

# The Value of the LVV Site on Bonaire for Birds

*Advice on the importance of this area for birds on Bonaire*

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## **Preface**

Bonaire is blessed with splendid nature, both above and below water. Due to their special natural values, various areas on and around Bonaire have a protected status. This applies to important areas such as the Bonaire National Marine Park, the Washington-Slagbaai National Park, the Pekelmeer, and Lac Bay.

The Public Body Bonaire (OLB) has indicated in 2020 that it wants to focus on better protection of nature and the development of ecotourism. This choice is in line with the Strategic Tourism Plan Bonaire and with the Blue Destination concept as embraced by the OLB.

In this memorandum, I would like to draw your attention to the natural values of an area on Bonaire that does not have a protected status, namely the site of and near the sewage treatment plant. For the sake of convenience, I will refer to this area as the LVV area below.

## **The Area**

In this note, LVV refers to terrain that the Water and Energy Company of Bonaire (WEB) uses for the sewage water treatment as well as the adjacent (agricultural) land of the Department of Agriculture, Animal Husbandry and Fisheries (LVV) of the OLB. This area is bordered on the north side by Kaminda Lagun, on the east side by the road that leads from the Kaminda Lagun to the parking lot of the new branch of the JICN as well as the parking lot itself, on the west side by the Kaya Calixta, and on the south side through the Kaya Sonmontuna and the excavation in the extension of this unpaved "kaya." Roughly, this concerns an area of approximately one square kilometer (1 km<sup>2</sup>).

The installation of the sewage water treatment (WEB) is located in this region, and a part of the area is used for agriculture (LVV) .

The area has for many years contained two permanent ponds that are fed with water from the sewage treatment plant. The permanent pond west of the road Kaminda Lagun to the buildings of the purification and LVV, is indicated in the corridors as "Hidden Pond." This is an appropriate name because this lake is completely hidden from view by the dense vegetation surrounding it.



The second permanent pond, immediately north of the water treatment buildings, is referred to as the "Main Pond."

In addition to these two permanent lakes, the area has lower-lying and/or excavated parts that are surrounded by "dikes." These parts fill up with water during heavy or prolonged rainfall. In some years, water remains in these "dams" for months.

In 2018, a piece of land was excavated immediately west of the parking lot at the JICN, creating a new pond. This pond is commonly referred to as "Jerry's Pond," in memory of the American biologist/birdwatcher Jerry Ligon, who for years, until his death in 2015, worked tirelessly for bird protection on Bonaire.

The vegetation of the area as a whole consists largely of a dense to very dense vegetation with many thorn bushes and cacti. However, some areas around the agricultural plot are sparsely overgrown with grass and herbs and form the specific habitat for one of Bonaire's rarest breeding birds, the Grasshopper Sparrow (see more about this species below).<sup>1</sup>

## **A Magnet for Birds**

Despite its limited surface, the LVV site is the area where by far the most different bird species have been observed on Bonaire. For a comparison with other species-rich areas, I offer the following overview:

LVV: 132 species

Washington-Slagbaai Park: 117 species

Salt lake/salt pans: 110 species

Lac Bay: 109 species

Gotomeer: 92 species<sup>2</sup>

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<sup>1</sup> All bird species are called by their English name because the use of their Dutch names is not common. Appendix 2 contains an overview of the mentioned species with their English, scientific, Dutch and Papiamentu names.

<sup>2</sup> Sources: eBird and observado.com. Two caveats apply to these numbers: not all observations from observado.com have been verified and not all observations are entered. The total number of species established on or around Bonaire up to August 2020 is 238. About half of them are seen annually on Bonaire, the other half less frequently.

The attraction of the LVV site to birds can be explained by the permanent presence of fresh water, in combination with suitable vegetation (food), and tranquility. Bonaire has no other location with comparable areas of (permanent) fresh water. The other locations with fresh water are areas of land that are only under water during the rainy season or springs (such as the wells Put Bronswinkel and Pos Mangel in Washington-Slagbaai National Park) without open water.

## **A Closer Look at the Types of Birds at the LVV Site**

The LVV site is important for breeding birds that reside there throughout the year, as well as for migrants and winter guests.

