



# Plumbing the Depths: Californians Without Toilets and Running Water

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## ABOUT THE PACIFIC INSTITUTE

The Pacific Institute envisions a world in which society, the economy, and the environment have the water they need to thrive now and in the future. In pursuit of this vision, the Institute creates and advances solutions to the world's most pressing water challenges, such as unsustainable water management and use; climate change; environmental degradation; food, fiber, and energy production for a growing population; and basic lack of access to freshwater and sanitation. Since 1987, the Pacific Institute has cut across traditional areas of study and actively collaborated with a diverse set of stakeholders, including policymakers, scientists, corporate leaders, international organizations such as the United Nations, advocacy groups, and local communities. This interdisciplinary and nonpartisan approach helps bring diverse interests together to forge effective real-world solutions. More information about the Institute and our staff, directors, and funders can be found at [www.pacinst.org](http://www.pacinst.org).

## ABOUT THE AUTHORS

### LAURA FEINSTEIN

Laura Feinstein joined the Pacific Institute in 2016 as a Senior Researcher. Laura conducts research on aquatic ecosystems, the water-energy nexus, and environmental health and justice. Prior to joining the Pacific Institute, she was a research scientist and project manager with the California Council on Science and Technology. She also served as a Science and Technology Policy Fellow with the California Senate Committee on Environmental Quality and was a California Delta Science Fellow. Laura holds a bachelor's degree in Anthropology from the University of California, Berkeley and a doctorate in Ecology from the University of California, Davis.

### GABRIEL DAISS

Gabriel Daiess worked at the Pacific Institute as a Research Associate in 2017, where he focused on water and sanitation for Californians as well as water conservation. He holds a bachelor's degree in Environmental Studies from the University of California, Santa Barbara.

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## EXECUTIVE SUMMARY

CALIFORNIA'S HUMAN RIGHT TO WATER law states that "every human being has the right to safe, clean, affordable, and accessible water adequate for human consumption, cooking, and sanitary purposes." To date, the policy discussion on meeting California's Human Right to Water has focused largely on expanding and improving drinking water utility services in the state, and improving the quality and reliability of drinking water for rural households using domestic wells. Sanitation and wastewater have received less attention. There also has been less attention paid to individuals and households in communities served by functional water and wastewater utilities but lacking the plumbing necessary to access those services.

To partially remedy these gaps, we set out to better understand the number of Californians with inadequate access to toilets and hot and cold running water.

## KEY FINDINGS

**In 2015, 208,000 Californians had inadequate access to toilets.** 88,000 people lived in a household without a private indoor flush toilet. Another 120,000 people experiencing homelessness were also unlikely to have adequate access to a toilet (Figure ES-1).

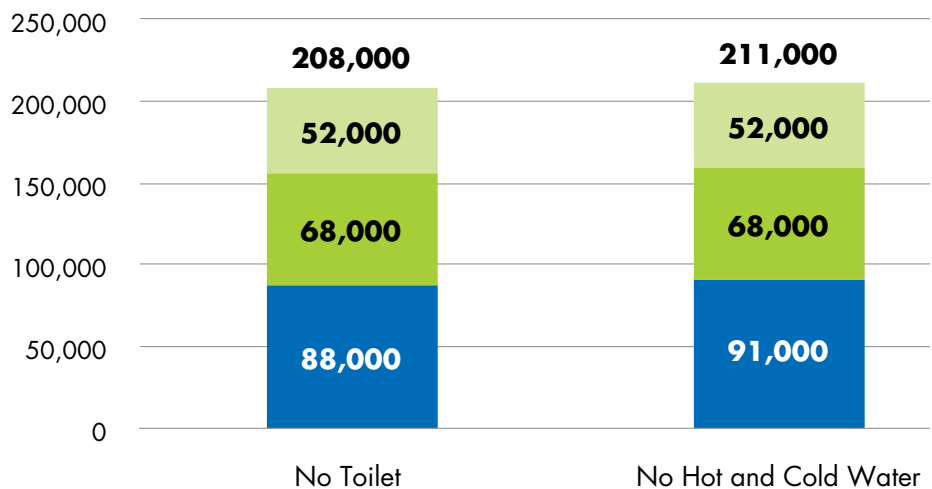
**In 2015, 211,000 Californians had inadequate access to hot and cold running water.** 91,000 people lived in a household without hot and cold running water. Another 120,000 people experiencing homelessness were also unlikely to have adequate access to hot and cold running water (Figure ES-1).

