OPEN ACCESS Freely available online

ISSN: 2155-9546
Journal of Aquaculture Research & Development

Commentary

Importance of Blue Carbon Mangroves in Climatic Change

Maria Luke *

Department of aquaculture and forestry, Wayne State University, Detroit, USA

DESCRIPTION

The blue carbon concept was introduced in 2009 in an evaluation report of a special cooperation between the United Nations Environment Program (UNEP), the United Nations Food and Agriculture Organization (FAO), and the United Nations Intergovernmental Scientific Committee on Oceanography Education and cultural institutions recognize the globally important role of coastal ecosystems such as saltmarshes, mangroves and seagrass beds in absorbing carbon (C) and reducing emissions, and should protect them. I have the idea that it should be saved and restored if necessary. Blue carbon is defined as coastal carbon sequestered and conserved by marine ecosystems to justify numerous studies describing C stocks and C sequestration rates, especially in saltmarsh, mangrove and seagrass ecosystems is increasingly used as a concept.

The International Union for Conservation of Nature (IUCN) has commissioned a detailed assessment to document C management potential for saline marshes, mangrove forests, seagrass meadows, kelp forests, and coral reefs. The sediments and soils of these ecosystems, although geographically smaller have a lower potential for greenhouse gas (CH_4, CO_2) emissions, and therefore proportionately more carbon dioxide than terrestrial ecosystems concluded that it isolates Therefore, there is an urgent need for comprehensive C inventories from these habitats to adequately assess their role in absorbing C emissions. Anthropogenic greenhouse gas emissions from these coastal habitats are underestimated. This is because emissions from these coastal habitats are not accounted for in national and international inventories. This means that carbon savings from sequestration do not count toward meeting climate change commitments, and these habitats continue to be destroyed and must be protected and restored.

A later policy report showed that when these habitats are converted, C is released into the atmosphere, reversing the effect of promoting carbon sequestration in Reducing Emissions from Deforestation and Land Degradation (REDD) (due to deforestation and forest degradation). Reducing emissions refers to conservation and sustainable management and improved carbon stocks) and other rehabilitation projects. Policy makers need to understand that there are three factors involved in C sequestration. H. The annual flux of organic carbon that is not oxidized to CO_2 and transferred to anaerobic soils and sediments that is not released to the atmosphere, the amount of C in biomass stored above and below ground, and underground as a result of subterranean ecosystems. Total stored C stock pre-isolation habitat lifetime historical isolation.

Mangrove C resources have measured in 52 countries in the Africa, Southeast Asia, Central and North America, Caribbean, South America, the Middle East, Australia, New Zealand and other some Pacific Islands. Total ecosystem stock averages 738.9± 27.9. In most cases, the minimum and maximum estimates differ by orders of magnitude. Aboveground and belowground C biomass accounted for 14.8% and 8.7% of the total ecosystem C stocks, respectively. These estimates show great variability, reflecting a wide range of ages and geomorphological forest types, from young plantations to mature pristine forests. Furthermore, it is very likely that most studies underestimated soil C stocks, as other studies have measured important soil C stocks.

Mangrove blue carbon stocks are underestimated by considering soil C pools to the depth of 1 m, but may be offset by CH_4 loss and then oxidation of old C stored in deeper soils. There is a nature. Some of the soil C is decomposed and returned to the atmosphere as CH_4. Since CH_4 has a higher global warming potential than CO_2, it can offset the CO_2 removed by C burial. Large amounts of CH_4 emissions from mangroves can partially offset blue carbon burial rates of an average of 20% using 20-year global warming potentials. Buried C in mangrove sediments releases not only CH_4, but also carbon that was sequestered hundreds of years ago in the form of exported Dissolved Inorganic Carbon (DIC). In subtropical mangrove systems, C was measured in DIC exported from pore water and soil C profiles. pore water exchange released low-isotope old DIC into neighboring streams. DIC was obtained from an average depth of 40 cm, corresponding to about a century of soil accumulation. Therefore, 100-year-old DICs are still vulnerable to remineralization and tidal transport through pore water exchange or submarine groundwater runoff.

Correspondence to: Maria Luke, Department of aquaculture and forestry, Wayne State University, Detroit, USA, E-mail: lukemaria@gmail.com

Received: 27-Feb-2023, Manuscript No. JARD-23-20535; **Editor assigned:** 02-Mar-2023, Pre QC No. JARD-23-20535 (PQ); **Reviewed:** 17-Mar-2023, QC No JARD-23-20535; **Revised:** 22-Mar-2023, Manuscript No. JARD-23-20535 (R); **Published:** 29-Mar-2023, DOI:10.35248/2155-9546.23.14.745

Citation: Luke M(2023) Importance of Blue Carbon Mangroves in Climatic Change. J Aquac Res Dev.14:745.

Mangrove loss, regardless of cause, results in significant loss of C inventory, especially when soil layers are removed or disturbed. This removal can translate into CO_2 emissions into the atmosphere. Immediate removals of biomass and the soil from degraded mangrove forest and conversion of area to aquaculture ponds, cattle grazing and land uses would result in CO_2 emissions of 1802.2 Mg, estimates for Brazil, Mexico and Philippines between 407.9 Mg and 2781.5 Mg at large losses. Honduras, Dominican Republic, Indonesia, Costa Rica. Most of these emissions are due to loss of soil pools up to 1m deep, with estimated CO_2 content higher when soil is dredged deeper than 1m. There is no doubt that mangroves store and sequester large amounts of carbon relative to their small global scale area, but reviews show that mangroves store C and are globally important in mitigating CO_2 emissions has been shown to play only a minor role in However, her CO_2 emissions of mangroves are substantial across tropical coastal waters. Mangrove CO_2 emissions account for about 0.2% of her CO_2 emissions globally, but about 18% of her CO_2 emissions in tropical coastal waters.