

Practical Actions for Advancing Blue Carbon Initiatives



Photo by SCA/Crooks

Coastal blue carbon is a term that recognizes the role of coastal wetlands in the global carbon cycle. Mangroves, tidal marshes and seagrass meadows (collectively called coastal blue carbon ecosystems) sequester carbon dioxide from the atmosphere continuously over thousands of years, building stocks of carbon in biomass and organic rich soils. This ecosystem service is in addition to other ecosystem services provided by coastal wetlands that underpin fish stocks, maintain food security and contribute to filtration of sediment, protecting coral reefs and populated coastal lowlands from erosion and flooding.

Despite their importance, coastal wetlands are some of the most threatened ecosystems on Earth, with up to 800,000 hectares destroyed each year, approximately 1.5% of global coverage. When degraded or destroyed, the services provided by these coastal blue carbon ecosystems are not only lost, but notably, they can become a significant source of greenhouse gas emissions, with thousands of years of sequestered carbon released over a period of years to decades. Although the combined global area of mangroves, tidal marshes and seagrass meadows equates to only 2-6% of the total area of terrestrial tropical forest, its ongoing losses accounts for up to 10-20% of the emissions from global deforestation—a total of 0.5 billion tons of carbon dioxide emissions annually.

Over the past 10 years, researchers, policymakers and practitioners have built a strong foundation of science, policy, finance and coastal management approaches for integrating the conservation and restoration of blue carbon ecosystems into the global effort to address

climate change. Such efforts reflect a growing awareness of the importance of coastal blue carbon ecosystems in terms of global climate regulation and adaptation for local communities. Protecting and restoring blue carbon ecosystems are a key link to achieving the UN Sustainable Development Goals, growing blue economy and meeting national commitments to the Paris Climate Agreement.

Understanding Strategic Coastal Blue Carbon Opportunities in the Seas of East Asia, published by PEMSEA in partnership with Conservation International, The Nature Conservancy and Silvestrum Climate Associates, seeks to better understand the status of coastal blue carbon ecosystems in East Asia and raise awareness of the opportunities to include improved management of these ecosystems within climate mitigation and adaptation actions and commitments, including opportunities to access new forms of financing. The report focuses on countries with coastal ecosystems that have signed the Sustainable Development Strategy for the Seas of East Asia (SDS-SEA), specifically: Brunei Darussalam, Cambodia, China, DPR Korea, Indonesia, Japan, Malaysia, Philippines, RO Korea, Singapore, Thailand, Timor-Leste and Viet Nam.

The following table highlights recommended actions from the report that countries can take to advance the management of blue carbon ecosystems, climate response planning and blue economy growth. The framework is based on three main pillars: 1) awareness building, 2) knowledge exchange and 3) acceleration of practical action, including making use of emerging climate change instruments.

Download the full report at <http://www.pemsea.org/publications/reports/coastal-blue-carbon-east-asia>

Recommendations for countries to incorporate blue carbon ecosystems into integrated coastal management, climate response, biodiversity conservation and blue economy planning.