### *Breeding birds*

The number of bird species that breed on Bonaire is relatively small. As Prof. Dr. Voous<sup>3</sup> mentioned in 1983, Dr. Voous named a number of 51 breeding species. As far as I know, no comprehensive inventories have been carried out afterwards, but it is plausible that this number has hardly changed since then. As far as I know, the Tropical Kingbird does not breed on Bonaire (anymore), but, on the other hand, at least two breeding species have been added, namely the Black-bellied Whistling Duck and the Southern Lapwing.

More than half of the breeding species of Bonaire occur as breeding birds in the LVV area. The following species breed exclusively or mainly in the LVV area on Bonaire:

Black-crowned Night Heron  
Black-bellied Whistling Duck  
American Coot  
Common Gallinule  
Purple Gallinule  
Pied-billed Grebe  
Southern Lapwing  
Groove-billed Ani  
Grasshopper Sparrow



### The Grasshopper Sparrow

Of these species, the latter deserves special attention. The Grasshopper Sparrow has a wide but fragmented distribution area in North, Central and South America.

Twelve subspecies have been described<sup>4</sup>, some of which occur only very locally. This applies in particular to the Caribbean subspecies, which can only be found on Curaçao and Bonaire. In recent years, the species has been found in seven locations on Curaçao. For all these locations, it only concerns incidental observations and minimal numbers.<sup>5</sup> The largest population is located on Bonaire,

<sup>3</sup> Prof. Dr. K.H. Voous, *Birds of the Netherlands Antilles*, second edition (1983).

<sup>4</sup> HBW and Birdlife International *Illustrated Checklist of the Birds of the World*, Volume 2: Passerines (2016).

<sup>5</sup> Personal observations by Rob Wellens and Michelle da Costa Gomez, Curaçao (July/August 2020).

but there, too, it concerns a limited number of breeding pairs. During a recent study (2018) on Bonaire, biologists from the USA found eleven or twelve males in the LVV area. At another location, an agricultural area north of the Kaminda Sorobon, they found three more males of this species.<sup>6</sup> Another observer found and photographed a specimen at Kaya International on the airport grounds in December 2017.

**The LVV area is by far the most important location worldwide for the subspecies *Caribaeus* of the Grasshopper Sparrow and also the only or the most important breeding location on Bonaire for eight other bird species.**

### *Migrants*

Migrants are bird species that come to Bonaire on their annual migration from North America (breeding area) to South America (wintering area) to rest and/or to recuperate from long flights. On Bonaire, it is mainly about the waders and the songbirds (hereinafter referred to as warblers). Where the waders mainly use saline areas such as the salt pans and the various salinas, many warblers are looking for areas with fresh water. It is, therefore, no surprise that the LVV site has a tremendous attraction to warblers (and other songbirds) during migration time--particularly in October and May. Most of the warbler species ever sighted on Bonaire (29 species) have been found exclusively at the LVV site over the past few years.

Aside from warblers, large numbers of Yellow-billed Cuckoos, Bobolinks (a passerine bird from North America), as well as smaller numbers of waders visit the LVV site annually on their way to South America. Examples of those waders are American Golden Plover, Solitary Sandpiper, Pectoral Sandpiper and the rare Upland Sandpiper.

In addition, the area is visited during migration time by other rare birds from North America that only appear on Bonaire in very small numbers and by no means every year. **For all these migrants, the LVV area is an important link in their annual migration, as a resting and foraging area.**

### *Winter guests*

The freshwater ponds of the LVV site are full of ducks in winter, with Blue-winged Teals being the most numerous. And, in addition to the breeding species that reside in the area all year round, there are always many other species to be found in winter (October-March), such as Soras (a kind of rail), Wilson's Snipes and other waders, various types of herons, pigeons, and all kinds of songbirds. For some of these species, they can hardly be found on Bonaire outside of the LVV site.

**The LVV terrain is an important wintering area for a number of bird species from North America.**

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<sup>6</sup> See Appendix 1.

For a limited number of species, there are some which breed in South America and can be found on Bonaire in the summer months (the South American winter). The best example of this is the Fork-tailed Flycatcher, which can be found in the trees around the ponds of the LVV site in the period May-October.

### *Vagrant guests*

A special category are the so-called vagrants: species that have only been seen on Bonaire occasionally. Several of these have been observed exclusively in the LVV region.

