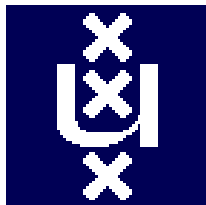


# An Assessment of Important Bird Areas of Aruba, Curaçao, Bonaire, Netherlands Antilles

Vincent Nijman  
(compiler)

prepared for BirdLife Netherlands



Zoological Museum  
University of Amsterdam  
PO Box 94766  
1090 GT Amsterdam

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## **Preface**

This report was prepared by the Bird Department of the Zoological Museum Amsterdam (ZMA) at the request of BirdLife Netherlands (Vogelbescherming). The data used for selection of Important Bird Areas was based on three main sources: (1) a database maintained by Tineke G. Prins on the birds of the Netherlands Antilles, that will form the basis of a to-be-published Checklist of the Birds of the Aruba, Curaçao and Bonaire, (2) the archives of Professor K.H. Voous and the bird collection of the ZMA, and (3) observations made during two trips to the Netherlands Antilles in 2005 and 2006, the latter with several other members and students of the Vertebrates Section of the ZMA. Additional information on other flora and fauna was provided by Dr Ronald Vonk of the Herpetology and Ichthyology Department of the ZMA and Dr Rob Moolenbeek of the Malacology Department of the ZMA.

I thank all for their help in compiling this report.

Amsterdam, 22 January 2007

Vincent Nijman

Postscript, 23 September 2010: At the time of preparation of this report I cited several sources that were submitted for publication or that were accepted for publication but not yet published: these have been updated with the relevant bibliographic information. Most notable of these were the Checklist of the Birds of Aruba, Curaçao and Bonaire as a Special Issue of the journal *Ardea* (Prins *et al.*, 2009) and the re-assessment of the conservation status of the Caribbean coot (proposing it to be listed as Vulnerable according to IUCN threat criteria) published in the journal *Endangered Species Research* (Nijman *et al.* 2008).

## Selection of important Bird Areas for the Netherlands Antilles

Our aim was to where possible to strictly adhere to the criteria for IBAs as outlined in Heath and Evans (2000: 11-19), and not to maximise the number of areas that potentially could qualify as IBAs. Sites that were part of the same general area (i.e. that are similar in character or habitat, and are of similar ornithological composition), or that were otherwise connected are grouped under one single IBA. Smaller, peripheral areas near larger IBAs are grouped under the latter. Red List status are taken from IUCN (2006).

We make a distinction between Primary Criteria, i.e. based on species that **define** an IBA, and Secondary Criteria, i.e. species that provide additional support for an IBA.

A1. The site regularly holds **significant** numbers of a globally threatened species, or species of global conservation concern (Critically Endangered, Endangered, Vulnerable, or Near Threatened)

Primary Criteria: Globally threatened species (regular): Yellow-shouldered Amazon *Amazona barbadensis* (Vulnerable, breeding), Caribbean coot *Fulica caribbaea* (now considered Vulnerable anticipating Red List status following Nijman et al. 2008 and Nijman 2010, breeding),

Secondary Criteria: Globally threatened species (irregular): Piping plover *Charadrius melodus* (Near Threatened, migrant), Olive-sided Flycatcher *Contopus cooperi* (Near Threatened, migrant), the Cerulean Warbler *Dendroica cerulea* (Vulnerable, migrant), and the Golden-winged Warbler (Near Threatened, migrant).

A2. The site is known to hold a significant component of the restricted-range species assemblage whose breeding distributions define an EBA or SA: Yellow-shouldered Amazon, Caribbean coot.

A3. Biome-restricted species: none.

A4. The site is known to hold, on a regular, basis, >1% of a global or biogeographic population of a congregatory waterbird species or seabird species:

Primary Criteria: Greater Flamingo *Phoenicopterus ruber* (**breeding and >500 individuals**), Least Tern *Sterna antillarum* (**breeding and > 100 individuals**)

Secondary Criteria: Greater Flamingo (non-breeding).

When selecting the IBAs we had to rely on the available data, that is the species lists and the numbers recorded within certain sites. With this in mind, this list of IBAs should be seen as a working list: when more and new data becomes available, new sites can be added, and others may have to be removed.

