Ramsar Information Sheet

Published on 10 November 2023
Update version, previously published on : 23 May 1980

Netherlands (Kingdom of the) (Aruba)

Spanish Lagoon

Designation date	23 May 1980
Site number	198
Coordinates	12°28'53"N 69°58'06"W
Area	259,00 ha

Created by RSIS V.1.6 on - 10 November 2023

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

Ramsar site Spanish Lagoon (Spaans Lagoen) is located on Aruba. It measures 259 ha, 87% of which is non-wetland water catchment area. The site is likely to have been formed some 4-6,000 years ago when a huge cavern in the porous, karstic rock which forms much of the south side of the island, collapsed leaving a basin which then filled with sea water. Seasonal streams brought fresh water and silt over-ground into the lagoon, slowly filling it up until it reached something like it's current profile.
The site is fringed by tidal mudflats and well-developed mangroves and has a narrow coastal inlet about 2 kilometers long and 200-500 m wide. The site represents one of the largest natural inland bays in the Caribbean and forms an important nursery habitat for many species of reef fish, crustaceans and birds among others.

The site provides a number of ecosystem services that are important for the economy and social well-being of the island. It includes provisioning services, like harvestable fish; cultural services, like ecotourism values for birdwatching, hiking and snorkeling; regulating services such as carbon sequestration by the mangroves. Moreover, the mangroves serve as a breakwater which protects the coast and slows down water velocity. This results in siltation of the lagoon, rather than siltation of the coral reefs and sea grass beds in the adjacent Ramsar site South Coast. In 2023, sediment traps were installed in the back of the site.

Four bridges cross the lagoon (two for cars, one for pedestrians and one for pipelines) between the urban districts of Balashi and Pos Chiquito. One of the bridges was built in 2016 which resulted in the removal of 60 m2 of mangrove trees on either side of the lagoon. Restoration measures were carried out to compensate for the loss of mangrove area. Currently, regrowth of mangrove trees takes place under the bridge and connectivity of the mangrove corridor is gradually being restored again.

Because of its importance, the site was formally included within the boundary of the Aruba National Park in April 2017. A management plan was adopted in November 2017, setting out a list of the most important/critical management issues and providing a number of short to medium term actions for addressing them.

2 - Data & location

2.1 - Formal data

2.1.1 - Name and address of the compiler of this RIS

Responsible compiler

Institution/agency	Wageningen Environmental Research
Postal address	PO Box 47 6700 AA Wageningen The Netherlands

National Ramsar Administrative Authority

Institution/agency	Ministry of Agriculture Nature and Food Quality
Postal address	Bezuidenhoutseweg 73 P.O. Box 20401 2500 EK The Hague The Netherlands

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

From year	2016
To year	2023

2.1.3 - Name of the Ramsar Site

Official name (in English, French or Spanish)	Spanish Lagoon
Unofficial name (optional)	Spaans Lagoen

2.1.4 - Changes to the boundaries and area of the Site since its designation or earlier update

(Update) A. Changes to Site boundary	Yes ◉ No ○
(Update) The boundary has been delineated more accurately	☐
(Update) The boundary has been extended	☑
(Update) The boundary has been restricted	☐
(Update) B. Changes to Site area	the area has increased
(Update) The Site area has been calculated more accurately	☐
(Update) The Site has been delineated more accurately	☐
(Update) The Site area has increased because of a boundary extension	☑
(Update) The Site area has decreased because of a boundary restriction	☐
(Update) For secretariat only: This update is an extension	☑

2.1.5 - Changes to the ecological character of the Site

(Update) 6b i. Has the ecological character of the Ramsar Site (including applicable Criteria) changed since the previous RIS?	Not evaluated

(Update) Optional text box to provide further information

The site was officially designated in 1980 but a RIS has never been submitted up till now.

2.2 - Site location

2.2.1 - Defining the Site boundaries

b) Digital map/image
<1 file(s) uploaded>

Former maps	0

Boundaries description

The site covers the water catchment area of Spanish Lagoon. The site is connected to Ramsar site South Coast in the south.

2.2.2 - General location

a) In which large administrative region does the site lie? Caribbean island of Aruba, which is a constituent country of the Kingdom of the Netherlands

b) What is the nearest town or population centre? The site lies approx. 10 km southeast of the island's capital Oranjestad.

