
The birds of Grafton Estate, Tobago

By Richard ffrench and Margaret ffrench

Introduction

IT WAS proposed by the National Audubon Society that a population study of the birds of Grafton be made during 1974 – 1975. Grafton has been a privately controlled bird sanctuary for some years. The population study would provide valuable information to assist in the future management of the sanctuary, apart from establishing important data on the avifauna of Tobago, the study of which has hitherto been sorely neglected by comparison with that of the sister-island, Trinidad (ffrench 1975). In this report nomenclature follows standard English usage (ffrench 1973).

Methods

We made monthly visits to Tobago from April 1974 through April 1975; most visits were only for 48 hours, roughly in the middle of each month, but longer stays were possible in April, July, August and December 1974 and in April 1975. After investigating the habitats we established three areas for census, using the belt transect method (Hope Jones 1975), and monthly counts were made. We also made general observations throughout our visits on all species found on the estate and immediately offshore. Trapping by mistnet was regularly undertaken each month, partly to supplement the population study, and partly to provide valuable data on the biology of the birds. Regular notes were also taken on the periods of song and breeding.

Large numbers of visitors frequent the estate from time to time, whose experience and ability as observers of natural history vary considerably. For this reason we decided to discount all information passed on to us by others, and we present here only the results of our personal observations. However, several people helped us considerably in a variety of ways, and they are acknowledged at the end.

Description of Grafton

The estate, comprising some 120 hectares, is situated on the leeward coast of Tobago roughly facing northwest. The southeastern boundary runs along a ridge just over 150 metres high, and from this ridge various small valleys run, some with steep sides, towards the sea. The house itself was built in 1933. It is about 400 metres from the shore, about 60 metres above sea-level, and is reached by a rough, winding road. Originally the estate, like much of Tobago, was under sugarcane cultivation. But from 1912 it became a coconut plantation, with up to 10 hectares under cocoa, while at times tobacco was grown and cattle were occasionally grazed. Since 1963 very little cultivation has been possible, and gradually the coconut trees have become surrounded by secondary scrub with some faster-growing trees and bamboos emerging as high as the palms. In the valleys immortelles (*Erythrina*) can often be found alongside the abandoned cocoa, with trumpet-trees (*Cecropia*) and the Central American

rubber tree (*Castilloa elastica*) especially common. The leguminous *Gliricidia* and the fiddlewood (*Citharexylum*) are also common among the subdominants.

Bamboos have sprung up in enormous clumps on the valley sides, interspersed with spiny palms and hogplums (*Spondias*). Here and there guava (*Psidium*) grows in a more or less stunted fashion, and in the spaces between the larger trees there is much low scrub, sometimes reaching 6 metres in height, with creepers and even cactus to be found. The larger trees often have bromeliads on their branches.

The general impression in 1975 was of a semi-deciduous forest with coconut palms scattered at random. At the height of the dry season in April many trees are completely bare of leaves and an observer can see quite a long way through the trees.

Along the shore is a belt of littoral vegetation with seagrape (*Coccoloba*) predominant among the palms. This is now effectively cut off from the main body of the estate by the new Government road, which runs east-west almost parallel to the shore.

THE BIRDS

Counts by transect

We chose three areas, A, B and C, which were respectively east, west and southeast of the estate house, and which seemed to offer the greatest variety of habitat for the belt transect counts. (We did not consider the shore area suitable for this purpose). B and C were counted in the mornings within an hour of sunrise; A was counted in the evenings within an hour of sunset. The numbers of birds on these evening counts were always significantly lower than those on the morning counts. So on three occasions we also counted A in the early mornings, and found that the numbers of birds very much resembled those of B and C.

