

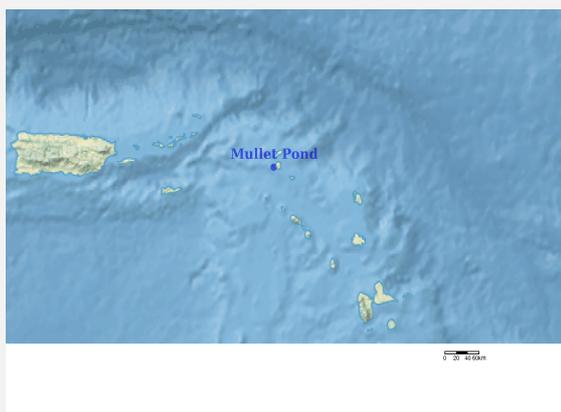


Ramsar Information Sheet

Published on 9 September 2016

Netherlands

Mullet Pond



Designation date	23 May 2014
Site number	2270
Coordinates	18°2'52"N 63°7'16"W
Area	26,35 ha

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 unique body of water called Mullet Bay Pond is a semi-enclosed area within the Simpson Bay Lagoon. Tragically, the Simpson Bay lagoon, once the largest enclosed lagoon in the North Eastern Caribbean, continues to be polluted and depleted. Increasingly large strands of Mangroves are still being removed and seagrass habitats have been eroded due to increased and uncontrolled development. Only approximately one fourth of the coastline of the Simpson Bay Lagoon is still populated by aquatic Red Mangrove trees. 70% of these mangroves currently survive in Mullet Bay Pond, which forms the largest, continuous area of unbroken mangrove forest on St. Maarten.

Mullet Bay Pond is located in the south-eastern most area of the lagoon in the area of Mullet Bay. Baseline surveys included in this report have shown that the area forms one of the most pristine habitat within wetland and aquatic habitats supporting numerous species. The species found in Mullet Bay Pond include Red mangrove (*Rhizophora mangle*), Black mangrove (*Avicennia germinans*), White Mangrove (*Laguncularia racemosa*) and Buttonwood (*Conocarpus erectus*). There are also numerous juvenile fish species, including Striped Parrotfish (*Scarus croicensis*), Bluehead Wrasse (*Thalassoma bifasciatum*), Silversides, Herrings and Anchovies (families *Atherinidae*, *Clupeidae*, *Engraulidae*).

The surrounding waters also include numerous molluscs which are unique in the lagoon. These include the Queen Conch (*Lobatus gigas*), Milk Conch (*Lobatus costatus*), Cushion Stars (*Oreaster reticulata*), Sea Cucumber (*Holothuria mexicana*), Sea Urchins (*Tripneustes ventricosus*, *Lytechinus variegatus*, *Meoma ventricosa*), the Upside Down Jellyfish (*Cassiopea frondosa*) and the Atlantic Triton (*Charonia variegata*).

Mullet Bay Pond also has some of the few intact seagrass beds to be found in the wider Simpson Bay Lagoon, with *Syringodium filiforme* (Manatee Grass), *Halophila decipiens* (Paddle Grass), and *Thalassia testudinum* (Turtle Grass) being found within its boundaries.

The Mullet Bay Pond area is also an important bird nursing area with numerous species roosting there. These species include: American Coot (*Fulica americana*), Moorhen (*Gallinula chloropus*), Yellow-crowned Night Heron (*Nyctanassa violacea*), Green Heron (*Butorides striatus*), Black-winged Stilt (*Himantopus himantopus*) and several plovers.

2 - Data & location

2.1 - Formal data

2.1.1 - Name and address of the compiler of this RIS

Compiler 1

Name	Tadzio Bervoets
Institution/agency	St. Maarten Nature Foundation
Postal address	Welsburg Street Apt 1A Cole Bay, St. Maarten
E-mail	manager@naturefoundationsxm.org
Phone	+17215263509
Fax	+17215444268

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

From year	2014
To year	2014

2.1.3 - Name of the Ramsar Site

Official name (in English, French or Spanish)	Mullet Pond
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2.2 - Site location

2.2.1 - Defining the Site boundaries

b) Digital map/image

<1 file(s) uploaded>

Boundaries description (optional)

The boundary follows the high water mark and adjacent mangrove ecosystem and bird nesting habitat. The outer boundary is marked by an access road. The boundaries included also reflect the conservation zone as outlined in the draft zoning plan for St. Maarten; the area is zoned as a Nature/ Environment area.