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): 259

Area, in hectares (ha) as calculated from GIS boundaries: 258.525

2.2.5 - Biogeography

Biogeographic regions

Regionalisation scheme(s)	Biogeographic region
Marine Ecoregions of the World (MEOW)	Realm: Tropical Atlantic, Province: Tropical North-western Atlantic, Ecoregion: Southern Caribbean.

3 - Why is the Site important?

3.1 - Ramsar Criteria and their justification

☑ Criterion 1: Representative, rare or unique natural or near-natural wetland types

Hydrological services provided	Water damage mitigation: this is the main hydrological service provided by the reserve and concerns reduction of flood damage, dryland salinization, saltwater intrusion and sedimentation (Brauman et al. 2007). In relation to Spaans Lagoen: • Flooding, either as a result of extreme weather events or as part of the normal weather (e.g. rainy season), is a natural part of the ecological processes that take place within the lagoon. However, changing weather patterns indicate that there will be more extreme weather events in the future and their impact is increased by factors such as the creation of dirt tracks and roads, hard standings and other structures that allow the water to run off the land more quickly into watercourses. The habitats and structure of the lagoon presently slow the passage of fresh water to the sea and the reefs and provide a natural trap for the silt - that would otherwise deposit itself on the coral reefs in the bay beyond. The chief impact of increased flooding and/or the movement of an increased volume of water through the dry valleys (rooi) and into the site are likely to be that more silt is taken into the lagoon and the reefs beyond. The role of the lagoon and the need for it to remain a functioning ecosystem that provides flood mitigation is therefore reinforced and linked to the importance of future management. • The mangroves of the lagoon also serve a coastal defence function but this is less than the flood mitigation and more important at the mouth of the lagoon that is fringed by (mainly) red mangrove. Siltation of eroded sediment takes place in the mangroves and prevents siltation of the coral reefs, which in return safeguards its coastal protection function. (Note: Brauman et al. 2007 recognise five hydrological services and this provided a reference for completing this section. Of those five hydrological services, ‘spiritual and aesthetic’ and ‘Supporting’ and are covered in the following section),

Other ecosystem services provided	Like many natural and semi-natural ecosystems, Spaans Lagoen provides a number of ecosystem services that are vitally important for the economy and social well-being of the island. They include: Provisioning in the form of harvestable products; Spaans Lagoen is important for providing food in the form of fish and crustaceans. There is also a fish market providing fresh fish. Regulating: as well as the water management functions such as those mentioned in the previous section (water damage mitigation), carbon sequestration is a particularly valuable and now well documented service that is also provided by the mangrove forests in Spaans Lagoen. Cultural services that directly affect people and which are provided by the lagoon include ecotourism, birdwatching and the pleasure derived from informal recreation and hiking. Aruban ecosystems support tourism activities that depend on the quality of the natural environment. The tourism sector is an industry with substantial size and financial contribution to the economy of Aruba. Spaans Lagoen is used for snorkeling, sailing, fishing and kayaking. Habitat or supporting services that are needed to maintain other services, and which include genetic diversity and maintenance of animal life cycles include the role the lagoon plays as an important breeding ground for birds, fish, crustaceans and a range of other animals. Many of these fish go on to populate the reefs and provide a source of food for commercial and recreational fishing. Note also that marine fishing provides an important source of the general income and livelihood on Aruba, many people also fish for recreational purposes. A large part of the catch is composed of reef-dependent species. This service also concerns water and nutrients to support vital habitats and preservation of options (Brauman et al. 2007).
Other reasons	Spaans Lagoen represents one of the largest natural inland bays in the Caribbean. It's shores are bordered with mangroves and it is an important nursery site for many species of reef fish and crustaceans. The area is a breeding site for many species (Derix et al. 2013) and also supports wintering and foraging wetland birds.

☑ Criterion 2 : Rare species and threatened ecological communities

Optional text box to provide further information	The diversity of habitats, among which mangrove forests, in Spaans Lagoen support a great variety of ecological communities with several threatened species among which species of corals, reef fish and breeding and migrating birds.

☑ Criterion 3 : Biological diversity

Justification	Spaans Lagoen is among the larger inland bays in the Caribbean. The site supports a great variety of ecological communities and wetland species including birds, fish and corals. Especially valuable for maintaining the biological diversity in the biogeographic region is it's nursery function for reef fishes as well as its function for migratory and wintering birds.

