The Caves of Portland Bight, Jamaica

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February, 2013

Abstract

A summary of known speleological sites in the area of Portland Bight, including Portland Ridge and the Hellshire Hills, with recommendations for further research to establish a baseline dataset and a framework for systematic monitoring. Prepared for: The Caribbean Coastal Area Management Foundation (C-CAM),

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1: Overview:

The caves of Portland Bight can be broadly separated into two groups: Portland Ridge and the Hellshire Hills. The former group, Portland Ridge, has been more thoroughly investigated than the latter by various research organizations over the last several decades, although open questions remain and the baseline dataset is incomplete. However, it is probable that the majority of the sites in the area are at least known and described to some degree. Conversely, the caves of the Hellshire Hills have far less information listed, and it is likely that a number of sites have not been included in the existing Cave Register (as evidenced by secondhand reports by researchers in other fields of caves found that do not appear to be listed, and have not been explored, mapped, or assessed). The factors involved in establishing a complete dataset follow:

1.1: Positional Accuracy:

The most important part of a dataset for a cave is an accurate position. If a listed site cannot be found, or positively identified in a district with many similar caves, any other recorded historical data is essentially useless. In the current Register, only 321 of the 1,237 listed sites have accurate (+/- 10m) coordinates given, all obtained by the JCO since May 2000 when Selective Availability was removed from the American global navigation satellite system, GPS. Of those, some were found to be hundreds of metres from the positions stated in the earlier version of the Register as found in the second edition of Jamaica Underground (JU). Of the 321 GPS sites, only 5 are in the Portland Bight area.

Fortunately, most of the caves in the Jackson’s Bay area have been well-surveyed, and an area map exists which plots the individual surveys. The JCO has used GPS positions recorded for 8 entrances, at 3 caves (Jackson’s Bay Great Cave, Potoo Hole, and Water Jar Cave), to partially georeference the area map, although all 3 caves are in the western section. Hence, the referencing is best on the west side, and degrades due to extrapolation on the east. However, with the addition of several points to the east, the remainder of the cave entrances can be plotted on the referenced area map, and then located in the field without a great deal of trouble.

The situation for the north side of Portland Ridge is not as good. A number of caves are listed, but there is no area map, and the JCO does not have GPS positions for any of them. The caves, at this time, cannot be readily located by someone who has not been there before. If a researcher hires a local guide, it is doubtful that the guide will be familiar with all of the caves and be able to take someone to the site they actually seek or systematically visit every system. Rather, they will be taken to whatever caves the particular guide knows of that are easiest to reach.
The situation in the Hellshire Hills is similar to the north side of Portland Ridge, and GPS-derived coordinates for the caves have not been entered into the Register. Some researchers know the location of certain caves, other researchers know of other caves, but there is no searchable record for all of them.

1.2: Baseline Data

The current version of the Jamaica Cave Register consists of a large database that includes columns for position and associated accuracy, bat occupation, invertebrate diversity, hydrological status, archaeological evidence, climate, external land-use, guano deposits, introduction of trash, vulnerability, as well as other factors. It can be easily filtered to suggest potential target sites for researchers in a variety of fields, and to establish conservation priorities.

The summary that follows this overview presents the current knowledge for the listed sites in the Portland Bight area as received from AG Fincham in Jamaica Underground 2nd edition (JU), plus JCO records for Jackson’s Bay Great Cave, One Brother Cave, Potoo Hole, Two Sisters Cave, and Water Jar Cave. Although there is information recorded for various aspects of many of the sites, the dataset is very incomplete. This, in addition to the difficulty finding and identifying the sites as described in section 1.1, means that as of 2013, no one can say exactly what comprises the cave component of Portland Bight other than that it is recognized that there are a number of important sites in the area. Overall, it is an unknown.

1.3: Maps

Two maps follow that plot most of the known caves. The positions are from JU, in which the coordinates are rounded to the nearest 100 metres using the JAD69 projection. In addition, as noted in Section 1.1, initial accuracy was poor. The maps only serve to indicate the general area where the sites are located.

Map 1: The caves of Portland Ridge.

Map 2: The caves of Hellshire.
2: Summary of registered caves in the Portland Bight area:

The following list presents the known information for the caves in the Portland Bight area as received from JU, the Annotated Bibliography in JU, and JCO records. It does not include positions - for most of the sites, they are untrustworthy and offer only general guidance on site locations. For reference, they have been included in the preliminary Portland Bight database found in Appendix 2, although it must be stressed that they will be of minimal use in the field.

