



BIRD SURVEY

8-13 AUGUST 1995

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METHODS

Itinerary

DAY 1 (8 AUG 1995) - Arrival 15.00h.; walk in town & on beach.

DAY 2 (9 Aug) - Early morning departure for distal portion of Monkey River SDA (upper Monkey River). Point count stations upriver of trails. Walk along proximal portion of Payne's Creek Trail; point counts taken.

DAY 3 (10 Aug) Northern coastal sampling, including Little Monkey Caye, Great Monkey Caye, Black Creek, Pine Ridge Creek and associated mangrove and broken ridge/pine savanna habitat, and the coastal littoral forest of English Town (once inhabited).

DAY 4 (11 Aug) - Southern Coastal sampling, including Alligator, Moho, Tarpon, and Guanacaste Creeks; also, littoral forest around Alligator Creek.

DAY 5 (12 Aug) - Proximal upriver fish sampling. Also bird surveys.

DAY 6 (13 Aug) - Avian survey on proximal section of Monkey River road (0545-0910). Departure.

Primary resource material for bird species identification included: Peterson & Chalif, 1973; Robins, et al, 1966; Howell, SNG & S Webb, 1995; Garcia et al, 1994; Coffey & Coffey, date unk [tape].

Techniques

1. A series of 10-minute point counts, entailing both visual and auditory detection methods (no tape recordings used), at selected points along the following:

- a) Monkey River
- b) Payne's Creek Trail (to Guanacaste Creek)
- c) Black Creek
- d) Pine Ridge Creek
- e) 2 Pine-ridge/Savanna ground stations, reached along Pine Ridge Creek.
- f) Monkey River Road, from village parking-lot to appr. 2 km westward.
- g) 2 different tall littoral forest stations; at English Town and Alligator Creek.

2. Point count measurements by paces on land; approximate measured length of 1 pace = 75 cm. Stations were somewhat randomly selected along the river. GPS positions were taken by Jan Meerman.

Observations noted en route between selected point count stations. When on land, these locations were noted by paces. On river, they were usually not noted.

3. Slow circumnavigation of the Crown Reserve Little Monkey Caye. Although individual birds were counted, a detailed analysis of the number of nests was beyond the scope of this survey.

4. Circumnavigation of Great Monkey Caye.

5. A walk through the Pine Ridge area at Pine Ridge Creek.

6. Incidental bird sightings reported by other survey team members, from a variety of habitats, including broadleaf forest and guamil (along road).

7. Incidental species not observed by team but reported by residents of Monkey River Village.

8. Sightings reported by BCES (1992) research team not observed by this team.

RESULTS

Biodiversity Surveys

Results of the surveys are presented according to habitat in appendix #. Scientific and local names also appear therein. Though time was insufficient to cover in detail all habitat types for birds, an overview of the SDA was gained.

A total of 129 bird species were detected, using point counts, general opportunistic observations, and voice identification. This compares with 45 species for the previous survey (BCES, 1992), 11 of which were not sighted by this survey. This creates a total of 140 species observed to date; a number which will surely increase with continued research. Many species utilising the SDA's habitats seasonally could not be viewed as they will not arrive until Sept-Nov.

One day of river and TRF sampling (roughly equivalent to the treatment that could be expected from a tour group directed at birding) yielded 70 species. This would be enhanced by tape-recordings of birdsongs, which might serve to attract thicket-dwelling species not ordinarily seen to a tourist group. This would certainly be a good day for most birding tourists.

The trail sampled was Payne's Creek Trail--one of 5 hunting trails recut to promote tourist visitation. Habitat here ranged from guamil to high forest. The section walked was from Monkey River to the upper reaches of the Guanacaste Creek (approximately 1/2 way to a Crocodile Pond at Upper Payne's Creek.). Twelve species were observed only in this habitat. These are: Great Tinamou; Great Curassow; Black-cheeked; Chestnut-coloured Woodpecker; Tawney-winged Woodcreeper; Ruddy Woodcreeper; Olivaceous Woodcreeper; Slaty Antshrike; Dusky Antbird; White-throated Spadebill; Southern House-wren; Grey-headed Tanager.

