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# THE WORLD OF WETLANDS

Editor : Elsa Rosalina

# THE WORLD OF WETLANDS

*Wetlands have always been a place of mystery and wonder. They are a world unto themselves, teeming with life and secrets hidden beneath the surface.*

*But as humanity continues to violate upon these fragile ecosystems, the wetlands are in danger. They are threatened by pollution, climate change, and the unchecked development of our modern world.*

*To unlock what is the inside The World of Wetlands, you need to open, read, and understand each of this book contents. Happy to gain more knowledges!*



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Dilarang memperbanyak atau memindahkan sebagian atau seluruh  
isi buku ini dalam bentuk apapun dan dengan cara apapun,  
termasuk memfotokopi, merekam, atau dengan teknik perekaman  
lainnya tanpa seizin tertulis dari penerbit.

## PREFACE

All praise is always due to Allah SWT because it is thanks to His grace and mercy that we, as writers, can finish the book entitled 'The World of Wetlands'.

We wrote this book in order to share a broad range of knowledge about wetlands. And at the same time, we hope this book can become a comprehensive reference source for fellow writers out there who need input related to Wetlands.

The writers would like to thank:

1. Almighty God Allah SWT.
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6. All the people who helped the process of making this book

Just as nothing is perfect in this world, this book is also certainly not without flaws or mistakes. Therefore, if the reader finds any errors, we as the writers sincerely apologize. We will always accept criticism and suggestions from readers with open arms as a lesson for us in the future.

Eventually, the writers wish that this book will bring usefulness to all readers.

## TABLE OF CONTENTS

<b>PREFACE</b> .....	<b>iii</b>
<b>TABLE OF CONTENTS</b> .....	<b>iv</b>
<b>CHAPTER 1 WETLANDS: DEFINITION AND TYPES</b> .....	<b>1</b>
A. Introduction .....	1
B. Definition of Wetlands.....	2
C. Types of Wetlands.....	4
D. Conclusions.....	30
<b>CHAPTER 2 WETLAND AROUND THE WORLD</b> .....	<b>32</b>
A. Introduction .....	32
B. List of Wetlands Around The World .....	33
C. International Wetlands .....	34
D. Indonesian Wetlands.....	58
E. World Wetland Day .....	74
<b>CHAPTER 3 BIODIVERSITY IN WETLANDS</b> .....	<b>83</b>
A. Introduction .....	83
B. Biodiversity In Wetlands .....	84
C. Conclusion .....	120
<b>CHAPTER 4 ADVANTAGES AND DISADVANTAGES OF WETLANDS</b> .....	<b>121</b>
A. Introduction .....	121
B. Advantages .....	122
C. Disadvantages.....	137
D. Conclusion .....	159
<b>CHAPTER 5 WETLANDS RESTORATION</b> .....	<b>160</b>
A. Introduction .....	160
B. Wetland Restoration Definition and Distinctions.....	161
C. Wetland Restoration Steps.....	165
D. Wetland Restoration Techniques .....	173
E. Wetland Restoration around The World .....	176
F. Conclusion .....	194
<b>REFERENCE</b> .....	<b>196</b>
<b>GLOSSARY</b> .....	<b>202</b>

# CHAPTER

# 1

# WETLANDS: DEFINITION AND TYPES

## A. Introduction

Having to learn about wetlands involves knowing the condition of the world's natural wealth. Understand the meaning or definition and importance of the roles, functions and benefits of wetlands, is essential. This includes recognizing the types, distribution and area, as well as conditions and threats to wetlands in the world. Of course, this understanding is able to arouse our concern and participation so that we are able to utilize wetlands while keeping them sustainable.



Source: <https://www.worldwildlife.org>

# CHAPTER

# 2

# WETLAND AROUND THE WORLD

## A. Introduction

One of the most significant and varied ecosystems on our planet is the wetlands. These are transitional areas between both land and water where the ground is perpetually moist with water and the water level is at or near its surface. As we know, Wetlands can take on a variety of formations, such as marshes, swamps, bogs, fens, and rain forests. They are widespread throughout the earth, from the tropical regions to the Northern hemisphere, and they offer several advantages to both humans and wildlife.



Source: <https://seasmartschool.com/blog/wetlandsday>

The vast wetlands of Florida's Everglades and the Mississippi River Delta are among North America's most famous wetland habitats. Several species live on these wetlands for survival, such as alligators, panthers, and migratory birds.