2.1: Arrow Cave

Jackson's Bay
Positional accuracy: Poor
Depth: 20m
Length: 49m
Type: Chamber cave
Explorers: Jamaica Caving Club (JCC), 1978
Surveyed: JCC

From JU: A low bouldery opening gives access to a sloping chamber which narrows to a squeeze leading into the bottom of the Arrow Pit; a 10m shaft open to the surface. A descent over rocks and stalagmite flows ends in a choke.


2.2: Bilbo's Cave

Jackson's Bay
Positional accuracy: Poor
Depth: 3
Length: 115
Type: Dry passage
Explorers: JCC, 1982
Surveyed: JCC

From JU: A north-facing entrance located a few metres east of Lloyds Cave. Entrances 2 and 3 in a prominent collapse feature beneath a large overhang. A wide chamber with many formations becomes low and narrow and opens into a dry, guano-filled chamber. The cave is essentially an isolated extension of the Lloyds Cave system.

2.3: Birdstand # 3 Hole

Taylor’s Hut area
Positional accuracy: Poor
Depth: 11
Length: N/A
Type: Simple shaft
Explorers: Claremont-McKenna College – American Museum of Natural History (CMAM), 1995
Surveyed: N/A

From JU: A choked vertical shaft located just beyond birdstand #3 on the NW side of the Taylor’s Hut pigeon shooters trail. [Unknown if the birdstand still exists as of 2013 – RSS.]

2.4: Birthday Cave

Jackson's Bay
Positional accuracy: Poor
Depth: 21
Length: 185
Type: Complex chamber
Explorers: JCC, 1966
Surveyed: JCC

From JU: An impressive collapse-feature located at the NW end of the Jackson’s Bay Cave (JBC), #7 Entrance collapse-feature. A sloping descent to a complex dry boulder chamber with some good formations. Ascent of the boulders to the SW leads to a crawl over collapsed slabs and a further large complex chamber with good formations and a little guano. Contains a small bat colony.

Also: [Ref 1]

2.5: Blind Eye Holes

Jackson's Bay
Positional accuracy: Poor
Depth: 11
Length: N/A
Type: Choked shafts
Explorers: JCC, 1977
Surveyed: N/A

From JU: Located about 300m north from JBC Entrance #7. Three shafts of 10m, 8m, and 6m all end in chokes. These lie beyond the known underground extent of JBC.

2.6: Boarwood Cave

Jackson's Bay
Positional accuracy: Poor
Depth: 12
Length: 122
Type: Complex cave
Explorers: JCC, 1978
Surveyed: JCC

From JU: Located in a shallow tree-filled collapse about 50m ESE of Drum Cave Entrance #2. A one metre drop to a tight 3m pitch and a squeeze into a 20m long chamber with good formations. Descent of a slope and a
crawlway lead into a sediment-floored chamber with a low arched roof. A further crawl near the entry to this chamber ends at a boulder collapse lying beneath the surface depression.

Also: [Ref 1]

2.7: Bone Pit Hole

Jackson's Bay
Positional accuracy: Poor
Depth: 2
Length: N/A
Type: Choked shaft
Explorers: JCC, 1978
Surveyed: N/A

From JU: Located on the track leading to JBC Entrance #1. A shallow overhung pit with some animal bones on the floor.

2.8: Bridged Shelter Cave

Jackson's Bay
Positional accuracy: Poor
Depth: 2
Length: 6
Type: Choked cave
Explorers: JCC
Surveyed: N/A

From JU: A small choked collapse cave located just beside and west of the Jackson’s Bay shooters trail, some 160m from the road. Mapping of the Potoo Hole suggests that this site may be a choked entry to the system.

2.9: Corner Cave

Jackson's Bay
Positional accuracy: Poor
Depth: 6
Length: 60
Type: Chamber cave
Explorers: JCC, 1978
Surveyed: N/A

From JU: In an area of obvious collapse breakdown some 50m WSW of Water Jar Cave. Two small entrances lead down to two interconnected sediment floored chambers. Floor levels suggest possible connections with both Water Jar Cave and the Molehole series of Drum Cave. Fragments of Amerindian cassava griddle noted.

Also: [Ref 1]

2.10: Crab Cave
Jackson's Bay
Positional accuracy: Poor
Depth: 6
Length: 20
Type: Dry passage
Explorers: JCC, 1971
Surveyed: JCC

From JU: located to the east of the Red Route track, just before it descends into Boulder Glade. A large overhung collapse-feature contains a short choked passage and a small chamber.

Also: [Ref 1]

2.11: Creeper Cave

Jackson's Bay
Positional accuracy: Poor
Depth: N/A
Length: 20
Type: Chamber cave
Explorers: JCC, 1978
Surveyed: N/A

From JU: Located in the north wall of the Butterfly Glade (the exit glade for Somerville Cave entrance #2). A large chamber open to daylight has a flat silt floor.