On a more thorough investigation of the vegetation of the three areas, we decided that the slight differences were not significant enough to warrant separate treatment of them in this report – a situation borne out by the very similar figures for the different species in each area – so the areas are here combined. We considered each belt to be 100 metres wide with the path bisecting it. Belt A was roughly 1000 metres long, Belt B 800 metres and Belt C 1000 metres, giving a total area of 28 hectares. When counting, we walked slowly and quietly along the path recording every bird seen or heard within 50 metres on either side. Due care was taken to avoid counting the same bird twice. Each count took about 50 minutes. We found that more birds were usually recorded by their call-notes than by sight recognition, owing to the density of much of the undergrowth. So the figures may well be biased in favour of birds which habitually call, or in favour of breeding birds which would be more likely to sing at the time. We did not include those species only seen flying overhead, as not being typical of the habitat, e.g. frigatebird, martin, short-tailed swift.

Continued on Next Page

Table 1 gives the monthly figures for each species counted in the three areas combined. We actually counted for an extra month, in April 1975, so as to check that our counting methods had not changed gradually over the year. The figures for the two Aprils were very similar, with only one species in forty-three showing a really significant difference (for which some other explanation may well be found). The figures may of course be considered minimal, since they include the evening figures of Belt A, and since it is unlikely that we could record all birds present in such a habitat.

From Table 1 the following tentative conclusion may be drawn:—

1). Since there is no reason to believe that the belts counted are atypical of the habitat over the majority of the estate, one might obtain a rough idea of the total numbers of birds on the 120 hectares of Grafton Estate by multiplying the average monthly total for the 28 hectares by 4.3, giving 2064. Even bearing in mind that a few migratory species are included, this is likely to be a conservative estimate.

2). The number of species recorded on the counts for each month is fairly constant, with an average of nearly 36. This should provide a more accurate indicator of the regular presence of the different species than the more casual records of Table 2. Any assessment of the population in future years may be best made by comparison with these figures in Table 1.

3). The relative frequency of the commoner species is clearly established. The Bananaquit is about twice as common as any other species, followed by the White-tipped Dove and Rufous-vented Chachalaca. (Of course, the latter's status is undoubtedly affected artificially by protection and feeding, as are also those of a few other species). The two antbirds undoubtedly thrive in this habitat, but these are both species whose tendency to call frequently may have overweighted their figures in the table by comparison with more silent species. The elaenia and Red-crowned Woodpecker are also conspicuously noisy species.

4). The majority of the species are sedentary, as is indicated by the uniformity of the monthly totals for each species. Some explanations can be found for any exceptions to this rule. (Note. The overall total for the month of October was undoubtedly affected by the overcast weather during much of the count periods in that month; almost all other counts took place in fine, sunny conditions.)

The Eared Dove is known to migrate in some numbers (French 1973), and is commoner in Tobago during the months of June through September, as is shown by our figures. The Fork-tailed Flycatcher is also a migrant, visiting Tobago regularly from southern South America during the June-September period. The Northern Water-thrush is a regular winter visitor from the north.

The migrations and movements of other species are not at all well-known, and our figures may here throw a welcome light on the situation. Sometimes, however, they can be related clearly to the exploitation of an abundant but temporary food supply. Thus Pale-vented Pigeons were present in numbers only during October, feeding on the fruits of certain trees. At other times this species is only found in the higher forested areas of Tobago. The Ruby-Topaz Hummingbird was counted only between February and July, and in July was found to be extremely common as it fed at the flowers of the Fiddlewood. The migration or dispersal of this species and the Black-throated Mango is not at all understood, but it is strongly suspected that they move to the mainland of South America between August and December.

There is a possible significance in the fact that Streaked Flycatchers were only recorded from May through September (though some were also seen outside the belt transects in March and April). While this may merely mean that the species is more conspicuous during its breeding season, there is a possibility that the race *solitarius*, a migrant from southern South America, may be involved.

Similarly, records for the Chivi Vireo are much more consis-

tent from March to July, with only scattered records in August, September, December and January. Here again there is a possibility of two races being present — a hypothesis supported by the trapping data — since a southern migrant may be joining the sedentary local race.

