_1201-1250/ab_1242_cfa_20100917_162710_asm_floor.html); *California Right to Water Bill Vetoed*, *supra* note 19.

222. See SPECIAL SESSION POLICY BILLS AND BOND SUMMARY, *supra* note 19; Boxall, *supra* note 19; Steinhauer, *supra* note 19; *California Right to Water Bill Vetoed*, *supra* note 19.

223. Governor's Veto Message, Assemb. B. 1242.

224. CAL. HEALTH & SAFETY CODE § 116270(a) (Deering 2011).

225. Assemb. B. 1242, 2009–2010 Leg., Reg. Sess. (Cal. 2009).

226. Under Governor Brown's tenure, California has adopted several bills to begin to address the deficits in rural drinking water access, but additional action will be necessary to bridge the resource gap for rural water systems located in unincorporated communities. Assemb. B. 54, 938, 983, 1194, 1221, 1292, 2010–2011 Leg., Reg. Sess. (Cal. 2011); S.B. 244, 2010–2011 Leg., Reg. Sess. (Cal. 2011); Russell Clemings, *Gov. Brown Signs Clean-Water Bills: Laws Come on Heels of Plan to Improve Small Water Systems*, FRESNO BEE (Oct. 8, 2011), <http://www.fresnobee.com/2011/10/07/2568202/brown-signs-clean-water-bills.html>.

227. Assemb. B. 1242, § 1(c) ("This section does not expand any obligation of the state to provide water or to require the expenditure of additional resources to develop water infrastructure beyond the obligations that may exist pursuant to subdivision (b).").

228. HUNDLEY, *supra* note 16, at 123–71 (Los Angeles Project), 234–75 (Central Valley

focused on ensuring water for the cities of San Francisco and Los Angeles, as well as irrigating the arid Central Valley for agricultural production.²²⁹ Nonetheless, for rural residential water users, the State has done very little to support water infrastructure.

As mentioned previously, many unincorporated rural communities face significant socioeconomic hardships relative to their assets, and they lack the resources to improve or create water infrastructure without significant investment from the State. In 2009, the State authorized \$181,971,000 in bonds for implementation and planning grants for “integrated regional water management” through the California Department of Water Resources.²³⁰ Only ten percent of these funds, or eighteen million dollars, must be set aside for meeting the “critical water supply needs of disadvantaged communities.”²³¹

While this figure may seem impressive, it hardly begins to bridge the gap between the crucial need facing rural small water system users and the funding needed to improve domestic water infrastructure in these regions. Between planning and construction, most small systems communities estimate the cost of upgrading their infrastructure to meet public health requirements at \$250–500,000 per system.²³² With over 450 small water systems in the most vulnerable and disadvantaged rural communities, the State has allocated only enough funding to support improvements in approximately forty to fifty of these communities.²³³

Further, the State missed a crucial opportunity to bridge the water equity gap. When issuing instructions to the California Department of Water Resources, it could have required that all of its grant funding be allocated to applicants showing measurable, achievable, and aggressive initiatives and could have provided suggestions for meeting water needs in regional and local vulnerable and disadvantaged communities. In exchange for State contributions to water infrastructure, large cities have limited their water use in an effort to support statewide conservation efforts.²³⁴ Similarly, by investing in water

Project).

229. *Id.*

230. A.B. 626, ch. 367, 2009-2010 Leg., Reg. Sess. (Cal. 2009) (integrated regional water management grants).

231. *Id.*

232. Roger Beck et al., *Benchmark Investigation of Small Water System Economics: Discussion and Preliminary Findings 2* (2001) (unpublished manuscript) (on file with author); *see also* CLAUDIA COPELAND & MARY TIEMANN, CONG. RESEARCH SERV., RL31116, *WATER INFRASTRUCTURE NEEDS AND INVESTMENT: REVIEW AND ANALYSIS OF KEY ISSUES 19* (2010) (explaining that even current federal programs designed to serve small systems are inadequately designed to address the challenges of rural residents).

233. It should be noted that the figure of 450 small water systems likely underestimates the true number of vulnerable and disadvantaged water-using communities. For example, this initial survey focused on the central San Joaquin Valley (not the greater Valley), and it does not include water systems on tribal lands.

234. CAL. WATER CODE § 12929–12929.46 (Deering 2011); JOHN HART, *STORM OVER MONO: THE MONO LAKE BATTLE AND THE CALIFORNIA WATER FUTURE* 132–33 (1996) (detailing a

infrastructure for rural residential water use, the State could ameliorate a dire human rights concern while also experimenting in conservation-friendly policies and water technologies.

While the cost of upgrading water infrastructure for vulnerable communities is steep, it pales in comparison to State investments in non-health-related water infrastructure.²³⁵ Further, when these costs are compared to the State's long-term losses (in the form of lost work days, health costs, and lost disposable income) and residents' private expenditures, infrastructure investment would be a much more cost-effective and prudent investment for the long-term survival and health of rural communities and, by extension, the state at large.

Finally, through its decades-long entanglement in water resources management, the State of California has formed an ethical obligation to ensure that all its residents have access to safe, affordable drinking water. While there are compelling policy rationales for pursuing a more equitable system of water allocation, ultimately the vast human rights concerns facing California's most impoverished and at-risk communities should serve as the primary motivation for addressing the state's quagmire of water governance. In evaluating the history of these communities and extent to which they are politically and geographically marginalized, the State may serve a crucial role in addressing the needs of these communities when their own local governments will not.

CONCLUSION

California's fractured and limited system of water governance widens the gap between the State's statutory goals for drinking water and the realities of water inequality for vulnerable rural residents. While water policy is uniquely complex in the American West, these policies need not fall into the same rote arguments over water scarcity, conservation, and development. Instead, both California and other western states have an unprecedented opportunity to pursue innovative methods of addressing their water woes. As climate change and population growth place increasing burdens on the West's finite water supply, addressing the long-term future of water use will be essential to averting conflict. Most importantly, policy makers must prioritize water equity in their public debates and discussions, particularly for the state's most vulnerable and at-risk communities. Prioritizing equity is not only necessary for ensuring thoughtful local water stewardship; it is also necessary to ensure the State truly protects the public health interests of *all* its residents, not only its most visible, most concentrated, or most affluent.

compact between the State and the City of Los Angeles exchanging millions of dollars in water infrastructure funding for decreasing the City's extraction and use of waters from Mono Lake).

235. See generally HUNDLEY, *supra* note 16, at 121–365 (describing the billions of federal dollars directed towards non-health-related water infrastructure development throughout California).