BLUE CARBON AND NATIONALLY DETERMINED CONTRIBUTIONS

the BLUE CARBON initiative

Guidelines on Enhanced Action

A guide on how countries may include blue carbon in their Nationally Determined Contributions – Executive Summary

Vivid seagrass. © Conservation International/photo by Paul Hilton; **COVER:** Mangrove roots. © Rachel Docherty; **BACK COVER:** Hazy lake with birds in water. © Conservation International/photo by Keith A. Ellenbogen

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INTRODUCTION

Coastal ecosystems are some of the most productive on Earth. They are home to a wealth of biodiversity and provide us with essential ecosystem services, such as food security, coastal protection from storms and flooding, and nursery grounds for economically important fish.

The role of coastal wetlands in sequestering and storing "blue" carbon from the atmosphere and oceans is also increasingly being recognized by policy makers. Specifically, in 2013 the Intergovernmental Panel on Climate Change (IPCC) provided methodological guidance for estimating emissions and removals from mangrove, seagrass and tidal salt marsh ecosystems. These three coastal wetlands types, commonly referred to as blue carbon ecosystems, provide a uniquely full spectrum of mitigation, adaptation, and resilience benefits for communities globally.

These guidelines are intended to support countries seeking to promote and preserve these benefits by providing technical guidance on the multiple avenues by which coastal wetlands can be included within updated nationally determined contributions (NDCs) to the Paris Climate Agreement, and can thus contribute to countries' raised ambition to achieving the goals of the agreement. Some 151 countries around the world contain at least one of these coastal blue carbon ecosystems, and 71 countries contain all three, making blue carbon a broadly applicable approach for addressing climate change.

Given the multiple justifications for the inclusion of coastal wetlands in NDCs and considering varying levels of data availability and national capacities, policymakers will find contained in this guidance a spectrum of options. This document recommends a "tiered approach", similar to that employed by IPCC guidance, to demonstrate how a variety of motivations and starting points represent viable pathways for the inclusion of coastal wetlands in NDCs.

Following an overview of the definitions, objectives, and context, the guidelines are comprised of five central pillars.

1. Options for Including Blue Carbon in NDCs
2. Blue Carbon and adaptation
3. Blue Carbon and mitigation
4. Greenhouse Gas (GHG) Reporting and Inventories for Blue Carbon
5. Implementation: Delivering on Blue Carbon NDCs

Within this document the term "guidelines" refers to practices and approaches for how to implement the options outlined in the paper. Unless specifically stated, this document is not formal guidance within the decision-making process of the United Nations Framework Convention on Climate Change (UNFCCC) and the Paris Agreement or guidance from the IPCC.

4

EXECUTIVE SUMMARY FOR POLICYMAKERS

WHY SHOULD COASTAL WETLANDS FEATURE IN NDCS?

KEY MESSAGES

- → Natural Climate Solutions, (NCS) including protection, conservation and restoration of blue carbon ecosystems, are integral to the achievement of reaching the 1.5-degree Celsius pathway laid out by the Paris Agreement.
- → Countries with coastal wetlands — mangroves, seagrasses and tidal salt marshes — can use these ecosystems as a significant contribution to the country's mitigation and adaptation goals in their NDC.
- → The potential climate benefits of coastal wetlands are under-represented in current NDCs.
- → NDC updates offer the opportunity for countries to increase mitigation ambition and improve resiliency by enhancing the role of nature, including blue carbon, as a climate solution.
- → Protecting and restoring blue carbon ecosystems as an action within NDCs is a multi-faceted process — it will vary in form and application across countries and evolve between NDC updates.
- → Options to include coastal wetland objectives within NDCs currently exist for a variety of capacity levels, with the wider ambition mechanism providing a clear pathway — NDC updates will happen in 2020, 2025, 2030, and beyond.
- → While successful NDC design and NDC implementation will likely engage civil society and private sector actors, this is a task led by governments and their partners across departments and agencies. They are the intended readers of this guidance document.

NDCs represent the core of the Paris Agreement, with each Party submitting progressively ambitious sets of commitments over five- or ten-year cycles to achieve the Agreement's long-term goals. This "ratchet mechanism" ensures continued enhancements over time, measured through "stock-take" exercises conducted between NDC submissions. (See figure 1 on the following page).