☑ Criterion 4 : Support during critical life cycle stage or in adverse conditions

Optional text box to provide further information	Spaans Lagoen is an important nursery site for many species of reef fish and a breeding and foraging site for resident and migratory bird species.

☑ Criterion 8 : Fish spawning grounds, etc.

Justification	The large area of mangrove forests and associated coral reefs of Spaans Lagoen are of great value as nursery habitat for many important reef fish species. It is one of the most important fish nursery habitats of Aruba.

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 germinans*	☐	☑	☑	LC	☐	SPAW Annex 3	Spawning, nursery and foraging function (Nooren, zj.)
TRACHEOPHYTA / MAGNOLIOPSIDA	*Conocarpus erectus*	☐	☑	☑	LC	☐	SPAW Annex 3	Spawning, nursery and foraging function (Nooren, zj.)
TRACHEOPHYTA / MAGNOLIOPSIDA	*Guaiacum officinale*	☐	☑	☐	EN	☐	SPAW Annex 2	Nooren zj.
TRACHEOPHYTA / MAGNOLIOPSIDA	*Laguncularia racemosa*	☐	☑	☑	LC	☐	SPAW Annex 3	Spawning, nursery and foraging function (Nooren, zj.)
TRACHEOPHYTA / MAGNOLIOPSIDA	*Rhizophora mangle*	☐	☑	☑	LC	☐	SPAW Annex 3	Spawning, nursery and foraging function (Nooren, zj.)

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								
Others																	
CHORDATA / REPTILIA	*Crotalus durissus unicolor*	☑	☑	☐	☐	☑	☐	☐	☐					☐	☐	Endemic sub spp to Aruba; Cites App. II	Resident
Fish, Mollusc and Crustacea																	
CHORDATA / ACTINOPTERYGII	*Lachnolaimus maximus*	☑	☑	☐	☐	☑	☐	☐	☑				VU	☐	☐		Nursery
CHORDATA / ACTINOPTERYGII	*Lutjanus analis*	☐	☑	☐	☐	☑	☐	☐	☑				NT	☐	☐		Nursery
CHORDATA / ACTINOPTERYGII	*Lutjanus cyanopterus*	☑	☑	☐	☐	☑	☐	☐	☑				VU	☐	☐		Nursery
CHORDATA / ACTINOPTERYGII	*Megalops atlanticus*	☑	☑	☐	☐	☑	☐	☐	☑				VU	☐	☐		Nursery
CHORDATA / ACTINOPTERYGII	*Scarus guacamaia*	☐	☑	☐	☐	☑	☐	☐	☑				NT	☐	☐		Nursery
Birds																	
CHORDATA / AVES	*Aratinga pertinax*	☑	☑	☐	☐	☑	☐	☐	☐					☐	☐	Endemic sub spp to Aruba; Cites App. II	Breeding, foraging
CHORDATA / AVES	*Athene cunicularia arubensis*	☑	☑	☐	☐	☑	☐	☐	☐					☐	☐	Endemic sub spp to Aruba; Cites App. II	Breeding, foraging
CHORDATA	*Aves*	☐	☐	☐	☐	☐	☐	☐	☐					☐	☐		
CHORDATA / AVES	*Calidris pusilla*	☐	☑	☐	☐	☑	☐	☐	☐				NT	☐	☑		Migratory
CHORDATA / AVES	*Caracara cheriway*	☐	☑	☐	☐	☑	☐	☐	☐				LC	☐	☐	SPAW II; Cites App. II	Breeding, foraging
CHORDATA / AVES	*Chlorostilbon mellisugus*	☐	☑	☐	☐	☑	☐	☐	☐				LC	☐	☐	Cites App. II	Breeding, foraging
CHORDATA / AVES	*Chrysolampis mosquitus*	☐	☑	☐	☐	☑	☐	☐	☐				LC	☐	☐	Cites App. II	Breeding, foraging
CHORDATA / AVES	*Egretta rufescens*	☐	☑	☐	☐	☑	☐	☐	☐				NT	☐	☐		Breeding, foraging
CHORDATA / AVES	*Pandion haliaetus*	☐	☑	☐	☐	☑	☐	☐	☐				LC	☐	☐	Cites App. II	Foraging
CHORDATA / AVES	*Phoenicopterus ruber*	☐	☑	☐	☐	☑	☐	☐	☐				LC	☐	☐		foraging

1) Percentage of the total biogeographic population at the site

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

Name of ecological community	Community qualifies under Criterion 2?	Description	Justification
Mangrove forests	☑		The site includes almost 13 ha mangrove forest including red, black and white mangrove trees.

