



Nevada'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 Nevada. They irrigate crops, provide clean drinking water, serve as habitat for fish and wildlife, and fuel a \$12.6 billion¹ 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 Nevada, 53 percent of all rivers are altered.

That's equal to 3,593 unnatural river miles—enough to cross the state more than 11 times.

Of the 11 Western states in the Disappearing Rivers analysis, Nevada had the fifth most altered rivers in the West. When broken down by size, 96 percent of all major rivers, 64 percent of all smaller streams and rivers, and 36 percent of all headwaters are altered.

In Nevada, three of the most-altered, major rivers are the Walker River, the Colorado River, and the Humboldt River, at 99 percent, 77 percent, and 42 percent, respectively.

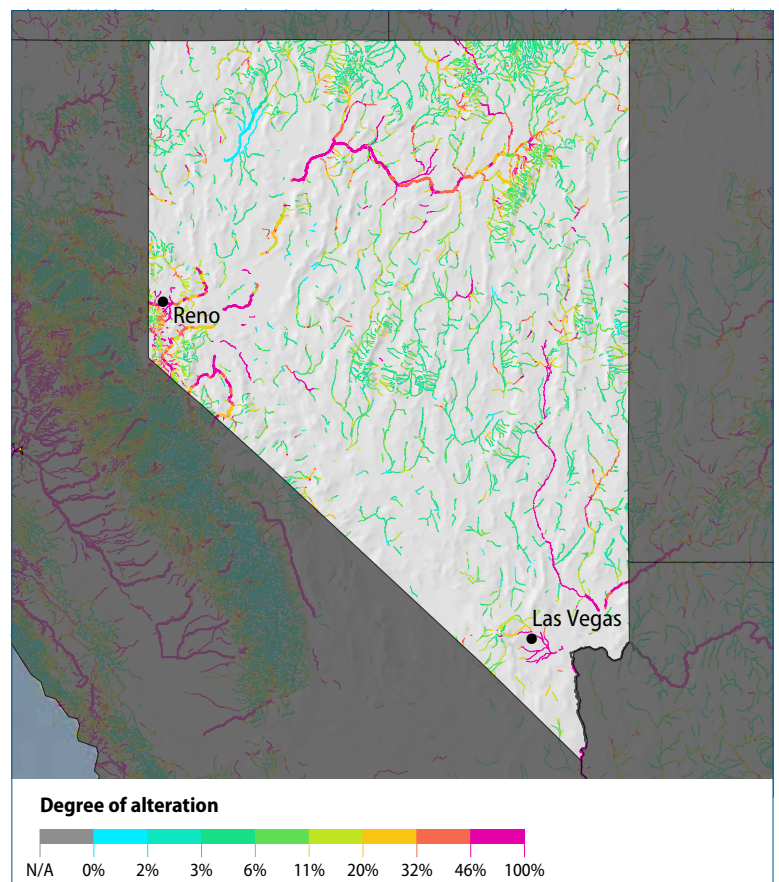


FIGURE 1
Unnatural rivers in Nevada

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
36.2%	64.0%	96.2%	52.9%

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>.

River degradation is being driven both by development within waterways and in the surrounding floodplains. In Nevada, 27 percent of rivers no longer flow freely due to obstructions and development within rivers—most notably the 545 major dams in the state. Forty-three 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 Nevada, there is 1,238 percent more outdoor recreation spending in watersheds with the highest concentration of rivers, fueling an impressive portion of the state's \$12.6 billion² outdoor recreation economy.

Despite the degraded state of rivers in Nevada 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.

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 Nevada.** 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 20 miles of major rivers that are natural and currently unprotected. The Nevada Legislature should establish a state river protection system to help accomplish this goal.
2. **Conserve and restore Nevada's headwaters.** The state should partner with federal land agencies and local communities to expand watershed restoration efforts, to direct consistent funding to projects that protect forest headwaters, and to attract investment from private firms to protect headwater resources.
3. **Rethink Nevada's river infrastructure.** Despite being an arid state, Nevada must re-evaluate dams and flood-control infrastructure, modernizing necessary infrastructure and restoring natural processes where possible to provide a net benefit for river ecosystems, groundwater resources, and communities.
4. **Collaborate with private landowners in Nevada.** The state must continue to prepare proactively for water scarcity, including through audits and accounting practices to reduce urban demand. It should also support innovative solutions, such as short-term leases and water markets, and private lands conservation programs that help both communities and ecosystems.

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

Endnotes

1 Outdoor Industry Association, "Nevada," available at <https://outdoorindustry.org/state/nevada/> (last accessed November 2017).

2 Ibid.