Also: [Ref 1]

2.12: Daley’s Bone Caves

Portland Ridge
Positional accuracy: Poor
Depth: 15
Length: 60
Type: Choked chambers
Explorers: JCC, 1978
Surveyed: N/A

From JU: Located just to the east of Daley’s Cave Entrance #1, and at a slightly lower level. Three small north-facing caves containing Amerindian pottery shards and human and animal bones.

2.13: Daley’s Cave

Portland Ridge
Positional accuracy: Poor
Depth: 30
Length: 512
Type: Dry passage
From JU: On the north side of Portland Ridge, approached by a steep track leaving the road on the south side, about 680m west of the turning Portland Caves. Entrance #1 is located in a loose collapse with thatch palms. Descent of a slope of loose debris leads at right angles into Straightway; a spectacular fossil trunk passage, 295m long. East, the way closes down to stalagmite blockages at a sometimes drafting hole. West, the passage ends at a fractured rock wall with extensive dry formations. 45 metres from the west end, on the north side, a boulder-filled way leads into a passage parallel to Straightway and daylight at Entrance #2. Curtain Chamber can be reached through the boulders near the junction with Straightway. Human bones found in the debris below Entrance #1 are probably not Amerindian. Difficult to find. Guide advised.

2.14: Drum Cave

Jackson's Bay
Positional accuracy: Poor
Depth: 15
Length: 610
Type: Dry passage
Explorers: JCC, 1978
Surveyed: JCC

From JU: Parts of Drum Cave overlie the main Jackson’s Bay Cave passage, but no connection appears to exist. The Bone Hall – Brown Dust area was excavated paleontologically by the CMAM expeditions in 1993 – 1996. Recovered material is lodged at the American Museum of Natural History, NY. Fossil guano from surface deposits in the Brown Dust Passage has been C14 dated to 10,050 +/-70BP (McFarlane: unpublished).

Also: [Ref 1]

2.15: Duck Pond Sinkhole

West Hellshire
Positional accuracy: Poor
Depth: 37
Length: N/A
Type: Simple shaft
Explorers: Unknown
Surveyed: N/A
Synonym: Duck Pond Ginger Hole

From JU: To the north of the Ginger Holes in the west Hellshire Hills. A wide circular shaft visible on air photographs. No exploration recorded.


2.16: Ginger Holes
West Hellshire
 Positional accuracy: Poor
 Depth: 30
 Length: N/A
 Type: Collapse feature
 Surveyed: N/A

From JU: Three large and steep-sided depressions, some 120-150m across with shallow pools of water. Wild ginger grows here.

Also: [Ref 2]

2.17: Goat Cave

Jackson's Bay
 Positional accuracy: Poor
 Depth: 20
 Length: 45
 Type: Cave to a shaft
 Explorers: JCC, 1977
 Surveyed: JCC

From JU: Two boulders form an archway entrance into a sloping chamber ending in an excavated squeeze into a horizontal gallery with a 10m deep pit in the floor. This passage chokes at both ends and the shaft floor is a choke of boulders and earth. Human bones and pottery shards present.

Also: [Ref 1]

2.18: Goat Island Cave

Great Goat Island
 Positional accuracy: Poor
 Depth: 20
 Length: 30
 Type: Shelter cave
 Explorers: JCC, 1964
 Surveyed: JCC

From JU: A short through passage located close to the trig point on the summit of Big Goat Island. Anthony refers to a cave being on Goat Island, but it is unclear if this reference was to Big or Little Goat Island.

Also:
Anthony HE (1920) Daily journal of an expedition to Jamaica; Nov 18th 1919 – Mar 19th 1920. Unpublished MS held by Department of Mammalogy, American Museum of Natural History, NY, 199p and map of the island. [Ref 3]
2.19: Governor’s Cave

Hellshire
Positional accuracy: Poor
Depth: 12
Length: 30
Type: Collapse feature
Surveyed: N/A

From JU: A large depression about 600m west of Pumphouse Hole-1. A steep descent leads to a small overhang and a pool. Opposite, a small chamber opens into an area of crawls and boulder chokes. Pottery shards present.

2.20: Gravel Bay Caves

South Portland Ridge
Positional accuracy: Poor
Depth: N/A
Length: N/A
Type: Chamber caves
Explorers: Unknown.
Surveyed: N/A

From JU: Four small caves are reported by McGrath BRG (1950) as being, Southeast of Sandy Bay to Gravel Bay, and then north to an old house site.

2.21: Half Moon Bay Caves

East Hellshire
Positional accuracy: Poor
Depth: 15
Length: N/A
Type: Cave with a pool
Explorers: JCC, 1974
Surveyed: N/A

From JU: A bouldery descent to a deep pool of still clear water. At least six similar, but smaller, sites exist between this cave and the road.

