



SUSTAINABILITY BOOKLET

SERIES 2 OCEAN



WRI INDONESIA

Do you know? The Ocean...



adds
\$2.5 trillion each
to the global economy year



produces half the
planet's oxygen



feeds
3 billion
people



is home to more
than half the
world's species



and absorbs a
quarter of all carbon
dioxide emissions

Nationally, the Indonesia's ocean potentially add

US\$ **126.5 billion**ⁱ

in revenue until March 2019, or equal to 93% of
Indonesia's revenue in the 2018 state budget.

This revenue comes from **tourism, fisheries, transportation, and the coastal ecosystemⁱⁱ services** through the provision of food and materials, nutrient cycling and waste processing.

Also,
there are

2.8 million
householdsⁱⁱⁱ

which are directly involved in the
marine commodity industries.

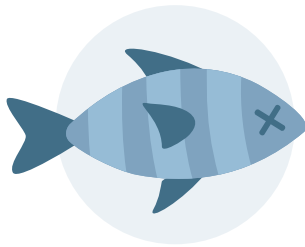


YET, OUR OCEAN IS A TREASURE IN PERIL...

Overfishing



Marine pollution



Climate change



...are causing unprecedented changes in the ocean that could endanger the ocean's health, its economic potential, and our lives.

INDONESIA'S MARINE AND COASTAL ECOSYSTEM SHOULD BE MANAGED SUSTAINABLY FOR THE ECONOMY, LIVELIHOOD, AND CLIMATE.

LIVELIHOOD

Marine and coastal ecosystems are interlinked in bringing benefits to communities. Essential habitats such as mangrove, seagrass, and coral reef provide nursing ground for fish.



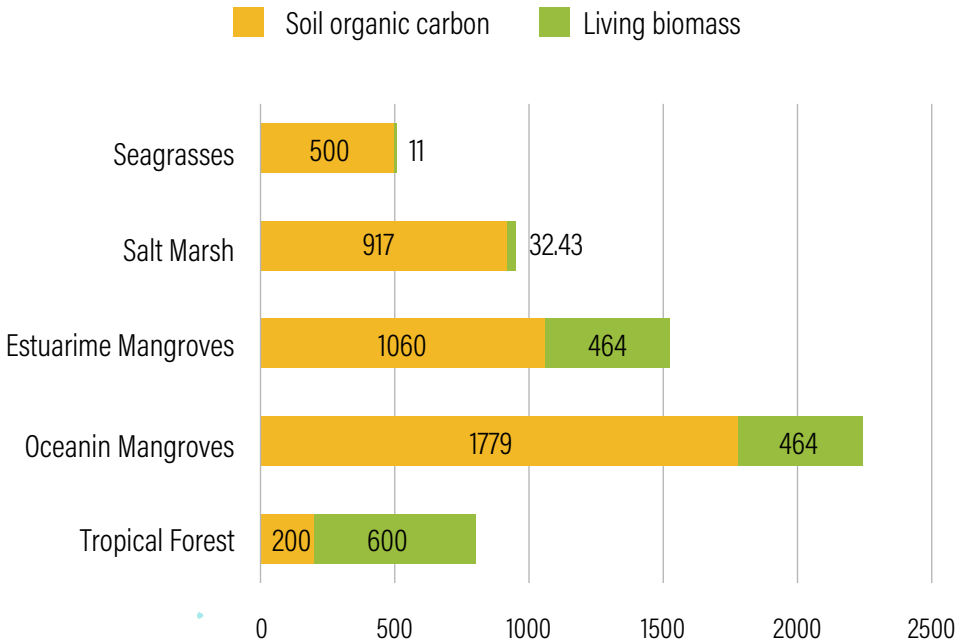
CARBON SEQUESTRATION

Blue carbon is a term given to carbon– sequestered, stored, or released from mangroves, seagrass, and tidal marshes. These ecosystems, storing the majority of carbon in the soil, bury atmospheric carbon ten times than their terrestrial counterparts per hectare annually.^{iv}

