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Bridging the Safe Drinking Water Gap for California's Rural Poor

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*By Camille Pannu**

Spurred by decades of inaction and continued exposure to unsafe drinking water, community leaders from California's disadvantaged communities[1] (DACs) advocated for the creation of a human right to water[2] under state law.[3] Shortly

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1. "Disadvantaged community" has become a legal term of art for an alternative poverty measure that compares a community's relative socioeconomic status (median household income) to the statewide median household income level. *See, e.g.*, CAL. WATER CODE § 79505.5(a).

2. ASSEMB. B. 685, 2012 Leg. (Cal. 2012), *codified at* CAL. WATER CODE § 106.3(a) ("It is hereby declared to be the established policy of the state that every human being has the right to safe, clean, affordable, and accessible water adequate for human consumption, cooking, and sanitary purposes.").

3. California has long recognized that residential drinking water is the highest beneficial use within the State's beneficial uses framework, CAL. CONST. art X, § 2; WATER CODE § 100. *See* CAL. WATER CODE § 106, *codifying Meridian, Ltd. v. City & Cty. of San Francisco*, 13 Cal.2d 424, 450 (1939). Nonetheless, prior to the passage of the Human Right to Water bill, several San Joaquin Valley local governments maintained that they had no obligation to protect domestic water use over agricultural irrigation, or to identify and provide access to safe, clean drinking water to rural residents. *See, e.g.*, TULARE CTY. PLANNING DEP'T, TULARE COUNTY GENERAL PLAN § 2.D.3 (1971) (setting forth a policy of "starving" disadvantaged unincorporated communities of funding); MADERA CTY. PLANNING DEP'T, *Housing Element* in MADERA COUNTY GENERAL PLAN (1969) (adopting a policy of directing funds away from rural communities and to cities); MADERA CTY. PLANNING DEP'T, *Background Rep.* in MADERA COUNTY GENERAL PLAN UPDATE, at 1-2 (1995) (maintaining the 1969 Plan objectives, including disinvestment in rural communities); CHIONE FLEGAL ET AL., POLICYLINK, CALIFORNIA UNINCORPORATED: MAPPING DISADVANTAGED COMMUNITIES IN THE SAN JOAQUIN VALLEY 6, 19–20 (2013) (describing infrastructure deficits in unincorporated communities and their correlation with race); Michelle Wilde Anderson, *Mapped Out of Local Democracy*, 62 STAN. L. REV. 931, 932–34 (2010) (describing the creation of concentrated poverty and racialized inequality through the denial of essential infrastructure to unincorporated communities adjacent to, or within the growth boundaries of, cities throughout the United States); Victor Rubin et al., *Unincorporated Communities in the San Joaquin Valley: Responses to Poverty, Inequity, and a System of Unresponsive Governance*, at 2, 5–6, 16, 18–19, 21–22 (2007) (unpublished report on file with author) (describing local governments' lack of political will and financing capacity with respect to disadvantaged unincorporated communities).

thereafter, the California Legislature put forward a bond[4] to finance much needed water infrastructure improvements and drought relief interventions across the state. Voters approved the $7.45 billion bond,[5] which reserved millions of dollars of funding for DACs with persistent water quality problems.[6] In setting aside those funds, the Legislature acknowledged that decades of disinvestment[7] in rural, disadvantaged communities had created severe water contamination, limited water access, and degraded water infrastructure.[8] The bond's initiating legislation tacitly recognized that taxing DAC residents was futile;[9] those residents had the fewest resources available to address the disinvestment that compounded their water inequality.

4. ASSEMB. B. 1471, 2014 Leg. (Cal. 2014); CAL. SEC'Y OF STATE, *Proposition 1: Water Bond* in CALIFORNIA 2014 GENERAL ELECTION OFFICIAL VOTER INFORMATION GUIDE, http://vigarchive.sos.ca.gov/2014/general/en/propositions/1/ [https://perma.cc/5RHN-6AHM].

5. CAL. SEC'Y OF STATE, NOVEMBER 4, 2014 GENERAL ELECTION STATEMENT OF VOTE 14 (2014).

6. ASSEMB. B. 1471, *supra* note 4, *codified in relevant part at* WATER CODE §§ 79720–79725.

7. *See generally* Camille Pannu, *Drinking Water and Exclusion: A Case Study from California's Central Valley*, 100 CALIF. L. REV. 223, 232–34 (2011) (suggesting that policies of withholding investment from disadvantaged unincorporated communities did not encourage consolidation, annexation, or relocation, but rather, "deepen[ed] infrastructure inequality and ultimately maintain[ed] bleak levels of poverty."); Rubin et al., *supra* note 3, at 5–6; Laura Bliss, *Before California's Drought, a Century of Disparity*, CITYLAB (Oct. 1, 2015), https://www.citylab.com/environment/2015/10/before-californias-drought-a-century-of-disparity/407743/ [https://perma.cc/AKT2-75JM].

8. WATER CODE § 79721(c), (g)–(h).

9. *Id.* §§ 79724–25.

Nearly five years later, over one million[10] Californians still lack access to clean, safe, and affordable drinking water.[11] The majority of those Californians are Latinx and live in disadvantaged unincorporated communities (DUCs)[12] throughout the state's rural agricultural belts.[13] The greatest number of noncompliant public water systems is located in the San Joaquin Valley,[14] where approximately forty percent of DUCs with noncompliant systems are located

10. Yet that figure almost certainly underestimates the number of Californians exposed to unsafe drinking water. In 2016, more than 18 million Californians lived within the boundaries of a water system that failed to monitor or report their water quality, meaning that for certain time periods, there is little to no water quality data available for a large subset of the population. *See* State Water Res. Control Bd., 2016 Compliance Report dataset (2017) [hereinafter "2016 Compliance Report Dataset"]. The State Water Board's Annual Compliance Report also does not include information for small water systems regulated under state law, Cal. Health & Safety Code § 116275(n), nor does it include water quality data for individuals who rely on private wells for drinking water. STATE WATER RES. CONTROL BD., 2016 ANNUAL COMPLIANCE REPORT 3–4 (2017) [hereinafter "2016 COMPLIANCE REPORT"]. Additionally, because the Annual Compliance Report focuses on water quality, testing, and public disclosure requirements and does not provide data on affordability, it is difficult to determine whether water is affordable and whether there is a correlation between unaffordable water and water quality. For additional discussion of the affordability-water quality gap, *see* Brett Walton, *California Hones Drinking Water Affordability Plan*, CIRCLE OF BLUE (June 8, 2017); JULIET CHRISTIAN-SMITH ET AL., PAC. INST., ASSESSING WATER AFFORDABILITY: A PILOT STUDY IN TWO REGIONS OF CALIFORNIA 10 (Aug. 2013) (finding 23% of Sacramento area households and 51% of Tulare Lake Basin households paid unaffordable water rates).

11. *See* 2016 COMPLIANCE REPORT, *supra* note 10, at 2 (Table 1, Part A).