# CHAPTER

# 3

# BIODIVERSITY IN WETLANDS

## A. Introduction

There are numerous definitions of wetlands that have mentioned in the previous chapter. Wetlands are related to the existence of water. The main characteristic of wetland is water-saturated soil. Wetlands are classified into four types: marshes, swamps, bogs, and fens. The area sufficiently wet for a long time sufficient for the development of specially adapted vegetation and other organisms is called wetlands (Maltby, 1986). Wetlands are ecosystems formed by water.

The areas of wetlands have a high level of biodiversity compared to most ecosystems. Biodiversity refers to the number and diversity of living creatures within a certain ecosystem or habitat, as well as environmental elements such as temperature, oxygen, carbon dioxide levels, and climate. Biodiversity is a diversity of organism that shows an overall variation of genes, species, and ecosystems in an area (Harianto and Dewi, 2017).

Biodiversity is the term to describe the various kind of life in this Earth. Specifically, biodiversity refers to every living thing, including the variety of plant and animal species found in a particular area, whether the whole Earth, a country, and a single forest. The variety of biodiversity can be found in wetlands with the unique characteristics. The examples of biodiversity in wetlands:

# CHAPTER

# 4

# ADVANTAGES AND DISADVANTAGES OF WETLANDS

## A. Introduction

Advantages describe the importance of a feature and how it solves a problem, frequently in factual, concrete, or measurable statements. The advantages of wetlands determine the level of community involvement, and the community's attitude toward wetlands conservation may also impact their level of competence and knowledge.

A study has researched that wetland ecosystems are called "biological supermarkets." They produce a lot of food, attracting different kinds of animals. Many wetlands are ideal for the growth of organisms that form the base of the food web due to their tropical waters, plenty of inorganic nutrients, and high rates of primary productivity (the synthesis of new plant biomass through photosynthesis). Several bird and animal species depend on wetlands, particularly during migration and breeding (Hammer, 2020).

Disadvantages describe the opposite of the advantages' definition. It describes the lack of solution, and damage, negative impacts in a factual, concrete, or measurable statement.

A study has discovered that the disadvantage of wetlands is only found in constructed wetlands. The significant disadvantage of constructed wetlands is that they require a lot of areas to operate to manage wastewater treatment. In Kenya's wildlife lodges and resorts, this study examines the possible uses and difficulties of constructed wetlands for wastewater treatment and nature conservation (Makopondo et al., 2020).

## CHAPTER

# 5

## WETLANDS RESTORATION



Source: <https://tcwp.tamu.edu/wetland-restoration/>

### A. Introduction

As stated in previous chapters, there are hundreds to thousands of wetlands scattered all over the world. Wetlands are included as one of the most important ecosystem units for the earth because the wide range of benefits and uses it provide for living things in this world. However, as a result of irresponsible human activities such as illegal forests cutting, building sewage plants, draining rivers for land use, and various other acts of nature pollution, many wetlands have been damaged or

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## GLOSSARY

### A

#### Acres

a unit of land area equal to 4,840 square yards or 0.405 hectares.

#### Altitude

height of an object or point concerning sea level or ground level.

#### Ammonia

a colorless gas with a distinctive strong-smelling smell.

#### Anaerobic

concerning, requiring, or involving the absence of free oxygen.

#### Arise

to happen, to start to exist.

#### Arouse

to make somebody feel more active and want to start doing something.

#### Artificial

made or produced by human beings rather than occurring naturally, especially as a copy of something natural.

#### Aquatic

related to biodiversity that is living in, on or near water.

#### Aves

a class of animals that includes birds.

### B

#### Bass

a name shared by many fish species.

#### Bekantan

a large leaf-eating monkey with an orange to pink face and a large protruding nose found only on Borneo.

#### Berms

a flat strip of land raised bank, or terrace bordering a river or canal

## Biodiversity

the world's variety of living things lives in a particular habitat or ecosystem.

## Biological

relating to biology or living organisms.

## C

### Carnivorous

refers to an animal that eats meat.

### CH<sub>4</sub>

the chemical form of methane

### Cholera

an infectious and often fatal bacterial disease of the small intestine caused by infected water supplies and resulting in severe vomiting and diarrhea.

### Commensurate

matching something in size, importance, quality, etc.

### Cryptosporidium

a microscopic parasite responsible for diarrhea.