General Observations.

Table 2 shows which species we saw or heard at Grafton each month in the course of general observation. We made no special attempt to find individual species but noted down all the species we encountered, including seabirds offshore and shorebirds on the beach. The totals for January and March are slightly lower because we did not visit the beach during those months.

The table generally confirms and amplifies the findings of the transect counts. 32 species out of 74 were present in every month, and several more were probably present though uncommon enough for us to miss them occasionally, e.g. White-winged Becard and Red-rumped Woodpecker. Records of the Caribbean Martin only from March through October do seem to confirm the theory (French 1973) that this species leaves Tobago, probably for the continent, in the later months of the year.

The Trapping Programme

We trapped birds regularly each month, using three or four mist-nets set in the same positions, except that we changed localities in September. From May to September we set three nets in the valley of Transect A. Then from September to April we set four nets about 300 metres away from this site on a shallow ridge which separates the valleys of Transects A and B. Although this was quite near the estate house, we did not find our results much affected by birds attracted to the feeding stations at the house.

The purpose of the trapping programme was to add a further check to the validity of our census, to band a large sample of birds as a basis for future longevity studies, and to add to our knowledge of the general biology of species by recording weights and measurements, brood patches and moult. All birds were marked, either by U.S. Fish & Wildlife Service bands on species represented in the Banding Manual, or by similar numbered bands bearing the legend "Simla Trinidad" for other species, except that hummingbirds were marked by having a tail feather or two clipped sequentially.

While the number of retrapped birds is too small in most cases to provide data significant to the population survey, the figures do not suggest anything to contradict our transect findings. Certain species, such as the chachalaca, proved difficult to trap by mist-net, and we found that totals of trapped birds dropped off after about two days, since the birds appeared to learn to avoid the nets. However, one month later this lesson was apparently forgotten!

It is not within the scope of this report to detail the findings of the trapping programme. In any case, some data require further corroboration or pose new problems. But among noteworthy items we recorded a new species for Tobago, the Northern Parula, *P. americana*; we also obtained sufficient information from retrapped individuals to give an idea of the rate and timing of moult in the Rufous-tailed Jacamar, Olivaceous and Buff-throated Woodcreepers, White-fringed Antwren and Black-faced Grassquit. Other information may well emerge as we study the data on over 500 individual birds more fully.

Breeding

Since information on the breeding seasons of Tobago birds is extremely scanty, we took every opportunity to study this aspect during our work. All nests were recorded, along with other breeding activity, and the incidence of regular song was tabulated by months for all species regularly found at Grafton (Table 3). A total of 112 breeding records was made, involving 33 species, with another 7 species found to be singing regularly. Another 7 species again almost certainly breed at Grafton, though we did

not find direct evidence of this, so the total of breeding species is probably at least 50. The moult data from the trapping programme corroborated our tentative analysis of the breeding seasons of these species. But further long-term studies of breeding would undoubtedly provide much fuller information. Some breeding activity was found in every month of the year. The main peak, as would be expected, was from May to July; but the secondary peak in December and January was a little later than the corresponding one in Trinidad.

Although many nesting records were mainly valuable in so far as they provided information from Tobago on species well-known elsewhere, the most interesting record was certainly that of the Blue-backed Manakin, of which the nest found in July was the first to be recorded for this race in Tobago, and one of the very few recorded for the species (ffrench 1975). Unfortunately the young were lost to a predator shortly after hatching.

The Feeding Stations

Since this report deals with population, with a view to assisting in the future management of the sanctuary, it is only right to present some facts relating to the artificial feeding of the birds at the house.

Since systematic feeding began, at about the time of the 1963 hurricane, the numbers of birds coming to the feeding places has increased enormously, especially with some species. Of the 14 species we recorded at the tables by far the most numerous were the chachalaca, the Red-crowned Woodpecker, Blue-gray Tanager, Motmot and Bananaquit, with occasional flocks of Shiny Cowbirds.