One half-day of observations along the Road (early to mid-secondary growth), in addition to some reports of incidental sightings by other team members, produced a list of 71 species, 8 of which were not reported elsewhere. These included: Ruddy Crake; White-tipped Dove; Violet Sabrewing; White-necked Jacobin; Violaceous Trogon; Pale-billed Woodpecker; Buff-throated Saltator; Blue-black Grassquit. Habitat along this road included reed marsh with wamil.

Two days along coastal (mangrove, cayes, sandy beach including that near the village, littoral forest, and creek-mouth habitats produced 64 species, (one of these deposited in the wrackline by sea action). Nine species (White Ibis; Osprey; Whimbrel; Semipalmated Sandpiper; Royal Tern; Sandwich Tern; Yucatan Vireo; Yellow Warbler and Mangrove Warbler; Cerulean Warbler) were found exclusively in coastal habitat. One of these (an immature Cerulean Warbler--recognisable by bluegreen feathers on the head with yellow wash ventrally, white tailspots and wingbars) was washed up in tidal wrack, after having evidently dropped into the sea during migration.

Finally, a morning and afternoon in Pine/broken Ridge habitat showed 29 species, 6 (Yucatan Bobwhite; Yellowhead Parrot; White-bellied Emerald; Northern Bentbill; Dusky-capped Flycatcher; and Thick-billed Seed-Finch) of which only occurred there.

On the other side of the spectrum, the species occurring over the

most broad range of habitats was the Spot-breasted wren.

Resource Use Surveys

Several villagers were interviewed regarding use of avian resources. Through this medium a general picture appeared regarding the use of these resources by persons originating from within and without the Monkey River SDA area. Persons consulted to obtain this information include: Eloy Cuevas, David Linares, Clive Garbutt, Marva Garbutt, Lloyd Williams, Alexander Garbutt, Melvin Coleman, Daniel Castellanos, Avington Garbutt, Enid Coleman, Santiago Cuevas.

Three major use categories for birds were identified. These included: food; pets; and tourism. Of these, the lowest impact and the potentially most lucrative is the latter. As a non-extractive activity, tourism offers a means of re-utilising a bird or nesting colony over again instead of shooting or collecting juveniles. At least two guides in the village are studying birds with the intent to guide birds to at least some extent. One has his National Tourguide License; the other is applying. This is a use on the increase in the Monkey River area.

One tourguide, specializing in birds, has stated that the greatest attractions to tourists in his experience are herons and egrets, the larger kingfishers, Montezuma Oropendolas, and the general diversity of bird species along the Monkey River. Additionally, the nesting colony at Little Monkey Caye draws interest. At least one guide from Placencia brings persons to Monkey River for bird observation. This is borne out by the existence of an unofficial list for the area (Vernon, pers. comm)(which could not be obtained - ed.).

The most traditional use is hunting for food. Species hunted most frequently by residents of Monkey River include the Great Curassow (*Crax rubra*) and the Crested Guan (*Penelope purpurascens*). Curassow feathers were noted in the yards of some people. Occasionally smaller birds are taken, including Plain Chachalaca (*Ortalis vetula*), Muscovy ducks (*Cairina moschata*), quail (*Colinus nigrogularis*) and the odd pigeon (*Columba sp*). However, several interviewees ventilated as how they didn't bother with smaller birds, and used their expensive shells exclusively for the larger two species. The fact that this was possible indicates that there is apparently no difficulty in locating these when the need or desire strikes. Nonetheless, at least the Crested Guans were sufficiently cautious to avoid detection by members of this survey team. Great Curassows were observed on one occasion only.