12. Although "DAC" and "DUC" are often used interchangeably in policy discourse, there is a subtle but significant difference between the two terms. In the context of California water policy, disadvantaged communities (DACs) can exist in rural areas and within cities. WATER CODE § 79505.5(a); PUB. RES. CODE § 75005(g). Disadvantaged unincorporated communities (DUCs), however, are not found within the incorporated territory of a city. GOV'T CODE § 65302.10(a)(2)–(5). In some cases, those unincorporated communities are entirely surrounded by a city but are not included within that city's boundaries and are unable to vote in city elections. *Id.* § 65302.10(a)(4).

13. 2016 Compliance Report Dataset; State Water Res. Control Bd., Human Right to Water Dataset: Noncompliant Systems (2017) [hereinafter, "HRTW Dataset"]; *see also* JONATHAN LONDON ET AL., THE STRUGGLE FOR WATER JUSTICE IN CALIFORNIA'S SAN JOAQUIN VALLEY: A FOCUS ON DISADVANTAGED UNINCORPORATED COMMUNITIES REPORT 30 (Feb. 2018), https://regionalchange.ucdavis.edu/publication/water-justice [https://perma.cc/UYV4-RHY4]. With the exception of a water treatment lapse that affected 3,987,622 Angelenos, violations with potential direct public health impacts affected 1,007,055 Californians in 2016. 2016 COMPLIANCE REPORT, *supra* note 10, at 2, 16–17. Taken together, water contamination and treatment violations exposed 4,994,677 (12.6%) Californians to unsafe drinking water in 2016. *See* 2016 Compliance Report dataset, *supra* note 10 (total population affected by contaminant and treatment violations); U.S. CENSUS BUREAU, CALIFORNIA: POPULATION (Dec. 21, 2017) (used to calculate the share of the population exposed to contaminant and treatment violations); 2016 COMPLIANCE REPORT, *supra* note 10, at 2, 16–17.

14. *See* 2016 Compliance Report Dataset, *supra* note 10.

within a mile of a city's borders, while one-third are too far[15] from a city's borders to extend drinking water service.[16] These dire spatial and racial inequalities suggest that California must explore new strategies to augment current efforts to implement the human right to water.

Despite the extensive number of noncompliant DUC water systems located far from any city's boundaries, local government agencies, rural and community advocates, and state agency staff have primarily focused on working with cities to extend residential water service to nearby rural communities.[17] To be sure, as the primary drivers of land-use planning and growth, cities play an important role in eliminating water inequality. But ongoing racial and spatial disparities in access to safe drinking water suggest that although state programs have improved drinking water access for rural communities within one to three miles of a city boundary, policy and funding gaps persist.

This commentary argues that advocates and policymakers must look to a broader array of possible water providers to redress water inequality in DUCs located more than three miles from a city's borders. It briefly describes the land development patterns that drove the creation of "remote DUCs,"[18] and argues that the State must take into account those histories when addressing water inequality in those communities. Finally, the commentary concludes with suggestions for policy changes that may engender sustainable solutions for remote DUCs.

15. Although "far" is a relative term, I use it to refer to communities three or more miles from a city's borders. California's drinking water funding programs often extend water infrastructure from a compliant system to a noncompliant system only if the population receiving service falls within three miles of an existing water system or source. In practice, extensions are often limited to systems within a mile of each other, increasing the share of "remote" DUCs to just over sixty percent. *See* LONDON ET AL., *supra* note 13, at 32 (reporting that 61% of DUCs are located more than one mile from a city's borders).

16. LONDON ET AL., *supra* note 13, at 32.

17. In 2015, the Legislature passed and the Governor signed California Senate Bill 88, which authorized the State Water Resources Control Board to require that systems serving unsafe or unreliable drinking water to DUCs, or mutual water companies serving unsafe water to any disadvantaged community, consolidate with compliant systems. Of the eleven DUC system consolidations that have been completed since Senate Bill 88 entered into force, all eleven occurred in the San Joaquin Valley, and eight (72.7%) involved connection to a city water system. *See* STATE WATER RES. CONTROL BD., MANDATORY CONSOLIDATION OR EXTENSION OF SERVICE FOR DISADVANTAGED COMMUNITIES, https://www.waterboards.ca.gov/drinking_water/programs/compliance/index.html [https://perma.cc/8Q79-RZWM] (last updated Dec. 18, 2017, and last accessed Feb. 20, 2018).

18. Throughout this commentary, I refer to DUCs located more than three miles from a city's borders as "remote DUCs." California law refers to DUCs that are landlocked by a city as "islands," while those DUCs that share a border with a city are often referred to as "fringe" or "peripheral" communities. GOV'T CODE § 65302.10(a)(3)–(5); *see also* FLEGAL ET AL., *supra* note 3, at 21–22 (setting forth the framework for California's DUC typology). Advocates have not agreed on a unified term to refer to DUCs located farther than three miles from a city's borders.

A. DUCs May Be Remote, But Their Existence Is Not Random.

In order to craft effective drinking water policy interventions, decision makers must take into account the historical development (and growth) of remote DUCs. Although some policymakers have suggested that remote DUCs are byproducts of sprawl-based development, the majority of those DUCs predate contemporary urban boundaries. Additionally, remote DUCs represent a sizable portion of the total number of DUCs throughout the state. In the San Joaquin Valley, alone, approximately forty-four percent of DUCs (231 of 525) are remote—a figure roughly equal to the number of "fringe" DUCs.[19] Both the number and location of remote DUCs suggest that their development occurred independently of urban development patterns.[20]

Most remote DUCs formed during periods of economic expansion, and those communities remained close to industries that had formed through that expansion, even after local jobs moved or disappeared. For example, the remote DUCs of Cortez and Cressey (Merced County) were originally established as Japanese farming colonies in the early 1900s, and both are located on what was then the Atchison, Topeka & Santa Fe Railway ("Santa Fe") line.[21] Grayson (Stanislaus County), a remote DUC, was established in the 1860s and served as a thriving river port until water from the San Joaquin River was diverted for agricultural irrigation.[22] The remote DUC of Allensworth (Tulare County) was founded in 1908 along the Santa Fe line as the first African American freedom colony[23] west of the Mississippi.[24] Although the Allensworth train depot was ultimately removed, it still serves as a whistle stop for the Amtrak trains that travel along the

19. FLEGAL ET AL., *supra* note 3, at 22.

20. *See* Lauren Richter, *Constructing insignificance: critical race perspectives on institutional failure in environmental justice communities*, 4 ENVTL. SOCIOLOGY 107, 111–12 (2017) (gathering sources).

21. *See generally* VALERIE J. MATSUMOTO, FARMING THE HOME PLACE: A JAPANESE AMERICAN COMMUNITY IN CALIFORNIA, 1919–1982 (1993) (recounting the founding and development of three Japanese-American farming colonies, with special focus on Cortez).

