Ramsar Information Sheet

Published on 1 February 2021

Philippines

Sasmuan Pampanga Coastal Wetlands

Designation date	2 February 2021
Site number	2445
Coordinates	14°49'17"N 120°36'24"E
Area	3 667,31 ha

https://rsis.ramsar.org/ris/2445
Created by RSIS V.1.6 on - 1 February 2021

Color codes

Fields back-shaded in light blue relate to data and information required only for RIS updates.

Note that some fields concerning aspects of Part 3, the Ecological Character Description of the RIS (tinted in purple), are not expected to be completed as part of a standard RIS, but are included for completeness so as to provide the requested consistency between the RIS and the format of a 'full' Ecological Character Description, as adopted in Resolution X.15 (2008). If a Contracting Party does have information available that is relevant to these fields (for example from a national format Ecological Character Description) it may, if it wishes to, include information in these additional fields.

1 - Summary

Summary

The Sasmuan Pampanga Coastal Wetlands (SPCW) extends over an area of 3,667.31 hectares of coastal waters interconnected with mangroves, mudflats, and river ecosystems that offers a range of ecosystem services at local and regional levels.

SPCW is recognized as an important refuelling station for migratory birds while also catering to resident ones. Based on the study by Jensen in 2018, the municipality of Sasmuan receives 46.4% of the total waterbirds that frequent the country as part of the East Asian-Australasian Flyway. Meanwhile, the Annual Waterbird Count in SPCW in 2020 recorded a total bird population of 50,230, which includes 27 species. Among these are the globally endangered spotted greenshank, black-faced spoonbill and Far Eastern curlew, the vulnerable Chinese egret and Philippine duck, and the near threatened Asian dowitcher. Aside from the Philippine duck, other species endemic to the country and present at the site are the grey-backed tailorbird and the Philippine pied-fantail.

At the heart of SPCW, lies a mangrove islet dubbed as the Pampanga's hidden gem - the Sasmuan Bangkung Malapad Critical Habitat and Ecotourism Area (SBMCHEA). It serves as a home to a variety of species of mangroves and marine animals. Avicennia rumphiana, a vulnerable mangrove species, flourish in the area and among other species, supports a diverse number of fish and crustaceans. This, in turn, provides a source of food and livelihood to nearby communities that are purely dependent on fishery resources.

2 - Data & location

2.1 - Formal data

2.1.1 - Name and address of the compiler of this RIS

Responsible compiler

Institution/agency	Department of Environment and Natural Resources, Provincial Environment and Natural Resources Office Pampanga
Postal address	Brgy. San Antonio, Guagua, Pampanga, Philippines (2003)

National Ramsar Administrative Authority

Institution/agency	Biodiversity Management Bureau
Postal address	Ninoy Aquino Parks and Wildlife Center North Avenue, Diliman, Quezon City 1100 Philippines

2.1.2 - Period of collection of data and information used to compile the RIS

From year	2010
To year	2020

2.1.3 - Name of the Ramsar Site

Official name (in English, French or Spanish)	Sasmuan Pampanga Coastal Wetlands
Unofficial name (optional)	SCPW

2.2 - Site location

2.2.1 - Defining the Site boundaries

b) Digital map/image
<2 file(s) uploaded>

Former maps	0

Boundaries description

The site is situated at the Municipality of Sasmuan, Pampanga, Philippines covering five (5) coastal barangays namely Malusac, Sebitanan, Mabuanbuan, Batang 1st and Batang 2nd. It is bounded on the North by the municipality of Guagua; on the East by the municipalities of Masantol and Macabebe; on the West by the Municipality of Lubao and on the South by Manila Bay. The boundary was identified because the vulnerable species was observed within this area, likewise mangroves and mudflats are present within this boundary that serves as habitat for the migratory birds.