2.2.2 - General location

a) In which large administrative region does the site lie?	Mullet Bay Pond is situated in the Simpson Bay Lagoon, in the Simpson Bay Area on the Dutch Side of Sint Maarten
b) What is the nearest town or population centre?	Simpson Bay

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):	26.35
Area, in hectares (ha) as calculated from GIS boundaries	26.35

2.2.5 - Biogeography

Biogeographic regions

Regionalisation scheme(s)	Biogeographic region
Marine Ecoregions of the World (MEOW)	Tropical Atlantic/ Eastern Caribbean Bioregion

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	Area provides significant catchment basin during flooding rains. Area also provides a buffer for storm surge during inclement weather, in particular hurricanes.
Other ecosystem services provided	Site is one of the last remaining intact mangrove ecosystems in the wider Simpson Bay Lagoon Site acts as a major nursery for artisanal fish stock
Other reasons	Site acts as an important area for eco-tourism activities in the form of Kayaking tours

- Criterion 2 : Rare species and threatened ecological communities

- Criterion 3 : Biological diversity

	<p>The Mullet Bay Pond Area has 70% of the remaining mangrove forests left on the Dutch Side of St. Maarten and therefore provide a significant habitat and is of high conservation value. The attached species composition list highlights the richness in biodiversity despite this being by no means a complete list.</p>
Justification	<p>The Mullet Bay Pond area is also classified as mangrove wetland with meadows of seagrass. The area is within one of the largest wetlands in the northeastern Caribbean namely the Simpson Bay Lagoon and falls within the Tropical Atlantic/ Eastern Caribbean Bioregion (Spalding et al 2007). Based on this the area contains, within a very limited area, the range of biological diversity included in the biogeographic region.</p> <p>The Mullet Bay Pond Area is also home to the Anolis pogus, an endemic species to St. Maarten.</p>

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

- Criterion 8 : Fish spawning grounds, etc.

Justification

Mullet Bay Pond is an important nursery area for the Simpson Bay Lagoon and invariably the sea surrounding it. The mangroves and seagrass beds provide important habitat for juvenile fish species and also provide habitat for specific fish in general. Five species of indicator species are present in the area: Butterflyfish, Haemulidae, Snapper, Parrotfish, and Moray eel. These represent each segment of niche species represented within the lagoon namely benthic invertebrates grazers (butterflyfish), bottom grazers (Haemulidae), mobile predators (snapper), sessile predators (moray eel) and hard substrate algal grazers (parrotfish).

Eight indicator invertebrates have been identified as indicators for the overall health of the Mullet Bay Pond. They have been divided in mollusks which provide stability (*Bulla Striata*, *Spondylus* spp), grazers (*Diadema* spp., *Holothuria mexicana*, *Echinoderms*), and commercially important species which can show if there is any fishing pressure (*Panulirus argus*).

Mullet Bay Pond more specifically, has served as a nursery for shrimp, lobster, conch and juvenile reef and pelagic fish which supports the much threatened St. Maarten Fisheries. The Mullet Bay Pond supports a complex food web beginning with microorganisms and scavengers and culminating in higher trophic members such as snappers, barracudas, lobsters and birds. Grunts, groupers, sea trouts, silversides and other commercially valuable fish are dependent on the mangroves for breeding and much of their growing.

The importance the lagoon plays in local fisheries is essential. Many juvenile fish species are developed in the lagoon, and are subsequently introduced to local coral reef ecosystems and in turn become an important part of local fishery.

In addition to the support of Local Fishery the nursery and shelter value which the area provides to Reef Fish species in particular contributes to the success of the Man of War Shoal Marine Park in the long run. The fact the Mullet Bay Pond specifically and Simpson Bay in more general terms, contributes to the fish population within the Man of War Shoal Marine Park and contributes to the Park's function as a Marine Protected Area. With the erosion of suitable nursery areas the Marine Park will have great difficulty in supporting offshore coral reef habitat. The interconnectedness of ecosystems plays a crucial role in both the management of protected areas for their ecological function, but also affects the economic contribution the Marine Park has with regards to its tourism value, which based on a 2010 Nature Foundation Report is set at close to USD \$60 Million.