2.22: Hellshire Lake Cavern

West Hellshire
Positional accuracy: Poor
Depth: 25
Length: 75
Type: Cave with a pool
Explorers: JCC, 1972
Surveyed: N/A

From JU: About 60m west of Hellshire New Caves collapse feature, slightly downhill. An insignificant depression has a small entrance hole opening onto a ledge above a large cavern. A descent of some 25m ends at the shore of a deep lake 18m wide and extending for over 45m. The roof is about 15m above water level with a small lighthole. Water, brackish, with extensive deposits of calcite ice.

Also: Jamaica Caving Club (1972) Cavern discovered in Hellshire. Daily Gleaner, December 8th. An account of the discovery of Lake Cavern in West Hellshire. [JU/244]

2.23: High Dome Caves

North Portland Ridge
Positional accuracy: Poor
Depth: 37
Length: 200
Type: Chamber caves
Explorers: Unknown
Surveyed: AH Edwards, 1942

Synonyms: Portland Caves 3-5

From JU: A large dry domed chamber has two lightholes in the roof and a second, steeper, collapse-feature entrance to the east. Two small grottoes, on the north and south sides, the former with extensive concretations. A higher level series of passages (High Dome Upper) open in the south wall can be reached by a further upper entrance. A separate large through passage (High Dome Upper –West) exists just to the west of the entrance to the upper cave.

Also:
Bengry RP & Lewis CB (1941) Portland Ridge Caves, Natural History Notes (Jamaica), 74. [Ref 4]

2.24: Horse Cave

Salt Island Lagoon
Positional accuracy: Poor
Depth: N/A
Length: N/A
Type: Shelter cave
Explorers: JCC, 1964
Surveyed: N/A

From JU: A large, partially flooded, shelter cave on the NE shore of the lagoon. Two caves at this site.

2.25: Jackson’s Bay Cave

Jackson’s Bay
From JCO: The cave currently (2013) has bat numbers estimated at over 10,000 roosting in both the “Old” and “New” sections of the cave. Troglobytic invertebrates are well represented. The endemic cave frog Eleutherodactylus cavernicola is present (studied by Iris Holmes, assisted by the JCO). A fish was observed in the New section of the system beyond the “Lead-On-Crawl” (not collected), the origin of which is a mystery (there are no surface rivers or ponds, and the water in the cave is only slightly brackish). Thick deposits of guano are found in several parts of the site making the system a candidate for palaeoclimatic studies. Amerindian petroglyphs are located inside Entrance #3. Relatively large areas of the floor between entrances #1 and #3 are covered with the uncommon speleothem called “cave pearls”. External flora is affected by wild goats and pigs. The site is of great importance and merits further research, and protection.

From JU: This complex system has nine entrances, all of which are located in thick bush in the low hills behind the salt pond to the immediate east of Jackson’s Bay Club House.

Also: [Ref 1], [Ref 6]
Clerk A (1929) The Caves of Jamaica. Institute of Jamaica MS #44. An unpublished volume of personal papers of Mr A Clerk, held in the library of the Institute of Jamaica, Kingston. [JU/92]
Jamaica Caving Club (1965) Jackson’s Bay Great Cave, Jamaica. The Speleologist, 1: 8-10. By members of the JCC and giving a general account of the cave. Photographs and a simple plan. [JU/242]
Jamaica Caving Club (1966) Reports of cave explorations, JCC Newsletters, 1-5. A limited series of locally produced newsletters contain many accounts of new discoveries. [JU/243]


McFarlane DA (1987) Radiant darkness; the many facets of the caves of Jamaica. Terra (L.A. County Museum), 25: 24-26. An account of the Jackson’s Bay Cave area includes colour photographs. [JU/316]

Soukup C (1978) Jackson’s Bay Cave, Jamaica. DC Speleograph, 34: 3-5. An account of a visit to the cave. [JU/448]


2.26: Jaw Bone Hole

Taylor’s Hut area
Positional accuracy: Poor
Depth: 3
Length: N/A
Type: Choked passage
Explorers: JCC, 1982
Surveyed: N/A

From JU: A short, choked hole near Taylor’s Hut Cave, where a human jaw bone was found. Presumably an Amerindian site.

2.27: Johnstone Mountain Cave

East Hellshire
Positional accuracy: Poor
Depth: 10
Length: 30
Type: Collapse feature
Explorers: JCC, 1985
Surveyed: N/A

From JU: A large collapse with a north-facing cliff gives access to a complex of boulder chambers and squeezes, descending in several places to pools of water.