The persons from outside the area who most use the resource in this area are farmworkers on the large citrus/banana plantations located at Mango Farm and CowPen. Roads have apparently been cut

into the forest by farm personnel to facilitate their use of the area.

The pet trade targets Red-lored Parrot (*Amazona autumnalis*); Yellowhead Parrot (*A. ochrocephala*); and Aztec Parakeets (*Aratinga nana*). All young are generally removed from nests during a raid; this results in the aging of parrot populations, and inevitable decline in numbers. The Yellowhead Parrot (*A. oratrix*) was once common but is now reduced in numbers.

DISCUSSION & RECOMMENDATIONS

The birds of Monkey River SDA were observed by point counts along Monkey River, the road, and along the section of Payne's Creek Trail between Monkey River and Guanacaste Creek (215 min total). Other birds were noted between point counts. Birds were either observed directly or heard and identified by voice. No mistnetting was conducted.

This is in contrast with other avifauna surveys in the southern-coastal area (eg, Robbins, 1990, for Stann Creek District). A prior list for Monkey River did not describe methods (BCES, 1992). However, some comparisons can be made.

As might be expected, species numbers for this survey are lower than the mist-net effort (of considerably longer duration (early Jan-late Feb). Undoubtedly mist-netting would reveal a considerable number of secretive deep-forest species, indicated by this survey in numbers of forest birds identified by voice during the Payne's Creek Trail walk.

Numbers of species noted indicate in the short time available that the area contains a relatively rich avifauna. Many aspects of the observed avifauna were deemed to be of value in pursuing a course of environmentally and culturally sensitive tourism.

1) A moderately rich avifauna, containing sufficient diversity of species to attract birding tourists.

2) Large numbers of certain highly visible species with showy habits that attract general natural history buffs to heighten their interest in birds. These species include:

a) Montezuma Oropendola -- a large, colourful blackbird forming spectacular colonial nesting sites in large trees. At least two such nesting colonies are located close to one another (quite possibly they are connected) on *Ceiba petandra* trees within easy visual reach of tourists travelling up the Monkey River. Their GPS data is recorded in Table 1. Another colony, located along the access road on two adjacent Royal Palms, is sufficiently remarkable to warrant notice from even advanced birders.

b) Yellowhead Parrot -- This large, vociferous parrot has become rare in recent years due to depredations by the pet trade. This is because the species is large and learns to mimic human sound easily. A few were observed immediately North of the SDA in Pine Savannah habitat.

It is likely, given the number of Royal Palms (Yellow heads breed in rotting Royal Palms) within the SDA that Yellowheads nest within the area, and, with appropriate protection from pet seekers, will constitute an important attraction to high-grade tourism. Hopefully they will assume a higher value as tourist attractions in the wild than as pets in a cage.

c) White-collared Manakin -- Though these birds are very small, their noisy leks (meeting-places for male birds, where considerable wing-snapping and darting around takes place. Brown, 1990). The noticeable "whirrr" of their wings in flight points out their location to the experienced guide (which profession is growing in Monkey River). There were considerable numbers of these along the Payne's Creek Trail leading to the Crocodile Ponds; at least three were noted.

d) Keel-billed Toucan -- In addition to being the National Bird of Belize, this species for many people exemplifies the "Tropical Rainforest Experience". Along Payne's Creek Trail, considerable numbers were heard calling to one another; a hogplum tree utilised by a pair for nesting is opportunely placed along Monkey River for easy viewing.

Detailed information regarding the locations of these nesting/breeding sites appear in the following Section.

3) The Crown Reserve-status nesting colony is actively used by several species for breeding, as well as a night roost for a large number of Short-billed Pigeons. At the time of the survey, Great Egrets were nesting.

This breeding colony is accessible, highly visible and must be considered an attraction for tourism.

BIRD SPECIES OF CONSERVATION (*) OR OTHER SIGNIFICANCE

Least Grebe: Sighted by the previous team, this species is listed by Garcia et al (1994) as uncommon in SDA habitats.