22. JERRY MACMULLEN, PADDLEWHEEL DAYS IN CALIFORNIA 81, 145 (1970).

23. Freedom colonies were independent, rural settlements that African Americans created to enable land ownership and self-sufficiency, and after the Civil War, to escape the structural racism and violence of the Jim Crow South. *See generally* THAD SITTON & JAMES H. CONRAD, FREEDOM COLONIES: INDEPENDENT BLACK TEXANS IN THE TIME OF JIM CROW (2005); PATRICIA C. CLICK, TIME FULL OF TRIAL: THE ROANOKE ISLAND FREEDMEN'S COLONY, 1862–1867 (2001); *see also* JESSICA GORDON NEMBHARD, COLLECTIVE COURAGE: A HISTORY OF AFRICAN AMERICAN COOPERATIVE ECONOMIC THOUGHT AND PRACTICE 34–40 (2014) (discussing pre-Civil War African American farming colonies).

24. ALICE C. ROYAL, ALLENSWORTH, THE FREEDOM COLONY: A CALIFORNIA AFRICAN AMERICAN TOWNSHIP 84–91 (1st ed. 2008); *see also* Leslie Fulbright, *Battle for piece of black history: Allensworth, a town founded for African Americans, may get new neighbors–2 huge dairy farms*, S.F. CHRON. (Jan. 8, 2007).

same freight lines that existed over 100 years ago.[25] And in the Salinas Valley, the arrival of the Southern Pacific Railroad catalyzed local agricultural development by reducing the cost of shipping agricultural products.[26] With the Southern Pacific's extension in 1867 came the growth of several remote DUCs, including Chualar, Las Lomas, and Castroville.[27]

Meanwhile, federal land policy laid the groundwork for the development of remote DUCs in the western San Joaquin Valley and in the Imperial Valley.[28] The federal Reclamation Act of 1902 originally sought to break up land empires by dividing large farms into parcels of 160 acres for the creation of small farming homesteads.[29] In addition to increasing the number of family farms, receipt of a federal allotment entitled the landowner to subsidized water provided by the Central Valley Project.[30] Instead of creating small farms, however, the Bureau of Reclamation allowed nonresident land barons to create enormous farms well in excess of the original 160-acre limit.[31] As those large-scale farming operations grew, so grew nearby settlements of agricultural workers.[32]

25. Amtrak, *Map: San Joaquins Line*, https://www.amtrak.com/san-joaquins-train [https://perma.cc/9J6M-9H8E]; *see generally*, DAVID IGLER, INDUSTRIAL COWBOYS: MILLER & LUX AND THE TRANSFORMATION OF THE FAR WEST, 1850–1920, at 60–91 (2d ed. 2005) (discussing the history of railroad-driven land speculation, water rights accumulation, and development in California).

26. City of Salinas, *History*, https://www.cityofsalinas.org/visitors/salinas-history [https://perma.cc/SM73-ZXX2].

27. DAVID L. DURHAM, CALIFORNIA'S GEOGRAPHIC NAMES: A GAZETTEER OF HISTORIC AND MODERN NAMES OF THE STATE 885 (1998).

28. *See* Barcellos & Wolfsen, Inc. v. Westlands Water Dist., 899 F.2d 814, 815–17 (9th Cir. 1990) (describing the history of the Reclamation Act); *see also* Yellen v. Hickel, 352 F. Supp. 1300, 1306 (S.D. Cal. 1972) (although *Yellen* was later vacated as moot, it describes noncompliance with the Reclamation Act and the formation of agricultural land baronies in the Imperial Valley); *see also* Mary Louise Frampton, *The Enforcement of Federal Reclamation Law in the Westlands Water District: A Broken Promise*, 13 U.C. DAVIS L. REV. 89, 91–103 (1979) (discussing the Bureau of Reclamation's role in enabling large land conglomerates in the western San Joaquin Valley); Lloyd Carter, *Reaping Riches in a Wretched Region: Subsidized Industrial Farming and Its Link to Perpetual Poverty*, 3 GOLDEN GATE U. ENVTL. L.J. 5, 6, 8–11, 14–16 (2009) (recounting the use of Reclamation Act lands to concentrate land ownership in the Westlands Water District); Paul S. Taylor, *National Reclamation in Imperial Valley: Law v. Policy*, 11 ECOLOGY L.Q. 125 (1983); Robert G. Schonfeld, *The Early Development of California's Imperial Valley: Part I*, 50 S. CAL. Q. 279 (1968).

29. 43 U.S.C. § 431 (1970).

30. *Id.*

31. Frampton, *supra* note 28, at 92–93; Carter, *supra* note 28, at 10–11, 13. In 1926, Congress amended the Reclamation Act to allow the Interior Department to sell water to farms with lands in excess of the original 160-acre limit. *See* 43 U.S.C. § 423e.

32. For example, the remote DUC of Westley was originally a farm worker labor camp. Stanislaus Cty., *Brief History*, UNINCORPORATED CITIES: WESTLEY, http://www.stancounty.com/board/unincorporated-cities/westley.shtm [https://perma.cc/DTM4-36PW]. The remote DUCs of Cantua Creek and El Porvenir formed to provide labor for the grain harvest and to transport agricultural goods to market. MACMULLEN, *supra* note 22.

Even after the removal of train depots and abandonment of river transport, agricultural enterprises and nearby DUCs persisted. For some communities, persistence was an act of self-determination.[33] For others, the collapse of local economic opportunity drove down real estate prices, depriving residents of their home equity and discouraging prospective buyers from moving into remote communities.[34] When combined with exclusionary zoning, redlining, the siting of undesirable land uses, and a lack of affordable housing in cities,[35] many remote DUCs became loci for concentrated rural poverty.[36]

By miscategorizing remote DUCs as byproducts of contemporary, sprawl-based development, decision makers have incorrectly assumed that remote DUCs share the same characteristics as fringe and island DUCs, which are geographically closer to cities. As a result, California's drinking water policies have chiefly focused on extending service from cities to remote DUCs.

By acknowledging the decades-long relationship between industrial development (and later collapse), disinvestment, racial exclusion, and economic vulnerability, decision makers can reframe their understanding of the root causes of water inequality in remote DUCs. At a practical level, a shift in framing would enable policymakers to consider a broader array of solution sets to address water inequality in remote DUCs. A historical examination of remote DUCs lays bare uncomfortable and painful histories in which elected officials and government employees used the deprivation of essential infrastructure—including drinking water—to subordinate low-income communities of color. But in laying bare that history, we also uncover the moral and ethical imperatives that require us to redress persistent water inequality.

33. *See, e.g.*, MATSUMOTO, *supra* note 21; ROYAL, *supra* note 24.

34. *See* Pannu, *supra* note 7, at 231–34, 236 (discussing the racially disparate demographics of rural poverty in the San Joaquin Valley, and the relationship between infrastructure disinvestment and property values).