2.28: Lewis Pen Cave

Jackson’s Bay
Positional accuracy: Poor
Depth: N/A
Length: N/A  
Type: Shelter cave  
Explorers: Unknown  
Surveyed: N/A

From JU: Location of site uncertain, but a shelter cave containing bones to the north of Jackson’s Bay village.

Also: **Lewis Pen Cave (1897)** *Journal of the Institute of Jamaica*, 2 (5). Location of this archeological (bone cave), now lost, but apparently somewhere near Jackson’s Bay village. [JU/271]

**2.29: Louzy Bay Cave**

East Hellshire  
Positional accuracy: Poor  
Depth: N/A  
Length: 9  
Type: Wet passage  
Explorers: JCC, 1976  
Surveyed: N/A

From JU: Close to the coast. A horizontal passage with standing water. Amerindian shards noted.

**2.30: Louzy Bay Shaft**

East Hellshire  
Positional accuracy: Poor  
Depth: 6  
Length: N/A  
Type: Collapse feature  
Explorers: JCC, 1976  
Surveyed: N/A

From JU: At lousy Bay, near the shore. A collapsed shaft has a second entrance on one side.

**2.31: Mahoe Gardens Cave**

Portland Ridge  
Positional accuracy: Poor  
Depth: N/A  
Length: N/A  
Type: Shelter cave  
Explorers: Geological Survey Department (GSD)  
Surveyed: N/A

From JU: An open shelter cave with many animal bones, noted by McGrath BRG (1950), but not since located.

**2.32: Mahoe Gardens Spring**
Portland Ridge
Positional accuracy: Poor
Depth: 4
Length: N/A
Type: Shaft to a pool
Explorers: GSD, 1962
Surveyed: N/A

From JU: A 1x1.5m shaft to a pool, located about 50m west of the road. A pumphouse is installed.

2.33: Mystery Shelter

Jackson's Bay
Positional accuracy: Poor
Depth: N/A
Length: N/A
Type: Shelter cave
Explorers: JCC, 1978
Surveyed: N/A

From JU: A deep defile which runs SW from just west of Arrow Cave, ends in an overhung cliff with a very small, unexplored hole in the face. May contain bees!

2.34: One Brother Cave

East Hellshire
Positional accuracy: Good (JCO record)
Depth: Undetermined
Length: Undetermined
Type: Wet passage
Explorers: JCO, Feb 26, 2010
Surveyed: N/A

From JCO: Recorded by Stewart, JCO, during recon for NEPA. Not entered (Stewart was alone and it seemed unwise). A stream passage leads in the direction of Two Sisters Cave, 150m distant at a bearing of 190° true, with a suspected connection, possibly submerged. [May be same site as Eastern Cave mentioned in JU record for Two Sisters Cave, although seems doubtful as the cave is north, not east, of Two Sisters.]

2.35: Owl Cave

North Hellshire
Positional accuracy: Poor
Depth: 15
Length: 25
Type: Collapse feature
Explorers: JCC, 1976
Surveyed: N/A

From JU: A large collapse with trees in the bottom and bouldery caves in the sides.
2.36: Pole Cave

Hellshire Hills
Positional accuracy: Poor
Depth: 15
Length: 30
Type: Chamber cave
Explorers: JCC, 1975
Surveyed: N/A

Located 250m SW of a steel pole landmark, inland from Halfmoon Bay. A bouldery descent to a dry chamber.

2.37: Portland Cave-1

Portland Ridge
Positional accuracy: Poor
Depth: N/A
Length: 153
Type: Dry passage
Explorers: Unknown
Surveyed: Lands Department, 1942
Synonym: Fourmile Caves

From JU: Entrance, facing NE, leads to an arched tunnel extending for about 75m to the WNW and ESE. Two lightholes in the roof. A well known cave from which most of the guano was excavated in the 1940’s.

Also:
[Ref 3], [Ref 4], [Ref 5], [Ref 7], [Ref 8]
De la Beche HT (1825) Notice on the diluvium of Jamaica, Annales Philosophy, 10: 54-58. [Ref 11]
Williams EE (1952) Additional notes on fossil and sub-fossil bats from Jamaica. Journal of Mammalogy, 33: 171-179. [Ref 17]
Peck SB & Kukal O (1975) Jamaican caves and caving; a preliminary report, Canadian Caver, 7: 47-77. [JU/381]

2.38: Portland Cave-2

Portland Ridge
From JU: Two entrances face east. Complex entrance chambers with level floors interconnect and lead to a low earth-floored passage extending for over 185m to the WNW to end in two small exits. Many dry formations. Dates on the walls here extend back the mid 1770’s. Entrance area sometimes used as a habitation.