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

Scientific name	Common name	Criterion 2	Criterion 3	Criterion 4	IUCN Red List	CITES Appendix I	Other status	Justification
<i>Avicennia germinans</i> 	Black Mangrove	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	LC 	<input type="checkbox"/>	SPA ANNEX III	Last remaining refuge in the Simpson Bay Lagoon
<i>Conocarpus erectus</i> 	Buttonwood	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	LC 	<input type="checkbox"/>	NATIONAL RED LIST: CRITICALLY ENDANGERED NATIONALLY	Last remaining refuge in the Simpson Bay Lagoon
<i>Halophila decipiens</i> 	Paddle Grass	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	LC 	<input type="checkbox"/>	SPA ANNEX III	Last remaining refuge in the Simpson Bay Lagoon
<i>Rhizophora mangle</i> 	Red Mangrove	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	LC 	<input type="checkbox"/>	SPA ANNEX III	Last remaining refuge in the Simpson Bay Lagoon
<i>Syringodium filiforme</i> 	Manatee Grass	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	EN 	<input checked="" type="checkbox"/>		Last remaining refuge in the Simpson Bay Lagoon
<i>Thalassia testudinum</i> 	Turtle Grass	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	LC 	<input type="checkbox"/>	SPA ANNEX III	Last remaining refuge in the Simpson Bay Lagoon

Mullet Bay Pond plays an important role in the conservation of globally threatened species and ecological communities. The Site supports species identified as vulnerable and endangered under national legislation and international frameworks such as the IUCN Red Lists and Appendix I of CITES.

Mullet pond also hosts numerous species which fall under the Annexes of the Protocol of Specially Protected Areas and Wildlife (SPA Protocol) of the Cartagena Convention

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

Phylum	Scientific name	Common name	Species qualifies under criterion				Species contributes under criterion				Pop. Size	Period of pop. Est.	% occurrence	IUCN Red List	CITES Appendix I	CMS Appendix I	Other Status	Justification
			2	4	6	9	3	5	7	8								
CHORDATA/ REPTILIA	<i>Anolis pogus</i>		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	150	2014	60	WU	<input checked="" type="checkbox"/>	<input type="checkbox"/>	SPA ANNEX I	Critical habitat: Last remaining habitat in the wider Simpson Bay area
CHORDATA/ REPTILIA	<i>Chelonia mydas</i>	Green Turtle	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	60	2014	2	EN	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	SPA ANNEX I	Foraging area: Last intact foraging area in the Simpson Bay Lagoon
MOLLUSCA/ GASTROPODA	<i>Lobatus gigas</i>	Queen Conch	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	500	2014	0.5		<input type="checkbox"/>	<input type="checkbox"/>	NATIONAL LEGISLATION: National Lobster Fishing Ordinance AB 2011	Critical Habitat: last remaining habitat in the Simpson Bay Lagoon
ARTHROPODA/ MALACOSTRACA	<i>Panulirus argus</i>	Caribbean spiny lobster	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	80	2014	0.5		<input type="checkbox"/>	<input type="checkbox"/>	SPA ANNEX ii	Critical habitat: last remaining habitat in the Simpson Bay Lagoon

SPA - Specially Protected Areas and Wildlife

The Protocol Concerning Specially Protected Areas and Wildlife (SPA Protocol) was adopted in 1990, and entered into force in 2000. The SPA Protocol seeks to "Take the necessary measures to protect, preserve and manage in a sustainable way: areas that require protection to safeguard their special value, and threatened or endangered species of flora and fauna."

The objectives of the SPA Sub-Programme are to assist Governments in meeting the provisions of the Protocol and to:

Significantly increase the number, and improve the management of, protected and/or managed areas in the Wider Caribbean Region (WCR), including support to national and regional conservation management strategies and plans.

Support the conservation of threatened and endangered species and sustainable use of natural resources to prevent them from becoming threatened or endangered.

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 Ecosystem	<input checked="" type="checkbox"/>	The last intact Mangrove Ecosystem on Sint Maarten	Mullet Pond is the last intact Mangrove Ecosystem on Sint Maarten providing essential and last remaining habitat for migratory and resident bird, fish and reptile species highlighted in Section 3.2 and 3.3

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

4.1 - Ecological character

Mullet Bay Pond is a semi-enclosed mangrove-fringed wetland located in the south-eastern most area of the Simpson Bay lagoon. Mullet Bay Pond forms one of the most pristine habitat within wetland and aquatic habitats supporting numerous species including Red mangrove (*Rhizophora mangle*), Black mangrove (*Avicennia germinans*), White Mangrove (*Laguncularia racemosa*) and Buttonwood (*Conocarpus erectus*). Mullet Bay Pond is also a nursery for numerous juvenile fish species, including Striped Parrotfish (*Scarus croicensis*), Bluehead Wrasse (*Thalassoma bifasciatum*), Silversides, Herrings and Anchovies (families *Atherinidae*, *Clupeidae*, *Engraulidae*).

