



## Viewpoints

# Sites Reservoir would cause negative environmental impacts to Sacramento River

*Opinion, Op Ed by GARY WOCKNER SPECIAL TO THE SACRAMENTO BEE  
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As the permitting battle over the proposed Sites Reservoir Project in Northern California heats up, it's become clear that the project would further heat up the atmosphere as well.

Just as California has made bold commitments to achieve carbon neutrality in the next few decades, the state seems ready to approve a dam project that would put that progress in jeopardy.

A new report, "[Estimate of Greenhouse Gas Emissions for the Proposed Sites Reservoir Project Using the All-Res Modeling Tool](#)," created by a science team at my organization, Tell The Dam Truth, exposes the climate impacts caused by this massive dam and reservoir system.

In a nutshell, the report found that over the 100-year expected life-cycle of the Sites Project, it is predicted to emit approximately 362 million metric tons of carbon dioxide equivalent (CO<sub>2</sub>e) or 362,000 metric tons of CO<sub>2</sub>e each year (the vast majority of which is methane).

That's equivalent to emissions of over 80,000 gasoline-powered passenger vehicles per year.

Why do dams and reservoirs produce emissions like methane? Dam projects like Sites create large non-natural reservoirs on top of landscapes that were never naturally flooded. When organic material such as vegetation, sediment, algae and other runoff is trapped in or pumped into a reservoir, that material decomposes underwater releasing methane. Over time, the methane bubbles to the surface of the reservoir or is released through hydro-power turbines.

In addition to measuring the methane produced by decomposing organic matter, the innovative "All-Res Modeling Tool" estimates greenhouse gas emissions from the full life-cycle of a dam and reservoir system. The report on Sites Reservoir emissions is the

first of many forthcoming applications of the All-Res tool, which recently received media attention in [The Los Angeles Times](#).

The emission sources estimated with the All-Res Tool include construction and decommissioning, electricity used to pump water up into the reservoir, the lost carbon sequestration from the natural vegetation drowned by the reservoir and the dewatering of wetland ecosystems downstream in the river delta. The Sites Reservoir Project — which would flood 14,000 acres of land and hold 1.5 million acre-feet of water pumped up from the Sacramento River — would escalate greenhouse gas emissions caused by dams and reservoirs across the state of California.

As California battles the impacts of climate change, it's important to make public policy that doesn't exacerbate the situation. And this applies at the federal level as well. In fact, the Biden Administration's efforts to reduce climate pollution have included a "[White House Methane Summit](#)" and the "[Methane Emissions Reduction Action Plan](#)." Importantly, the estimated emissions from the Sites Reservoir would be 10 times greater than the Environmental Protection Agency's 25,000 ton reporting threshold of carbon dioxide equivalent for large emitters, like coal-fired power-plants.

The Sites Project's emissions problem is not unique. In fact, for over 35 years scientists have measured the emissions from dams and reservoirs around the planet, and some hydro-power projects can emit as much as [a coal-fired power-plant](#).

Scientists have conservatively estimated that reservoir methane emissions across the planet are [almost as high as that of fossil fuel methane emissions](#).

While the methane emissions caused by dams and reservoirs are not widely recognized by the public and elected officials, it is a field of research and recognition that the EPA itself is helping to lead both nationally and internationally. In fact, in 2022, for the first time in history, the [EPA reported greenhouse gas emissions](#) from U.S. dams and reservoirs to the United Nations using guidelines created by the Intergovernmental Panel on Climate Change. The EPA is currently finishing up its own national research, a "[Survey of Reservoir Greenhouse Gas Emissions](#)" in the U.S., that hopes to refine both the modeling and results of the emissions reported to the U.N.

California has been at the forefront of passing laws and regulations limiting greenhouse gas emissions from various sectors of the economy, but it has a blind spot around emissions from dams and reservoirs. Further, although the proponents of Sites claim the project will comply with California's "net-zero" goals, those goals are entirely speculative. In fact, California's greenhouse gas emissions are currently going up, not down. At the same time, the entire so-called "carbon offsets" markets available to achieve net-zero goals are collapsing due to false claims and corruption, an issue that will be a hot topic of discussion at the 2023 United Nations Climate Change Conference in December.

The Sites Reservoir Project would cause significant negative environmental impacts to the Sacramento River, while common-sense [alternatives to the project](#) are readily available. This project is too damaging to California's environment and economy.

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