

Following extracted Environmental Sector Report Development Order

ST. JAMES

Bats and Caves

One hundred and nineteen caves/sinkholes have been recorded for the parish of St. James (Fincham 1997 and Jamaica Caves Organization) (Appendix XIII). Of this 26 have been confirmed as bat cave roost by both the National Environment and Planning Agency and the Jamaican Caving (Table 6 and Figure 29).

Table 1. Reconfirmed Caves Identified as Bat Roost by the Jamaica Caves Organization

Location	Name of Cave	Type of Cave
Cambridge Cave	BIG BOTTOM CAVE	Dry passage
Endeavour Glade	MAFOOTA RIVER CAVE	Stream passage
Flamstead	COOLGARDEN CAVE-4	Stream passage
	COOLGARDEN CAVE-2	Stream passage
	COOLGARDEN CAVE-3	Stream passage
	COOLGARDEN CAVE-1	Stream passage
Jericho area	McKENZIE CAVE	Chamber cave
Maldon area	MALDON SCHOOL CAVE	Stream passage
	PETERKIN CAVE	Stream passage
	ROTA CAVE	Stream passage
Maroon Town area	SCHAW CASTLE CAVE	
	THOMPSON'S CAVE	Chamber cave
	YOUNG GULLY CAVE	Wet passage
Mocho area	MOCHO CAVE	Dry passage
Montego Bay	SEWELL CAVE	Chamber cave
Moreland property	MARROW CAVE	Dry passage
	MARROW CAVE 2	
Mount Horeb area	FREE MOUNTAIN CAVE	Dry Passage
Niagara River area	NODEWOOD CAVE 2	Labyrinth
Point area	SUMMERHILL CAVE-2	Stream passage
Schaw Castle	JACKSON YOUNG'S CAVE	Stream Passage
Springvale	ROCKY ROAD CAVE	
Spot Valley	DOVER CAVE	Chamber Cave
Vaughansfield	RUDIST ROCK CAVE	Stream passage
Welcome Hall area	WELCOME HALL CAVE	Stream passage
Windsor Castle	WINDSOR CASTLE CAVE	Wet passage