35. *See* Michelle Wilde Anderson, *Cities Inside Out: Race, Poverty, and Exclusion at the Urban Fringe*, 55 UCLA L. REV. 1095, 1106–13, 1118 (2008) (discussing the deprivation of public services, siting unhealthy land uses, inadequate affordable housing, racial inequality, and concentrated poverty in DUCs); *see also* Nancy L. Simmons, *Memories and Miracles—Housing the Rural Poor Along the United States–Mexico Border: A Comparative Discussion of Colonia Formation and Remediation in El Paso County, Texas, and Doña Ana County, New Mexico*, 27 N.M. L. REV. 33 (1997) (discussing housing and rural poverty among communities of color in fringe and remote DUCs); Craig Anthony Arnold, *Planning for Environmental Justice*, 59 PLANNING & ENVTL. L. 3, 3–4 (Mar. 2007) (discussing siting undesirable land uses in communities of color).

36. *See* DANIEL T. LICHTER & DOMENICO PARISI, CARSEY INST., CONCENTRATED RURAL POVERTY AND THE GEOGRAPHY OF EXCLUSION 1–3 (Fall 2008); Pannu, *supra* note 7, at 231–34; Rubin et al., *supra* note 3, at 4–5.

B. When Considering How to Extend Safe Drinking Water to Rural Communities, Scholars and Policymakers Have Primarily Focused on Proximity to Cities.

Policy discourse and interventions to address safe drinking water access in rural communities have primarily focused on the role of cities in extending service to, or annexing, fringe and island DUCs. Academics and policymakers have rightfully noted that sustainable water planning has a land-use nexus,[37] and that sprawl-based development[38] that fails to account for water supplies risks creating or exacerbating local water insecurity.[39] Local government scholars have suggested that water supply and quality must be integrated into the municipal planning process,[40] arguing that cities' historical and contemporary policies of

37. *See* Sarah Bates, *Bridging the Governance Gap: Emerging Strategies to Integrate Water and Land Use Planning*, 52 NAT. RES. J. 61, 69–81 (2012); *see also* Lora A. Lucero, *Water Supplies and Growth—The Elephant in the Living Room*, 62 PLAN. & ENVTL. L. 3, 4, 6–7 (2010) (discussing planning paradigms that account for limited water supplies and the effects of climate change); A. Dan Tarlock & Sarah B. Van de Wetering, *Water and Western Growth*, 59 PLAN. & ENVTL. L. 3 (2007); Craig Anthony Arnold, *Clean-Water Land Use*, 23 PACE ENVTL. L. REV. 291 (2006); Nicole Carter et al., *Closing the Circle: Linking Land Use Planning and Water Management at the Local Level*, 22 LAND USE POL'Y 115 (2005); A. Dan Tarlock & Lora A. Lucero, *Connecting Land, Water, and Growth*, 34 URB. LAW. 971 (2002); Sarah J. Meyland, *Land Use & the Protection of Drinking Water Supplies*, 10 PACE ENVTL. L. REV. 563 (1993); *see also* Patricia Gober et al., *Why Land Planners and Water Managers Don't Talk to One Another and Why They Should!*, 26 SOC'Y & NAT. RES. 356 (2013). For regional case studies that discuss the land-use and water nexus, see Jean L. Coleman & Suzanne Sutro Rhees, *Where Land and Water Meet: Opportunities for Integrating Minnesota Water and Land Use Planning Statutes for Water Sustainability*, 39 WM. MITCHELL L. REV. 920 (2013); Anita P. Miller, *Rural Development Considerations for Growth Management*, 43 NAT. RES. J. 781 (2003) (discussing the need to integrate water availability when considering rural growth in New Mexico); V.B. Price, *Saved by Scarcity?*, 42 NAT. RES. J. 1 (2002) (comparing Albuquerque's growth model to other arid and desert cities).

38. Craig Anthony Arnold, *Adaptive Water Law*, 62 U. KAN. L. REV. 1043 (2014); Craig Anthony Arnold, *Fourth-Generation Environmental Law: Integrationist and Multimodal*, 35 WM. & MARY ENVTL. L. & POL'Y REV. 771, 837–41 (2011) (discussing "wet growth").

39. UN-Water defines water security as the capacity of a population to safeguard sustainable access to adequate quantities of acceptable quality water for sustaining livelihoods, human well-being, and socioeconomic development, for ensuring protection against water-borne pollution and water-related disasters, and for preserving ecosystems in a climate of peace and political stability. WATER SECURITY & THE GLOBAL WATER AGENDA: A UN-WATER ANALYTICAL BRIEF (2013). For greater discussion of the evolution and definitions of the term "water security," see Christina Cook & Karen Bakker, *Water security: Debating an emerging paradigm*, 22 GLOBAL ENVTL. CHANGE 94 (2012).

40. *See* Michelle Bryan Mudd, *A Next, Big Step for the West: Using Model Legislation to Create a Water-Climate Element in Local Comprehensive Plans*, 3 WASH. J. ENVTL. L. & POL'Y 1 (2013); Keith H. Hirokawa, *Driving Local Governments to Watershed Governance*, 42 ENVTL. L. 157, 165–73 (2012); Lincoln L. Davis, *Assured Water Supply Laws in the Sustainability Context*, 4 GOLDEN GATE U. ENVTL. L.J. 167 (2010); Ryan

racial exclusion have compounded inequality in fringe and island DUCs.[41] That literature is vital for examining rural poverty in the context of its municipal[42] neighbors; nonetheless, it cannot fully explain persistent inequality in remote DUCs.

As the only layer of general-purpose local government for remote DUCs, California's county governments have been charged with providing essential services to those communities. Despite that charge, in the San Joaquin Valley counties frequently prioritized investing in sprawl-based development at the urban fringe, often at the expense of investing in DUCs.[43] That history, combined with

Waterman, *Addressing California's Uncertain Water Future by Coordinating Long-Term Land Use and Water Planning: Is a Water Element in the General Plan the Next Step?*, 31 ECOLOGY L.Q. 117 (2004); *but see* S.B. 244, 2011 Leg. (Cal. 2011), *codified in relevant part at* GOV'T CODE § 56430 (requiring cities and counties to evaluate municipal services in disadvantaged island, fringe and remote DUCs and to examine extensions of service to those communities when evaluating a local government's application to expand its sphere of influence—i.e., its growth boundary).

