

Wetland Restoration for Climate Mitigation - Opportunities and Challenges

ADINA PAYTAN

University of California, Santa Cruz

Wetlands are hotspots of carbon sequestration, and their conservation and restoration can help mitigate climate change in addition to providing multiple co-benefits to humans and nature. The carbon market could support such restoration projects through public or private investments, however, to meaningfully support climate mitigation at a scale, they must lead to significant, durable, and measurable net climate cooling that would not have otherwise occurred. The current carbon market is not up for the task because of limitations in accurate accounting and monitoring of carbon budget in these dynamic systems. In addition, the lack of understanding of how sequestration potential in wetlands will change in the future due to climate and human impacts prevents assessment of durability (the likely duration of carbon storage or permanence). Wetland ecologists, biogeochemists, economists, policymakers, restoration practitioners, social and climate scientists can work together to set guidelines for the prioritization and implementation of wetland restoration project that prioritize projects that maximize additionality, feasibility, and permanence.

We will discuss the current understanding and give examples based on wetland restoration projects and initiatives in California to illustrate the requirements for coastal wetland restoration to benefit climate, while maximizing other ecosystem services, and discuss potential paths forward that address key uncertainties impeding implementation.