While the smaller species get some opportunity to feed on scraps, there is no doubt that the crowd of chachalacas, at times congregating up to 100 or more individuals, receive the lion's share of the considerable quantity of food provided daily. The ill effects of this situation are twofold. Firstly, the chachalacas tend to crowd out the other species over long periods by sheer weight of numbers. Secondly and more important, the dependence of the chachalacas on the artificial supply has evidently weakened the population's resistance to disease. There is a high incidence of "scaly-legs", and several maimed birds may be seen in every large flock. Unless checked, this might reach epidemic proportions. Already we have suggested to Mrs Alefounder that she cut down the quantity of food for the chachalacas, so as to allow a more natural balance of population to be established.

We would also point out that it is essential that "sugar water" supplied to nectar-feeders be strengthened by the inclusion of a protein additive, such as Gevral, especially during the breeding seasons of the species concerned. Otherwise fledglings may be fed nothing but sweetened water, with disastrous results.

This report would not be complete without reference to the essential character of Grafton Estate as it has been revealed to many hundreds of people who have visited it to see the birds. It is not only the fact that birds flock to the feeding-tables, where we recorded even such unexpected visitors as the Barred Antshrike and the White-fringed Antwren. Out in the woodland itself, along the paths many birds seem to reveal a more confident character, so that one gets better views than ever before of birds previously seen only at a distance fleetingly. Of course, the very fact that the people who frequent the paths usually move quietly and without menace may have gradually conditioned many birds to accept humanity with less wariness. But for whatever reason, this quality of peace between man and bird at Grafton has been noticed by many people from all over the world.

Another outstanding feature of Grafton which rarely escapes notice is the hospitality shown to all types of visitor by Mrs. Eleanor Alefounder and her brother, Bobby Smith. We have visited places of natural history interest in various parts of the world where the professional staff do their job of making visitors welcome at all times. But none can surpass, in our estimation, the manner in which visitors to Grafton are made welcome, at all times and sometimes on very awkward occasions, whether they be experienced ornithologists with wide knowledge, foreign tourists out to see the "sights of Tobago", or a group of local schoolchildren with neither knowledge nor experience of natural history ideas. All are welcomed, all are shown around, all are made to feel special.

Acknowledgements

We should like to thank Mrs. Eleanor Alefounder for offering us her gracious hospitality at Grafton throughout the study, the National Audubon Society, and in particular Mrs. Bradley Fisk, for sponsoring the enterprise, and Dr. and Mrs. Geoff Gibbs, Peter Hope Jones and Bobby Smith for assisting in various ways; also our children Simon, Jonathan and Julie ffrench for help with the fieldwork.