One consequence of the strict adherence to the criteria is that some, seemingly important areas for bird conservation, are not included in the list of IBAs, simply because none of the criteria were met. For instance, Christoffel National Park on Curaçao boasts a significant list of bird species, many of which are breeding in the park. However, none of the globally threatened birds are present (on a regular basis) within the park's boundaries, and the area is not one that harbours significant numbers of congregatory waterbirds or seabirds. Likewise, Jan Thiel Laguna, also on Curaçao is an area of outstanding natural beauty, and harbours large numbers of bird species, including a substantial population of (nonbreeding) Greater Flamingos. Given the regular disturbance caused by tourists and recreationists alike, resulting in great commotion to the flamingos (Brijder, 2007), as well as the sub-optimal conditions of the laguna for boosting large populations of brine flies and brine shrimps, we do not expect the flamingos to start breeding in the area, unless conditions are changed for the better.

Although protection of Jan Thiel laguna is overdue, at present it does not meet the criteria to be considered an IBA, and as such it is not included in the present list.

Symbolic species of the IBA are always only those species that are globally threatened, or, the Greater Flamingo, when breeding in large numbers.

### References

- Brijder, A. (2007). *Effects of human-induced disturbance on breeding and non-breeding populations of Greater Flamingos *Phoenicopterus ruber* in the Netherlands Antilles*. MSc thesis, University of Amsterdam
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## Aruba

IBA Code: AN000

### Bubali Bird Sanctuary IBA

Symbolic Species of the IBA: Caribbean Coot *Fulica caribaea*

Administrative Region(s): Aruba

#### General Description:

Bubali bird sanctuary is situated 5 km northwest of Oranjestad. The area is a former saltpan, fed by a sewage treatment plant, and is one of the few permanent freshwater areas on Aruba. The IBA covers an area of c. 2 km<sup>2</sup> from about sea level to 5 m asl.

#### Habitat/Land Use:

The two ponds, covered with water hyacinths and fringed with reedbeds; small areas of mangroves and buttonwood, interspersed with mesquite trees.

#### Research/Conservation Project:

FANAPA manages the site, which is visited regularly by birders and tourists. An observatory platform has been built to provide an overview for bird watching. Inventory of waterbirds and freshwater fishes has been carried out by the Zoological Museum Amsterdam (2006).

#### Ornithological Information:

Caribbean Coot *Fulica caribaea* is observed regularly at Bubali, with 10s of birds present at a time, and breeding confirmed. Singles of Greater Flamingo *Phoenicopterus ruber* have been observed at the site. Other breeding birds are Least Grebe *Tachybaptus dominicus* (since 1988), Pied-billed Grebe *Podilymbus podiceps* (since 1992), Cattle Egret *Bubulcus ibis*, Great Egret *Ardea alba* (since 1988) and probably some other heron species.

[Table 1: Key Species table compiled by the regional coordinator from information submitted in the IBA Excel document]

#### Other Flora/Fauna:

The endemic freshwater fish *Poecilia vandepolli* is present in the ponds (Hulsman *et al.* 2008); the presence of the endemic Aruban whiptail *Cnemidophorus arubensis* is expected.

#### Protected Areas:

Designated as a nature reserve, yet not formally gazetted.

#### Threats:

Despite the lack of legal protection, the site seems to be relatively secure from threats. If in the future the number of visitors to the area increase, it might be advisable to restrict access during certain times of the year.

#### References:

- Hulsman, H., Vonk, R., Aliabadian, M., Debrot, A.O. and Nijman, V. (2008). Effect of introduced species and habitat alteration on the occurrence and distribution of euryhaline fishes in fresh- and brackish-water habitats on Aruba, Bonaire and Curaçao (South Caribbean). *Contributions to Zoology* 77(1): 41-47
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Prins, T.G., Roselaar, C.A. and Nijman, V. (2005). Status and breeding of Caribbean Coot in the Netherlands Antilles. *Waterbirds* 28(2): 146-149.  
Voous, K.H. (1983). *Birds of the Netherlands Antilles* (2<sup>nd</sup> ed.). De Walburg Pers, Zutphen.

Compilers:

Vincent Nijman and Tineke Prins, Zoological Museum Amsterdam

Illustrations:

ZMA Photo Archive

IBA Code: AN000

**San Nicolas Bay and Lago Reef Keys IBA**

Symbolic Species of the IBA: Terns *Laridae: Sternidae*

Administrative Region(s): Aruba

General Description:

A series of small islets -keys- off the southwestern coast of Aruba, in front of the San Nicolas Bay and the oil refinery area. The islands are known for their breeding colonies of terns. The land surface area of the IBA is small, but taking into account the shallow parts of the sea surrounding the islets, it covers c. 1.5 km<sup>2</sup> from sea level to about 2 m asl.