2.2.2 - General location

a) In which large administrative region does the site lie?	Sasmuan, Province of Pampanga, Region 3, Philippines
b) What is the nearest town or population centre?	Lubao, Pampanga

2.2.3 - For wetlands on national boundaries only

a) Does the wetland extend onto the territory of one or more other countries?	Yes ○ No ◉
b) Is the site adjacent to another designated Ramsar Site on the territory of another Contracting Party?	Yes ○ No ◉

2.2.4 - Area of the Site

Official area, in hectares (ha):	3667.313
Area, in hectares (ha) as calculated from GIS boundaries	3664.169

2.2.5 - Biogeography

Biogeographic regions

Regionalisation scheme(s)	Biogeographic region
Udvardy's Biogeographical Provinces	INDOMALAYAN Realm, Philippines Biogeographic Province

Other biogeographic regionalisation scheme

East Asian Australasian Flyway

3 - Why is the Site important?

3.1 - Ramsar Criteria and their justification

<no data available>

☑ Criterion 2 : Rare species and threatened ecological communities

☑ Criterion 3 : Biological diversity

Justification: The Ramsar Site is species rich, supporting a number of animals and plants. For the avian population alone, the total number of individuals that was recorded in 2020 peaked at 50,230. This number represents 27 species, which includes the Philippine duck, which is endemic to the country.

☑ Criterion 5 : >20,000 waterbirds

Overall waterbird numbers: 28,904 (2018); 29,639(2019); 72,002(2020)

Start year: 2018

Source of data: 2018 to 2020 Annual Waterbird Census (AWC) reports

☑ Criterion 6 : >1% waterbird population

3.2 - Plant species whose presence relates to the international importance of the site

Phylum	Scientific name	Criterion 2	Criterion 3	Criterion 4	IUCN Red List	CITES Appendix I	Other status	Justification
Plantae								
TRACHEOPHYTA / MAGNOLIOPSIDA	*Avicennia marina rumphiana*	☑	☐	☐	VU	☐		

Avicennia rumphiana, a vulnerable mangrove species, thrives in the Sasmuan Bangkung Malapad. Dominating the area is Sonneratia alba based on a 2017 flora assessment. Provided as additional material is an inventory enumerating other identified mangrove species flourishing in SPCW.

3.3 - Animal species whose presence relates to the international importance of the site

Phylum	Scientific name	Species qualifies under criterion				Species contributes under criterion				Pop. Size	Period of pop. Est.	% occurrence 1)	IUCN Red List	CITES Appendix I	CMS Appendix I	Other Status	Justification
		2	4	6	9	3	5	7	8								
Birds																	
CHORDATA/ AVES	*Anas luzonica*	☑	☐	☐	☐	☑	☐	☐	☐				VU	☐	☐	Philippine Endemic	
CHORDATA/ AVES	*Egretta eulophotes*	☑	☐	☐	☐	☐	☐	☐	☐				VU	☐	☑		
CHORDATA/ AVES	*Egretta intermedia*	☐	☐	☑	☐	☐	☑	☐	☐	6746	2020	6.7		☐	☐		
CHORDATA/ AVES	*Falco peregrinus*	☑	☐	☐	☐	☐	☐	☐	☐				LC	☑	☐		
CHORDATA/ AVES	*Numenius madagascariensis*	☑	☐	☐	☐	☐	☑	☐	☐				EN	☐	☑		
CHORDATA/ AVES	*Orthotomus derbianus*	☑	☐	☐	☐	☐	☐	☐	☐				LC	☐	☐	Philippine Endemic	
CHORDATA/ AVES	*Platalea minor*	☑	☐	☐	☐	☐	☐	☐	☐				EN	☐	☑		
CHORDATA/ AVES	*Rhipidura nigritorquis*	☐	☐	☐	☐	☑	☐	☐	☐				LC	☐	☐	Philippine Endemic	
CHORDATA/ AVES	*Tringa guttifer*	☑	☐	☐	☐	☐	☐	☐	☐				EN	☑	☑		

1) Percentage of the total biogeographic population at the site

3.4 - Ecological communities whose presence relates to the international importance of the site

<no data available>

4 - What is the Site like? (Ecological character description)

4.1 - Ecological character

Significant to the Ramsar Site's ecological character are its stretch of mangroves and mudflat ecosystems that provide critical habitat to a variety of species. It supports not only native waterbirds but also the migratory ones that frequent the country serving as feeding and roosting stations. Fishes and crustaceans also thrive in these ecosystems, which in turn provide the local communities with food and livelihoods. Aquaculture ponds also played a vital role within the area, since they serve as an alternative feeding ground of birds. Natural variability like long term changes to the observed rainy/wet season between years is causing frequent submerging of mudflats that results in the displacement of birds and also changes to substrate from mud to sand.

