

The cure for winter flooding might be in this swamp—if California actually funds it

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Matt Kaminski stood on a road scarcely higher than the floodplain, glassy pools on all sides stretched out like something from a dream. In the distance, a storm lumbered over the Coast Ranges.

The marsh all around him, Kaminski said, was a window into the Central Valley's past. Back then, the waterways that twist down from the Sierra Nevada mountains would flood unrestricted by the current thicket of dams, canals and levees.

The more you know about rivers, the less confidence you have in a mapmaker's static squiggle. Kaminski, a biologist from Ducks Unlimited who helps oversee the floodplain and, when it dries out, the grasslands, explained that when "the state of California was wild, it had a lot more wetlands."

During the rainiest years, the whole valley could transform into an enormous, shallow sea. Floodwaters would spread over the landscape and percolate through the soil into the aquifers beneath. Little aquatic creatures would make their home in the tules and migrating birds would stop to gorge on their long journeys in the spring and fall. The Valley oaks and Fremont cottonwoods would rise, improbably, out of the shallows.

That appeared to be happening just east of Gustine in Merced County, as yet another storm from the tropics approached the valley: The San Joaquin River seemed to spread out and create an ephemeral wetland, a natural process.

But Kaminski pointed to the edge of the water, where three concrete slabs jutted into the marsh, and little slats of wood controlled the flow under the dirt road to the other side.

This marsh hadn't flooded on its own.

Instead, the wetland was an artifice on top of an artifice. Powerful California interests "reclaimed" the Central Valley's wetlands in the 19th and early 20th centuries, draining them for agricultural use and

transforming the landscape.

The vast majority of the state's marshes are gone.

But in little pockets in the state, people like Kaminski are reworking the land yet again to bring back a version of California's past, in service of the future. By allowing rivers to spread out, flows are diverted from downstream communities, replenishing groundwater and staving off unwanted floods.

"These wetlands," Kaminski likes to say, "act as a sponge."

And the state agreed. In September, the California Wildlife Conservation Board earmarked \$40 million for the nonprofit River Partners to spend on similar projects in the San Joaquin Valley.

But in the governor's proposed budget released in January, that funding was axed. The news came early in the procession of climate-change-fueled winter storms that have led to staggering snowpack in the Sierra, extensive flooding throughout the state and more than 30 deaths. Facing a budget shortfall, Gov. Gavin Newsom had moved to kneecap efforts to use the historical floodplain as a way to recharge groundwater and to prevent disasters in human-occupied areas.

"In the San Joaquin Valley, we've got a product pipeline of about \$200 million worth of floodplain expansion projects that are ready to go," said Julie Rentner, president of River Partners. But the proposed budget, she said, "has zero dollars to be used towards that pipeline."

Rentner said that habitat restoration cannot wait.

"Something as critically important as floodplain expansion—especially tested out this year, with these big, high flows," Rentner said, "is not

something that is easy to press pause on."

What good is a marsh, anyway?

This particular wetland that Kaminski helps run—alongside the landowners—is two adjacent areas, one publicly and one privately managed. The Great Valley Grasslands State Park and the Kesterson National Wildlife Refuge are where the river overflowed from its banks (and, this year, flooded a parking lot). To the west, the duck club lands use water that ultimately travels from Lake Shasta, providing critical habitat in the Pacific Flyway.

The [public lands](#) are upstream from Tracy and Manteca. Spreading out and slowing down the charging San Joaquin River helped mitigate flooding in those communities.

"Private and public lands allow these rivers to expand," Kaminski said, "which takes the burden off the cities that are downstream."

Artie Valencia, a Stockton-based community organizer with Restore the Delta, explained that wetlands "will help take the pressures off the levees during extreme rain events and atmospheric river events, and so forth."

That was especially important in places that faced generational disinvestment from the state, such as Stockton, whose levees, Grist reported, are in decay.

These wetlands also make the water cleaner, Valencia said.

"You put in plants like tules, which are really good at absorbing pollutants and other types of inorganic matter, and cleaning the water," she said. "Basically filtering it."

These projects had benefits for non-humans, too. The area is a breeding ground for fish. Collapsing populations of Chinook salmon could swim through the floodplain.