Habitat/Land Use:

Small flat, largely sandy, reef islets covered with sparse vegetation.

Research/Conservation Project:

Since 1984, the islets are regularly monitored for their sea birds colonies.

Ornithological Information:

The seabird nest on the islets, and are present from mid April to mid August, and virtually all seabirds abandon the islets in the course of July- August, to re-appear in the course of April of the following year. Important breeding colonies of Sandwich Tern *Sterna sandvicensis* (up to 3500 nests), Sooty Tern *Sterna fuscata* (3200 nests), Roseate Tern *Sterna dougallii* (100 nests), Common Tern *Sterna hirundo* (100 nests), Least Tern *Sterna antillarum* (100 nests), and Bridled Tern *Sterna anaethetus* (100 nests).

[Table 1: Key Species table compiled by the regional coordinator from information submitted in the IBA Excel document]

Other Flora/Fauna:

Aruban whiptail lizards *Cnemidophorus arubensis* have been recorded on the islets; turtles are occasionally seen in the waters surrounding the islands; they are not known to breed on the islets.

Protected Areas:

FANAPA manages the reef islets, with regular patrols during the breeding season. The area is not officially gazetted as a conservation area.

Threats:

Egg collection, disturbance by recreationists, pollutants

References:

- Debrot A.O., Boogerd C. and Van den Broeck D. (2009). The Netherlands Antilles III: Curaçao and Bonaire. Pp 207-215 in: Bradley, P.E. and Norton, R.L. (ed.) *Breeding seabirds of the Caribbean*. University of Florida Press, Gainesville.
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- Voous, K.H. (1983). *Birds of the Netherlands Antilles* (2<sup>nd</sup> ed.). De Walburg Pers, Zutphen.

Compilers:

Vincent Nijman and Tineke Prins, Zoological Museum Amsterdam

Illustrations:



## Curaçao

IBA Code: AN000

Klein Hofje IBA

Symbolic Species of the IBA: Caribbean Coot *Fulica caribaea*

Administrative Region(s): Curaçao

### General Description:

Klein Hofje is a waste water treatment plant, situated north of Piscadera Bay. The IBA covers the plant itself and its near surroundings including the overflow to Piscadera Bay, and totals an area of c. 1 km<sup>2</sup> from sea level to about 5 m asl.

### Habitat/Land Use:

The plant itself consists of several large concrete ponds; surrounding the plant the area is covered with shrub, with to the south a small fringe of mangrove forest.

### Research/Conservation Project:

The plant is administered under the Department of Public Works (DOW), Subdivision Sanitary Engineering, Curaçao. No conservation or research projects known. Inventory of waterbirds carried out by Zoological Museum Amsterdam (2005-2006).

### Ornithological Information:

Since 1992, Caribbean Coot *Fulica caribaea* is a regular at Klein Hofje, with normally tens of birds observed at a time. It is present all-year round, and has been confirmed breeding. Several species of waterbird are resident on the ponds and surrounding areas, with White-cheeked Pintail *Anas bahamensis*, Blue-winged Teal *Anas discors*, Black-bellied Whistling Duck *Dendrocygna autumnalis*, Least Grebe *Tachybaptus dominicus*, Pied-billed Grebe *Podilymbus podiceps*, Common Moorhen *Gallinula chloropus*, and Killdeer *Charadrius vociferus* have been recorded.

[Table 1: Key Species table compiled by the regional coordinator from information submitted in the IBA Excel document]

### Other Flora/Fauna:

Not known, although in the small strip of mangrove forest at the outflow of Klein Hofje it is expected that a full range of mangrove species and associated fauna and flora is present.

### Protected Areas:

Not protected for conservation purposes, but the site is largely under government control, fenced off, and the birds on the ponds seem to be well-protected.

### Threats:

None known, but the surrounding area may be threatened by development.

### References:

Nijman, V., Aliabadian, M., Debrot, A.O., de Freitas, J.A., Gomes, L., Prins, T.G. and Vonk, R. (2008). Conservation status of Caribbean coot *Fulica caribaea* in the Netherlands Antilles, and other parts of the Caribbean. *Endangered Species Research* 4: 241-246.  
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Prins, T.G. and Nijman, V. (2005). Historic changes in status of Caribbean coot in the Netherlands Antilles. *Oryx* 39(2): 125-126.  
Prins, T.G., Roselaar, C.A. and Nijman, V. (2005). Status and breeding of Caribbean Coot in the Netherlands Antilles. *Waterbirds* 28(2): 146-149.  
Voous, K.H. (1983). *Birds of the Netherlands Antilles* (2<sup>nd</sup> ed.). De Walburg Pers, Zutphen.