4.2 - What wetland type(s) are in the site?

Marine or coastal wetlands

Wetland types (code and name)	Local name	Ranking of extent (1: greatest - 4: least)	Area (ha) of wetland type	Justification of Criterion 1
A: Permanent shallow marine waters		2		
F: Estuarine waters	Pasac River	3		
G: Intertidal mud, sand or salt flats		1	1304.07	
I: Intertidal forested wetlands		4	32.1	

Inland wetlands

Wetland types (code and name)	Local name	Ranking of extent (1: greatest - 4: least)	Area (ha) of wetland type	Justification of Criterion 1
Fresh water > Flowing water >> L: Permanent inland deltas	Pampanga River	2		
Fresh water > Flowing water >> M: Permanent rivers/ streams/ creeks	Pasac River	1		

Human-made wetlands

Wetland types (code and name)	Local name	Ranking of extent (1: greatest - 4: least)	Area (ha) of wetland type
1: Aquaculture ponds		1	1579.5

Other non-wetland habitat

Other non-wetland habitats within the site	Area (ha) if known
spoils sites (for dredged materials)	

4.3 - Biological components

4.3.1 - Plant species

<no data available>

4.3.2 - Animal species

Other noteworthy animal species

Phylum	Scientific name	Pop. size	Period of pop. est.	%occurrence	Position in range /endemism/other
CHORDATA/AVES	*Acrocephalus rodericanus*				Cites Appendix III

4.4 - Physical components

4.4.1 - Climate

Climatic region	Subregion
A: Tropical humid climate	Af: Tropical wet (No dry season)

The climate is classified as Type I, with two pronounced seasons: dry season from December to May and wet season from June to November. Rains most frequently occur during the months of June to September.

4.4.2 - Geomorphic setting

a) Minimum elevation above sea level (in metres): -1

a) Maximum elevation above sea level (in metres): 2

- Entire river basin ☐
- Upper part of river basin ☐
- Middle part of river basin ☐
- Lower part of river basin ☑
- More than one river basin ☐
- Not in river basin ☐
- Coastal ☑

Please name the river basin or basins. If the site lies in a sub-basin, please also name the larger river basin. For a coastal/marine site, please name the sea or ocean.

There were three (3) major river basins in the Province of Pampanga namely: Porac-Gumain River, Pasig-Potrero River and Pasak River that finally drain to Manila Bay Area. These areas are also the head waters of major rivers and creeks, which provide water for irrigation, fishpond development and domestic use.

4.4.3 - Soil

- Mineral ☑
- Organic ☐
- No available information ☐

Are soil types subject to change as a result of changing hydrological conditions (e.g., increased salinity or acidification)? Yes ○ No ◉

4.4.4 - Water regime

Water permanence

Presence?	
Usually permanent water present	No change

Source of water that maintains character of the site

Presence?	Predominant water source	
Water inputs from surface water	☑	No change

Water destination

Presence?	
To downstream catchment	No change

Stability of water regime

Presence?	
Unknown	No change

4.4.5 - Sediment regime

- Significant erosion of sediments occurs on the site ☑
- Significant accretion or deposition of sediments occurs on the site ☐
- Significant transportation of sediments occurs on or through the site ☐
- Sediment regime is highly variable, either seasonally or inter-annually ☐
- Sediment regime unknown ☐

(ECD) Water turbidity and colour: Color (TCU) 40

(ECD) Water temperature: 32.5 oc

4.4.6 - Water pH

- Acid (pH<5.5) ☐
- Circumneutral (pH: 5.5-7.4) ☐
- Alkaline (pH>7.4) ☑
- Unknown ☐