Anhinga: This species was sighted several times, in several habitats. It is reported to breed on Little Monkey Caye in springtime (Cuevas, pers. comm). Garcia et al (1994) list it as uncommon in Southern hardwood forests. One was sighted a short distance up the Bladen Branch from Monkey River.

Bare-throated Tiger Heron: Listed as uncommon in Southern Hardwood forests by Garcia et al (1994), this species is common

along the Monkey River. At least two nests were sighted, one of them low enough for easy tourist viewing.

*Muscovy Duck: Listed as threatened/endangered by Garcia et al (1994), one of this species was sighted by EC beating a hasty retreat as we approached it along Monkey River. This is no surprise, as this is one of the species reported to be hunted by SDA residents. It is recommended that special attention be awarded this species within the proposed reserve framework.

Great Black Hawk: This species was encountered several times along Monkey River and along the Southern creeks. It is not listed in Garcia et al as occurring coastally; however, in southern Belize, many species not ordinarily associated with coastal avifauna appear along the coast. Some birds normally associated with inland broadleaf forests were mistnetted in mangroves by Robbins et al (1990).

Collared Forest Falcon & Aplomado Falcon: These uncommon (Garcia et al, 1994) falcons were sighted (former) and reported by the previous survey team (latter) in the SDA. They are a treat for birding tourists.

Great Curassow & Crested Guan: These species are legal to hunt in Belize; however, throughout their lowland range in Belize, they are listed as uncommon by Garcia et al (1994). The people of the village stated that these were the two most commonly hunted bird species for food; yet only one curassow was sighted, and no guans. It is recommended that these species also be protected in at least some portion of the Monkey River Forest.

Black-throated Bobwhite: An individual was flushed in Pine Ridge habitat. This species is listed as uncommon (Garcia et al, 1994).

Sungrebe: Several were sighted along Monkey River, including an individual with 3 chicks. Listed as uncommon in Southern hardwood areas by Garcia et al (1994).

Collared Plover: This species is listed as accidental in Belize (Garcia et al, 1994). It was reported by the previous survey team (BCES, 1992).

Semipalmated Sandpiper: Listed as rare in coastal areas by Garcia et al (1994), a small group of this species was sighted on a sandy beach south of Monkey River Village in the vicinity of Alligator Creek.

Pale-vented pigeon: This species is listed as common in lowland savannah; however, it has been sighted in Placencia and Monkey River in mangroves on the coast. Garcia et al (1994) do not record the species in mangrove forest and coastal beach vegetation.

Short-billed Pigeon: Again, Garcia et al (1994) do not list this

species as occurring in coastal areas; however, a large flock of these (and probably also some of the preceding species) spends every night on Little Monkey Caye--possibly as a mechanism to avoid predation by raccoons, which are reported as commonly seen in coastal mangroves. Several hundred of these sleep on the Caye, then disperse into the mangroves (and possibly points further inland) to feed.

White-winged Dove: The pigeon colony utilising Little Monkey Caye for night roosting was identified by a previous survey team (BCES, 1992) as white-winged doves. This survey team observed none of this species; instead, large numbers of Short-billed Pigeons were observed. The early-morning expedition to Pine Ridge Creek revealed considerable numbers of Pale-vented Pigeons mixed in with the Short-bills.

*Yellowhead Parrot: The species is listed as common in coastal savannah; however, the pet trade is reducing numbers in the wild. Garcia et al (1994) list the species as of conservation significance.

White-necked Jacobin: This species was reported feeding in the *Heliconias* by the roadside by Tineke Boomsma. It is listed as uncommon in Garcia et al (1994); it is a showy, large species of hummingbird.

Keel-billed Toucan: One of Belize's premier "charismatic megafauna", the National Bird is listed by Garcia et al (1994) as uncommon in Southern Hardwood forests; several of the species were heard and one seen along Monkey River, where a hogplum tree reportedly hosts a nest in the spring.