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

4.1 - Ecological character

The Spaans Lagoen exists of six habitats:
1. Inland lagoon: the lagoon represents one of the largest natural inland bays in the Caribbean. It is almost 2 kilometres long and 200 - 500 metres wide, covering an area of 70 hectares. It consists of two main bodies of water, the channel and the lagoon. The bay functions as a recruiting and raising area that sustains adult populations from adjacent land and marine ecosystems. Water birds and birds of prey, such as the Osprey, use the bay as a feeding ground, and can be seen swooping down to catch fish.

2. Mangrove forest: The shores of the lagoon are bordered with mangroves and are of particular importance for maintaining the biological diversity in the biogeographic region. The mangrove forest contains four species of mangroves: Red Mangrove, Black Mangrove, White Mangrove, and Buttonwood. The mangrove forest is an important nursery and sanctuary site for many species of reef fish and crustaceans. Furthermore, the mangroves function as a breeding and roosting site for many migratory and non-migratory bird species, and supports a range of wintering and foraging wetland birds, such as varying species of Sandpipers, Egrets, and Herons.

Four bridges cross the lagoon (two for cars, one for pedestrians and one for pipelines) between the urban districts of Balashi and Pos Chiquito. One of the bridges was built in 2016 which resulted in the removal of 60 m2 of mangrove trees on either side of the lagoon. Restoration measures were carried out to compensate for the loss of mangrove area. Currently, regrowth of mangrove trees takes place under the bridge and connectivity of the mangrove corridor is gradually being restored again.
3. Mudflats: The mudflats are located at the inland part of the site bordering with the mangrove forest. The mudflats have a diurnal tidal inundation. Here many bird species spend their days foraging for food. The dryer parts of the mudflats also provide a perfect habitat for the Aruban Burrowing Owl to dig out their homes in. Land crabs can be seen crossing the mudflats all through the rainy season in search of water to lay their eggs in.

4. Roois: The mudflats are attached to three dry rivers beds, or "rooi" in Papiamento. Roois only contain water for a short period of time after heavy rainfall. Two of the roois, "Rooi Bringamosa" and "Rooi Taki", are connected to the rest of the Arikok National Park, forming a single National Park with borders on both the north-eastern and southwestern coast of Aruba. The third rooi is known as "Rooi Frances". Roois often have fertile grounds, and ground water close to the surface, creating an ideal habitat for different fruit trees, such as Sweet Tamarind and Spanish Lime. There are shaded areas in roois which can hold water for longer periods of time. Those shaded areas form an oasis for many land animals to drink from, such as the Eastern Cottontail Rabbit, and can also contain a high biodiversity of aquatic organisms, such as varying species of Dragonflies and the Colombian Four-eyed Frog.

5. Volcanic Aruba lava formation: The north east border of the site is an extension of the volcanic rock and sediment types found in the rest of Arikok National Park, and contains similar habitats as well. There are different types of cacti, and many iconic endemic species, such as the Aruban Rattlesnake and Brown-throated Parakeet.

6. Limestone cliffs and terraces: The limestone cliffs and terraces surround the site on almost all sides. It is characterized by low vegetation types and the xeric landscape provides a stark contrast to the lagoon. These areas are dominated by different species of Aloe, which are the remainder of the many Aloe plantations which used to be present. Crested Cararcara's can often been seen perched on the cliffs, keeping an eye on the surroundings for their next meal.

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
C: Coral reefs		4		Representative
G: Intertidal mud, sand or salt flats		3	10.4	Representative
I: Intertidal forested wetlands		2	11.9	Representative
J: Coastal brackish / saline lagoons		1	12	Representative

Other non-wetland habitat

Other non-wetland habitats within the site	Area (ha) if known
Mixed desert scrub (water catchment)	88.8
Mixed desert scrub / forest (water catchment)	135.3

(ECD) Habitat connectivity	Spaans Lagoen is an addition to the Aruba National Park. The site is connected to Ramsar site South Coast.