While conceived principally as mitigation instruments, in practice many Parties have understood NDCs to define a country's climate change policy commitments more broadly, including their mitigation, adaptation, and resilience priorities. At the national scale, the NDC process also reflects the "bottom-up" approach of the Paris Agreement in that each country defines the nature of the targets, the scope of commitments, and the details of implementation specific to their NDC.

While the principal aim of these guidelines is to enhance the design of NDCs, the advice also has application to other parallel climate instruments, in particular, national GHG inventories. Integration into the national GHG inventory is a useful step for blue carbon to be included in NDC mitigation targets and NDC accounting.

While a number of the first-round of NDCs referenced coastal wetlands[1], predominantly relating to adaptation, very few recognized their significant mitigation potential[2]. In addition to being highly effective nature climate solutions for sequestration and storage of carbon, coastal blue carbon ecosystems

1 Coastal blue carbon ecosystems. Opportunities for Nationally Determined Contributions. Policy Brief D Herr and E Landis – Gland, Switzerland: IUCN Washington, DC: TNC, 2016. Herr and Landis (2016) have traced 59 NDCs that include "coastal ecosystems" and/or the "coastal zone" as instrumental for their adaptation strategy. Twenty-eight NDCs include a reference to coastal wetlands recognizing their role for mitigation action.