Please provide further information on pH (optional):

pH 7.51 based on the data produced by Environmental Management Bureau

4.4.7 - Water salinity

Fresh (<0.5 g/l) ☐
Mixohaline (brackish)/Mixosaline (0.5-30 g/l) ☐
Euhaline/Eusaline (30-40 g/l) ☐
Hyperhaline/Hypersaline (>40 g/l) ☐
Unknown ☑

(ECD) Dissolved gases in water

Dissolved Oxygen (mg/L) – 3.26 (EMB-R3)

4.4.8 - Dissolved or suspended nutrients in water

Eutrophic ☐
Mesotrophic ☐
Oligotrophic ☐
Dystrophic ☐
Unknown ☑

4.4.9 - Features of the surrounding area which may affect the Site

Please describe whether, and if so how, the landscape and ecological characteristics in the area surrounding the Ramsar Site differ from the site itself: i) broadly similar ○ ii) significantly different ◉

Surrounding area has greater urbanisation or development ☑
Surrounding area has higher human population density ☑
Surrounding area has more intensive agricultural use ☐
Surrounding area has significantly different land cover or habitat types ☐

4.5 - Ecosystem services

4.5.1 - Ecosystem services/benefits

Provisioning Services

Ecosystem service	Examples	Importance/Extent/Significance
Food for humans	Sustenance for humans (e.g., fish, molluscs, grains)	High
Fresh water	Water for irrigated agriculture	Medium
Genetic materials	Medicinal products	High

Regulating Services

Ecosystem service	Examples	Importance/Extent/Significance
Maintenance of hydrological regimes	Groundwater recharge and discharge	High
Erosion protection	Soil, sediment and nutrient retention	High
Climate regulation	Local climate regulation/buffering of change	High
Climate regulation	Regulation of greenhouse gases, temperature, precipitation and other climactic processes	High
Hazard reduction	Flood control, flood storage	High

Cultural Services

Ecosystem service	Examples	Importance/Extent/Significance
Recreation and tourism	Nature observation and nature-based tourism	High
Scientific and educational	Educational activities and opportunities	High
Scientific and educational	Important knowledge systems, importance for research (scientific reference area or site)	High

Supporting Services

Ecosystem service	Examples	Importance/Extent/Significance
Biodiversity	Supports a variety of all life forms including plants, animals and microorganizms, the genes they contain, and the ecosystems of which they form a part	High

Within the site: 6,262

Outside the site: 30,000

Have studies or assessments been made of the economic valuation of ecosystem services provided by this Ramsar Site? Yes ○ No ○ Unknown ◉

4.5.2 - Social and cultural values

i) the site provides a model of wetland wise use, demonstrating the application of traditional knowledge and methods of management and use that maintain the ecological character of the wetland ☐

ii) the site has exceptional cultural traditions or records of former civilizations that have influenced the ecological character of the wetland ☐

iii) the ecological character of the wetland depends on its interaction with local communities or indigenous peoples ☑

Description if applicable

The approval of the proposed Sasmuan Bangkung Malapad Critical Habitat and Ecotourism Area (SBMCHEA) will greatly affect the community within the area. One of these is the livelihood potential if the SBMCHEA is proclaimed.

iv) relevant non-material values such as sacred sites are present and their existence is strongly linked with the maintenance of the ecological character of the wetland ☐

4.6 - Ecological processes

<no data available>

5 - How is the Site managed? (Conservation and management)

5.1 - Land tenure and responsibilities (Managers)

5.1.1 - Land tenure/ownership

Public ownership

Category	Within the Ramsar Site	In the surrounding area
Local authority, municipality, (sub)district, etc.	☑	☑
Public land (unspecified)	☑	☑
National/Federal government	☑	☐

Other

Category	Within the Ramsar Site	In the surrounding area
No information available	☐	☑
Unspecified mixed ownership	☑	☐

Provide further information on the land tenure / ownership regime (optional):

The area is within public lands (Forest Land).
The fishponds are covered with tax declarations.