Also: [Ref 3], [Ref 4], [Ref 5], [Ref 7], [Ref 8], [Ref 11], [Ref 12], [Ref 13], [Ref 14], [Ref 15], [Ref 16], [Ref 17]

2.39: Portland Caves 6-8

Portland Ridge
Positional accuracy: Poor
Depth: N/A
Length: 30
Type: Dry passage/chamber
Explorers: Lands Dept, JCC
Surveyed: Lands Dept, 1942

From JU: Much confusion exists regarding the exact number and locations of the Portland Caves. The original 1942 survey shows some sites which have not been relocated, A short and narrow through cave with two entrances exists just north of Portland Caves #3-5 (see High Dome), and it appears that there may be others in the area.

Also: [Ref 4], [Ref 5]

2.40: Portland Light Sink

Portland Ridge
Positional accuracy: Poor
Depth: 9
Length: N/A
Type: Choked shaft
Explorers: JCC, 1971
Surveyed: N/A

From JU: Located to the SE of Portland Light. A choked vertical shaft.

2.41: Pot Hole

Portland Ridge
Positional accuracy: Poor
Depth: 6
Length: 20
**2.42: Potoo Hole**

Jackson’s Bay
Positional accuracy: Good (JCO records for 2 entrances)
Depth: 24
Length: 2,170
Type: Complex cave

From JCO: Numerous Amerindian pictograms are located on the walls inside of the main (collapse) entrance. Some bats are present. Deep guano deposits are extant in the “Big Chamber”, and suitable for palaeoclimatic studies. A yellow boa (*E. subflavus*) >1.5m long, was seen and photographed inside entrance #2 on Jan 12, 2013, by Stewart and Hyde, and a galliwasp (*Anguipedae, celestus sp.*) was seen and videoed in HD inside the main entrance on the same date by Pauel.

From JU: A large cavern with a huge boulder and massive deposits of dusty guano extends to the north and leads to a further passage and a second entrance. Further explorations and mapping by VVS revealed a third entrance. From Entrance #1, the cave extends generally to the west with a complex of passages chambers on several levels. Four southward extensions all end in lakes or sumps which appear to be at, or close to, sea level. Surface fossil guano from this cave has bee C14 dated to 950 +/- 50 BP (DA McFarlane, unpublished observation). Note: The survey party in 1996 reported several parts of the cave appeared to have high carbon dioxide concentrations.

Also: [Ref 9]

**2.43: Pumphouse Hole-1**

East Hellshire
Positional accuracy: Poor
Depth: 3
Length: 6
Type: Cave with a pool
Explorers: Unknown
Surveyed: N/A

From JU: A descent to a boulder cave with a pool of water, now roofed as a pumphouse. Some 45,000 litres/day were being extracted in 1982.

**2.44: Pumphouse Hole-2**

East Hellshire
Positional accuracy: Poor
Depth: 3
Length: 20
Type: Shaft to a cave
Explorers: JCC, 1982
Surveyed: N/A

From JU: About 30m east of Pumphouse-1, a one metre diameter hole drops 5m to a large boulder-filled chamber with static pools of water, one of which appears to extend to site #1.

2.45: Pumphouse Hole-3

East Hellshire
Positional accuracy: Poor
Depth: 3
Length: 20
Type: Chamber cave
Explorers: JCC, 1982
Surveyed: N/A

From JU: 300m west of Pumphouse Hole-1, a large depression opens into a chamber containing a shallow pool. No extensions.

2.46: Richmond Hill Caves

Portland Ridge
Positional accuracy: Poor
Depth: N/A
Length: N/A
Type: Unknown
Explorers: Unknown
Surveyed: N/A

From JU: Caves are reported in the area of Portland Lighthouse, but not located in search by a JCC party in 1982.

2.47: Road-side Cave

Hellshire Hills
Positional accuracy: Poor
Depth: 15
Length: 30
Type: Cave with a pool
Explorers: JCC, 1976; Ja Sub-Aqua
Surveyed: JCC
Synonym: Ashcroft’s Cave

From JU: A descent though boulders to a chamber with the lower sections submerged (below sea level). Water is about 14m deep with submerged formations. A stalactite sample removed from about 10m below the
surface (at sea level?) was dated by uranium-thorium ratios (Atkinson and Fincham, 1985, unpublished data) giving an outer layer date of 39.9 +/- 1.5k BP, and inner layer date of 76.9 +/- 2.7k BP, providing some insight into Caribbean sea level changes.

2.48: Salt River Cave

Salt River area  
Positional accuracy: Poor  
Depth: N/A  
Length: N/A  
Type: Shelter caves  
Explorers: Unknown  
Surveyed: N/A

From JU: Noted by McGrath. These are probably the several small shelter caves located in the cliffs near the Salt River postal agency.