4.3 - Biological components

4.3.1 - Plant species

Other noteworthy plant species

Phylum	Scientific name	Position in range / endemism / other
TRACHEOPHYTA/MAGNOLIOPSIDA	*Batis maritima*	
TRACHEOPHYTA/MAGNOLIOPSIDA	*Bontia daphnoides*	
TRACHEOPHYTA/MAGNOLIOPSIDA	*Bursera simaruba*	
TRACHEOPHYTA/MAGNOLIOPSIDA	*Sesuvium portulacastrum*	
TRACHEOPHYTA/LILIOPSIDA	*Sporobolus virginicus*	

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/REPTILIA	*Cnemidophorus arubensis*				Endemic to Aruba
ARTHROPODA/MALACOSTRACA	*Goniopsis cruentata*				
CHORDATA/AVES	*Himantopus himantopus*				
CHORDATA/AVES	*Icterus icterus*				
CHORDATA/AVES	*Icterus nigrogularis*				
MOLLUSCA/GASTROPODA	*Melongena melongena*				
CHORDATA/AVES	*Myiarchus tyrannulus*				

Invasive alien animal species

Phylum	Scientific name	Impacts	Changes at RIS update
CHORDATA/REPTILIA	*Boa constrictor*	Actual (minor impacts)	unknown
CHORDATA/ACTINOPTERYGII	*Oreochromis mossambicus*	Actual (major impacts)	increase

4.4 - Physical components

4.4.1 - Climate

Climatic region	Subregion
B: Dry climate	BWh: Subtropical desert (Low-latitude desert)

The mangroves are likewise vulnerable to climate change induced sea level rise and can be expected to die back with rising water levels. The basin within which the lagoon is located is a constraining boundary which offers little scope for the 'movement' of the mangrove up the gradient as sea level increases. In this sense it is a 'squeezed' ecosystem. The mangrove forests are currently severely threatened by increased sedimentation due to agricultural practices mainly. Whilst an increase in sedimentation can help mangroves to adapt to a sea level rise, the current sedimentation rate appears to be much too large.

4.4.2 - Geomorphic setting

a) Minimum elevation above sea level (in metres): 0

a) Maximum elevation above sea level (in metres): 48

- 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.

Southern Caribbean Sea

4.4.3 - Soil

- Mineral ☑
  - (Update) Changes at RIS update: No change ◉ Increase ○ Decrease ○ Unknown ○
- Organic ☑
  - (Update) Changes at RIS update: No change ◉ Increase ○ Decrease ○ Unknown ○
- 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?	Changes at RIS update
Usually permanent water present	decrease

Source of water that maintains character of the site

Presence?	Predominant water source	Changes at RIS update
Marine water	☑	No change
Water inputs from precipitation	☐	No change

Water destination

Presence?	Changes at RIS update
Marine	No change

Stability of water regime

Presence?	Changes at RIS update
Water levels fluctuating (including tidal)	No change

Please add any comments on the water regime and its determinants (if relevant). Use this box to explain sites with complex hydrology:

Agricultural practices cause erosion of soil and sedimentation of waters in the back of Spaans Lagoen. These back-water habitats become shallower, warmer and more saline.

(ECD) Connectivity of surface waters and of groundwater: The permeability of the limestone substrate suggests that there is some connectivity between surface water and groundwater.

(ECD) Stratification and mixing regime: Spaans Lagoen is a shallow intertidal bay. Stratification is not applicable.

4.4.5 - Sediment regime

Significant accretion or deposition of sediments occurs on the site ☑

(Update) Changes at RIS update: No change ◉ Increase ○ Decrease ○ Unknown ○

Sediment regime unknown ☐

Please provide further information on sediment (optional):

Agricultural practices cause erosion of soil and sedimentation of waters in the back of Spaans Lagoen. These back-water habitats become shallower, warmer and more saline. The area of this habitat increases due to the land reclamation process by the mangroves.

(ECD) Water turbidity and colour: The water is mostly clear (semi), but in the rainy season it can get turbid.