41. Anderson, *Mapped Out of Local Democracy*, *supra* note 3, at 937–49; Emily Tumpson Molina, *Race, Municipal Underbounding, and Coalitional Politics in Modesto, California and Moore County, North Carolina*, 1 KALFOU 180, 181–85 (2014); Noah J. Durst, *Municipal annexation and the selective underbounding of* colonias *in Texas' Lower Rio Grande Valley*, 46 ENVT. & PLANNING A 1699 (2014); Vinit Mukhija & David R. Mason, *Reluctant Cities,* Colonias *and Municipal Underbounding in the US: Can Cities be Convinced to Annex Poor Enclaves?*, 50 URB. STUD. 2959 (2013); Ben Marsh, Allan M. Parnell & Ann Moss Joyner, *Institutionalization of Racial Inequality in Local Political Geographies*, 31 URB. GEOGRAPHY 691 (2010); Malini Ranganathan & Carolina Balazs, *Water marginalization at the urban fringe: environmental justice and urban political ecology across the North–South divide*, 36 URB. GEOGRAPHY 403, 407–08 (2015); Anderson, *Cities Inside Out*, *supra* note 35, at 1106–13; Daniel T. Lichter & Domenico Parisi, *Municipal Underbounding: Annexation and Racial Exclusion in Small Southern Towns*, 72 RURAL SOC. 47 (2007); *see also The Committee Concerning Community Improvement v. City of Modesto*, 583 F.3d 690, 703–05, 707–09 (9th Cir. 2009) (finding that residents of four majority-Latino unincorporated communities stated a viable claim that the City of Modesto and County of Stanislaus engaged in intentional, racially discriminatory policies to prevent those communities' annexation and to deny those communities access to adequate emergency response services).

42. I use the term "municipal" to refer to general-purpose local governments that are "incorporated place[s] . . . established to provide governmental functions for a concentration of people." U.S. CENSUS BUREAU, *Population of Interest—Municipalities and Townships*, LISTS & STRUCTURE OF GOVERNMENTS, https://www.census.gov/govs/go/municipal_township_govs.html [https://perma.cc/WWL3-7HRW] (last revised Mar. 2, 2016).

43. In several communities, counties reallocated income derived from rural property taxes to sprawl-based development on the periphery of cities. *See, e.g.*, MADERA CTY. PLANNING DEP'T, *Housing Element* and *Background Report*, *supra* note 3 (redirecting rural tax monies to cities by funding the development of new housing near the boundaries of those cities); Rubin et al., *supra* note 3, at 5–6, 16, 18–19, 21–22 (describing local governments' refusals to address lack of access to essential infrastructure in San Joaquin Valley DUCs); Jody Murray, *Watch three decades of urban sprawl in Fresno and Clovis, squeezed into a few seconds*, FRESNO BEE (Aug. 17, 2017), http://www.fresnobee.com/news/local/article167829902.html [https://perma.cc/P47Z-ELKC]; *see also* Alex Karner, *Can California's San Joaquin Valley Conquer Urban Sprawl?* (Essay), ZÓCALO PUBLIC SQUARE, (July 1,

the prevalence of remote DUCs, suggests that cities cannot address the full range of DUCs facing drinking water deficits.[44] Additionally, even cities that wish to extend drinking water service are often stymied by the high cost of those projects because of California's tax regime. Consequently, policymakers must broaden their focus to consider the role of other local governmental entities and other regulated water providers to bridge the safe drinking water gap in remote DUCs.

C. Policymakers Must Consider a Wider Array of Funding Tools and Potential Water Providers in Order to Extend Safe Drinking Water to Remote DUCs.

As discussed above, several systemic constraints[45] undermine efforts to provide safe drinking water to remote DUCs: distance from cities with safe drinking water, inadequate funding, and the high cost of creating, replacing and improving drinking water infrastructure. This section proposes solutions for overcoming those hurdles and ensuring safe drinking water reaches remote DUCs.

2014), http://www.zocalopublicsquare.org/2014/07/01/can-californias-san-joaquin-valley-conquer-urban-sprawl/ideas/nexus [https://perma.cc/HC4A-GEGM]; David Garcia, *Why it's time for Central Valley cities to stop urban sprawl*, op-ed, CENT. VALLEY BUSINESS J. (Sept. 1, 2013), https://cvbj.biz/2013/09/01/time-central-valley-cities-stop-urban-sprawl/ [https://perma.cc/8Y34-J8ER]; Michelle Wilde Anderson, *Sprawl's Shepherd: The Rural County* (Essay), 100 CALIF. L. REV. 365 (2012); Christopher Silveira, *An Urban Morphology of Fresno, California: Its Structure and Growth*, at 44–47, 54–55 (2010) (unpublished undergraduate honors thesis, on file with author); *see also Committee Concerning Community Improvement*, 583 F.3d at 697–98 (discussing plaintiff's argument that exclusion from property tax agreements between the City of Modesto and County of Stanislaus, enabled racially exclusive annexation policies with respect to fringe and island DUCs). In other cases, counties purposefully withheld infrastructure funding with the intention of making DUCs so uninhabitable that they would collapse. *See* TULARE CTY. PLANNING DEP'T, *supra* note 3, at § 2.D.3 (describing intention to deprive disadvantaged unincorporated communities of funding and infrastructure investment). Perhaps unsurprisingly, those approaches did not cause DUCs to collapse, but instead, further deepened rural poverty.

44. A recent study addressing water inequality in all San Joaquin Valley DUCs found that 27 percent of DUC residents who lack access to safe water live within 500 feet of a city boundary and within its sphere of influence. LONDON ET AL., *supra* note 13, at 32. Another 12 percent of DUC residents with unsafe drinking water live within a mile of a city boundary, although primarily outside of those cities' spheres of influence. *Id.* That data suggests that the majority of DUC residents with unsafe drinking water—61 percent—live more than a mile outside of a city boundary. Those findings indicate that although cities play an important role in extending access to safe drinking water, a city-centric approach alone cannot meet the needs of the majority of DUC residents without safe drinking water.

45. Although this commentary addresses institutional and systemic barriers to delivering safe drinking water to rural communities, it is important to note that those barriers are reinforced by additional anthropogenic impacts on water quantity and quality, including: large-scale water infrastructure and transport programs; widespread and unremediated industrial and agricultural pollution; climate change; and groundwater overdraft.

1. *The State Water Resources Control Board Should Identify Possible Partnerships Between Community Water Systems, Water Districts, and Remote DUCs.*

Although the State Water Resources Control Board ("State Water Board") has made progress in returning noncompliant[46] drinking water systems to compliance,[47] out-of-compliance water systems continue to deliver unsafe water to thousands of Californians.[48] Additionally, the focus on bringing water systems into compliance often fails to address the water safety concerns facing rural residents who receive unsafe water from private wells.[49]

New research suggests that two-thirds of DUC residents live within 500 feet of a compliant water system, and approximately 87 percent of DUC residents live within three miles of a compliant water system.[50] In light of that information, policymakers should shift their focus to identifying proximate and compliant water systems when attempting to address unsafe drinking water in remote DUCs. This shift would require looking beyond cities to identify other compliant drinking water providers, such as mutual water companies, community services districts, municipal utilities districts, and state small systems.[51]

46. All drinking water systems with at least 15 connections, or at least 25 people who receive water each day for sixty days each year, fall within the regulatory framework of the federal Safe Drinking Water Act, 42 U.S.C. §§ 300f–300j-27. *Id.* at § 300f(4)(A) (defining "public water system"). Systems with 5 to 14 connections are regulated as "state small water systems," Cal. Health & Safety Code § 116275(n), under the California Safe Drinking Water Act, *id.* §§ 116270–725 (2017). A regulated water system is "compliant" if it meets federal and state drinking water requirements, and it is "noncompliant" if it fails to meet those standards. *See Id.* § 116287.