Compilers:

Vincent Nijman and Tineke Prins, Zoological Museum Amsterdam

Illustrations:

ZMA Photo Archive

IBA Code: AN000

**Dam Muizenberg IBA**

Symbolic Species of the IBA: Caribbean Coot *Fulica caribaea*, Greater Flamingo *Phoenicopterus ruber*

Administrative Region(s): Curaçao

General Description:

Dam Muizenberg is an artificial lake, in the northern suburbs of Willemstad. Kaya Fortuna is an unnamed small pond, at the crossing of the Seru Fortuna Road with the Cabo Verde Road, a few hundred meters west of Dam Muizenberg. The IBA covers an area of c. 1.5 km<sup>2</sup> from about 5 to 10 m asl.

Habitat/Land Use:

Two artificial lakes, that retain a small amount of water even during the dry season. Surrounding areas consist of grassland and shrubs, and residential areas.

Research/Conservation Project:

No conservation or research projects known. Inventory of waterbirds and freshwater fishes has been carried out by the Zoological Museum Amsterdam (2006).

Ornithological Information:

Caribbean Coot *Fulica caribaea* is a year-round resident on both lakes, with congregations of up to 800 birds observed during the wet season. Breeding has been confirmed at both lakes; 100s of birds are observed regularly at a time. Greater Flamingo *Phoenicopterus ruber* is occasionally seen on Dam Muizenberg, feeding in flocks of up to 170 birds, but does not breed in the area. The Common Moorhen *Gallinula chloropus* is also confirmed as a breeding resident.

[Table 1: Key Species table compiled by the regional coordinator from information submitted in the IBA Excel document]

Other Flora/Fauna:

The endemic freshwater fish *Poecilia vandepolli* is present in the ponds (Hulsman et al. 2008).

Protected Areas:

Not protected.

Threats:

Pollution, drainage of surrounding wetlands, disturbance

References:

Debrot A.O. (2003). A review of the freshwater fishes of Curaçao, with comments on those of Aruba and Bonaire. *Caribbean Journal of Science* 39(1): 100-108.  
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Nijman, V., Aliabadian, M., Debrot, A.O., de Freitas, J.A., Gomes, L., Prins, T.G. and Vonk, R. (2008). Conservation status of Caribbean coot *Fulica caribaea* in the Netherlands Antilles, and other parts of the Caribbean. *Endangered Species Research* 4: 241-246.

Prins, T.G., Reuter, H., Debrot, A.O., Wattel, J. and Nijman, V. (2009). Checklist of the birds of Aruba, Curaçao and Bonaire, South Caribbean. *Ardea* 97(2): i-iii, 137-268.

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Prins, T.G., Roselaar, C.A. and Nijman, V. (2005). Status and breeding of Caribbean Coot in the Netherlands Antilles. *Waterbirds* 28(2): 146-149.

Voous, K.H. (1983). *Birds of the Netherlands Antilles* (2<sup>nd</sup> ed.). De Walburg Pers, Zutphen.

Compilers:

Vincent Nijman and Tineke Prins, Zoological Museum Amsterdam

Illustrations:

ZMA photo archive

IBA Code: AN000

Malpais IBA

Symbolic Species of the IBA: Caribbean Coot *Fulica caribaea*

Administrative Region(s): Curaçao

General Description:

Malpais is a former plantation, just north of Sint Michiels Bay. A dam has been erected, thus creating two lakes, that retain at least some water during the dry season. The IBA, that is the two lakes and its near surroundings, covers an area of c. 3 km<sup>2</sup> from about 10 to 71 m asl. Greater Malpais is about twice the size of the IBA.

Habitat/Land Use:

The area is covered in low forest and shrubs, with swamp vegetation fringing one of the lakes. Popular with holiday makers and local recreationists.

Research/Conservation Project:

No conservation or research projects known, although CARMABI has done surveys on both the vegetation and the White-tailed Deer *Oidocoleus virginianus* that inhabit Greater Malpais. Inventory of waterbirds and terrestrial birds, as well as fishes, has been carried out by the Zoological Museum Amsterdam (2006).

