Center for American Progress

California's Disappearing Rivers

by the CAP Public Lands Team February 2018

Note: *On April 9, 2018, the authors added policy recommendations to this fact sheet.*

Rivers are the lifeblood of California. They irrigate crops, provide clean drinking water, serve as habitat for fish and wildlife, and fuel a $92 billion[1] outdoor recreation economy in the state.

But rivers are under immense pressure. As documented in the Disappearing Rivers analysis—the first comprehensive snapshot of the state of Western rivers—climate change, dams, development, and an ever-changing landscape are placing increasingly more stress on the waterways that are so inextricably tied to the health of Western communities and economies.

Across the West, nearly half of all rivers—49 percent—are modified from their natural state. That's more than 140,000 unnatural river miles, or enough to circle the earth nearly six times.

In California, 45 percent of all rivers are altered.

That's equal to 20,124 unnatural river miles—enough to cross the state nearly 36 times.

Of the 11 Western states in the Disappearing Rivers analysis, California had the second least altered rivers in the West. When broken down by size, 80 percent of all major rivers, 41 percent of all smaller streams and rivers, and 36 percent of all headwaters are altered.

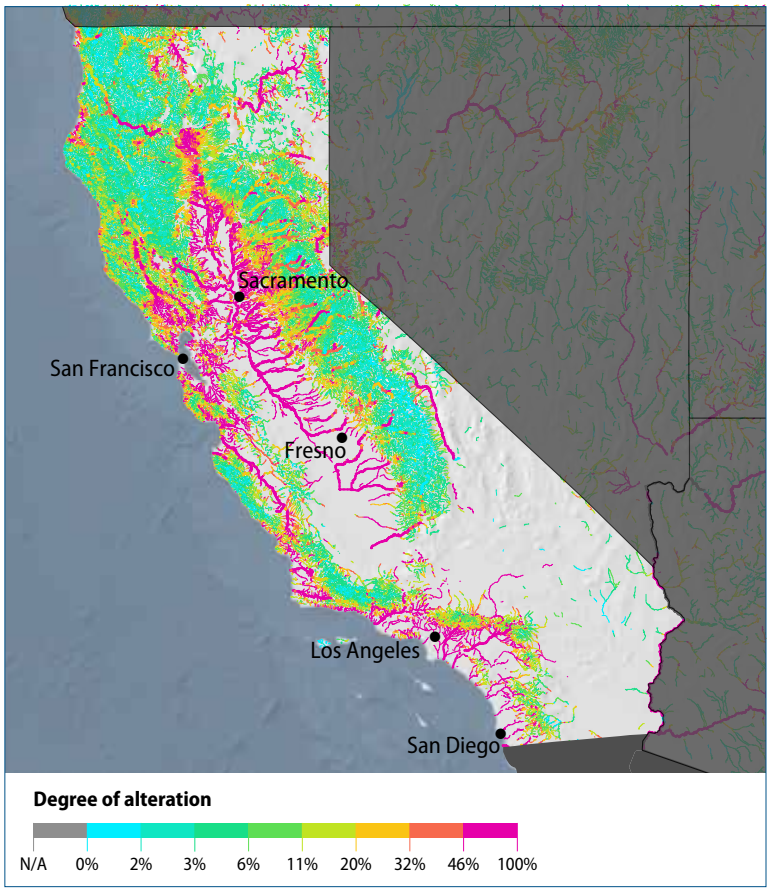

FIGURE 1

Unnatural rivers in California

Modification by flow restriction and floodplain alteration

Share of headwaters that have been modified	Share of smaller rivers and streams that have been modified	Share of major rivers that have been modified	Share of all rivers that have been modified
35.8%	40.5%	79.6%	44.5%

Source: Dylan Harrison-Atlas and others, "Description of the approach, data, and analytical methods used to evaluate river systems in the western U.S." (Truckee, CA: Conservation Science Partners, 2017), available at https://disappearingwest.org/rivers/methodology.pdf.

In California, three of the most-altered, major rivers are the Stanislaus River, the Colorado River, and the Calaveras River, at 85 percent, 81 percent, and 77 percent, respectively.

River degradation is being driven both by development within waterways and in the surrounding floodplains. In California, 18 percent of rivers no longer flow freely due to obstructions and development within rivers—most notably the 1,579 major dams in the state. Thirty-eight percent of rivers flow through lands that are significantly developed and altered by human activity.

Rivers also play an important role in Western economies. The Disappearing Rivers analysis found that watersheds in the West with the highest concentration of rivers drive 717 percent more outdoor recreation spending than those with the fewest rivers. In California, there is 147 percent more outdoor recreation spending in watersheds with the highest concentration of rivers, fueling an impressive portion of the state's $92 billion[2] outdoor recreation economy.

Despite the degraded state of rivers in California and across the West, policies that promote conservation and protect public lands can have an enormous effect on water. The Disappearing Rivers analysis found that rivers that flow through protected lands are on average 50 percent more natural than rivers that flow through unprotected areas. California has the greatest percentage of protected areas within its boundaries of all 11 Western states. This relatively high amount of protection for lands within the state is a driving reason that California has the second least altered rivers in the West.

Recommendations

There are several actions that policymakers could take to conserve remaining natural rivers; restore damaged rivers; and protect the economic and ecological health of the state.

1. **Protect what's left of the large, natural rivers in California.** Through the Wild and Scenic Rivers Act and other tools that protect both land and water, the state should set an ambitious goal to prioritize protections for its 791 miles of major rivers that are natural and currently unprotected. The California Legislature and the California Natural Resources Agency should use their authorities under the state's river protection system to help accomplish this goal.

2. **Conserve and restore California's headwaters.** The state should capitalize on new policies that make watersheds eligible for infrastructure investments and expand partnerships with federal land agencies, cities, and drinking water utilities to direct more consistent funding to projects that protect forest headwaters.[3]

3. **Rethink California's river infrastructure.** The state made bold steps toward promoting smart river infrastructure with its updated plan for Central Valley flood plain management and public funds for smart water-storage infrastructure.[4] It should continue to modernize necessary infrastructure and invest in natural processes that will benefit both the environment and the public.

4. **Collaborate with private landowners in California.** The state should continue to prepare proactively for water scarcity, including through innovative solutions such as short-term water leases to protect rivers. It should also partner with federal agencies and private landowners to incentivize demand reduction among cities and irrigators, as well as invest in river restoration projects that protect ecosystems and rural communities.

To explore the data, sources, interactive map, and the full project, visit DisappearingWest.org/rivers.

Endnotes

1 Outdoor Industry Association, "California," available at https://outdoorindustry.org/state/california/ (last accessed November 2017).

2 Ibid.

3 California Legislative Information, "AB-2480 Source watersheds: financing (2015-2016)," available at http://leginfo.legislature.ca.gov/faces/billCompareClient.xhtml?bill_id=201520160AB2480 (last accessed March 2018).

4 Central Valley Flood Protection Board, "2017 Central Valley Flood Protection Plan Update," available at http://cvfpb.ca.gov/cvfpp/ (last accessed March 2018).