(ECD) Water temperature: Water temperature average 28.66 ºC (DNM, 2016), min 27.16 ºC / max 29.94 ºC

4.4.6 - Water pH

Alkaline (pH>7.4) ☑

(Update) Changes at RIS update: No change ◉ Increase ○ Decrease ○ Unknown ○

Unknown ☐

Please provide further information on pH (optional):

(Source: De Freitas et al. 2005).
Water pH average 8.11 (DNM, 2016), min 7.68 / max 8.46

4.4.7 - Water salinity

Euhaline/Eusaline (30-40 g/l) ☑

(Update) Changes at RIS update: No change ◉ Increase ○ Decrease ○ Unknown ○

Hyperhaline/Hypersaline (>40 g/l) ☑

(Update) Changes at RIS update: No change ◉ Increase ○ Decrease ○ Unknown ○

Unknown ☐

Please provide further information on salinity (optional):

Water salinity average 34.01 ppt (DNM, 2016), min 30.47 / max 37.19 (location of measurement is at lowest bridge / old bridge).

(ECD) Dissolved gases in water

Average Dissolved Oxygen (DO) 70.41% (DNM, 2016), min 48.60% / max 85.20%.

4.4.8 - Dissolved or suspended nutrients in water

Oligotrophic ☑

(Update) Changes at RIS update: No change ◉ Increase ○ Decrease ○ Unknown ○

Unknown ☐

(ECD) Water conductivity	Water conductivity average 51,851.25 µS/cm (DNM, 2016) min 47030 µS/cm / max 56180 µS/cm.

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 ☑

Please describe other ways in which the surrounding area is different:

The immediate surrounding area consists of terrestrial habitat mainly used for livestock grazing. The site borders the Caribbean sea in the south.

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)	Medium

Regulating Services

Ecosystem service	Examples	Importance/Extent/Significance
Erosion protection	Soil, sediment and nutrient retention	High
Hazard reduction	Coastal shoreline and river bank stabilization and storm protection	High

Cultural Services

Ecosystem service	Examples	Importance/Extent/Significance
Recreation and tourism	Nature observation and nature-based tourism	Medium

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	Medium

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 ☐
- 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 ☐

<no data available>

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
National/Federal government	☑	☑
Local authority, municipality, (sub)district, etc.	☑	☑

Private ownership

Category	Within the Ramsar Site	In the surrounding area
Other types of private/individual owner(s)	☑	☑

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

Public Entity of Aruba

5.1.2 - Management authority

Please list the local office / offices of any agency or organization responsible for managing the site: National Park Foundation Aruba (FPNA - Fundacion Parke Nacional Aruba)

Provide the name and/or title of the person or people with responsibility for the wetland: FPNA - Tyson Lopez (CEO), Natasha Silva Chief Conservation Officer

Postal address:
FPNA - Fundacion Parke Nacional Aruba
San Fuego 70
Aruba

E-mail address: info@arubanationalpark.org

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	Changes	In the surrounding area	Changes
Tourism and recreation areas	Medium impact	High impact	☑	increase	☑	No change

Agriculture and aquaculture

Factors adversely affecting site	Actual threat	Potential threat	Within the site	Changes	In the surrounding area	Changes
Livestock farming and ranching	High impact	High impact	☐	No change	☑	No change

Transportation and service corridors

Factors adversely affecting site	Actual threat	Potential threat	Within the site	Changes	In the surrounding area	Changes
Roads and railroads	High impact	High impact	☑	increase	☑	increase

Human intrusions and disturbance

Factors adversely affecting site	Actual threat	Potential threat	Within the site	Changes	In the surrounding area	Changes
Recreational and tourism activities	High impact	High impact	☑	increase	☑	increase

Invasive and other problematic species and genes

Factors adversely affecting site	Actual threat	Potential threat	Within the site	Changes	In the surrounding area	Changes
Invasive non-native/ alien species	Medium impact	High impact	☑	increase	☑	increase

Pollution

Factors adversely affecting site	Actual threat	Potential threat	Within the site	Changes	In the surrounding area	Changes
Agricultural and forestry effluents	High impact	High impact	☐	No change	☑	No change
Garbage and solid waste	Medium impact	Medium impact	☑	No change	☐	No change

5.2.2 - Legal conservation status

National legal designations

Designation type	Name of area	Online information url	Overlap with Ramsar Site
National Park	Aruba National Park	https://www.overheid.aw/document.php?m=55&fileid=26788&f=c5325bae61f9c37324fde1f527a6b55f&attachment=0&c=30259	whole

Non-statutory designations

Designation type	Name of area	Online information url	Overlap with Ramsar Site
Other non-statutory designation	KBA Arikok National Park	http://www.keybiodiversityareas.org/site/factsheet/26842	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
Habitat manipulation/enhancement	Partially implemented
Catchment management initiatives/controls	Proposed
Hydrology management/restoration	Implemented

Species

Measures	Status
Control of invasive alien animals	Partially implemented

Human Activities

Measures	Status
Regulation/management of wastes	Proposed
Regulation/management of recreational activities	Partially implemented
Communication, education, and participation and awareness activities	Partially implemented

5.2.5 - Management planning

Is there a site-specific management plan for the site? Yes

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:

The site has been included within the boundaries of the Aruba National Park, which has a visitor centre.