**Incomplete plumbing was a problem throughout the state, in both urban and rural areas.** Counties with the highest rates of housing without toilets were San Francisco (2.3 percent), Humboldt (0.89 percent), and Imperial (0.60 percent), while

**Figure ES1.**  
**Californians Without Access to a Toilet or Hot and Cold Water, Including Persons Experiencing Homelessness, in 2015** 

-  Sheltered Homeless
-  Unsheltered Homeless
-  Individuals with a Residence

Source: US Census Bureau (2015a), US HUD (2016)



counties with the highest rates of housing without hot and cold indoor piped water were Shasta (0.96 percent), Imperial (0.73 percent), and San Francisco (0.71 percent).

**Many Californians live in buildings with shared bathrooms, which are often poorly maintained.** Housing units with incomplete plumbing were concentrated in low-income urban areas with high numbers of Single-Room Occupancies. Public health agencies have often found shared toilets to be unclean or in disrepair.

**Many single-family homes also lacked a private toilet or indoor running water.** There were 17,000 stand-alone structures (single-family homes, mobile homes, and temporary shelters) that lacked an indoor flush toilet. These households did not have access to shared facilities in the building.

**Most households with incomplete plumbing lacked a toilet, shower, or both.** The majority (86 percent) of those with incomplete plumbing lacked either a toilet, hot and cold water, or both. The remaining 14 percent lacked only a tub or shower.

**Income and race correlated with incomplete plumbing by census tract.** Median household income was the strongest predictor of rates of incomplete plumbing. Racial makeup was also statistically significant.

## RECOMMENDATIONS

California should address the problem of inadequate plumbing within California's larger policy framework of the Human Right to Water. We recommend incorporating plumbing and sanitation into the Human Right to Water framework, implementing policy solutions to reduce the problem, and improving the data available to understand the problem.

## Expand the Human Right to Water Framework to Include Sanitation and Household-Level Problems

- **Recognize sanitation as a co-equal component of the Human Right to Water.** Amend California Water Code Section 106.3 to formally recognize sanitation as a human right.
- **Address inadequate plumbing in state agency efforts to estimate the number of people living without the Human Right to Water in California.** The state agencies presently engaged in estimating the number of people without full access to water should include Californians residing in housing with incomplete plumbing, as well as those without homes.

## Address the Problem of Incomplete Plumbing

- **Require stormwater discharge permits to include the provision of public restrooms as a strategy to meet water quality goals.** The California State Water Resources Control Board should consider requiring the Regional Water Boards and Caltrans to include the provision of public restrooms (including toilets and handwashing stations) in Stormwater Discharge Permits as a strategy to meet water quality goals.
- **Increase funding for access to safe and hygienic public restrooms, and institute state and regional policies to ensure resources are evenly distributed across local jurisdictions.** Local, regional, and state governments should invest the funds to increase access to safe and hygienic public restrooms. Regional and state governments need to consider mechanisms to ensure that public restrooms are broadly distributed and serve all members of the public.

- **Increase funding for adequate sanitation and hygiene in affordable housing.** Finding resources to increase affordable housing in California is one of the state's most intractable policy challenges. Our results indicate that state, regional, and local governments must also do a better job of finding resources to ensure that low-cost housing offers adequate sanitation and hygiene for residents.

### Improve the Information Available on Incomplete Plumbing

- **Improve our empirical understanding of the financial costs and benefits of public investments in the provision of water and toilets.** Full cost-benefit studies should address, at a minimum, impacts to public health, water quality, law enforcement, quality of life, and economic growth.

- **Improve the American Community Survey questions on plumbing.** The survey should ascertain whether a household has piped water separately from a hot water heater. The US Census Bureau should also restore the recently-removed question on private flush toilets.

### CONCLUSION

Hundreds of thousands of Californians still struggle with inadequate access to water and sanitation on a daily basis. While those impacted represent less than one percent of the population, the problems are serious for those experiencing them. Thus, inadequate access to water and sanitation is simultaneously an urgent problem and a solvable one for a state as large and resourceful as California.

For the full report, *Plumbing the Depths: Californians Without Toilets and Running Water*, please visit:

<http://pacinst.org/publication/plumbing-depths>



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