2 See further Appendix 1: Natural climate solutions NCS in the 2015 NDCs.

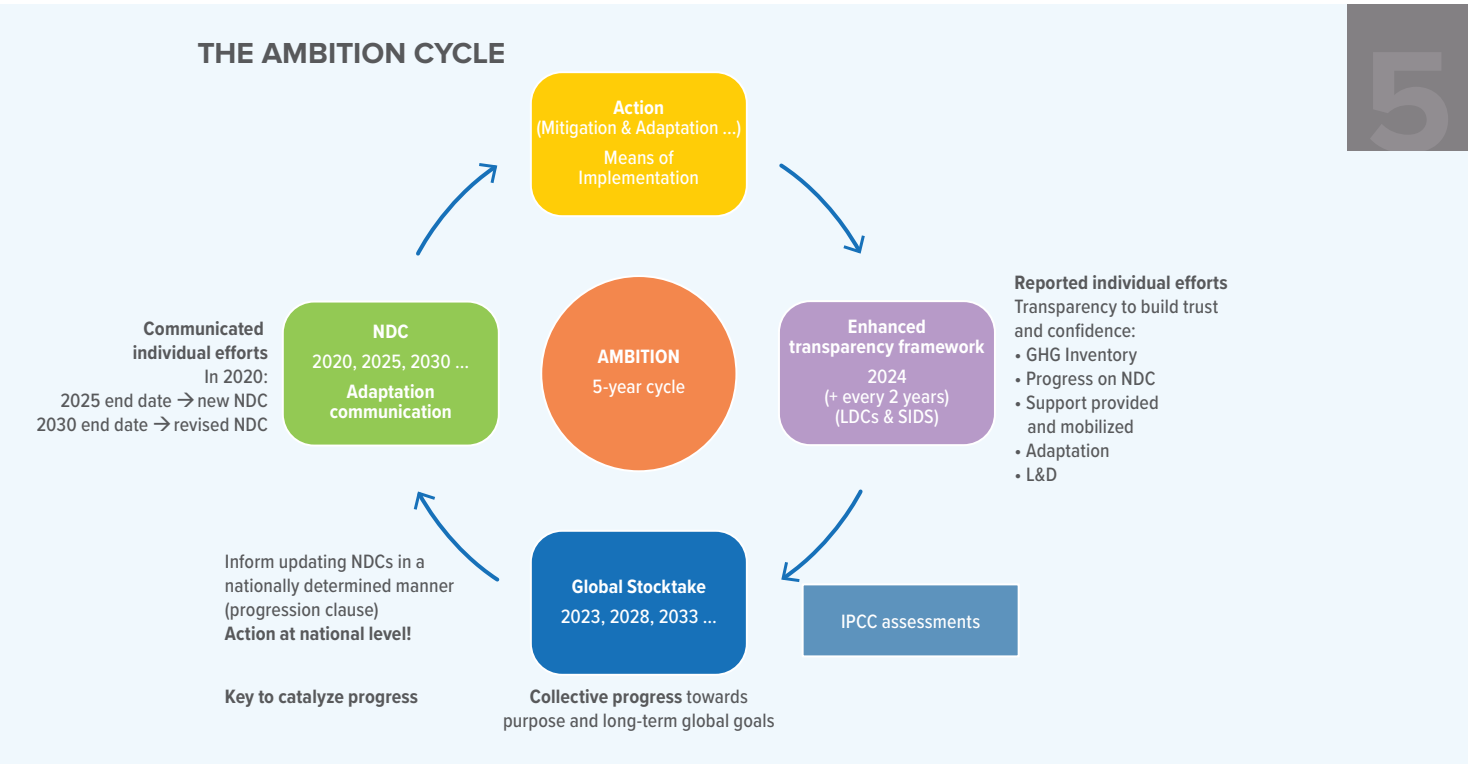

FIGURE 1: The Ambition Cycle under the Paris Agreement (Source: based on information / presentations by the UNFCCC secretariat, with special thanks to Joanna Post).

become major contributors to climate change when they are degraded or destroyed and the carbon they hold is emitted into the oceans and atmosphere. The ongoing loss of mangroves around the world alone accounts for 24 million tCO2eq. in emissions every year. In addition to the carbon emissions, the degradation and destruction of coastal wetlands can severely impact the capacity of coastal communities globally to adapt to climate change related extreme weather events and sea level rise. Conservation, restoration and sustainable management of these important ecosystems are therefore valuable climate actions.

Broader political awareness of the climate values coastal wetlands, and nature climate solutions to climate change, has developed considerably since the first NDCs were submitted[3]. The specific motivations for the inclusion of coastal wetlands in NDCs will vary between countries and include:

- → **High mitigation benefits.** Coastal wetlands sequester carbon at higher rates, per unit area, than terrestrial forests, storing the carbon within both their biomass and carbon-rich organic soils. Recent research suggests that restoring wetlands could offer up to 14% of the mitigation potential from ocean climate action[4] needed to hold global temperature to 2C above pre-industrial levels. Relative to other natural climate solutions, these ecosystems may also provide high cost-effectiveness as a mitigation solution. For instance, the global area covered by blue carbon ecosystems is equivalent to only 1.5% of terrestrial forest cover. Yet, their loss and degradation are equivalent to 10% of CO_2 emissions from terrestrial deforestation because of their high carbon stocks per hectare[5].
- → **High adaptation benefits:** Coastal wetlands provide services essential for climate change adaptation, including protection from storm surges, sea-level rise and coastal erosion. Investment in these forms of "green infrastructure" provides other essential ecosystem services such as food security and biodiversity, and is often more cost-effective than "grey infrastructure," such as seawalls and breakwaters.
- → **NDC progression:** The Paris Agreement encourages countries to move towards economy-wide targets, ultimately covering all economic sectors and emissions sources. The integration of land-sector emissions, including those from coastal wetlands, is a major milestone on this path.

3 The NDC Partnership — a platform designed to help countries plan and realize NDC implementation — has received 60 requests for support from 17 countries related to 'oceans & coasts' for their NDC Implementation Plans.

4 Natural climate solutions BW Griscom, J. Adams, PW Ellis, RA Houghton et al. Proceedings of the National Academy of Sciences, 2017.

5 Estimating Global "Blue Carbon" Emissions from Conversion and Degradation of Vegetated Coastal Ecosystems. Pendleton et al. PLOS ONE, 2012.

- **High implementation value:** Including protection, restoration and/or sustainable management of coastal wetlands in an NDC serves as a strong signal, both internationally and domestically, of national policy priorities which, in turn, drive resources and actions. This is particularly important given the diverse range of sectors with impact on coasts. NDC development encourages coordination between sectors which can result in better identified policy levers for implementation.
- **Sustainable Blue Economy:** Many countries have expressed interest in developing and maintaining sustainable blue coastal and ocean economies. There is an opportunity for these governments and the private sector to work closely with coastal communities to provide direct benefits and ensure ocean conservation. Commitments to the conservation of these ecosystems also serve as a signal to multiple potential avenues for financial support and development of blue economies. The vision of the sustainable blue economy implies a model that promotes investment, stimulates coastal development, improves the quality of life and guarantees healthy and resilient oceans.
- **Climate finance:** NDCs are entry points for climate finance support. Under the provisions of the Paris Rulebook concerning climate finance reporting, both the donor and the recipient country must report how a particular financial support or flow contributes to the achievement of the recipient country's NDC. Noting that only sectors included in a country's NDC are eligible for climate finance, it is important to include coastal sectors in NDCs if a country is interested in attracting international support in this sector.