5.1.2 - Management authority

Please list the local office / offices of any agency or organization responsible for managing the site:
Department of Environment and Natural Resources (DENR)
Local Government Unit of Sasmuan, Pampanga

Provide the name and/or title of the person or people with responsibility for the wetland:
Jayson M. Salenga

Postal address:
Municipality of Sasmuan, Sta. Lucia, Sasmuan, Pampanga

E-mail address:
sasmuanpampangacoastalwetland@gmail.com

5.2 - Ecological character threats and responses (Management)

5.2.1 - Factors (actual or likely) adversely affecting the Site's ecological character

Human settlements (non agricultural)

Factors adversely affecting site	Actual threat	Potential threat	Within the site	In the surrounding area
Housing and urban areas	Low impact	Medium impact	☑	☑

Water regulation

Factors adversely affecting site	Actual threat	Potential threat	Within the site	In the surrounding area
Water releases	Low impact	Low impact	☑	☐

Agriculture and aquaculture

Factors adversely affecting site	Actual threat	Potential threat	Within the site	In the surrounding area
Marine and freshwater aquaculture	Low impact	Low impact	☑	☑

Biological resource use

Factors adversely affecting site	Actual threat	Potential threat	Within the site	In the surrounding area
Hunting and collecting terrestrial animals	High impact	High impact	☑	☑
Fishing and harvesting aquatic resources	High impact	High impact	☑	☑
Logging and wood harvesting	High impact	High impact	☑	☑

Human intrusions and disturbance

Factors adversely affecting site	Actual threat	Potential threat	Within the site	In the surrounding area
Recreational and tourism activities	Low impact	Medium impact	☑	☑

Pollution

Factors adversely affecting site	Actual threat	Potential threat	Within the site	In the surrounding area
Garbage and solid waste	Medium impact	High impact	☑	☑

Climate change and severe weather

Factors adversely affecting site	Actual threat	Potential threat	Within the site	In the surrounding area
Storms and flooding	Medium impact	Medium impact	☐	☑

Please describe any other threats (optional):

Unregulated cutting of mangrove trees was observed along the riverbanks. Uncontrolled tree toppings is noticeable in the area. The gathered mangrove branches were used as materials for the construction of Bunbun fishing method. Through this method, mangrove branches are used to form artificial fish shelters /reefs that are set in depths of the river. Mangrove species gathered for this illegal kind of fishing method is only Sonneratia alba.

5.2.2 - Legal conservation status

Non-statutory designations

Designation type	Name of area	Online information url	Overlap with Ramsar Site
Other non-statutory designation	Sasmuan Bangkung Malapad Critical Habitat and Ecotourism Area		partly

5.2.3 - IUCN protected areas categories (2008)

Ia Strict Nature Reserve ☐

Ib Wilderness Area: protected area managed mainly for wilderness protection ☐

II National Park: protected area managed mainly for ecosystem protection and recreation ☑

III Natural Monument: protected area managed mainly for conservation of specific natural features ☐

IV Habitat/Species Management Area: protected area managed mainly for conservation through management intervention ☐

V Protected Landscape/Seascape: protected area managed mainly for landscape/seascape conservation and recreation ☐

VI Managed Resource Protected Area: protected area managed mainly for the sustainable use of natural ecosystems ☐

5.2.4 - Key conservation measures

Legal protection

Measures	Status
Legal protection	Implemented

Habitat

Measures	Status
Re-vegetation	Partially implemented

Species

Measures	Status
Threatened/rare species management programmes	Proposed

Human Activities

Measures	Status
Communication, education, and participation and awareness activities	Implemented
Regulation/management of recreational activities	Implemented
Regulation/management of wastes	Implemented

5.2.5 - Management planning

Is there a site-specific management plan for the site? No

Has a management effectiveness assessment been undertaken for the site? Yes ○ No ◉

If the site is a formal transboundary site as indicated in section Data and location > Site location, are there shared management planning processes with another Contracting Party? Yes ○ No ◉

Please indicate if a Ramsar centre, other educational or visitor facility, or an educational or visitor programme is associated with the site:

There is a viewdeck and boardwalk is at the Sasmuan Bangkung Malapad Critical Habitat and Ecotourism Area.