Since 2016, fourteen "new" species have been observed on the island (the very first sighting of the relevant species for Bonaire); no less than half of them (seven species) have been discovered at the LVV site.<sup>7</sup>

**The LVV site is also the best location on Bonaire for vagrant guests.**

### **Threats at the LVV Site**

As noted above, the LVV area derives much of its attraction to birds from the presence of freshwater, food and tranquility. As soon as the fresh water disappears, most of the birds disappear, too. Those species will then lose an important resting and foraging area and Bonaire will lose a considerable number of species. It is, therefore, very important that there is sufficient water in the "ponds" year-round. When they dry up, the birds are simply gone.

Rest is also important: birds need rest to avoid losing energy unnecessarily. Loose or stray dogs can cause a lot of anxiety.

Species breeding on or near the ground like the rare Grasshopper Sparrow should be able to do so in peace. Free-ranging and especially stray cats can cause enormous damage. Cats in particular are referred to in Appendix 1, in which the American researcher Bernard Lohr elaborates on this aspect.

### **Opportunities at the LVV Site**

The OLB wants to focus on ecotourism. The LVV site offers enormous opportunities for this. The area is centrally located and easily accessible. It is also reasonably clear with mostly low-lying plants, which makes many bird species relatively easy to see.

A viewing point could be set up at "Jerry's Pond" and from the parking lot at the JICN a short walking route with some informational boards could be plotted through the adjacent part of the LVV site.<sup>8</sup> In this section, almost all of the more common species can be found without too much trouble. The Grasshopper Sparrow breeds in another part of the area (mainly on the edges of the agricultural plots) and will therefore not be adversely affected by this form of ecotourism.

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<sup>7</sup> So far, a total of 238 different bird species have been identified with certainty on or around Bonaire. More than half of them (132) have thus been observed in the LVV region.

<sup>8</sup> Commercial bird trips to this area already have been organized on a modest scale in recent years.

In addition, the LVV area could be part of a bird- or eco-route to be released on the island. Birdwatchers visiting the island are then guaranteed to see a number of species they will not find elsewhere on the island.

## **Conclusion**

Despite its limited surface, the LVV site is one of the most important bird areas on Bonaire. A relatively large number of species can be found only there. For the subspecies *caribaeus* of the Grasshopper Sparrow, it is even the most important area worldwide. It is of great importance that the specific habitat requirements of this species are taken into account in the agricultural development of the area.

It is also important that a number of pools in the area permanently contain sufficient water. In addition, it is important that there is peace in the area and that the number of stray dogs and cats remains limited. In this way the area remains attractive for birds.

The area has great potential as a tourist eco-destination.

The OLB wants to give areas that qualify for this a protected status. The LVV area does not enjoy legal protection as a nature reserve. Due to the great importance of this area for birds, it is desirable to grant this area a protected status.

## Appendix 1

Email from Researcher/Associate Professor Bernard Lohr (University of Maryland, Baltimore, USA) regarding the Grasshopper Sparrow on Bonaire

**Van:** Bernard Lohr

**Verzonden:** woensdag 29 juli 2020 21:31

**Aan:** Peter-Paul Schets

**Onderwerp:** Re: Bonaire

*Hi Peter-Paul,*

*Good to hear from you again. Your advice was very helpful a couple of years ago when we recorded the grasshopper sparrows on Bonaire. They are a unique and interesting subspecies (especially with respect to their songs). I don't remember if I'd told you then that we were only able to find a single pair on Curacao (also recorded that male, with similar song to those on Bonaire). Subsequently, I think the birders there have found a few more individuals, but less than 10 overall I think, so virtually extirpated.*

*I was able to find about 20 birds on Bonaire. Most of these were at the LVV-sewage area in the scrub surrounding the buildings (the few additional birds were on a ranch a few km to the south - I think you had also pointed us to that area). We were never able to get access to the airport, so I don't know if there are still any birds there (listening at the fence a couple of mornings didn't yield any songs/birds).*

*So I would say that it's critically important to preserve as many of the birds and as much habitat at the LVV area as possible! That seems to be the majority of the remaining birds within the subspecies, and as I said, its songs are interesting, and different from those in a number of ways from the other Caribbean (and North American) subspecies. I have students finishing that analysis this summer and fall, and we hope to have those data published early next year some time.*

*I would be very happy to assist you with any efforts to protect the remaining birds. Please let me know how I could help. I can give you a quick rundown of what I know now. (I'm at a virtual meeting this week, and somewhat swamped with duties, but after the weekend I could help write up something in more detail if you would like - and can provide some song spectrograms, a few photos, etc.)*