These guidelines are designed to speak to all 151 countries that contain coastal wetlands, irrespective of their level of economic development and regardless of the type and nature of the country's NDC commitments. There is no 'one-size-fits-all' NDC. An NDC for an industrialized country — such as Australia — will be different to an NDC for a small island developing state (SIDS) such as Fiji. NDCs are, by definition, determined by the individual countries with the common goals described in the Paris Agreement and as tools of incremental change. Thus, NDCs do not need to reflect a perfected blue carbon accounting framework or set of targets. Rather, they offer the opportunity for each country to move towards comprehensive blue carbon coverage and targets over time, as relevant to country-specific contexts.

Aerial marsh. © Conservation International/photo by Sarah Hoyt

Particular differences between countries will also include national reporting systems associated with NDCs, notably GHG inventories. Some countries have comprehensive data on emissions and removals from coastal wetlands. Others do not. Reporting and planning capacities also vary between countries.

There are specific actions for including blue carbon in NDCs and related actions available to all countries. The guidance provided in this document presents a tiered approach for the inclusion of coastal wetlands in NDCs, similar to the approach used in the 2013 IPCC Wetlands Supplement. This tiered approach is tailored to account for the varying data and capacity levels among countries and reflects the broader stepwise nature of designing NDCs. Countries can identify their desired entry point for including blue carbon and follow guidance accordingly. Considerations for how coastal wetlands might be included within NDCs:

- → Capacity implications, data completeness, and clear identification of drivers (or origins) of habitat degradation and associated mitigation values within GHG inventories.
- → Intra-governmental and policy coordination given the breadth of policies and governmental departments often involved in management of coastal wetlands.
- → Funding and capacity implications of implementation.

WHAT ASPECTS OF THESE GUIDELINES ARE RELEVANT TO MY COUNTRY?

Depending on data availability and institutional capacity (grouped as high; medium; low) for any given country, these guidelines present tiered suggestions as follows: Level 1 (i.e., initial actions); Level 2 (i.e., supplemental actions); and Level 3 (i.e., fully comprehensive actions). These guidelines illustrate that every action towards including coastal wetlands in NDCs is worthwhile and demonstrates enhanced ambition. Countries can use these guidelines to take incremental steps across levels toward including coastal wetlands in their NDCs.

ENGAGEMENT LEVEL	EXAMPLE STATUS OF BLUE CARBON DATA IN COUNTRY
Level 1	• No data available on coastal wetland change or associated GHG emissions • Coastal wetlands are not included in any conceptual document on adaptation • Coastal wetlands are identified for inclusion in the national plan
Level 2	• Coastal wetlands included in adaptation component of NDC • Some advances towards quantifying mitigation value of coastal wetlands using IPCC guidance, including as part of a mitigation approach or implementation plan.
Level 3	• Comprehensive IPCC “tier 3” based inventory reporting for coastal wetlands • Blue carbon solutions are a key component of adaptation and mitigation commitments

Primarily, these guidelines address national policymakers and technical experts involved in NDC design and implementation, including GHG inventories and accounting experts. The guidance should also be applied in collaboration with other national priorities, including those designed to meet economic objectives, coastal and ocean resource management, coastal and wetlands conservation and biodiversity. As such, these guidelines can potentially support a country in achieving its commitments to other international agreements such as but not limited to, those under the Sustainable Development Goals (SDGs), in particular SDG 14, Ramsar Convention (wetlands) and the Convention on Biological Diversity (CBD).

These guidelines outline options for consideration to include coastal wetlands in NDCs, as well as share the recommendations and best practices of the authors and their affiliated organizations regarding coastal wetlands and NDCs.

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