Mullet Pond is a breeding ground for many kinds of fish and shellfish. The maze of interlaced roots offers their larvae and juveniles abundant food and protection against larger predators. In addition to the detritus food web mentioned previously, the prop roots of the Red mangroves also develop rich communities of marine invertebrates and algae.

Wildlife in Mullet Pond is also abundant and varied. This is a reflection of the complexity and diversity of habitats within the area. Some animals reside in the canopy, the roots, the mud, the associated lagoons and mud flats. Although many of these animals are year round residents, Mullet Pond is also an important habitat for seasonal visitors.

Birds find mangroves rich in food resources and highly suitable for nesting. Wetland birds feed on the great number of crabs, molluscs, fish and other organisms that live there.

The area is also habitat to numerous molluscs which are unique for wetlands on St. Maarten. These include the Queen Conch (*Lobatus gigas*), Milk Conch (*Lobatus costatus*), Cushion Stars (*Oreaster reticulata*), Sea Cucumber (*Holothuria mexicana*), Sea Urchins (*Tripneustes ventricosus*, *Lytechinus variegatus*, *Meoma ventricosa*) and the Upside Down Jellyfish (*Cassiopea frondosa*) and the Atlantic Triton (*Charonia variegata*).

The Mullet Bay Pond area is also an important bird nursing area with numerous species roosting there. These species include: American Coot (*Fulica americana*), Moorhen (*Gallinula chloropus*), Yellow-crowned Night Heron (*Nyctanassa violacea*), Green Heron (*Butorides striatus*), Black-winged Stilt (*Himantopus himantopus*) and several plovers.

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	Mullet Pond	1		Representative
B: Marine subtidal aquatic beds (Underwater vegetation)	Mullet Pond sea grass beds	1		Representative
I: Intertidal forested wetlands	Mullet Pond Mangrove strands	1		Representative

(ECD) Habitat connectivity Direct connectivity with the Man of War Shoal Marine Protected Area: Nursery Habitat for Reef Species

4.3 - Biological components

4.3.1 - Plant species

Invasive alien plant species

Scientific name	Common name	Impacts
<i>Halophila stipulacea</i>		Actually (major impacts)

4.3.2 - Animal species

Other noteworthy animal species

Phylum	Scientific name	Common name	Pop. size	Period of pop. est.	%occurrence	Position in range /endemism/other
CNIDARIA/ANTHOZOA	Aiptasia pallida	pale anemone	30	2014	0.01	critical
CHORDATA/AVES	Butorides striata	Striated Heron	60	2014	0.01	critical
CNIDARIA/SCYPHOZOA	Cassiopea frondosa		1000	2014	0.1	critical
MOLLUSCA/GASTROPODA	Charonia variegata		80	2014	0.01	critical
ECHINODERMATA/ASTEROIDEA	Echinaster brasiliensis		230	2014	0.1	critical
CHORDATA/ASCIDIACEA	Ecteinascidia turbinata		165	2014	0.01	critical
CHORDATA/AVES	Fulica americana	American Coot	100	2014	0.5	migratory
CHORDATA/AVES	Gallinula chloropus	Common Moorhen	100	2014	0.5	migratory
CHORDATA/ACTINOPTERYGII	Gerres cinereus	Shad	500	2014	0.01	critical
PORIFERA/DEMOSPONGIAE	Halidona implexiformis		330	2014	0.1	critical
CHORDATA/AVES	Himantopus himantopus	Black-winged Stilt	100	2014	0.01	migratory
ECHINODERMATA/HOLOTHUROIDEA	Holothuria mexicana	dunkey dung sea cucumber	60	2014	0.01	critical
MOLLUSCA/BIVALVIA	Isognomon alatus		320	2014	0.01	critical
MOLLUSCA/GASTROPODA	Lobatus costatus	Milk Conch	60	2014	0.01	critical
ANNELIDA/POLYCHAETA	Loimia medusa		500	2014	0.5	critical
CHORDATA/ACTINOPTERYGII	Lutjanus griseus	Grey Snapper	30	2014	0.01	critical
CHORDATA/AVES	Nyctanassa violacea	Yellow-crowned Night Heron; Yellow-crowned Night-Heron	60	2014	0.01	critical
ECHINODERMATA/ASTEROIDEA	Oreaster reticulatus	cushion star	20	2014	0.01	critical
CHORDATA/ACTINOPTERYGII	Scarus zellindae	Striped Parrotfish	100	2014	0.01	critical
CHORDATA/ACTINOPTERYGII	Sphyræna barracuda	Barracuda	70	2014	0.01	critical
CHORDATA/ACTINOPTERYGII	Thalassoma bifasciatum	Bluehead Wrasse	300	2014	0.01	critical
ECHINODERMATA/ECHINOIDEA	Tripneustes ventricosus		300	2014	0.01	critical

