

# Blue Carbon in Coastal Wetlands

## A NATURAL CLIMATE SOLUTION IN CALIFORNIA



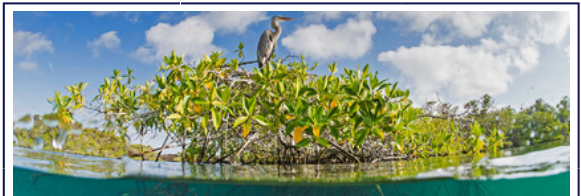
PHILLIP COLLA OCEANLIGHT.COM

Coastal wetlands sequester and store more carbon than terrestrial forests, but only 10% of California's historic wetlands remain. WILDCOAST is researching and restoring wetlands, like Batiquitos Lagoon (above), and encouraging strong policy to recognize the value of these blue carbon ecosystems.

WILDCOAST is an international team that conserves coastal and marine ecosystems and addresses climate change through natural solutions. We establish and manage protected areas, protect and restore blue carbon ecosystems, and engage communities in the stewardship of healthy, thriving oceans, coastlines, and wildlife.

Blue carbon is carbon removed from the atmosphere through photosynthesizing plants in coastal and marine ecosystems, which is then buried in the soil or sediment. When buried, plants in blue carbon ecosystems decompose at a much slower rate than terrestrial ecosystems. This slow rate of decomposition results in the carbon they have sequestered being stored for hundreds or even thousands of years, unless the ecosystem is disturbed by events like sea level rise or development. Critical blue carbon ecosystems include mangrove forests, salt marsh, and seagrass beds.

Inspired by our work in Mexico, WILDCOAST is working to protect, conserve, and restore blue carbon ecosystems in California, primarily coastal wetlands. In addition to removing and storing atmospheric carbon, coastal wetlands buffer coastlines from flooding, improve water quality through natural filtration, and increase biodiversity which positively impacts productivity of fisheries.



Since 2008, WILDCOAST has worked with local communities to protect threatened mangrove forests in Mexico. This work includes:

- Protecting 68,009 acres of mangroves by obtaining federal zone conservation concessions to avoid emission of 2.84 million tons of carbon.
- Planting one million mangrove seedlings and carrying out monitoring activities in 360 acres of mangrove habitat in Baja California Sur to avoid emission of 54,940 tons of carbon.
- Expanding restoration efforts across 5,786 acres of mangroves in Baja California Sur, Oaxaca, and Chiapas to avoid emission of 883,000 tons of carbon.

Coastal wetlands occupy 8% of global land area but store up to 30% of carbon sequestered in their soil.

Blue carbon ecosystems cover less than 2% of seabed but account for almost 50% of all carbon burial in sediment.

### BLUE CARBON

- Carbon is stored in roots and soil
- When plant dies, carbon is buried in low oxygen soil blocking decomposition

LONG TERM STORAGE

### GREEN CARBON

- Carbon is stored in aboveground biomass
- When plant dies, carbon is released back into the atmosphere through decomposition

SHORT TERM STORAGE





## RESTORATION

WILDCOAST is actively restoring 42 acres of wetlands in the San Dieguito River Valley and Batiquitos Lagoon in San Diego County. We partner with Batiquitos Lagoon Foundation, Nature Collective, and San Dieguito River Valley Conservancy to engage local volunteers in removing invasive species and planting native species to restore our coastal wetlands. This not only restores the important blue carbon ecosystems, but also engages the community as stakeholders and provides them education on the importance of blue carbon.



## CARBON SAMPLING

WILDCOAST is working with Scripps Institution of Oceanography to measure the carbon sequestered and stored in the sediment of San Diego County wetlands. Each wetland has a different rate of carbon sequestration and amount of storage based on tidal flow, historical development, and ecological community. Measuring the amount of carbon stored in blue carbon ecosystems will allow us to quantify the value of wetlands, in terms of atmospheric carbon removal, to inform future conservation regarding blue carbon offsets.

## NATURAL CLIMATE SOLUTIONS POLICY

San Diego County has a goal of net zero or below greenhouse gas emissions by 2035-2045. We need to take bold climate action which has resulted in the drafting of the County of San Diego Climate Action Plan (CAP). The CAP draft does not include blue carbon. WILDCOAST is drafting a guidance document for the County Board of Supervisors on best practices for including natural climate solutions in the CAP and highlighting how blue carbon ecosystems meet the goals of emission reductions, engaging community, and conserving open spaces for residents of San Diego County to enjoy.

## BLUE CARBON COLLABORATIVE

WILDCOAST, in partnership with Coastal Quest, leads organizations and individuals from around the world to collaborate on blue carbon research, policy, and resources as part of the Blue Carbon Collaborative (BCC). Virtual meetings include panels of experts, discussions on gaps in blue carbon research, and best practices for integrating blue carbon into global policy through climate action planning.

