

Report on aerial surveys for duck counts in Suriname March 3 and 7, 2000

Two aerial surveys on March 3 and March 7, 2000 have been carried out from the Zoig en hoop airport, Paramaribo in a Cessna Stationar single engine airplane. The survey of March 3rd was carried out along the coast between Walapakreek at 5° 59" North, 54° 54" West and the Nickerie river at 5° 59" North, 56° 59" West. This is a distance of approximately 300 Kilometers. The second survey of March 7th was meant to count ducks on the Afobaka Reservoir and to repeat the observation done at a specific location on March 3rd.

March 3rd Survey

Methodology

Waterfowl observations were spoken into a tape-recorder with approximate positions and then recorded into a note-book as well. Directions were given to the pilot with regard to the flight route and flight altitude. The weather and visibility were good. Flight speed along survey transects was 120 knots while altitude varied between 100 and 300 feet. The flight started at 8:20 am from Paramaribo and went in the western direction to Nickerie. This flight coincided with low tide. The flight route was determined in a manner to survey all lagoons of this particular area and where ducks could be expected. Transects were made by circling over ducks that were disturbed by the aircraft. Transects were also made at areas where ducks were seen or thought to be located. Indeed, most ducks that remained on the ground were likely missed because of their small size and relatively non-distinct coloration in comparison with the background. Therefore, the number of ducks counted could likely be under-estimated. Three hours of total flight time was expended on this survey.

Four observers participated on this survey. The observers included Kris Mohadin of LBB, Otte Ottema of STINASU, Michael Garner of Peace Corps, and Bart Majoor a freelance photographer. The observers counted the ducks individually while the photographer took pictures with a 35mm camera and a 150mm zoom lens of the areas surveyed and made video recordings. This was done through an open window of the aircraft. The individual counts were discussed in an after-action review of the survey.

Background information of the survey area

This flight concentrated on the estuarine zone along the coast belonging to the so-called Young Coastal Plain lying 0-4 meters above sea level and consisting of holocene marine swamp clays (see map). The estuarine zone with a size of approximately 310,000 ha consists of several habitats (ecosystems). These include vast tidal mud flats and extensive mangrove forests, river and creek mouths, scattered sandy beaches, fresh to brackish grass swamps and lagoons, swamp forests, and sand or shell ridges.

The main plant communities in this area are the mangrove forests dominated by *Avicennia germinans*, shallow brackish water swamp with halophytic herb vegetation dominated by *Sesuvium portulacastrum*, *Batis maritima*, or *Sporobolus virginicus*. The brackish short grass swamps in this area are dominated by *Eleocharis mutata*, *Cyprus articulatus*, or *Paspalum vaginatum*. The scattered mangroves in brackish to freshwater grass swamps and tall grass swamps are dominated by *Erythrina glauca* and mixed xero-mesophytic dryland and marsh forests.

This area is characterized by high biological productivity and serves as an important nursery ground for several fish and shrimp species. The area also contains breeding, roosting, and feeding habitat for numerous waterfowl species and is an important feeding area for several migratory bird species, most of which are from the North American region. There are also four nature reserves and one Multiple-use Management Area located within the survey area. Those include:

- The Galipi Nature Reserve (4000ha). Established to protect sea turtles.
- The Wia Wia Nature Reserve (36,000ha). Originally established to protect sea turtles. However, the nesting beaches have completely shifted out.
- The Coppenamemonding Nature Reserve (12,000ha). Established to protect roosting and nesting sites of herons and ibises.
- The archeological Hertenrits Nature Reserve (100ha).
- The Bigi Pan Multiple-use Management Area (68,000ha excluding adjacent sea area.) Established to safeguard its high biological productivity and its function as a nursery ground.

Results of March 3rd survey

Ducks were observed at the following areas;

I. A lagoon at 5° 55" North 55° 54" West in the Coppenamemonding Nature Reserve located near the western border of the reserve. (Hunting is prohibited in the nature reserves) The lagoon has an area of approximately 250ha and is connected with both the sea and the Saramacca River by narrow creeks. The vegetation consists of mainly isolated and scattered small mangrove trees and small grasses. However, the species of the grasses could not be determined.

Blue-winged Teal (<i>Anas discors</i>)	8,000
Black-bellied Whistling Duck (<i>Dendrocygna autumnalis</i>)	1,500
White-cheeked Pintail (<i>Anas bahamensis</i>)	1,500

II. A small lagoon at 5° 57" North, 56° 38" West. Located north of the Hertenrits Nature Reserve in the Bigi Pan Multiple-use Management Area. This lagoon is connected with the sea. Main vegetation is isolated and scattered small mangrove trees and unidentified grasses. The lagoon is difficult to access and some fishing and hunting may take place there.

Black-bellied Whistling Duck	3,000
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III. A small lagoon at 5° 59" North, 56° 42" West. Located northwest of the Hertenrits Nature Reserve in the Bigi Pan Multiple-use Management Area. The lagoon is connected to the sea and with habitat similar to the previous lagoon. Some sport fishing and hunting take place here.

White-cheeked Pintail	500
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IV. A small lagoon at 5° 59" North, 56° 57" West. Located north of the city of NW Nickerie in the Bigi Pan Multiple-use Management Area. This lagoon is known as the Bering Hole and is connected to both

the sea and the Nickerie River. The habitat is almost the same as the previous lagoon. Commercial fishing and sport hunting take place here.

Blue-winged Teal	2,000
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The flight back to Paramaribo surveyed the shoreline mud flats and no ducks were reported.

Duck totals for March 3rd survey

Blue-winged Teal total	10,000
White-cheeked Pintail	2,000
Black-bellied Whistling Duck	4,500

March 7th survey

The pilot was directed to fly along the northern and central edges of the Afobaka Reservoir so that both lake edges and island shore lines could be surveyed. The edges were scarcely overgrown. After spending approximately 50 minutes above the lake and not having identified any ducks so far, it was decided not to survey the entire lake. It was further discussed that we may have missed the stopover of any migrant waterfowl for this period. Only solitary egrets and Cocoi herons (*Ardea cocoi*) have been observed. Methodology was similar to the coastal survey. The reservoir was constructed in 1964 for the generation of hydroelectric energy and is situated 4° 40" North, 54° 55" West. The area of the reservoir is approximately 1250km² and has numerous islands formed by unflooded tops of hills and is littered with dead, upright standing trees. The reservoir has potential as a waterfowl sanctuary in the future as it is made up of many "fingers" full of vegetation and excellent habitat for waterfowl.

This survey saw the addition of two new observers. They include: Marchal Lingaard of LBB and Clyde Dreischor, a student trainee of STINASU.

The repeated survey on March 7th of the lagoon at 5° 55" North, 55° 54" West in the Coppenamemonding Nature Reserve revealed more ducks in the area than previously counted on March 3rd. Those numbers are listed below and increase the total numbers of Blue-winged Teal to 12,000 and White-cheeked Pintail to 7,500.

Blue-winged Teal	8,000-10,000
White-cheeked Pintail	5,000-7,000
Black-bellied Whistling Duck	3,000-5,000
Fulvous Whistling Duck (<i>Dendrocygna bicolor</i>)	1,000

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