Also: McGrath BRG (1950) Field notebooks. Unpublished field notes held in a series of books from 1950-1965, Library of Dept of Mines and Geology, Kingston. Notes in these books have provided a major source of information on cave sites, especially guano caves. However, frequently the descriptions are brief and precise locations cannot be established. [JU/320]

2.49: Skeleton Cave

Jackson’s Bay  
Positional accuracy: Poor  
Depth: 9  
Length: 35  
Type: Chamber cave  
Explorers: JCC, 1978  
Surveyed: DA McFarlane, 1995  
Synonym: Goat Bone Hole

From JU: Located to the west of Drum Cave #1 Entrance collapse. A hole in boulders gives access to a bouldery chamber with dry formations and recent bones. This cave was excavated paleontologically by CMAM personnel in 1995/1996, with the recovery of fossil remains of the extinct Jamaican monkey, *Xenothrix mcgregori*.

2.50: Somerville Cave

Jackson’s Bay  
Positional accuracy: Poor  
Depth: 18  
Length: 275  
Type: Chamber cave  
Explorers: JCC, 1964  
Surveyed: JCC  
Synonym: Swan Lake Cave, Roland’s Cave
From JU: A descent of 10m leads to a high dome with a chamber with a lighthole. A large gallery with dry formations can be followed to a sloping ascent to a small exit hole and a high second entrance in the side of a deep glade (Butterfly Glade). Entry to Somerville can also be gained via a very tight descent from the lowest point of Two Tier Chamber Cave. This cave named after Mr. Roland Somerville of Jackson’s Bay.

Also: [Ref 1]

### 2.51: St George's Cliff Caves

**East Hellshire**

Positional accuracy: Poor  
Depth: 20  
Length: 150  
Type: Caves with pools  
Explorers: JCC, 1975  
Surveyed: N/A

From JU: At least four caves. Sinkhole entrances lead into boulder chambers with pools of brackish water probably at sea level. Cave #4, the largest, has a 1.2m duck into a chamber beyond which a muddy crawl ends in a choke. Note: These caves now lie within an urban development housing estate.

### 2.52: Taylor's Hut Cave-1

**Taylor’s Hut**  
Positional accuracy: Poor  
Depth: 4  
Length: 65  
Type: Dry passage  
Explorers: GSD, JCC  
Surveyed: J. Lee

From JU: Entrance down a boulder slope in a small collapse. An arched passage with chambers and a large deposit of dry dusty guano leads to a terminal chamber and a lighthole above. Amerindian petroglyph noted near the entrance.

### 2.53: Taylor's Hut Cave-2

**Taylor’s Hut**  
Positional accuracy: Poor  
Depth: 3  
Length: 10  
Type: Chamber cave  
Explorers: JCC  
Surveyed: N/A

From JU: A hole 3m across in a limestone terrace drops into a chamber with a gravel and snail shell floor. Pottery shards noted. The cave appears to be a collapsed extension of cave #1.
2.54: Taylor's Pit

Jackson’s Bay
Positional accuracy: Poor
Depth: 4
Length: 22
Type: Chamber cave
Explorers: CMAM, 1966
Surveyed: N/A

From JU: A 4m drop into a low chamber contains rocks and shells. See also Taylor’s Hut Cave-2. May be same site.

2.55: Tree Root Hole

Jackson’s Bay
Positional accuracy: Poor
Depth: 4
Length: 10
Type: Choked passage
Explorers: JCC, 1978
Surveyed: N/A

From JU: A small hole between the roots of a tree in the middle of the path opens into a descending horizontal slot which becomes too tight. Hole appears to blow air at times.

2.56: Two Sisters Cave

Louzy Bay area
Positional accuracy: Good (JCO record)
Depth: 15
Length: 60
Type: Shaft to a pool
Explorers: Unknown
Surveyed: N/A

From JCO: Visited several times by the JCO for various reasons (NEPA, divers, assessment). The water that occupies the extensions below the collapse feature is often highly-polluted, with unusual coloration that appears, and smells, to be chemical in origin. The input seems to be via the collapse, as it is concentrated in the open pools, although it is an open question.

The JCO was contacted by a government agency since the last visit regarding employees claiming to be sickened by something at the cave, and if we knew if the cave itself could cause it, and we replied in the negative. However, if there is a periodic toxic or hazardous input to the water, it would be a possibility. We do not know what became of it in the end.