## D

### Damp

slightly wet, often in an unpleasant way.

### Detritus

dead particulate organic material, as distinguished from dissolved organic material.

## E

### E. coli

a type of bacteria found in the lower intestines of warm-blooded organisms.

### Ecological

relating to or concerned with the relation of living organisms to one another and their physical surroundings.

### Ebullition

the process of bubbling or boiling.

## Elevation

height above a given level, especially sea level.

## Emblematic

serving as a symbol of a particular quality or symbolic.

## Emergent

plants in wetlands root in the lake bottom, but their leaves and stems extend out of the water.

## Epiphytic

relating to, or being living on the surface of plants.

## Estuary

the tidal mouth of a large river, where the tide meets the stream.

## F

### Fallacy

a mistaken belief.

### Fertility

the quality of land or soil to make plants grow well.

### Floating

plants that have roots in the lake bottom but the leaves float on the water's top

## G

### Giardia

a microscopic parasite (germ) that causes diarrhea.

### Gullies

a ravine formed by the action of water.

## H

### H5N1

a type of influenza virus that causes a highly infectious, severe respiratory disease.

### Herbaceous

relating to herbs (in the botanical sense).

### Herbivorous

the animal that eats plants.

Hemisphere

a half of a sphere.

Humid

warm and slightly wet of the air or climate.

Hydrology

the study of water.

## I

Inhabited

live in or occupy a place or environment.

Intertidal

denoting the area of a seashore covered at high tide and uncovered at low tide.

Interconnected

having all constituent parts linked or connected.

Inundates

to cover an area of land with a large amount of water.

Invasive

tending to spread prolifically and undesirably or harmfully.

IUCN

The International Union for Conservation of Nature  
abbreviation.

Invertebrate

animals without backbones.

## J

Journal

a record of experiences, ideas, or reflections kept regularly for private use.

## K

Kenya

a country in East Africa.

## L

### Lagoon

the stretch of salt water separated from the sea by a low sandbank or coral reef.

### Levees

an embankment builds to prevent the overflow of a river.

### Lianas

a liana is a long-stemmed, woody vine rooted in the soil at ground level and uses trees and other means of vertical support to climb up to the canopy in search of direct sunlight.

### Livestock

the domesticated animals raised in an agricultural setting to provide labor and produce diversified products for consumption.

## M

### Mammals

an animal that has mammary glands that produce milk to feed its young

### Mitigation

reducing the risk of loss from the occurrence of any undesirable event.

## N

### N<sub>2</sub>O

the chemical form of nitrous oxide.

### NH<sub>3</sub>

the chemical form of ammonia.

### Nitrogen oxide

a mixture of gases that are composed of nitrogen and oxygen.

### Notable

worthy of attention or notice or remarkable.

Notion

an idea, a belief, or an understanding of something.

NOx:

the chemical form of nitrogen oxide.

**O**

Oxide

a binary compound of oxygen with another element or group.

**P**

pH

a measurement of how acidic basic water is.

Picture-cued

a non-verbal game to stimulate a written response.

Plumes

a large quantity of smoke, dust, fire, or water that rises into the air in the column.

**R**

Reptile

an animal that has cold blood and scaly skin and produces eggs.

Revenue

The money generated from normal business operations is calculated as the average sales price times the number of units sold.

**S**

Saline

containing salt.

Schistosomiasis

a disease caused by parasitic worms.

Sediment

the matter that settles to the bottom of a river.

Shallow

not having much distance between the top or surface and the bottom.

Stagnant

water or air is not moving and therefore smells unpleasant.

Stakeholder

parties with a relationship and interest in the organization, company, or some matters.

Static

not moving, changing, or developing.

Submerged

plants that are entirely underwater and have their roots in the bottom sediment.

**T**

Topography

arrangement of the natural and artificial physical features of an area.

Turbidity

the quality of being cloudy, opaque, or thick with suspended matter.

**U**

Uniqueness

the quality of being particularly remarkable, special, or unusual.

**V**

Vector

an organism, typically a biting insect or tick, that transmits a pathogen, disease, or parasite from one animal or plant to another.

Vegetation

plants collectively.

Vertebrate

animals that have backbones



**W**

## Wastewater

Water is used in the home, in a business, or as part of an industrial process.

**Y**

## Young

having lived or existed for only a short time.

**Z**

## Zona

a public square or similar with an open area.