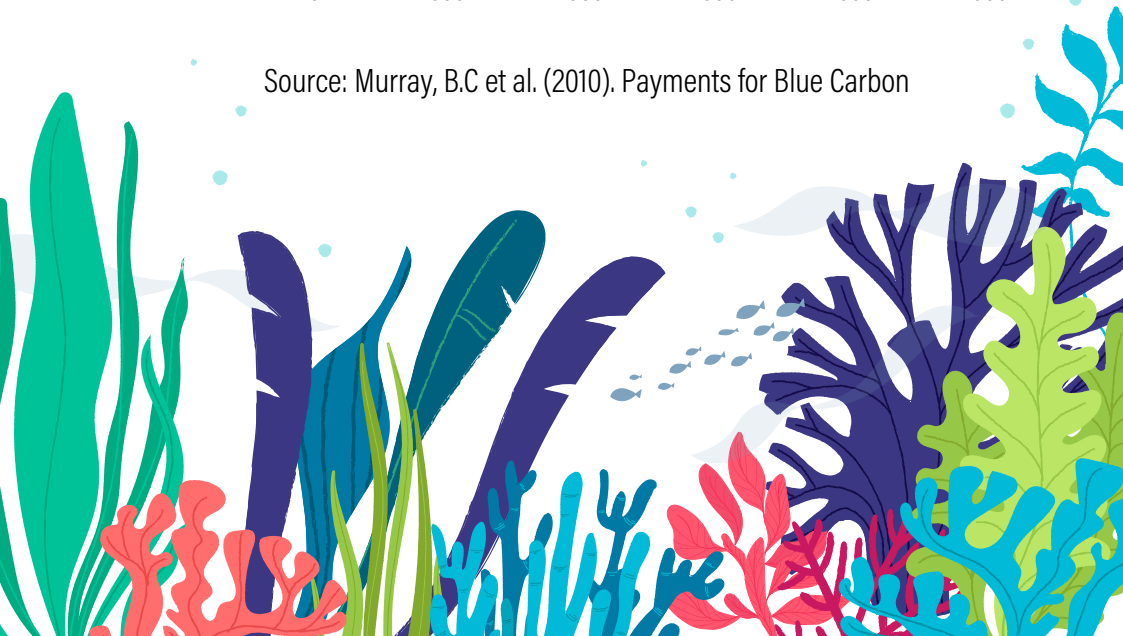
ECONOMIC BENEFITS

Mangrove, seagrass, and coral reef ecosystems are critical to ensure the availability of crabs, shellfish, shrimps, and fish. Further, tourism driven by marine and coastal ecosystems brings significant economic income while creating job opportunity and livelihood.^v

Global averages for carbon pools of blue carbon ecosystems in comparison with tropical forest



Source: Murray, B.C et al. (2010). Payments for Blue Carbon



ONE OF THE IMPORTANT BLUE CARBON ECOSYSTEMS IS MANGROVE.



Indonesia has the world's largest area of mangrove forests,

with more than
3 million
hectares

or **22,6%**
of global mangrove
ecosystem.

Mangrove can be found in many parts of Indonesia, mostly in **Papua, Kalimantan and Sumatra**^{vi}



Mangroves provide protection against strong winds, tsunamis^{vii}, or other natural hazards.



Mangroves also support local tourism.

For instance, one of the mangrove ecotourism sites in Muara Angke, Jakarta, could generate a total of **Rp3 billion per year** from its tourism services only.



However, mangrove forests are at risks.

Mangrove deforestation accounts for

6% of Indonesia's **annual forest loss** in 2014.^{viii}

These losses are mainly caused by **land conversion** for:

Housing



Shrimp
aquaculture



Palm
oil plantation^{viii}



HOW CAN WE GROW OUR BLUE CARBON ECOSYSTEM?

FINANCIAL MECHANISM FOR BLUE CARBON CONSERVATION



Blue carbon ecosystem provides ecological services that are not monetized yet, leading to its destruction in the trade of economic benefit. An effort to put value on ecological service and financial mechanism that incentivizes the protection and restoration of the ecosystem should be advanced.

REVITALIZATION



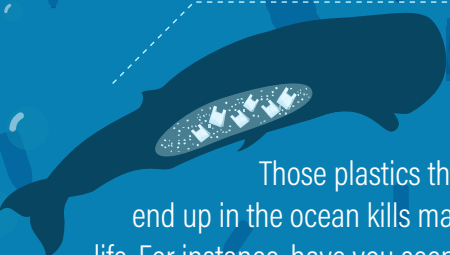
A more effective approach is to revitalize the habitat to let the mangrove grow naturally.




MEANWHILE, INDONESIA IS THE SECOND-BIGGEST CONTRIBUTOR TO MARINE PLASTIC DEBRIS WORLDWIDE AFTER CHINA.

Today, Indonesia generates 6.8 million tons of plastic waste per year, equals to the weight of more than

150,000 Boeing 737-800
airplanes!



Those plastics that end up in the ocean kills marine life. For instance, have you seen the sperm whale in Wakatobi^x, Southeast Sulawesi, that was found dead with almost 6 kg plastic garbage inside its stomach?



Further, plastic waste in the form of microplastic will end up in fishes and fisheries products, and eventually will be consumed by human, potentially causing detrimental health effect.



Manta rays in Nusa Penida and Komodo National Park^x, for instance, may accidentally eat up to 63 pieces of plastic per hour!

WHAT CAN BE DONE TO REDUCE PLASTIC WASTE IN THE OCEAN?^{xi}

1



Reduce plastic usage by switching from single-use to reusable products and packaging, such as lunch box, tumbler, or tote bag. Even more, rethink your use and consumption choices, avoid the use of single use plastic altogether! When you use reusable products, remember to reuse those products instead of always buying new ones.

2



Redesign plastic products and packaging for possibility of reuse or recycling, with the ultimate goal of making all plastic waste a valuable commodity.

3



Significantly increase plastic waste collection by boosting both state-funded and informal or private sector collection systems.

4

Build or expand safe waste disposal facilities for plastic waste generated in locations without recycling facilities.



5

Double current recycling capacity by building or expanding plastic sorting and recycling facilities.



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ⁱⁱ Source: "Value Coastal Ecosystems" from wri.org, published on December 2006

ⁱⁱⁱ Source: "Insight: There's only one ocean. This is its moment" from The Jakarta Post, published on October 30, 2018

^{iv} Source: "Promoting Indonesia Blue Carbon Agenda to Achieve Development's Triple Wins" from wri-indonesia.org, published on April 18, 2019

^v Source: "Menteri Pariwisata: Wisata Bahari Ditargetkan Hasilkan Devisa 4 Miliar Dolar Amerika Di 2019", from Kemenparekraf.go.id, published on July 31, 2015

^{vi} Source: FAO, 2007

^{vii} Source: "Melihat Benteng Tsunami di Donggala, Sulawesi Tengah" from kumparan.com, published on March 14, 2019

^{viii} Source: Ministry of Forestry, 2014

^{ix} Source: Richard and Friess, 2016

^x Source: "6 kg of garbage found in dead whale's stomach in Wakatobi" from thejakartapost.com, published on November 21, 2018

^{xi} Source: Germanov, Elitza, et.al, 2018

^{xii} Source: National Plastic Action Partnership



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