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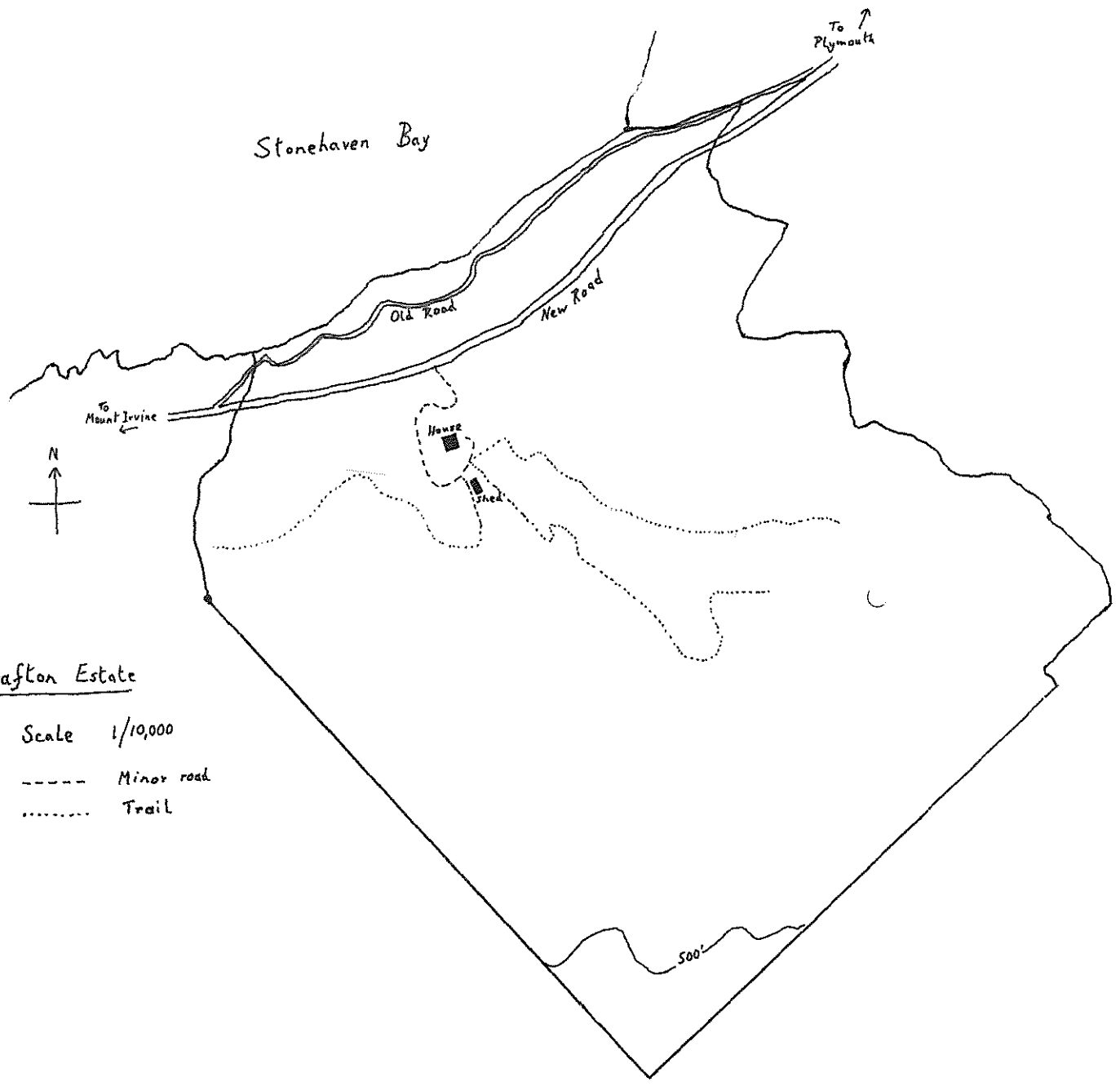
TABLE 1