Ornithological Information:

Caribbean Coot *Fulica caribaea* is a regular at Malpais, with normally tens of birds observed at a time. It is present all-year round, and has been confirmed breeding. Other breeding birds include Least Grebe *Tachybaptus dominicus* and Black-crowned Night-Heron *Nycticorax nycticorax*.

[Table 1: Key Species table compiled by the regional coordinator from information submitted in the IBA Excel document]

Other Flora/Fauna:

Floristically the area is important as a number of endemic plants are present. Apart from Christoffel National Park, Malpais is the only other area on Curaçao where the White-tailed Deer *Oidocoleus virginianus* is found. The endemic freshwater fish *Poecilia vandepolli* is present in the lakes (Hulsman *et al.* 2008; Debrot, 2003).

Protected Areas:

Non-protected, although a gate at the main road enables the area to be closed during the evening.

Threats:

Disturbance by recreationists, pollution. Poor maintenance of the dam may result in the desiccation of one of the two lakes during prolonged dry seasons, thus significantly decreasing the value of the area for waterbirds and the endemic fish.

References:

- Anonymous (1989). *Reactie op het eilandelijk ontwikkelingsplan Curaçao, in 't bijzonder v.w.b. Malpais*. CARMABI/STINAPA, Willemstad.
- Debrot A.O. (2003). A review of the freshwater fishes of Curaçao, with comments on those of Aruba and Bonaire. *Caribbean Journal of Science* 39(1): 100-108.
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- Voous, K.H. (1983). *Birds of the Netherlands Antilles* (2<sup>nd</sup> ed.). De Walburg Pers, Zutphen.

Compilers:

Vincent Nijman and Tineke Prins, Zoological Museum Amsterdam

Illustrations:

ZMA photo-archive

## Bonaire

IBA Code: AN000

### Washington-Slagbaai IBA

Symbolic Species of the IBA: Yellow-shouldered Amazon *Amazona barbadensis*, Caribbean Coot *Fulica caribaea*, Greater Flamingo *Phoenicopterus ruber*

Administrative Region(s): Bonaire

#### General Description:

Most of the north-western tip of Bonaire forms part of the 3800-ha Washington-Slagbaai Park since 1969. The IBA includes Lake Goto, to the south of the National Park, and the area northeast of the park towards Rincon. The geographical extent of this latter area is somewhat unclear (i.e. it is imperative to establish how large the area is that is intensively used by the Yellow-shouldered Amazons *Amazona barbadensis*), making it difficult to assess the total size of the IBA. The IBA is larger than the area included in the National Park, and would cover an area about 45-50 km<sup>2</sup> from sea level to 241 m asl.

#### Habitat/Land Use:

Formerly this area consisted of plantations and were extensively exploited for goat husbandry, and the production of charcoal and aloë resin, with deforestation reaching its peak by the early 20<sup>th</sup> century. Large areas are recovering, although parts of the areas are still affected by goats, which still abound in the park. One of the most abundant trees of the park is *Prosopis juliflora*, a species that responds positively to cutting and is not much liked by goats. Columnar cacti are also numerous and are also a key dry-season food source for birds. The upland portions of the park are generally dominated by *Cordia curassavica*, *Melochia tomentosa*, *Croton flavens* and *Phyllanthus botrianthus* shrubs with scattered *Randia aculeata* and *Casearia tremula* trees and columnar cacti. Areas that are less disturbed are covered significant stands of large *Haematoxylon brasiletto*, *Bourreria succulenta* and *Capparis hastata* trees. Low lying seasonal riverbeds have significant concentrations of *Capparis odoratissima*, and *Capparis indica*.

#### Research/Conservation Project:

The park is administrated by STINAPA. Biological inventories of the island have been carried out by the CARMABI Foundation. Research on Yellow-shouldered Amazons *Amazona barbadensis* is carried out by a team from Sheffield University, and on raptors by the University of Amsterdam (2003, 2006). Inventory of waterbirds and freshwater fishes has been carried out by the Zoological Museum Amsterdam (2006).