Invasive alien animal species

Phylum	Scientific name	Common name	Impacts
CHORDATA/ACTINOPTERYGII	Pterois volitans	Common lionfish	Actually (major impacts)

4.4 - Physical components

4.4.1 - Climate

Climatic region	Subregion
A: Tropical humid climate	Aw: Tropical savanna (Winter dry season)

4.4.2 - Geomorphic setting

a) Minimum elevation above sea level (in metres)

a) Maximum elevation above sea level (in metres)

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.

Caribbean Sea/ Atlantic Ocean

4.4.3 - Soil

Mineral

Organic

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

Source of water that maintains character of the site

Presence?	Predominant water source
Marine water	<input checked="" type="checkbox"/>

Water destination

Presence?
Marine

Stability of water regime

Presence?
Water levels largely stable

4.4.5 - Sediment regime

Sediment regime is highly variable, either seasonally or inter-annually

Please provide further information on sediment (optional):

Sediment regime depends on storm events; i.e. Hurricanes. The mangroves of Mullet Bay Pond naturally form barriers and thus inevitably provide some shore protection. Mangroves can themselves be damaged by strong winds and waves, and so their buffering capacity is a balance between their resilience and their vulnerability. The current consensus is that the mangroves at Mullet Bay Pond play an important role in shore protection under normal sea conditions and during hurricanes and tropical storms. At least 70-90 per cent of the energy of wind generated waves is absorbed, depending on how healthy these ecosystems are and their physical and ecological characteristics.

Due to the significant water movement caused during storms within the Mullet Bay Pond Area, the shoreline protection function of the mangroves allow for a buffering from high levels of water overflow into the adjacent properties and roadways saving millions of dollars in infrastructural repairs which would have been necessary

(EOD) Water temperature	28 C
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4.4.6 - Water pH

Alkaline (pH>7.4)

Please provide further information on pH (optional):

standard seawater pH

4.4.7 - Water salinity

Euhaline/Eusaline (30-40 g/l)

4.4.8 - Dissolved or suspended nutrients in water

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 i) broadly similar ii) significantly different site itself.

Surrounding area has greater urbanisation or development

Surrounding area has higher human population density

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

Regulating Services

Ecosystem service	Examples	Importance/Extent/Significance
Erosion protection	Soil, sediment and nutrient retention	High
Pollution control and detoxification	Water purification/waste treatment or dilution	High
Hazard reduction	Flood control, flood storage	High

Cultural Services

Ecosystem service	Examples	Importance/Extent/Significance
Recreation and tourism	Water sports and activities	Medium

Supporting Services

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

Other ecosystem service(s) not included above:

The importance the lagoon plays in local fisheries is essential. Many juvenile fish species are developed in the lagoon, and are subsequently introduced to local coral reef ecosystems and in turn become an important part of local fishery.

In addition to the support of Local Fishery the nursery and shelter value which the area provides to Reef Fish species in particular contributes to the success of the Man of War Shoal Marine Park in the long run. The fact the Mullet Pond specifically and Simpson Bay in more general terms, contributes to the fish population within the Man of War Shoal Marine Park and contributes to the Park's function as a Marine Protected Area. With the erosion of suitable nursery areas the Marine Park will have great difficulty in supporting offshore coral reef habitat.

RIS for Site no. 2270, Mullet Pond, Netherlands

Within the site:

Outside the site:

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

Where economic studies or assessments of economic valuation have been undertaken at the site, it would be helpful to provide information on where the results of such studies may be located (e.g. website links, citation of published literature):

With the erosion of suitable nursery areas the Marine Park will have great difficulty in supporting offshore coral reef habitat. The interconnectedness of ecosystems plays a crucial role in both the management of protected areas for their ecological function, but also affects the economic contribution the Marine Park has with regards to its tourism value, which based on a 2010 Nature Foundation Report is set at close to USD \$60 Million.