Kaminski is most interested in the birds: "As you get to see, all these ducks that are still here that are just waiting to go north, they're really utilizing this expanded habitat."

Hundreds of American coots with their globular bellies and little white beaks scooted through the water. Cinnamon teals paddled beak-first through the shallows, the blue and green of their wings flashing against their rust-colored bodies.

During duck hunting season—generally the third week of October through the end of January—the duck clubs are bustling with recreational hunters. The rest of the year would be more like this Thursday in March—as Kaminski said, "It's a ghost town."

"But," he said, "the cool thing that I look at is that the seasonal inputs of people are really important for the small communities that are out here."

The hunters eat and shop in small towns; the restoration projects hire local labor.

And, of course, the ducks were still splashing around.

Limited space, limited water, unlimited ducks

The managed wetland Kaminski was so proud of was the product of some good fortune.

Recreational duck hunters are some of the state's most ardent conservationists, and they posted up along the Santa Fe Grade over a

hundred years ago; they support the space financially. PepsiCo kicked in \$625,000 to revamp the nearby San Luis National Wildlife Refuge with Ducks Unlimited. The public lands immediately to the east of the duck clubs have a mandate to protect wildlife habitat, and established funding.

As with all matters of water and land in routinely drought-stricken California, however, restoring and paying for a wetland habitat could be much more complicated.

The Central Valley Flood Protection Plan outlines proposals for nature-based "multi-benefit projects," including managed wetlands (the ducks! the groundwater! the flood protection!). Even before the \$40 million proposed cut, the flood protection plan, said Friends of the River Policy Director Keiko Mertz, was "grossly underfunded."

There are also conflicts over the ground. Agriculture accounts for 3% of the state's economy and supplies 25% of the nation's produce. The industry also uses 80% of the state's water, a large portion of which goes to cows, which, Bloomberg reported, consume more water via drinking and alfalfa than all the humans in the state.

Most of the space in the Central Valley—the same land that used to be seasonal wetlands—is occupied by agriculture, and those interests do not always overlap with thriving riverine ecosystems, even though those ecosystems recharge the groundwater that farmers rely on for irrigation.

Farmers who grow annual crops—those that must be replanted each season—can more easily fallow their fields and periodically convert them to wetlands, Mertz said. But farmers who grow perennial plants—those that live longer, such as trees—are typically more flood-averse.

"Over the last decade, there's been increased investment in perennial tree

crops, like nuts, and some fruits," Mertz said. "Crops like that are not as compatible with an annual fallowing, or a bunch of water on the land and high groundwater table, because of the roots."

As the state suffers more severe droughts due to the effects of the climate crisis, Mertz said, the water usage status quo will have to change. "Retiring (some) agriculture is one of those solutions," she said. Decreasing water demand leads to "solving a bunch of other problems."

And although the governor's budget is just a proposal so far, its effects have rippled into the Delta.

"This isn't a hypothetical," said Rentner of River Partners. "We've already lost one land transaction that we wanted to do. ... When the governor proposes a budget change, every state agency has to operate as if that budget change is real."

But Mertz was hopeful that the ongoing extreme rain and snow events could shift priorities.

"This barrage of storms," she said, "kind of opened up this window where everybody is paying attention to this thing."

Although she saw people calling for more reservoirs after deluges in January, she thought that groundwater might edge to the forefront of the policy conversation—especially in the Central Valley, where aquifers are so overtaxed by agriculture that the ground is sinking.

And sometimes, the water seemed to find a way regardless of human intervention. Mertz pointed to the reemergence this month of Tulare Lake, which was drained over a century ago and is becoming a lake once again. The nonprofit news site SJV Water described the situation as "flood control whack-a-mole" as residents and an agricultural empire

sparred over where to direct the water.

Restoring wetlands intentionally, Mertz said, is a critical component of a climate change-resilient future.

Back near Gustine, the rain started falling in the gentle beginnings of another atmospheric river. It would flood the marsh even more, but for now, everything seemed quiet and still. Kaminski explained why this work was so important, why he believed it would be good for everyone.

A high-pitched chatter rolled in on the light wind. The birds were too far away to see, but Kaminski could picture them, their long necks and their white feathers with their black-tipped wings. He fell momentarily silent. He smiled, then said,

"Snow geese."

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