5.2.6 - Planning for restoration

Is there a site-specific restoration plan? Yes, there is a plan

Further information

For restoration actions see https://www.wur.nl/en/research-results/research-institutes/environmental-research/show-wenr/turning- the-tide.htm

5.2.7 - Monitoring implemented or proposed

The sedimentation of the site is being monitored since 2023. This information is needed for the planning of restoration efforts (sediment excavation).

6 - Additional material

6.1 - Additional reports and documents

6.1.1 - Bibliographical references

The Dutch Caribbean Biodiversity Database (www.dcbd.nl) provides the most complete overview of data, maps and documents on the Dutch Caribbean Islands.

References used to compile this RIS are:
Arikok, 2017. A management plan for Spaans Lagoen Aruba November 2017. 35p
Brauman, Kate A, Gretchen C. Daily, T. Ka'eo Duarte and Harold A. Mooney, 2007. The Nature and Value of Ecosystem Services: An Overview Highlighting Hydrologic Services. Annual Review of Environment and Resources.32:6.1–6.32.
Derix, Ruud, Greg Peterson and Diego Marquez, 2013. The National Bird Count in 2011 in Aruba. Central Bureau of Statistics (CBS) Aruba. Dept. Environmental Statistics . 25p.
Hoeksma, S. 2017. The current status of mangrove forests in Spaans Lagoen (Aruba) evaluated from a hydrological point of view. Assessing the water balance and modelling tree growth rates. MSc-thesis Wageningen University. 40p.
Lue, Naviel, Geerman, Yahaira, Boekhoudt, Gisbert & Robert Kock, 2018. Natuur en Milieu in het ROP. Natuurwaarden en milieubeheer aandachtsgebieden voor het vernieuwde Ruimtelijke Ontwikkelingsplan. Directie Natuur en Milieu, Aruba. 40p.
Nooren, Kees, zj. Human Impact on the Vegetation of Aruba. 7p.
Quick, John, S., Reinert, Howard K., de Cuba, Eric R. and R. Andrew Odum, 2005. Recent Occurrence and Dietary Habits of Boa constrictor on Aruba, Dutch West Indies. Journal of Herpetology. Vol. 39, No. 2: pp. 304-307.
Stapleton,S., Nava, M., Willis, S. and B. Brabec, 2014. Research and Monitoring of Bonaire 's Sea Turtles: 2014 Technical Report. Sea Turtles Conservation Bonaire. 26p.
Voous, K. H. 1983. Birds of the Netherlands Antilles. Zutphen, De Walburg Pers.

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
<no file available>

iv. relevant Article 3.2 reports
<no file available>

v. site management plan
<2 file(s) uploaded>

vi. other published literature
<no file available>

6.1.3 - Photograph(s) of the Site

Please provide at least one photograph of the site:


Regrowth of mangrove trees under the bridge which was constructed in 2016. (*Giancarlo Nunes , 08-03-2021*)


Spaans Lagoen landscape (*René Henkens, 11-11-2019*)


Lesser Yellowlegs (Tringa flavipes) at Spaans Lagoen. (*René Henkens, 11-11-2019*)


Juvenile Tricolored Heron (Egretta tricolor) at Spaans Lagoen. (*Lawrence Jones-Walters, 11-11-2019*)


Aruban Burrowing Owl (Athene cunicularia arubensis) in front of its nest at Spaans Lagoen (*René Henkens, 11-11-2019*)


The Spaans Lagoen wetland area with its desert scrub water catchment area in the back. (*René Henkens, 11-11-2019*)


English language information panel informing tourists about the rules and regulations at Ramsar site Spaans Lagoen. (*René Henkens, 11-11-2019*)

6.1.4 - Designation letter and related data

Designation letter
<1 file(s) uploaded>

Date of Designation: 1980-05-23