Rufous-breasted Spinetail: This species is listed as uncommon in Southern hardwoods; it was common along Monkey River.

Slaty Antshrike: A good look at this individual ascertained its presence in the Monkey River Forest along Payne's Creek Trail. Although Garcia et al (1994) list the species as accidental, Howell & Webb (1995) report it as uncommon to fairly common in Southern Belize.

*Yucatan Vireo: This species is listed as uncommon in Garcia et al (1994). Howell & Webb's (1995) distribution map shows it to be a Caribbean Yucatan coastal endemic, whose distribution does not reach to Southern Belize; however, a thriving population on West Snake Caye shows this not to be the case (McRae, unpub data). A few were heard in mangrove and littoral forest on the coast and on Great Monkey Caye. The species was recommended as requiring attention in the coastal zone (McRae, 1995).

*Cerulean Warbler: Unfortunately the only individual seen of this species was dead; apparently a casualty of migration. The species is an early migrant. The specimen has been kept for reference. Cerulean warblers are listed as of conservation significance due

to a long-term decline of breeding birds, (Sauer & Droege, 1989). They are listed as uncommon in southern hardwood forests by Garcia et al (1994).

*Prothonotary Warbler: Listed as uncommon in Garcia et al (1994), one individual of this species was observed along the road. The species was flagged for conservation significance in Belize by McRae (1995) due to a narrow winter distribution (the Caribbean coast of Central America), which renders them more susceptible to extinction (Reed, 1989); the species has also experienced a 4 % decline since the past 10 years (Sauer & Droege, 1989).

Grey-headed Tanager: The species is listed as uncommon by Garcia et al, 1994). Two were observed at antswarms along the Payne's Creek Trail.

Scarlet-rumped Tanager: A brilliant, showy species listed in Garcia et al (1994) as uncommon; however, several were seen along Monkey River. Attraction for tourists.

Bird Nesting Areas of Interest to High-Grade Natural History-based Tourism

The following bird nesting areas were considered notable and of considerable interest to the tourist targetting Belize's avifauna or general nature study:

1) Little Monkey Caye (UTM 163.422/18.105). This is a small, relatively high (approximately 8m) Red Mangrove caye (in early fruiting stage during visit). Current nesting includes Great Egrets (unfledged young, although nests were too high for a view of the chicks). Late juvenile, and breeder Brown Pelicans were also around. Brood sounds (the scraping noises made by juvenile birds) were continuous.

On the morning of August 10, 1995, 21 Brown Pelicans were observed. most of them were perched on the southeast side of the island. Most Great Egret activity was centred on the western end of the Caye. More than 25 of these were noted 10 Aug; \geq 18 more were roosting on the mangroves directly across from the island (around the mouth of Black Creek). Four Anhingas were perched at treetop level in the Great Egret area. This species is reported to nest at LMC commencing around May. a few are still routinely sighted at the Caye. Yellow-crowned Night Herons are also reputed to nest on LMC; however, no time-frame was reported.

On 12 Aug a disturbance was noted at LMC in the afternoon. Birds were continually rising and taking to the air in the South-central portion of the Caye. Eloy Cuevas reported that fishermen utilise this island to soak new lobster traps prior to setting them. This is obviously a strong disturbance factor and should be curtailed. There exists considerable area away from nesting birds to soak lobster traps.

In view of the large amount of input from large-scale agriculture located upstream, long-term information regarding brood success and monitoring numbers of individuals of Great Egrets and other nesters at LMC is essential for determining the amount if any of impact from these sources. It is known that a) many species of birds are susceptible to accumulation of pesticides (eg, Murphy, 1980); b) that Selenium and other soil constituents may concentrate in irrigation runoff to toxic levels, causing death and deformation of chicks; thereby reducing considerably brood success (Bildstein et al, 1991; Williams et al, 1991; Ohlendorf et al, 1989).