47. *See* HRTW Dataset, *supra* note 13 (categorizing compliant, noncompliant, and "returned to compliance" drinking water systems).

48. *Id.*

49. To be sure, data regarding water quality for individual domestic wells is sparse, making it difficult even to identify at-risk private well communities. Additionally, regulators often struggle to navigate the difficult line between protecting public health and disrupting any private property rights related to use of an unsafe private well for that property owner's drinking water needs.

50. LONDON ET AL., *supra* note 13, at 31–41.

51. The lion's share of DUC consolidations and extensions of service have involved cities. *See* STATE WATER RES. CONTROL BD., MANDATORY CONSOLIDATION, *supra* note 17; *see also* STATE WATER RES. CONTROL BD., *Consolidation Funding Projects for Disadvantaged Water Systems with Violations* Dataset, CONSOLIDATION STATISTICS, https://www.waterboards.ca.gov/drinking_water/certlic/drinkingwater/dashboard.html [https://perma.cc/XC98-QLQ4]. When examining the broader universe of water system consolidations, however, mutual water companies, community services districts and public utility districts have played an important supplemental role. STATE WATER RES. CONTROL BD., *Consolidated Water Systems List: Completed Consolidations Beginning January 1, 2017 and December 31, 2017*, CONSOLIDATION STATISTICS, https://www.waterboards.ca.gov/drinking_water/certlic/drinkingwater/dashboard.html [https://perma.cc/97TT-WUTR].

Those water systems that are proximate to remote DUCs have a geographic advantage in that they may be able to provide more cost-effective extensions of service. At the same time, increasing the number of water users for those systems can also have a stabilizing effect for the receiving system—a larger number of ratepayers increases economies of scale, thereby decreasing the fixed costs of water provision for all residents of that water system.

The State Water Board may also increase access to safe water by evaluating partnerships between nonresidential water districts,[52] such as irrigation districts, and remote DUCs. In some cases, water exchanges that enable water mixing may dilute water contaminants that are especially expensive to treat. For example, the remote DUCs of Allensworth[53] and Alpaugh[54] have faced ongoing challenges in addressing arsenic contamination for decades. Those communities jointly applied

52. The State Water Board has reported consolidations involving irrigation districts for commercial drinking water provision, but thus far, there have been very few, if any, non-consolidation partnerships between irrigation districts and residential drinking water providers. *See* STATE WATER RES. CONTROL BD., *Consolidated Water Systems List*, *supra* note 51.

53. *See* STATE WATER RES. CONTROL BD., *Sampling Results: Well 01 - East - Raw*, CAL. DRINKING WATER WATCH, https://sdwis.waterboards.ca.gov/PDWW/JSP/SamplingResultsByStoret.jsp?SystemNumber=5400544&SamplingPointID=002&SamplingPointName=WELL+01+++EAST++RAW&Storet=&ChemicalName=&begin_date=&end_date=%20(2018) [https://perma.cc/BGV2-APUY] (providing pretreatment contaminant levels for Allensworth's east well); STATE WATER RES. CONTROL BD., *Sampling Results: Well 01 - West - Raw*, CAL. DRINKING WATER WATCH, https://sdwis.waterboards.ca.gov/PDWW/JSP/SamplingResultsByStoret.jsp?SystemNumber=5400544&SamplingPointID=003&SamplingPointName=WELL+02+++WEST++RAW&Storet=&ChemicalName=&begin_date=&end_date=%20%20(2018) [https://perma.cc/S99W-88FS] (reporting pretreatment contaminant levels for Allensworth's west well); *see also* Tammerlin Drummond, *A Lost Horizon: Allensworth was an ex-slave who envisioned a place where blacks could live freely. Racism and hard times eventually killed his utopia. But its memory has survived*, L.A. TIMES (Nov. 17, 1991).

54. STATE WATER RES. CONTROL BD., *Sampling Results: Well 01 Raw*, CAL. DRINKING WATER WATCH, https://sdwis.waterboards.ca.gov/PDWW/JSP/SamplingResultsByStoret.jsp?SystemNumber=5410050&SamplingPointID=004&SamplingPointName=WELL+01++RAW&Storet=&ChemicalName=&begin_date=&end_date=%20(2018) [https://perma.cc/99ES-GED6] (arsenic levels for one of Alpaugh's source wells); STATE WATER RES. CONTROL BD., *Sampling Results: Well 10 Raw*, CAL. DRINKING WATER WATCH, https://sdwis.waterboards.ca.gov/PDWW/JSP/SamplingResultsByStoret.jsp? SystemNumber=5410050&SamplingPointID=003&SamplingPointName=WELL+10++RAW&Storet=&ChemicalName=&begin_date=&end_date=%20(2018) [https://perma.cc/37DQ-HS35] (arsenic levels Alpaugh's second source well); *see also* Jessica Peres, *Contaminated Alpaugh Water: High Levels of Arsenic in the City's Water*, ABC 30 ACTION NEWS KFSN-TV (July 30, 2008), http://abc30.com/archive/6297435 [https://perma.cc/ZCE5-JMTP]; Holly Kernan, *Calif. Town Fights for Clean Tap Water*, NATL. PUB. RADIO (Jan. 24, 2005), https://www.npr.org/templates/story/story.php?storyId=4463526 [https://perma.cc/D6FW-3MX3].

for state funding[55] to explore the feasibility of a pilot program that would allow water mixing at a one-to-one exchange rate with an irrigation district with water that fell within the maximum contaminant level for arsenic.[56] Although the pilot project ultimately did not result in a water-exchange program,[57] it provided an alternative framework for collaboration across domestic and nondomestic water districts.[58] That framework may become increasingly useful as communities undertake the groundwater sustainability planning process.[59]

2. *In the Absence of Tax Reform, the State Must Commit to Creating Ongoing Funding to Support Access to Safe Drinking Water for All DACs.*

Perhaps the single greatest impediment to achieving safe drinking water is the high cost of water infrastructure improvement, repair, and replacement. Recent projects repairing or replacing water distribution pipelines have ranged from $1.1 million and $4.45 million per mile of pipeline laid.[60] In addition to those high

55. CAL. NAT. RES. AGENCY, *AAA Water and MT Sewer Project*, BOND ACCOUNTABILITY (2015), http://bondaccountability.resources.ca.gov/Project.aspx?ProjectPK=3793&PropositionPK=4 [https://perma.cc/R8GU-9JMJ].

56. Bernice Yeung, *California Drinking Water: Rural Towns Devise Unique Plan to Solve Problems*, CAL. WATCH (May 14, 2012).