Numbers of birds counted in three belt transects at Grafton Estate, 1974/75

Species	Ap	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Av. of 12-mth
Green Heron	1								1		1		
Yellow-c. Night-Heron											1		
Broad-winged Hawk	2	1		1									
R.-v. Chachalaca	41	31	42	31	28	48	21	28	27	45	70	57	39
Pale-vented Pigeon							26						
Eared Dove	1		7	8	17	8		2	3				
Ruddy Ground-Dove	6	3	3	8	4	2	2	6	5	2		1	
White-tipped Dove	61	47	51	57	39	66	25	63	64	25	21	27	45
Smooth-billed Ani	1												
Common Potoo	1										1		
White-tailed Nightjar											1		
Rufous-breasted Hermit	1	2	1	1	2	1				5	1	5	
Black-throated Mango	1		3										
Ruby-Topaz Hummingbird	5	6	1	34							5	2	
Copper-rumped H'bird	15	13	12	26	4	16	12	25	13	18	23	15	16
Blue-crowned Motmot	10	15	18	15	12	16	13	4	12	14	7	15	13
Rufous-tailed Jacamar	4	5	8	3	4	4	2	7	9	7	7	9	6
Red-crowned W'pecker	27	26	23	20	23	26	18	20	21	24	25	31	24
Red-rumped W'pecker	1		2		1		2			1	2	4	
Olivaceous W'creeper	1		6	4	2	4	1	4	2	1	1	4	
Buff-throated W'creeper	9	10	14	8	13	9	10	10	10	7	7	8	10
Stripe-br. Spinetail	9	10	13	7	9	9	6	13	14	10	7	9	10
Barred Antshrike	24	36	34	30	40	31	33	46	41	42	43	40	37
White-fringed Antwren	24	28	35	34	29	26	21	32	33	27	38	39	30
White-winged Becard	5	2	2	1	4	3	3	2	3	5	1		
Blue-backed Manakin	11	4	8	7	7	6	1	8	5	7	5	7	6
Fork-tailed Flycatcher				2	14								
Tropical Kingbird	6	8	5	6	10	13	7	4	8	6	4	4	7
Gray Kingbird	2		2	4	6	2		1			3		
Streaked Flycatcher		1	5	7	5	1							
Brown-cr. Flycatcher	7	2	2	3	5	1		6	4	8	3	6	
Fuscos Flycatcher	3	1	1	2	6	6	3	2	6	4	12	5	
Yellow-br. Flycatcher	17	10	13	11	13	16	14	14	9	8	15	16	13
Yellow-b. Elaenia	21	42	32	25	37	32	8	32	29	19	8	12	25
Ochre-b. Flycatcher				5				1					
Rufous-br. Wren	6	7	7	14	10	7	10	10	8	6	13	12	9
House Wren	7	3	5	4	5	9	4	8	6	1	5	5	5
Tropical Mockingbird	1	1	4	6	9	13	20	11	7	9	7	8	8
Bare-eyed Thrush	5	12	15	16	17	18	11	9	12	3	3	7	11
Chivi Vireo	13	14	24	18	4	1			1	1		20	8
Scrub Greenlet	6	8	8	11	6	1	6	8	4	2	9	6	6
Shiny Cowbird	1		3	3	2		3		1		3	1	
Crested Oropendola	4	11	10	12	9	16	5	9	14	18	21	11	12
Northern Waterthrush	3						1	1	2	3		1	
Red-legged Honeycreeper							2						
Bananaquit	67	76	71	50	55	97	46	81	82	99	119	96	78
Blue-gray Tanager	18	21	24	16	12	18	5	5	12	14	16	16	15
White-lined Tanager	2	2	5	2	2			7		2	5	3	
Blue-black Grassquit	7		7	7	8	5	2	1	5	2	4	5	
Black-faced Grassquit	1	3	2									2	
Variable Seedeater	2		1		1						2		
Total species	43	33	40	39	38	33	32	33	33	33	38	35	36
Total individuals	459	455	529	518	474	531	344	480	473	445	519	509	480