2. Montezuma Oropendola nesting colonies: These occurred in two notable (and visible) locations within the research area.

a) Two *Ceiba petandra* trees along the Northern bank of Monkey River containing: approx 70-80 nests. UTM 163.387/18.111
approx 10 nests UTM 163.384/18.114
These were so close as to be probably related.

b) Two adjacent Royal Palms along the access Road:
UTM 163.405/18.106

These colonies are highly attractive to tourists, even if they are not specifically interested in birds. The Oropendola's large size, distinctive colouration, large numbers and humorous aspects of their behaviour combine to produce a strongly positive experience for tourist visitors.

The use of Royal Palms for nesting in Oropendolas has not been seen before by this author. Every previous viewed nesting tree in Belize or eastern Guatemala has been *Ceiba*.

3) Bare-throated Tiger Heron

This large, heavy-billed and attractive member of the heron family nests along Monkey River. A minimum of two nests were in use (late fledglings). The nest positions are known to the local guides; however, GPS was not taken for them. One nest in particular is positioned low in the tree for easy viewing.

Guides should not approach these nest too closely when carrying tourists. Lingering in the area while people attempt close-up shots is dangerous to eggs, which require warmth and protection from the parent bird, and to chicks, which may panic and possibly fall into the river or be eaten by predators before their parents return. A slow pass at approximately 10-20 m should offer opportunities for photography while reducing disturbance impact. Tourists should be warned to be quiet and not shout, laugh or talk loud or move suddenly within 50 m of such a nest.

4) White-collared Manakin

Tiny but attractively coloured and quite distinctively noisy, these birds form leks (aggregations of male birds where considerable jumping from twig to twig and wing-snapping takes place in an attempt to attract females) which can be heard from a surprising distance (Brown, 1990). Several areas were encountered along Payne's Creek Trail and along Monkey River which were presumed to be leks due to the volume of wing snaps and rolls emitted from surrounding forest. Several males were observed along Payne's Creek Trail.

a: Along Monkey River 163.368/18.123

b: Approximately 830 m toward Monkey River along the Paynes Creek trail.

c: Approximately 1 km riverward from the previous lek next to a stream without current that was waded.

Studies of leks in the Monkey River Forest should be undertaken with an eye to ascertaining their tolerance of visitation among other attributes.

GENERAL RECOMMENDATIONS:

1. A large portion of the SDA's forested area should be set aside as some form of Reserve status (cf 1981 Protected Areas Act), with another section set aside for hunting.

2. Financing of wardens would also assist in the fight against the pet trade, currently affecting the Yellowhead Parrot population of the area. It would also help in the alleviation of such problems as hunting birds (and other animals) in areas set aside for strict (non-extractive) use patterns.

3. An effort should be spearheaded by APMR to distribute tourguide licensing information to aspiring (or practising) tourguides in the Village. This should facilitate use of these guide's services. With a small amount of funding, a small monochrome directory of Monkey River's tourguides could be produced. These can be distributed by BTB and (with purchased membership by APMR) in BTIA at international trade shows, if desired.

4. Activities in the area by large-scale foreign interests, such as land speculators and/ or more large banana plantations should be monitored and controlled fully. New activity in the area should be prohibited.

5. A Management Plan for Little Monkey Caye should be devised, preferably proscribing the current habit of placing lobster traps to soak in the mangroves just below nesting and/or roosting birds.

6. A return to the Monkey River SDA of the present survey team in January or February would undoubtedly lengthen the birdlist, as

well as potentially augmenting the fish list as well. Another 4-6 days would augment existing biodiversity information considerably.

7) Detailed studies should be undertaken of the sequential nesting aspect of LMC. Numbers of nests, times of nesting activities for each species, rate of success of broods, and degree of interaction between species are some of the data needed.

8) The waters surrounding LMC (and over the adjacent reef) require monitoring. Such information is essential for the future of the breeding birds as well as the coral reef.