The Nature Foundation also conducted a baseline assessment of the Mullet Pond Area which has shown to be USD \$792,000 . <http://www.naturefoundationsxm.org/pdfs/Mullet-Pond.pdf>

4.5.2 - Social and cultural values

<no data available>

4.6 - Ecological processes

(EOD) Primary production	Mullet pond is the primary nursing area for reef fish on Sint Maarten and is a highly productive environment
(EOD) Nutrient cycling	The high density of mangrove ecosystems and associated filtration account for most of the nutrient cycling in the Simpson Bay Area
(EOD) Animal reproductive productivity	Mullet Pond is the primary nursing area for reef fish for the territorial waters of Sint Maarten
(EOD) Vegetational productivity, pollination, regeneration processes, succession, role of fire, etc.	Mullet Pond is home to the last remaining mangrove areas on Sint Maarten
(EOD) Pressures and trends concerning any of the above, and/or concerning ecosystem integrity	Area under constant pressure from development

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
Public land (unspecified)	<input checked="" type="checkbox"/>	<input type="checkbox"/>
National/Federal government	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Private ownership

Category	Within the Ramsar Site	In the surrounding area
Commercial (company)	<input type="checkbox"/>	<input checked="" type="checkbox"/>

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

The area is zoned as water/ natural value in the proposed Zoning plan of Simpson Bay.

The area and its associated Flora and Fauna is listed under national legislation:

Nature Conservation Ordinance AB 2013
Preparatory Resolution for Zoning Plans AB 2013

5.1.2 - Management authority

Please list the local office / offices of any agency or organization responsible for managing the site:

Nature Foundation Sint Maarten mandated through Service Level Agreement with the Ministry of the Environment (ministry of VROMI).

Provide the name and title of the person or people with responsibility for the wetland:

Tadzio Bervoets, Director/ Claire Hooft-Graafland, Senior Policy Advisor

Postal address:

Welsburg Street #1
Cole Bay St. Maarten
+1 721 526 3509
manager@naturefoundationsxm.org

E-mail address:

manager@naturefoundationsxm.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	In the surrounding area
Housing and urban areas	High impact	High impact	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Commercial and industrial areas	High impact	High impact	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Tourism and recreation areas	High impact	High impact	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

Water regulation

Factors adversely affecting site	Actual threat	Potential threat	Within the site	In the surrounding area
Dredging	Medium impact	High impact	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

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	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

Energy production and mining

Factors adversely affecting site	Actual threat	Potential threat	Within the site	In the surrounding area
Unspecified	Low impact	Low impact	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

Transportation and service corridors

Factors adversely affecting site	Actual threat	Potential threat	Within the site	In the surrounding area
Roads and railroads	Medium impact	Medium impact	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

Biological resource use

Factors adversely affecting site	Actual threat	Potential threat	Within the site	In the surrounding area
Fishing and harvesting aquatic resources	Low impact	Low impact	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

Human intrusions and disturbance

Factors adversely affecting site	Actual threat	Potential threat	Within the site	In the surrounding area
Recreational and tourism activities	Medium impact	Medium impact	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

Natural system modifications

Factors adversely affecting site	Actual threat	Potential threat	Within the site	In the surrounding area
Vegetation clearance/ land conversion	Medium impact	Medium impact	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

Invasive and other problematic species and genes

Factors adversely affecting site	Actual threat	Potential threat	Within the site	In the surrounding area
Invasive non-native/ alien species	Medium impact	Medium impact	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

Pollution

Factors adversely affecting site	Actual threat	Potential threat	Within the site	In the surrounding area
Household sewage, urban waste water	Medium impact	High impact	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

Geological events

Factors adversely affecting site	Actual threat	Potential threat	Within the site	In the surrounding area
Unspecified	Low impact	Low impact	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

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	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

Please describe any other threats (optional):

Unspecified related in terms of seismic activity of which there have been anecdotal reports.