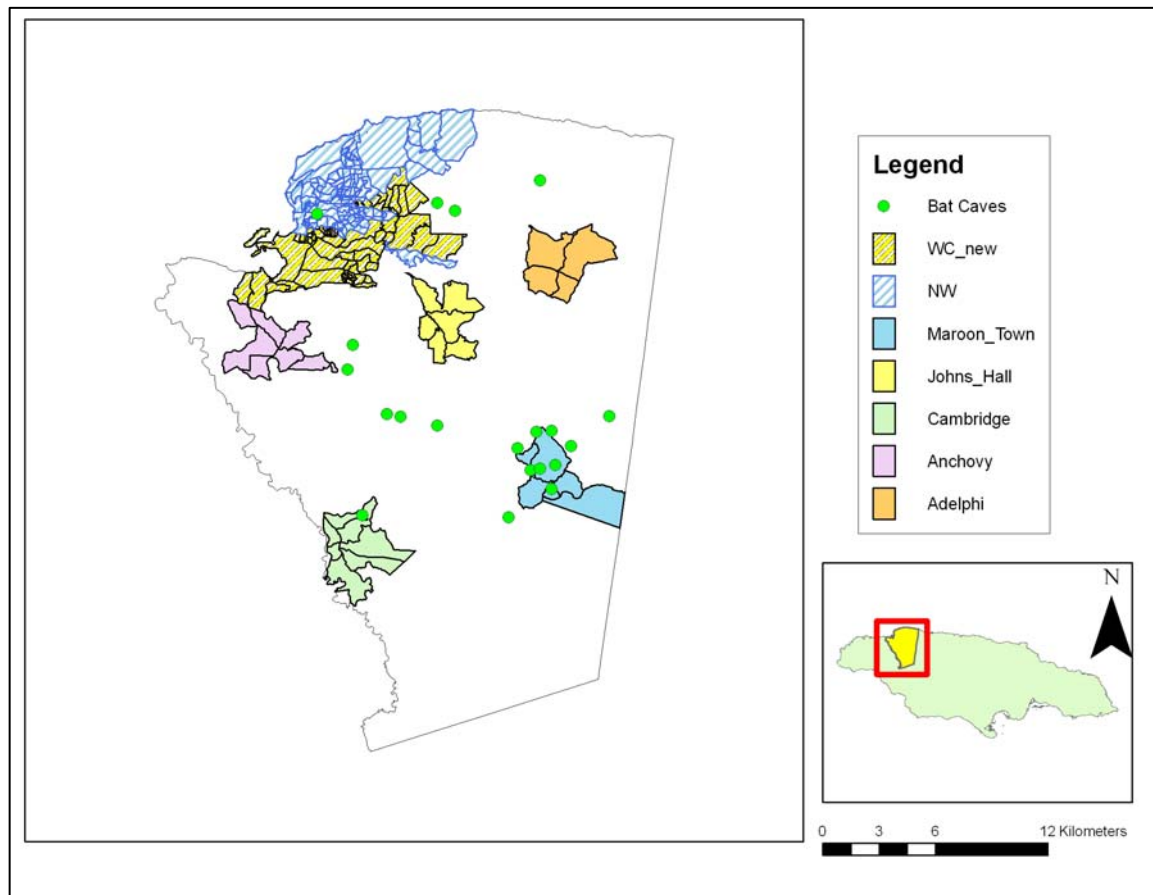


Figure 1. Location of caves within St. James confirmed as bat habitat along with the Growth Centres

The Jamaica Caves Organization was also asked to provide additional information on the St. James caves. The Organization has noted 17 caves require conservation/protection measures due to their biological and hydrological importance. These includes Coolgarden Cave 1, 2, 3 & 4; Jackson Young's Cave, Lemy River Rising, Lemy River Flood Sink, Mafoota River, Cave, maldon School Cave, Mocho Sink Cave, Peterkin Cave, Roach Cave-Cup & Saucer Cave, Roehampton School Cave, Rota Cave, Rota Siink, Rudist Rock Cave and Vaughansfield Cave. They also noted that guano mining and tourism (using kerosene torch) have had an effect on the bat population, especially guano mining which has been associated with a reduction of bat numbers in caves know historically to have large populations. One such example is Mocho Cave.

Based on historical records on the work conducted in 2009, a total of thirteen bat species have been recorded in the parish (Table 7). Only endemic subspecies were recorded for the parish with one

species considered to be rare (*Chilonatalus micropus*) however due to the limited number of caves assessed for bat species it is difficult to say the importance of the parish for Jamaica's bat population.

Table 2. Bat Species Recorded for the Parish of St. James between

Scientific Name	Common Name	Recorded site
<i>Molossus molossus melleri</i>	Pallas' Mastiff Bat	Big Bottom Cave
<i>Pteronotus macleayii gries</i>	Macleay's Mustached Bat	Providence Cave
<i>Artibeus jamaicensis</i>	Jamaican Fruit Bat	Schaw Castle Cave Dover Cave Cambridge Seven Rivers Cave Providence Cave
<i>Eptesicus lynni</i>	Big Brown Bat	Big Bottom Cave
<i>Mormoops blavillii</i>	Antillean Ghost-faced Bat	Marrow Cave Rocky Road Cave Montego Bay (maybe from Sewell Cave)
<i>Pteronotus quadridens</i>	Sooty Mustached Bat	Rocky Road Cave
<i>Chilonatalus micropus</i>	Cuban Funnel-eared Bat	Rocky Road Cave Montego Bay (maybe from Sewell Cave)
<i>Tadarida brasiliensis murina</i>	Brazilian Free-Tail	Big Bottom Cave Seven Rivers Cave Montego Bay (maybe from Sewell Cave)
<i>Pteronotus parnellii</i>	Parnell's Mustached bat	Marrow Cave Rocky Road Cave Providence Cave Sewell Cave
<i>Macrotus waterhousii jamaicensis</i>	Mexican Big-eared bat	Sweetwater Cambridge Seven Rivers Caves Providence Cave Montego Bay (maybe from Sewell Cave)
<i>Glossophaga soricina antillarum</i>	Long-tongued bat	Montego Bay (maybe from Sewell Cave)
<i>Monophyllus redmani redmani</i>	Leach's Long-tongued Bat	Seven Rivers Cave
<i>Erophylla sezekorni syops</i>	Buffy Flower Bat	Providence Cave Montego Bay (may be from Sewell Cave)