#### Ornithological Information:

This is the stronghold for the Yellow-shouldered Amazon *Amazona barbadensis*, with some 400 birds remaining. The Amazon breeds largely in the area northwest to the park, towards the north coast north of Rincon. During the dry period, roosting occurs in other parks of the island, including near Kralendijk. Small numbers of Caribbean Coot *Fulica caribaea* breed in a pond near the entrance of the park. Greater Flamingo *Phoenicopterus ruber* is a breeding resident in several of the lagunas in the park, and, in the 100s on Lake Goto. Least Grebe *Tachybaptus dominicus*, Pied-billed Grebe *Podilymbus podiceps*, White-tailed Nightjar *Caprimulgus cayennensis*, breed in or near the park. Singles of the migrant Olive-sided Flycatcher *Contopus cooperi* and Cerulean Warbler *Dendroica cerulea* have been observed in the IBA.

[Table 1: Key Species table compiled by the regional coordinator from information submitted in the IBA Excel document]

#### Other Flora/Fauna:

Important area for the original vegetation of the island; plus the full range of animal life can be found in the park. The endemic freshwater fish *Poecilia vandepolli* is present in the freshwater

streams and ponds (Hulsman et al. 2008). The Bonaire Anole *Anolis borairiensis* is expected to occur within the park boundaries. Several species of endemic land snails are reported: *Tudora aurantia*, *Tudora maculata*, *Leptinaria harterti*, *Brachypodella gibbonsi*, *Stoastomops walkeri* (Moolenbeek 2006).

Protected Areas:

Protected as a national park, although important sections of the IBA are situated outside the park boundaries. It is recommended to extend the park to the northeast and the south as to include these important habitats.

Threats:

Parts of the IBA are currently not protected and may be developed. Yellow-shouldered Amazon *Amazona barbadensis* are threatened by the pet-trade with young being taken from the nest at the end of the breeding season. Currently most breeding pairs do no longer use trees to nest in but have resorted to breeding along the rocky parts of the north coast.

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Compilers:

Vincent Nijman and Tineke Prins, Zoological Museum Amsterdam

Illustrations:

ZMA photo archive

IBA Code: AN000

Dam Onima IBA

Symbolic Species of the IBA: Caribbean Coot *Fulica caribaea*

Administrative Region(s): Bonaire

General Description:

Dam Onima is an artificial lake created at the site of a small lagoon on the north coast of the island; the dam retains water during most of the dry season. The IBA covers an area of c. 1 km<sup>2</sup> with an altitudinal range of about 10-50 m asl.

Habitat/Land Use:

The surrounding area is covered in cacti and shrub, and is situated on the second terrace. The lake is secluded, and the ruggedness of the terrain provides a natural means of protection.

Research/Conservation Project:

None. Inventory of waterbirds and freshwater fishes has been carried out by the Zoological Museum Amsterdam (2006).

Ornithological Information:

Dam Onima holds small numbers of Caribbean Coot *Fulica caribaea*, which has been confirmed breeding. During dry years, when all the water evaporates, the birds have to resort to other parts of Bonaire, or indeed other islands. Breeding confirmed for Pied-billed Grebe *Podilymbus podiceps* and Least Grebe *Tachybaptus dominicus*; irregular breeding of Common Moorhen *Gallinula chloropus*

[Table 1: Key Species table compiled by the regional coordinator from information submitted in the IBA Excel document]

Other Flora/Fauna:

The Bonaire Anole *Anolis borairiensis* is expected to occur in the shrublands surrounding the lake.

Protected Areas:

Not protected.

Threats:

The IBA is currently not protected and may be developed. Poor maintenance of the dam results in leaking, leading to the disappearance of the lake during dry years. When no water is present, the area (temporarily) has lost its value for the Caribbean Coot

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Compilers:

Vincent Nijman and Tineke Prins, Zoological Museum Amsterdam

Illustrations:

ZMA Photo Archive

IBA Code: AN000

**Pekelmeer IBA**

Symbolic Species of the IBA: Greater Flamingo *Phoenicopterus ruber*

Administrative Region(s): Bonaire

General Description:

Most of the southeastern part of Bonaire forms part of the Cargill industrial saltworks. The IBA falls largely within the company's territory. The IBA covers an area of c. 20 km<sup>2</sup> from sea level to about 5 m asl.

Habitat/Land Use:

Industrial salt pans, with on the fringes and on the numerous dikes small amounts of vegetation. Part of the area (54 ha) has been set aside as a flamingo sanctuary. Surrounded by a road, otherwise closed to the public.

Research/Conservation Project:

The Cargill saltwork company monitors the population of Greater Flamingo, and keeps the public away from the breeding areas. In the past detailed research on the species was carried out by Rooth (1965).