5.2.2 - Legal conservation status

National legal designations

Designation type	Name of area	Online information url	Overlap with Ramsar Site
Listed as area of importance with protected Fauna and Flora in National Legislation	Mullet Pond/ Simpson Bay Lagoon	https://www.dropbox.com/sh/vqfubjz2punzh2o/AABEE_ET2DKKhzcFOi6DAWapa?dl=0	whole

5.2.3 - IUCN protected areas categories (2008)

Ib Wilderness Area: protected area managed mainly for wilderness protection

5.2.4 - Key conservation measures

Legal protection

Measures	Status
Legal protection	Partially implemented

Habitat

Measures	Status
Habitat manipulation/enhancement	Partially implemented

Species

Measures	Status
Control of invasive alien animals	Implemented

Human Activities

Measures	Status
Communication, education, and participation and awareness activities	Implemented

5.2.5 - Management planning

Is there a site-specific management plan for the site? In preparation

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

5.2.6 - Planning for restoration

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

5.2.7 - Monitoring implemented or proposed

Monitoring	Status
Birds	Implemented

Major research site due to ecological importance related to the Simpson Bay Lagoon. The NGO Nature Foundation regularly monitors the site: Mangrove husbandry and reforestation site, avifauna research area with regular monitoring schemes in place, seagrass monitoring, invasives monitoring, fish surveying, substrate surveying.

6 - Additional material

6.1 - Additional reports and documents

6.1.1 - Bibliographical references

- Anonymous. 1998. Ontwerp Eilandelijk Rioleringsplan Sint Maarten 1998-2010. Growbowsky & Poort St. Maarten N.V., Sint Maarten.
- Anonymous. 1998. Concept Basisrioleringsplan Sint Maarten. Growbowsky & Poort St. Maarten N.V., Sint Maarten.
- Anonymous. 1997. Airspace Plan and land Use Plan for airport development, Princess Juliana International Airport. Grabowsky & Poort St. Maarten N.V., Sint Maarten.
- Anonymous. 1980. Survey of Conservation Priorities in the Lesser Antilles, Saint Martin/Sint Maarten preliminary Data Atlas. Caribbean Conservation Association, The University of Michigan and the United Nations Environment Programme.
- Brink van den T., Djohani R. and Vliegen J. 1996. The Ponds of Sint Maarten. Sustainable Development and Management. Ecovision N.V. Environmental Protection in the Caribbean. 2007. Mullet Pond, Simpson Bay Lagoon, A Preliminary Assessment
- LANDSVERORDENING houdende regels inzake het beheer van de natuur en de bescherming van de daarin voorkomende dier- en plantsoorten. A.B. 2013, GT no. 809
- Parra M., Pujos M., Resseguier A., Guichard S., Laborde P., Pons J.C. 1997. Qualité des Eaux et des Sediments du Lagon de Simsonbaai (Saint Martin). Département de Geology et Oceanography, Bordeaux, France.
- Porcher M. and Cittadini E. 1997. Etude des Pollutions de la Lagune de SimsonBay Ile de Saint Martin (Guadeloupe). Département de Geology et Oceanography, Bordeaux, France.
- Rojer A. 1997. Biologische Inventarisatie van St. Maarten. Stichting Carmabi, Curaçao, Nederlandse Antillen.
- Rouwens T., Butter T. 1999. Beleidsnota Eiland Ontwikkelings Plan Sint Maarten. VROM (Volksgezondheid, Ruimtelijke Ordening & Milieu), Sint maarten.
- Spalding et al. 2007. Marine Ecoregions of the World: a bioregionalization of Coastal and Shelf Areas. BioScience 57: 573-583
- St. Maarten Nature Foundation. 2012. Baseline Ecological and Economic Assessment of the Mullet Pond Section of the Simpson Bay Lagoon
- St. Maarten Nature Foundation. 2012. Ecological Monitoring of the Simpson Bay Lagoon
- United Nations, World Conservation Monitoring Center. 2006. In the front lines: shoreline protection and other ecosystem services from mangroves and coral reefs.

6.1.2 - Additional reports and documents

- i. taxonomic lists of plant and animal species occurring in the site (see section 4.3)
<no file available>
- ii. a detailed Ecological Character Description (ECD) (in a national format)
<1 file(s) uploaded>
- iii. a description of the site in a national or regional wetland inventory
<1 file(s) uploaded>
- iv. relevant Article 3.2 reports
<no file available>
- v. site management plan
<1 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:



Entrance to Mullet Pond (*Nature Foundation Sint Maarten, 15-01-2013*)



Mullet Pond (*Nature Foundation Sint Maarten, 15-01-2013*)

6.1.4 - Designation letter and related data

Designation letter
<2 file(s) uploaded>

Date of Designation