ST. CATHERINE

Bats and Caves

One hundred and twenty-five caves and sinkholes have been registered for the parish of St. Catherine (Fincham 1997) (See Appendix-Table 4.3.5.1). Of this number thirteen have been described as bat roosting sites; the majority of the bat caves are located in the north western sections of the parish in areas such as Lluidas Vale, Tydixton, Dodds Valley and Crofts Hill. In addition to the caves, bats have been recorded in areas without caves and could have been using manmade structures (railway

tunnels, roofs of residential homes and churches) as their roost. One of the most important caves in terms of bats is the St. Clair Cave in Ewarton which has one of the largest population and diversity of bats in Jamaica. It is the home to thirteen of Jamaica's twenty-one bat species inclusive of one endemic, *Phyllonycteris aphylla* and *Natalus stramineus* which is restricted to only three caves in Jamaica.

In the parish, nineteen of the twenty-one bat species (including four endemics) have been recorded parish. Included in the nineteen are the rare species *Eumops glaucinus*, *Natalus micropus*, *N. stramineus* (Plate 19) and the rare endemic *P. aphylla*

Figure 4.3.5.1 shows the location of the bat caves in relation to the growth centers and distribution of bat species in the parish. While only one cave with bats is noted from the southern St. Catherine region in the Hellshire Hills area, note that several species have been recorded in that area.



Plate 1. *Natalus micropus* (*Cuban Funnel-eared Bat*)