*At the LVV site I recorded 10 singing males (I think there were 1 or 2 more I wasn't able to get recorded). Many of these birds seemed somewhat out of season, so I did playbacks to induce territorial behavior and singing. When I did that I got somewhat unusual results in that the male would respond with approach and song (that's typical), but often another bird or two would approach as well (sometimes up to 3). The responding male never attacked these birds, so I assume they were the paired female and potentially 1 or 2 older young still residing within the territory. I would love to work with a student or two (from here, from Bonaire?) to*

*investigate that further, as it's very atypical of young territorial passerines generally, and grasshopper sparrows specifically. The young usually disperse once they are independent. I suspect lack of available habitat elsewhere could be an issue. Outside of the LVV I found 3 additional singing males on that ranch (I could likely find this again on a map if you were interested in a more specific location). Otherwise, only that one additional singing bird on Curacao. We spent a total of 10 days on Curacao, and another 9-10 days on Bonaire looking intensively, so it's possible there are other birds elsewhere, though we're familiar with the type of habitat they'll use, and actively searched the islands for it during that time (as well as getting advice from you and others on where to look).*

*The principal issues/threats for these birds are likely: 1) the lack of available habitat of the right type (grassland/scrub with available ground nesting substrate; usually bunch grasses or low sparse scrub with open ground areas), and --at the LVV in particular--2) the presence of a feral cat colony at the site near the buildings. This latter was very disturbing when we first encountered it. I guess the cats come from a nearby veterinary clinic that releases them. Even if neutered they can do a great deal of damage to local bird fauna, in particular ground nesters like the grasshopper sparrows. While the colony was fed, we did see cats chasing small lizards near the buildings, and some cats wandering into the scrub from time to time. That alone could doom this population.*

*So my major recommendations would be to preserve the habitat at the LVV site (and if possible create other similar habitat nearby). Also, I would recommend removing the cats (either putting them elsewhere or adopting them out).*

## Appendix 2

Names of species mentioned.

English	Scientific	Dutch	Papiamentu
Black-bellied Whistling Duck	<i>Dendrocygna autumnalis</i>	Zwartbuikfluiteend	Patu pidjidji kara blanku
Blue-winged Teal	<i>Anas discors</i>	Blauwvleugeltaling	Patu morèkè
Pied-billed Grebe	<i>Podilymbus podiceps</i>	Dikbekfuut	Sambuyado pik diki
Black-crowned Night-Heron	<i>Nycticorax nycticorax</i>	Kwak	Krabèchi bachi pretu
Sora	<i>Porzana carolina</i>	Soraral	Gaitu sora
Purple Gallinule	<i>Porphyrio martinicus</i>	Amerikaans purperhoen	Gaitu biña
Common Gallinule	<i>Gallinula galeata</i>	Amerikaans waterhoen	Gaitu pik korá
American Coot	<i>Fulica americana</i>	Amerikaanse meerkoet	Gaitu frente blanku
Southern Lapwing	<i>Vanellus chilensis</i>	Chileense kievit	Kivit
American Golden Plover	<i>Pluvialis dominica</i>	Amerikaanse goudplevier	Lopi dorá
Solitary sandpiper	<i>Tringa solitaria</i>	Amerikaanse bosruiter	Snepi solitario
Upland sandpiper	<i>Bartramia longicauda</i>	Bartrams ruiter	Snepi Bartram
Least Sandpiper	<i>Calidris minutilla</i>	Kleinste strandloper	Snepi chikí
Pectoral Sandpiper	<i>Calidris melanotos</i>	Gestreepte strandloper	Snepi pechu strepia
Wilson's Snipe	<i>Gallinago delicata</i>	Amerikaanse watersnip	Snepi di awa
Groove-billed Ani	<i>Crotophaga sulcirostris</i>	Groefsnavelani	Chuchubi pretu
Yellow-billed Cuckoo	<i>Coccyzus americanus</i>	Geelsnavelkoekoek	Kuku pik hel
Tropical Kingbird	<i>Tyrannus melancholicus</i>	Tropische koningstiran	Pimpiri hel
Fork-tailed Flycatcher	<i>Tyrannus savana</i>	Vorkstaartvliegenvanger	Pimpiri rab'i souchi
Grasshopper Sparrow	<i>Ammodramus savannarum</i>	Sprinkhaangors	Mòfi di sabana
Bobolink	<i>Dolichonyx oryzivorus</i>	Bobolink	Para di aña