57. CAL. NAT. RES. AGENCY, *Alpaugh CSD Arsenic Treatment—Construction Project*, BOND ACCOUNTABILITY, http://bondaccountability.resources.ca.gov/Project.aspx?ProjectPK=22101&PropositionPK=48 [https://perma.cc/K7UH-AV53] (reporting the allocation of Prop 1 funding for the purposes of creating an arsenic treatment plant in Alpaugh).

58. The remote Tulare County DUCs of East Orosi, Monson, Seville, Sultana, and Yettem have explored the possibility of partnering with the Alta Irrigation District to develop long-term, regional solutions for delivering safe and affordable drinking water. COMMUNITY WATER CTR., NORTHERN TULARE COUNTY REGIONAL SAFE DRINKING WATER PROJECT (Oct. 2017), https://www.communitywatercenter.org/northern_tulare_county_region [https://perma.cc/3FMH-4UDS].

59. California's Sustainable Groundwater Management Act (SGMA) requires groundwater users to develop groundwater sustainability plans, which in turn will require coordination between those users to achieve their sustainability goals. WATER CODE § 10727.

60. *See* EAST BAY MUN. UTIL. DIST., PIPELINE REPAIRS REVEAL WATER LEGACY, https://www.ebmud.com/about-us/construction-myneighborhood/pipeline-repairs-reveal-water-legacy [https://perma.cc/AWB7-NGG8] (stating that the average cost to replace a mile of water transmission pipe is $2.4 million); EAST BAY MUN. UTIL. DIST., *$4 Million Grant Awarded to Expand San Ramon Valley Recycled Water Program*, PRESS RELEASES (Nov. 7, 2014), https://www.ebmud.com/about-us/news/press-releases/4-million-grant-awarded-expand-san-ramon-valley-recycled-water-program [https://perma.cc/836T-LEVJ] (reporting that the cost of a nearly nine-mile pipeline extension was $11.8 million, or approximately $1.3 million per mile of pipe); SACRAMENTO SUBURBAN WATER DISTRICT, WATER TRANSMISSION MAIN ASSET MANAGEMENT PLAN 40 (Aug. 2011) (estimating the cost of water distribution pipeline replacement at $1.1 million per mile for a 16" pipeline to $4.45 million per mile for a 54" pipeline in 2011 dollars). Those estimates appear to be

costs, California Proposition 218[61] prohibits local governments from levying any special tax or assessment on a property if that assessment does not confer a "special benefit" to the property being taxed.[62] California courts have interpreted that prohibition strictly—they have repeatedly struck down assessments that failed to confer specific benefits to the individual property being taxed.[63] That prohibition has stymied counties and other local governments that have attempted to redistribute funding within their borders to address historic and persistent inequality in the provision of essential infrastructure.

As a result, disadvantaged communities are faced with shouldering the full cost of improving their water infrastructure. Proposition 218's provisions fail to account for prior histories of racial discrimination and disinvestment, and those provisions penalize communities for their own poverty. This outcome is punitive and futile: if disadvantaged communities had the financial means to repair their water systems,[64] they likely would not meet the definition of "disadvantaged" set forth by the Legislature.

limited to the cost of labor and construction and do not include additional transactional costs, such as purchasing easements or regulatory compliance.

61. CAL. CONST. arts. XIII C, XIII D (1996); *see* CAL. SEC'Y OF STATE, NOVEMBER 5, 1996 GENERAL ELECTION STATEMENT OF VOTE 43–45 (1996) (reporting the passage of Proposition 218).

62. CAL. CONST. art. XIII D, §§ 4 & 6; *see generally* CAL. DEBT & INVESTMENT ADVISORY COMM., OPPORTUNITIES TO USE ASSESSMENT DISTRICTS TO FINANCE FACILITIES AND SERVICES IN CALIFORNIA TODAY, No. 15–07 (2015), http://www.treasurer.ca.gov/cdiac/publications/opportunities.pdf [https://perma.cc/V4GY-BRDH] (explaining Proposition 218's requirements and limitations on property taxation and public debt).

63. Silicon Valley Taxpayers' Ass'n v. Santa Clara Cty. Open Space Auth., 44 Cal. 4th 431, 441–43, 449–52 (2008); Town of Tiburon v. Bonander, 180 Cal. App. 4th 1057, 1080–88 (2009).

64. One of the most disturbing examples of Proposition 218's punitive effect can be found in the remote DUC of Lanare (Fresno County). After years of grappling with unsafe drinking water, Fresno County applied for funding to construct an arsenic treatment plant in Lanare. In obtaining that funding, neither the County nor the State Water Board examined whether residents had the means to pay for the high cost of running the treatment plant through increased water rates, driving the Lanare Community Services District into a receivership. Years later, the arsenic treatment plant remains closed while residents continue to receive unsafe water and struggle to pay the debts incurred from the plant's creation. Ezra David Romero & Kerry Klein, *They Built It, But Couldn't Afford to Run It—Clean Drinking Water Fight Focuses on Gaps in Funding*, VALLEY PUB. RADIO (June 6, 2017), http://kvpr.org/post/they-built-it-couldn-t-afford-run-it-clean-drinking-water-fight-focuses-gaps-funding [https://perma.cc/UN5Q-G8HL]; Laura Bliss, *Why California's Poorest Towns Still Can't Connect to Water*, CITYLAB (Oct. 8, 2015), https://www.citylab.com/equity/2015/10/why-californias-poorest-towns-still-cant-connect-to-water/409516/ [https://perma.cc/L4WQ-3BF5]; Alice Daniel, *Central Valley Community Fights for Clean Drinking Water*, KQED (Nov. 18, 2013), https://www.kqed.org/stateofhealth/16161/central-valley-community-fight s-for-clean-water [https://perma.cc/E9XG-6WUR]; David Bacon, *Dying for a Glass of Clean Water in California's San Joaquin Valley* (Photo Essay), New America Media (Aug. 26, 2011), http://www.truth-out.org/news/item/2939-dying-for-a-glass-of-clean-water-in-california%E2%80%99s-san-joaquin-valley [https://perma.cc/G5GT-BJTF].

In light of the slim possibility that Californians will reform their tax regime,[65] the State must step up to bridge funding gaps related to safe and affordable drinking water provision in DUCs. Those funding efforts should provide ongoing funding for system consolidation and regionalization,[66] water infrastructure planning and construction, and stopgap support for operations and maintenance for DUCs whose residents cannot afford paying increased rates if their water is remediated.[67] Whether that funding takes the form of bonds, fees, or set-asides from the General Fund, the State must commit resources in order to effectuate the human right to water in DACs.

3. *State Funding Programs Should Increase Set Asides for DACs and Raise Current Caps on Funding*.