TABLE 2
General observations of bird species at Grafton Estate, 1974/75

Species	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar
Brown Pelican	*	*	*		*	*	*	*	*	*	*	*
Brown Booby	*	*	*			*	*	*	*	*	*	
Magnificent Frigatebird	*	*		*	*	*	*	*	*	*	*	
Little Blue Heron	*	*		*	*			*				
Green Heron	*		*	*	*				*		*	*
Yellow-c. Night-Heron	*				*			*			*	
Broad-winged Hawk	*	*	*	*	*				*	*	*	*
R.-v. Chachalaca	*	*	*	*	*		*	*	*	*	*	*
Black-bellied Plover	*					*		*	*	*	*	
Ruddy Turnstone							*	*	*	*	*	
Greater Yellowlegs						*						
Spotted Sandpiper						*						
Sanderling	*					*	*	*	*		*	
Laughing Gull	*	*	*	*	*				*			
Roseate Tern	*	*				*	*	*				
Royal Tern	*	*	*			*		*			*	
Sandwich Tern	*											
Brown Noddy	*	*	*		*	*	*				*	
Pale-vented Pigeon							*					
Eared Dove	*	*	*	*	*	*	*					*
Ruddy Ground-Dove	*	*	*	*	*	*	*	*	*	*	*	*
White-tipped Dove	*	*	*	*	*	*	*	*	*	*	*	*
Smooth-billed Ani	*	*		*					*	*		
Common Potoo	*	*	*								*	
White-tailed Nightjar	*					*	*	*		*	*	
Gray-rumped Swift	*	*	*		*							
Short-tailed Swift	*	*	*	*	*	*	*	*	*	*	*	*
Ruffous — br. Hermit	*	*	*	*	*	*	*	*	*	*	*	*
White-necked Jacobin				*								
Black-throated Mango	*		*	*	*					*	*	*
Ruby-topaz Hummingbird	*	*	*	*	*					*	*	*
Copper-rumped H'bird	*	*	*	*	*	*	*	*	*	*	*	*
Blue-crowned Motmot	*	*	*	*	*	*	*	*	*	*	*	*
Rufous-tailed Jacamar	*	*	*	*	*	*	*	*	*	*	*	*
Red-crowned W'pecker	*	*	*	*	*	*	*	*	*	*	*	*
Red-rumped W'pecker	*	*	*	*	*	*	*	*	*	*	*	*
Olivaceous W'creeper	*	*	*	*	*	*	*	*	*	*	*	*
Buff-throated W'creeper	*	*	*	*	*	*	*	*	*	*	*	*
Stripe-br. Spinetail	*	*	*	*	*	*	*	*	*	*	*	*
Barred Antshrike	*	*	*	*	*	*	*	*	*	*	*	*
White-fringed Antwren	*	*	*	*	*	*	*	*	*	*	*	*
White-winged Becard	*	*	*	*	*	*	*	*	*	*	*	*
Blue-backed Manakin	*	*	*	*	*	*	*	*	*	*	*	*
Fork-tailed Flycatcher				*	*							
Tropical Kingbird	*	*	*	*	*	*	*	*	*	*	*	*
Gray Kingbird	*	*	*	*	*	*		*		*	*	
Streaked Flycatcher	*	*	*	*	*	*						*
Brown-crested Flycatcher	*	*	*	*	*	*	*	*	*	*	*	*
Fuscous Flycatcher	*	*	*	*	*	*	*	*	*	*	*	*
Yellow-br. Flycatcher	*	*	*	*	*	*	*	*	*	*	*	*
Yellow-b. Elaenia	*	*	*	*	*	*	*	*	*	*	*	*
Ochre-b. Flycatcher	*	*	*	*	*	*		*				*
Caribbean Martin	*	*	*		*	*	*					*
Rufous-breasted Wren	*	*	*	*	*	*	*	*	*	*	*	*
House Wren	*	*	*	*	*	*	*	*	*	*	*	*
Tropical Mockingbird	*	*	*	*	*	*	*	*	*	*	*	*
Bare-eyed Thrush	*	*	*	*	*	*	*	*	*	*	*	*
Chivi Vireo	*	*	*	*	*	*	*	*	*	*	*	*
Scrub Greenlet	*	*	*	*	*	*	*	*	*	*	*	*
Shiny Cowbird	*	*	*	*	*	*	*	*	*	*	*	*
Giant Cowbird	*						*	*	*		*	
Crested Oropendola	*	*	*	*	*	*	*	*	*	*	*	*
Carib Grackle	*											
Northern Parula									*			
Yellow Warbler							*					
Northern Waterthrush	*							*	*	*	*	*
Bananaquit	*	*	*	*	*	*	*	*	*	*	*	*



Grafton Estate

Scale 1/10,000

----- Minor road

..... Trail