5.2.6 - Planning for restoration

Is there a site-specific restoration plan? No, but a plan is being prepared

Further information

Restoration activities for the Sasmuan Bangkung Malapad is part of the Management Plan being drafted for the area.

5.2.7 - Monitoring implemented or proposed

Monitoring	Status
Birds	Implemented
Plant species	Implemented
Water quality	Implemented

The SPCW Ramsar Site is monitored yearly by the DENR, LGU of Sasmuan, Provincial Government of Pampanga, Academe, Wetland International, Wild Bird Club of the Philippines, and other foreign and local bird enthusiasts joining the Annual Waterbird Census.

Waste Management is also regularly undertaken by the Manila Bay Unit of the DENR-PENRO Pampanga in coordination with the LGU of Sasmuan.

Monitoring of Illegal cutting of mangrove forest is a joint task of DENR, LGU, and Fishery Sector.

Water Quality – real-time monitoring by the DENR-Manila Bay Unit in coordination with the Environmental Management Bureau. There are designated Monitoring Station within the Pampanga and Pasak River for the purpose.

The Local Government of Sasmuan has a partnership with the private corporation, Smart and Ericsson for the "Connected Mangrove Project", a reforestation project which leverages connected technologies such as solar-powered sensors and real-time camera footage to collect critical data and present it to local communities on a digital dashboard. Initiated in 2017, the project offers the local community a platform to check on water, soil and humidity conditions, and remotely monitor any intrusion on the site.

6 - Additional material

6.1 - Additional reports and documents

6.1.1 - Bibliographical references

Comprehensive Land Use Plan of Sasmuan, Pampanga.
DENR Administrative Order No. 2017-11 "Updated National List of Threatened Philippine Plants and their Categories"
DENR Administrative Order No. 2019-09 "Philippine Red List of Threatened Wild Fauna Part I - Vertebrates"
DENR. 2010-2020. Asian Waterbird Census Reports.
DENR PENRO Pampanga, 2015. “Community Resource Assessment & Ground Validation of the Proposed Sasmuan Critical Habitat & Ecotourism”
DENR PENRO Pampanga (Manila Bay), 2017. Mangrove Assessment of Sasmuan Bangkung Malapad Critical Habitat and Ecotourism Area (SBMCHEA).
DENR PENRO Pampanga et al. 2017. Participatory Coastal Resource Assessment (PCRA) of Brgy. Batang Dos, Sasmuan, Pampanga.
Jensen, Arne, undated. Internationally Important Waterbird Sites in Manila Bay, Philippines
Kennedy, R.S. et al. 2000. A Guide to the Birds of the Philippines. Oxford.

6.1.2 - Additional reports and documents

i. taxonomic lists of plant and animal species occurring in the site (see section 4.3)
<1 file(s) uploaded>

ii. a detailed Ecological Character Description (ECD) (in a national format)
<no file available>

iii. a description of the site in a national or regional wetland inventory
<3 file(s) uploaded>

iv. relevant Article 3.2 reports
<no file available>

v. site management plan
<no file available>

vi. other published literature
<1 file(s) uploaded>

6.1.3 - Photograph(s) of the Site

Please provide at least one photograph of the site:

Sasmuan Bangkung Malapad Critical Habitat and Ecotourism Area which is part of the SPCW (*DENR PENRO Pampanga, 21-07-2017*)

Sasmuan Bangkung Malapad Critical Habitat and Ecotourism Area which is part of the SPCW (*DENR PENRO Pampanga, 21-07-2017*)

Mangrove Forest within the SPCW (*DENR PENRO Pampanga, 21-07-2017*)

Mangrove Forest within the SPCW (*DENR PENRO Pampanga, 21-07-2017*)

6.1.4 - Designation letter and related data

Designation letter
<1 file(s) uploaded>

Date of Designation	2021-02-02