Action	Benefit	Actor
Building Awareness		
Include blue carbon in policy dialogue.	Supports development of national and subnational policies, cooperation between governments and intra-government agencies and inclusion of private sector and community groups.	National government; International agencies; International NGOs; Academic community.
Apply 2013 IPCC Wetland Supplement and include blue carbon ecosystems in GHG National Inventory and Communications.	Improved quantification of emissions and removals due to land management. Enables setting of goals and benchmarks for management plans.	National Government.
Report trends of coastal ecosystems, including improved mapping of blue carbon ecosystems, their change through time, threats and status.	Supports management planning and inclusion of blue carbon ecosystems in GHG national Inventories and communications.	National government; International agencies; Academic community.
Facilitate Knowledge Exchange		
Join networks such as the International Partnership for Blue Carbon and the International Blue Carbon Initiative.	Bring together key organizations to coordinate international activities.	National government; International NGOs, Academic Community.
Facilitate / contribute to technical and policy workshops (e.g., The Blue Carbon Initiative).	Enable communication between technical experts and shared science, policy and implementation experience.	National government; International NGOs; Private sector; Academic community.
Support science programs and technical analysis.	Improved quantification of blue carbon benefits and understanding of intervention opportunities.	National government; International NGOs; Private sector; Academic community.
Develop knowledge products and demonstration activities, e.g., activities under GEF Blue Forest Project and by Restore America's Estuaries.	Demonstration and communication of experience and good practice to support mainstreaming and upscaling of blue carbon interventions.	National government; International NGOs; Private sector; Academic community.
Accelerate Practical Action		
Investigate appropriate policy frameworks for including blue carbon ecosystems within national commitments to the Paris Agreement.	Including blue carbon ecosystems within NDCs and related plans provides guidance to coastal planners and assists in securing international funding for climate adaptation and mitigation.	National government.
Include management of blue carbon ecosystems within integrated coastal management plans.	Integrated coastal management plans help to steer on-the-ground climate response and blue economy development. Including the status of, and goals of for, blue carbon ecosystems can provide a foundation for broader coastal management.	National and local government.

Action	Benefit	Actor
Assess and promote national opportunities for conservation and restoration of blue carbon ecosystems, including quantification of GHG benefits.	Blue carbon ecosystems are being lost across East Asia at a high rate. Reversing these losses support components of NDCs, the UN SDGs and blue economy growth.	National and local government.
Provide training and technical support to local and national government agencies, field schools and communities on the value of blue carbon ecosystems and good practice for conservation and restoration.	Experience in restoring blue carbon ecosystems exists, but success rates are still relatively low. Training and improved planning can support more successful delivery.	International development organizations; National government; International NGOs; Private sector.
Develop climate change adaptation strategies that consider migration of blue carbon ecosystems with sea level rise and human impacts (such as dam construction) on sediment supply to coastal regions.	Space is one of the scarcest resources in coastal areas. Adapting to climate change requires that plans incorporate landward movement of coastal assets including blue carbon ecosystems. There is an opportunity to plan buffer areas of no or low development that will both create space for coastal wetlands to migrate landwards in the future as well as reduce risk to coastal communities from climate change	National and local government.
Include blue carbon ecosystems in coastal vulnerability assessments.	Along with hard infrastructure, natural infrastructure, including blue carbon ecosystems, is an important element in reducing ecosystem and human vulnerability to climate change. Developing blue carbon vulnerability assessments will empower governments and communities to manage natural resources into the future.	International development organizations; National government; International NGOs; Private sector.
Include blue carbon ecosystems in national economic development plans.	Recognizing the natural capital value of intact and restored blue carbon ecosystems in economic development plans can support development of sustainable blue economies.	National and local government.
Include blue carbon ecosystems as a component of natural infrastructure.	Coastal and river wetlands provide valuable flood risk reduction services. Including wetlands in development plans provides additional levels of protection during storm and high-low events, along with additional ecosystem services not provided by hard infrastructure.	International development organizations; National government; International NGOs; Private sector.
Include blue carbon ecosystems within marine protected areas.	Blue carbon ecosystems are important elements of marine protected areas, supporting biodiversity, providing fish nurseries and other services underpinning marine ecology and productivity. Agreements established to support MPAs provide a basis for other blue carbon interventions.	International development organizations; National government; International NGOs.

Action	Benefit	Actor
Include blue carbon ecosystems as part of marine spatial planning and other tools for managing multi-use coastal landscapes.	Marine spatial planning offers the opportunity to map and track changes in blue carbon ecosystems through time and to support alignment of management approaches for their conservation.	International development organizations; National government; International NGOs; Private sector.
Develop/apply soil management plans for watershed and coastal regions.	Improved soil management results in reduced release of carbon either through erosion or directly to the atmosphere in the form of carbon dioxide or methane.	National and local government.
Correlate health of blue carbon ecosystems with industry inputs and outputs of blue economy	Clarify the interdependency of blue economy industries with function of coastal ecosystems. Minimize industry environmental liabilities and maximize benefits.	National and Local government; Private sector.



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