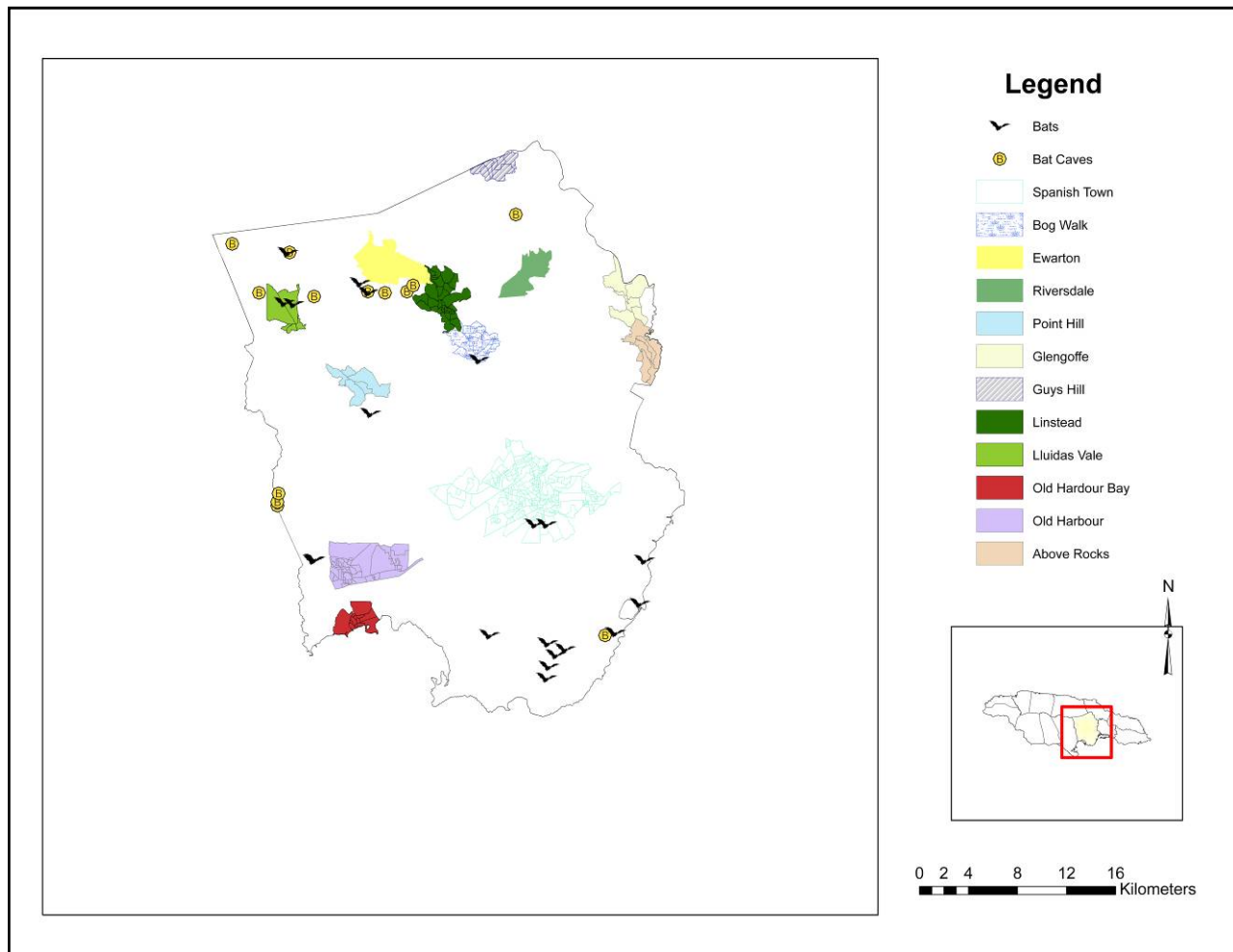


Figure 4.3.5.1 A map illustrating the location of bat caves and bat species detected in relation to the growth centers.

ST. JAMES

Bats and Caves

Only seven caves are confirmed within the parish of St. Thomas (Figure 21). These are as followed:

- Banana River Cave, Banana River area
- Rowe Cave, Rowlandsfield (dry shelter, 180m south of Cole Cave)
- Cole Cave, Rowlandsfield (a dry passage)
- Ratbat Hole-1, Lumsden
- Ratbat Hole-2, Lumsden, 36m west of #1
- Style Hut Cave, Port Morant district
- Creighton Hall Cave, White Horses area and Cambridge Hill Caves, Cambridge Hill (chamber caves), two caves with Amerindian artefacts; Botany Bay Cave, Grants Pen area, could be the same as Cambridge Hill Cave; Greenvale Cave, White River]