At the direction of the Legislature, the State Water Board has set aside some bond-financed grant funds exclusively for DACs.[68] As the implementation of Proposition 1 has demonstrated, however, those grant programs did not have adequate funding to address unsafe water in DACs throughout the State. Although the State Water Board has prioritized and incentivized funding for infrastructure

65. Liam Dillon, *A major change to Proposition 13 takes its first step toward the 2018 ballot*, L.A. TIMES (Dec. 15, 2017), http://www.latimes.com/politics/essential/la-pol-ca-essential-politics-updates-a-major-change-to-proposition-13-takes-1513368938-htmlstory.html [https://perma.cc/W9K8-3T98].

66. In the context of California water policy, "consolidation" is a term of art that refers to "joining two or more public water systems, state small water systems, or affected residents not served by a public water system, into a single public water system." CAL. HEALTH & SAFETY CODE § 116681(e). "Reorganization" is a local government term of art under the Cortese-Knox-Hertzberg Local Government Reorganization Act of 2000, Gov't Code §§ 56000–57550, which defines a "reorganization" as any application to undertake "two or more changes of [local government] organization within a single proposal"—e.g., the merger of three or more special districts into a single local government entity. GOV'T CODE § 56073; *see also id.* § 56021 (providing a list of possible changes of organization).

67. Lawmakers have introduced legislation to address some of those funding needs this year. For example, Senate Bill 5, a bond measure that includes funding for water infrastructure with set asides for DACs, will be referred to voters as Proposition 68. CAL. SEC'Y OF STATE, QUALIFIED STATEWIDE BALLOT MEASURES, http://www.sos.ca.gov/elections/ballot-measures/qualified-ballot-measures [https://perma.cc/E2J3-FKSQ] (last visited Feb. 20, 2018).

68. *See, e.g.*, WATER CODE § 79724–79725 (setting aside funds to improve drinking water infrastructure for DACs); *id.* § 79742(d) (setting aside 10% of funds related to integrated regional water management planning for climate change and regional water security for DACs at the state level); *Id.* § 79745 (same, applying the 10% set aside to each hydrological region of the state); *Id.* § 79774(d) (setting aside funds for the prevention and cleanup of groundwater used as a source of drinking water); *see also id.* § 79723 (prioritizing, but not setting aside, funds for wastewater infrastructure projects serving DACs); PUB. RES. CODE § 75022 (2018) (prioritizing drinking water infrastructure funding for DACs).

improvements that benefit DACs,[69] insofar as it has the authority to do so, it should utilize its rulemaking authority to reserve additional funds across its programs for drinking water projects that serve DAC.

Additionally, as the State Water Board revises the Drinking Water State Revolving Fund[70] intended use plan (IUP),[71] it should revisit its per-connection limits on funding for DACs. Under the current IUP, the State Board may only spend $30,000 per connection to address water safety issues for a community, and it may award up to $60,000 per connection for projects that provide a "regional benefit."[72] This formulation falls short of serving remote DUCs' needs in at least three ways. First, the $30,000 per connection award is often much lower than the cost of connecting a DUC to a compliant system or constructing new infrastructure to bring a system into compliance. Second, it ignores remote DUCs' geographic isolation, making it difficult for those communities to qualify for "regional benefit" funding because those remote DUCs often are not proximate to more than one other water system. Third, the current funding caps do not take into account remote DUCs' long histories of racial exclusion and disinvestment.

The State cannot fix decades of disinvestment in low-income communities by capping support at $30,000, or even $60,000, per connection.[73] As part of its

69. STATE WATER RES. CONTROL BD., STATE OF CALIFORNIA DRINKING WATER STATE REVOLVING FUND AND THE WATER QUALITY, SUPPLY, AND INFRASTRUCTURE IMPROVEMENT ACT OF 2014 INTENDED USE PLAN: STATE FISCAL YEAR 2017–18, at 43–45 (June 20, 2017), *available at* https://www.waterboards.ca.gov/board_decisions/adopted_orders/resolutions/2017/dwsrf_iup_sfy2017_18_final.pdf [https://perma.cc/MP2Z-KFLX] [hereinafter "2017–18 INTENDED USE PLAN"].

70. The Safe Drinking Water State Revolving Fund is a program jointly funded by the federal and state government and administered by the State Water Resources Control Board. 42 U.S.C. § 300j-12 (2012); CAL. HEALTH & SAFETY CODE §§ 116760–116762.60 (2018).

71. States that participate in the revolving fund program are required to produce and share for public review annual intended use plans. 42 U.S.C. § 300j-12(b) (2012).

72. 2017-18 INTENDED USE PLAN, *supra* note 69, at 39–43. The "regional benefit" usually applies to water system consolidations involving three or more drinking water providers. *Id.* It is important to credit State Water Board staff for their efforts to address the unique harms facing DUCs broadly and remote DUCs in particular. Nevertheless, although staff may recommend that the State Water Board lift the per-connection funding cap on a project-by-project basis, staff do not have the authority or discretion to lift the per-connection cap to account for historic disinvestment, rurality, or the severity of a water quality problems in DUCs and DACs.

73. For example, in the remote DUC of Seville (Tulare County), emergency repairs to the water distribution system cost roughly $66,667 per connection for 75 service connections serving approximately 480 residents. State Water Res. Control Bd., *Report & Resolution Authorizing the Deputy Director of the Division of Financial Assistance to Provide Proposition 1 Drinking Water Grant Funding to Tulare County for the Replacement of Seville Water Company's Distribution System in an Amount Not to Exceed $5 Million* (Jan. 4, 2017), https://www.waterboards.ca.gov/board_info/agendas/2017/jan/010417_3.pdf; *see* State Water Res. Control Bd., *SWRCB Board Meeting – January 4, 2017*, YOUTUBE (published Jan. 4, 2017), https://youtu.be/kHCKeq3E0a0?t=24m25s [https://per

process for setting a per-connection cap, the State Water Board should evaluate its prior efforts to award funds to remote DUCs and the value of its prior awards to those communities, and determine the average cost of those projects based on varying population levels. Those average cost estimates have greater predictive value, and may be better instruments for determining project funding, than a per-connection funding cap. Additionally, the Board should determine if remote DUCs experienced historical disinvestment and should calculate the estimated value of those years of disinvestment when considering whether to grant funds in excess of current per-connection caps. Finally, when assessing how to distribute its funds, the State Water Board should explicitly prioritize funding projects in vulnerable communities that were subjected to disinvestment.

Conclusion

Over the past decade, California has made tremendous strides in attempting to address water poverty throughout the State. Nonetheless, after a decade of water infrastructure investment projects, tens of thousands of low-income Californians still have not received safe and affordable drinking water, and those water deficits are especially severe in disadvantaged unincorporated communities. The gap between the State's funding programs and access to safe drinking water for DUC residents suggests that the State must look to a wider array of policy prescriptions in order to realize its commitment to advancing the human right to water for all Californians.

ma.cc/KBG7-XY4T] (discussion and unanimous approval of the resolution take place between minutes 24:25 and 34:18 of the recording).

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