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Restoring California's Delta Wetlands - A Multi-Billion Dollar Project

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Blog Post: Restoring California's Delta Wetlands - A Multi-Billion Dollar Project

In my recent study I estimated the cost of converting agricultural land in California's Delta into wetland ecosystems, calculating the cost at a range between \$24,300 and \$26,730 per acre of restored habitat. Using this figure, we extrapolated the cost of restoring different amounts of land. Restoring 100,000 acres of land, for instance, would cost approximately \$2.43 to \$2.67 billion. A more ambitious plan to restore 300,000 acres of habitat could cost between \$7.29 - \$8.02 billion.

But this begs the question: why does any of this even matter? Well to begin with, Californians have consistently ranked environmental policy a top priority. [A majority of residents](#) in the Golden State believe it's very important for California to be a leader on the issue of climate change. Similarly, climate change was cited as a [top priority](#) for 47% of Californians who were likely to vote in the 2020 Democratic primary. The importance of environmental issues has also been reflected in state policy making, most notably with California's goal of achieving carbon neutrality by 2045 (via a 2018 executive order [signed](#) by former Governor Jerry Brown).

Given California residents' sentiment on environmental policy, it surprises me the lack of attention being paid to restoring wetland habitat — perhaps California's most underrated tool in the fight against climate change and promoting environmental sustainability.

Wetlands habitats are extremely efficient at carbon sequestration, [holding](#) between 20-30% of the global soil carbon despite only accounting for a minute 5-8% of the Earth's surface. In addition to acting as massive “carbon sinks,” wetlands additionally provide numerous important [benefits](#) to people through their ability to control floods and erosion, recharge groundwater aquifers, stabilize shoreline environments, and reduce salty seawater intrusion. Wetlands are also incubators of great ecological biodiversity. Their wide-scale destruction in California has caused a similarly drastic decline in wildlife populations. For example, Delta fish populations such as Chinook salmon, steelhead, green sturgeon, and the Delta Smelt have experienced [steep declines](#) in recent years. Additionally, at least 12 of the Delta's indigenous 29 fish species have been [eliminated](#) or are currently threatened by extinction.

The \$24,300 to \$26,730 per acre cost estimate derived by my research is in line with several other per-acre-cost estimates developed by reputable organizations such as the [Public Policy Institute of California](#) and the [California EcoRestore](#) initiative, a multi-agency initiative currently working to revitalize at least 30,000 acres of wetland habitat in the Delta. Nonetheless, the pieces of data derived from my research can only explain so much of the story. Contextualizing my research with the history of the Delta and its transformation over the last two centuries highlights some drawbacks and benefits of wetland restoration.

The 738,000 acre Sacramento-San Joaquin Delta was once characterized by extensive wetlands, meandering rivers, and lush riparian forests. After more than 200 years of development, today, more than half of the Delta ([415,000 acres](#)) has been repurposed for

agricultural production. With large swaths of land devoted to crop cultivation, it was estimated agriculture in the Delta stimulated [\\$4.5 billion](#) in statewide economic output in 2016. While there are certainly economic costs to be paid for wetland restoration, it is hard to quantify the potential added economic [benefits](#) of restoration efforts such as the recovery of fish populations, carbon sequestration, shoreline erosion control, reducing saltwater intrusion, aquifer replenishment, reduced flood risks, sea-level rise mitigation, increased recreation and tourism, and the jobs creation.

With all of that said, wetland restoration is a subject worthy of more attention given the current political climate surrounding environmental sustainability. I hope my research can serve as an impetus and help move conversations forward.