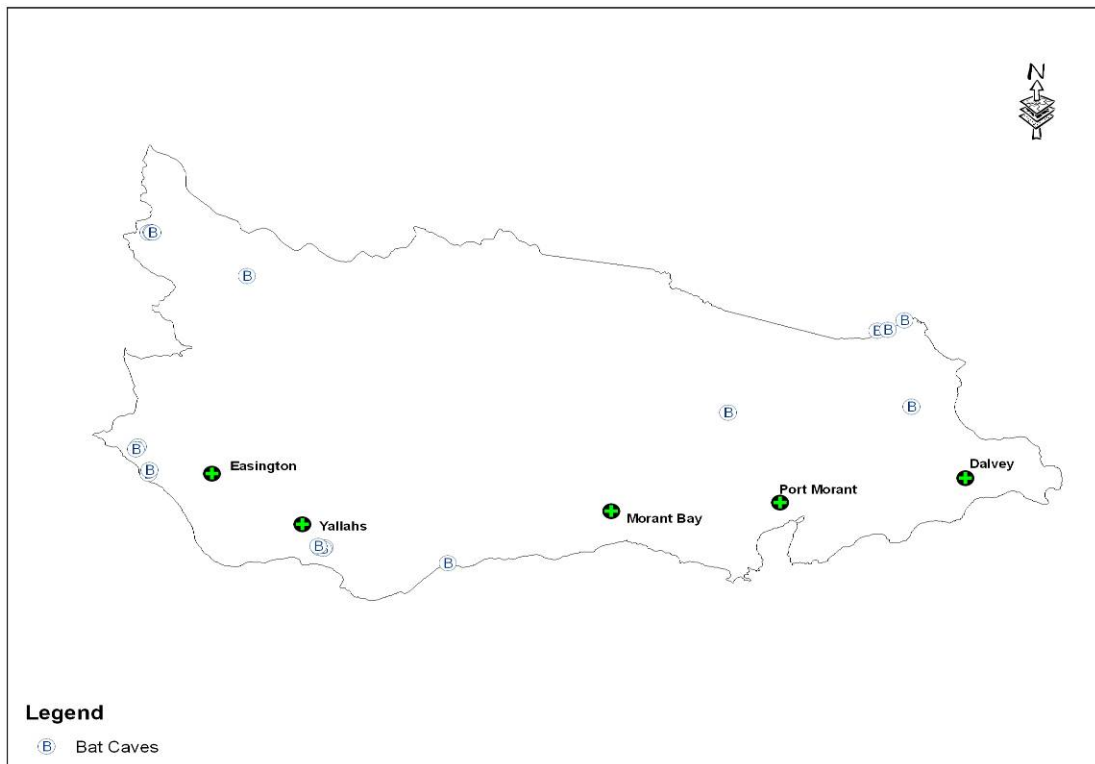


Figure 2: Cave locations with reported bat populations

Davalos and Erikson (2003) on their assessment of the Ratbat Hole Cave in Botany Bay, St. Thomas reported the presence of *Pteronus parnellii*, *Monophyllus redmani*, *Erophylla sezekorni* and *Artebius jamaicensis* in December 2001. This cave is likely also known as Creighton Hall Cave. Surveys of the Rat Bat Hole/Creighton Hall Cave in 1997 and 2010 have revealed the presence of the rare species of bat, *Erophylla sezekorni*. Other species recorded in the parish bat surveys by the National Environment and Planning Agency includes *Macrotus waterhousii*, *Glossophaga soricina*, and *Noctilio leporinus* (Figure 22). Bats are also reported as present in the Blue and John Crow Mountains National Park however little research has been done in that section of the island¹.

¹ (<http://www.greenjamaica.org.jm/content/home/detail.asp?iData=377&iCat=283&iChannel=2&nChannel=Articles>).

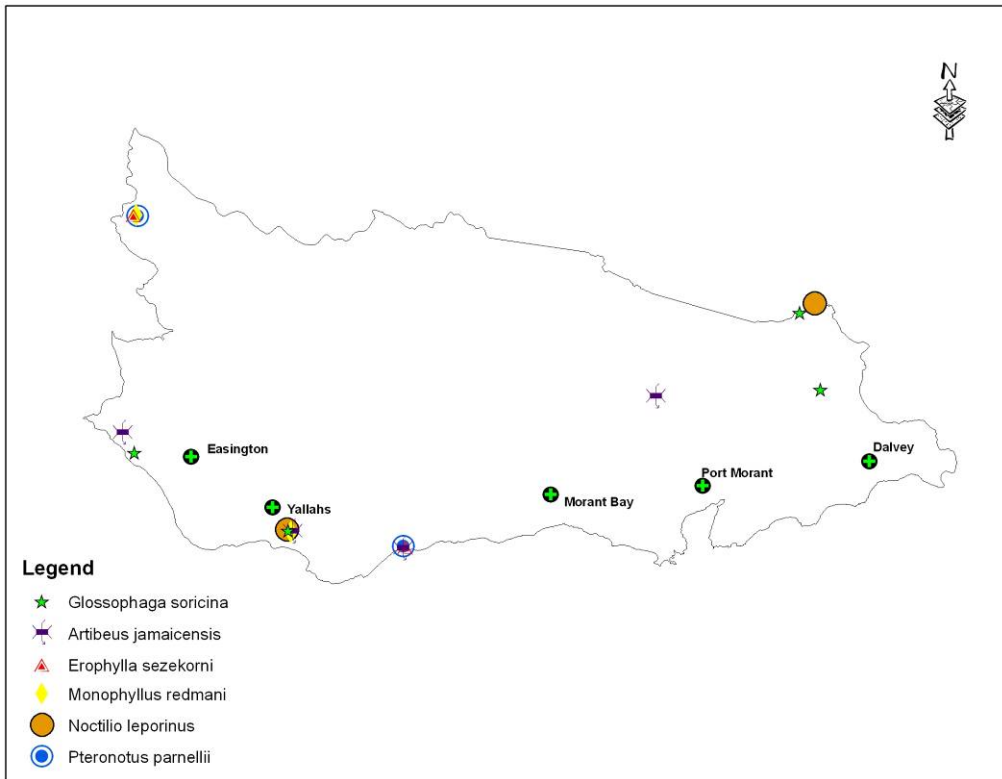


Figure 3: Location of Bat Species Recorded in St. Thomas