Ornithological Information:

This is the stronghold for the Greater Flamingo *Phoenicopterus ruber* in the Netherlands Antilles, and indeed one of the global strongholds of the species. During the breeding season some 5000 birds are present, at other times the species is present in the 1000s. Piping Plover *Charadrius melodus* has been observed once on the southern tip of the island. Herons, sandpipers, Black-winged Stilts *Himantopus himantopus*, and Ruddy Turnstones *Arenaria interpres* can be found almost year round.

[Table 1: Key Species table compiled by the regional coordinator from information submitted in the IBA Excel document]

Other Flora/Fauna:

No species of conservation interest are known, apart from millions of brine shrimps and brine flies that form the staple diet of the flamingos.

Protected Areas:

Small parts of the IBA are protected as a flamingo sanctuary. The remainder are part of the saltwork company. During the breeding period, flamingos are extremely sensitive to disturbance and breeding has been quite successful for many years thanks to the salt works keeping human disturbance far away from the designated breeding site.

Threats:

The solar salt works operation artificially control the water parameters in the various evaporation ponds, and the life cycles of the natural food species of the flamingo and other shore birds (e.g. brine shrimp and brine fly larvae) are greatly affected. In effect this makes much of the salt works area far less attractive as a feeding area to the shorebirds, than the natural salt lakes that were formerly covering the area.

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Compilers:

Vincent Nijman and Tineke Prins, Zoological Museum Amsterdam

Illustrations:

ZMA photo archive



IBA Code: AN000

Klein Bonaire IBA

Symbolic Species of the IBA: Least Tern *Sterna antillarum*

Administrative Region(s): Bonaire

General Description:

A low coral-limestone island, c. 1 km offshore from Kralendijk on mainland Bonaire. The IBA covers an area of c. 7 km<sup>2</sup>, from sea level to 24 m asl.

Habitat/Land Use:

The island is dominated by low shrubby vegetation that has been severely impacted from a long history of overgrazing by introduced goats. It is covered in rather low shrubs dominated by *Croton flavens*, *Lantana involuctra*, *Cordia curassavica*, *Corchorus hirsutus*, *Jatropha gossypifolia*, and *Passiflora suberosa*. Approximately 36 ha of salinas exist along the shoreline sections of the island. The island's shoreline includes salinas, freshwater springs or wells, coral rubble strands with low shrubby vegetation. The island is uninhabited but has been used in the past for camping by residents as well as for a small quarantine building facility.

Research/Conservation Project:

The island is owned and managed by the Bonaire Marine Park, part of STINAPA. Biological inventories have been carried out by the CARMABI Foundation and some work on reintroducing rare plants to the island was carried out in 2006. Surveys of terns and plovers were carried out on the island in 2001 and 2002 (Wells and Wells, 2006) and bird inventories have been made by the Zoological Museum Amsterdam (2003 and 2006). The island got rid of its goats in the 1980s and may be free of introduced cats, rats, and mice but further assessment is required.

Ornithological Information:

At least 100 breeding Least Terns *Sterna antillarum*, constituting some 2% of regional population, are found on the island. Wilson's Plover *Charadrius wilsonia*, Kentish Plover *Charadrius alexandrinus*, Black-winged Stilt *Himantopus himantopus*, and Black-bellied Plover *Pluvialis squatarola* are present

[Table 1: Key Species table compiled by the regional coordinator from information submitted in the IBA Excel document]

Other Flora/Fauna:

Three land snails endemic to Bonaire and seven endemic to the ABC islands have been documented from Klein Bonaire (J. Wells). One sub-species of whiptail lizard *Cnemidophorus murinus ruthveni* endemic to Bonaire is present. Important sea turtle nesting with hawksbill *Eretmochelys imbricata* and loggerheads *Caretta caretta* confirmed nesting, and green sea turtles *Chelonia mydas* observed feeding in surrounding waters.

Protected Areas:

The island and surrounding reef is protected within the Bonaire Marine Park.

Threats:

Disturbance from visitors to the island. If feral cats, rats, or mice are indeed still present on the island, depredation of nests and eggs, may be a real threat to nesting terns.

References:

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Compilers:

Jeffrey Wells, Boreal Songbird Initiative, 210 Water St., Hallowell, ME 04347

Vincent Nijman and Tineke G Prins, Zoological Museum Amsterdam

Illustrations:

J. Wells