From JU: Surface opening now protected with a wall and access controlled, Descent of installed stairs leads to a boulder pile with pools on either side – the Two Sisters. Underwater passages can be followed by divers, including access to a second entrance (Eastern Cave). [Note: Eastern Cave may be same site as locally-named One Brother Cave, recorded by Stewart, JCO]
Also: [Ref 10],

2.57: Two Tier Chamber Cave

Jackson’s Bay
Positional accuracy: Poor
Depth: 28
Length: 30
Type: Complex chamber
Explorers: JCC, 1965
Surveyed: JCC

From JU: A vertical drop leads to two shattered vertical chambers. A tight hole in the floor of lower chamber enters the far end of Somerville Cave.

Also: [Ref 1]

2.58: Water Jar Cave

Jackson’s Bay
Positional accuracy: Good (JCO records for 3 entrances)
Depth: 3
Length: 420
Type: Complex cave
Explorers: JCC, 1978
Surveyed: JCC

From JCO: All three entrances georeferenced by Stewart on August 8, 2010. Exploration was limited to the passage between the two southern entrances due to Stewart being alone.

From JU: A lighthole entrance opens into a complex of silt-floored dry passages and chambers extending to the east through a crawlway to reach the Main Entrance, a rectangular collapse feature, opening to the SW. A low passage leads further for 30m to the Water Jar Entrances where there is evidence of now dried up pools being used as a water source by Amerindian peoples. Human bones and pottery shards of Arawak origin are present.

Also: [Ref 1]

2.59: Wild Goat Cave

Jackson’s Bay
Positional accuracy: Poor
Depth: 5
Length: 45
Type: Chamber cave
Explorers: JCC, 1977
Surveyed: CMAM, 1996

Synonyms: Black Goat Cave, Fudu Cave, Loop Cave
From JU: An open entrance chamber leads into two further chambers to the left, which loop around to return to the entrance chamber via a crawlway.

2.60: Wreck Point Springs

East Hellshire
Positional accuracy: Poor
Depth: N/A
Length: N/A
Type: Impenetrable rising
Explorers: N/A
Surveyed: N/A

From JU: Several springs of brackish water flow directly into the lagoon. Some small shelter caves nearby. Origin of water unknown.

3: Recommendations for further research, and the establishment of conservation priorities:

3.1: Baseline data

The first priority is fieldwork to complete the baseline dataset, which can be done using the methods established for the Parks in Peril Project, Caves Component, Cockpit Country funded by The Nature Conservancy in 2005. It consists of systematically finding and visiting every listed site, as well as unlisted sites that might be found serendipitously during the process, and recording: accurate coordinates for location (<+- 10m horizontal, <+- 15m vertical>); presence of bats, with estimated numbers and species diversity; abundance and condition of guano (dry, wet, fresh/fluff); presence of invertebrate apex predators and common prey species (as biological indicators); hydrological status (sink, resurgence, underground river, dry); degree of siltation if applicable; evidence of Amerindian use (petroglyphs, pictograms, potsherds, tools, bones); paleontological assets (breccia, fossiliferous earth, bones); external land-use; presence of trash and source; speleothem type; speleothem damage by vandalism; estimated frequency of visitation; ownership; degree of protection; and vulnerability.

3.2: Filtering of the data to establish conservation priorities

Once the baseline dataset is complete, it can be filtered to identify conservation priorities as established by the various stakeholders (e.g. the subset of caves that have biological, hydrological, archaeological importance or any combination of these assets using weighted values). The filtering can also be applied to eliminate sites from a conservation priority list, such as those with no biological, archaeological, or hydrological importance, or those that are irretrievably degraded.

3.3: Site preservation

After the conservation priority list has been created, the caves on it should receive some degree of protection, whether by way of government involvement or by soliciting the cooperation of the land owners where the sites are located. In the case of Portland Ridge, much of the land is held by several gun clubs whose members seem to be conservation-minded. The JCO would be pleased to join with C-CAM in reaching out to the members, and perhaps creating an advisory committee to ensure the long-term survival of the caves in the area.
3.4: Follow-up investigation

Filtering of the dataset will also allow for subsets to be forwarded to researchers in applicable fields, and to pertinent government agencies. For example, the complete list of sites with Amerindian artefacts should be shared with the Jamaica National Heritage Trust, the University of the West Indies, and the Archeological Society of Jamaica, while the Water Resources Authority should receive the hydrological subset.

4: Recommendations for future monitoring:

The two main factors in cave preservation are land-use changes, and frequency of visitation. The former affects the foraging opportunities for trogloxenes such as bats, cave frogs, and cave crickets, which are the primary sources for nutrient input, and the latter has a direct impact on internal conditions by way of disturbance/reduction of bat colonies, soil compaction, vandalism and theft of Amerindian artefacts. Monitoring visits to caves that receive conservation priority status should take place at least once per year, with every six months preferred. If activity is observed that is negatively impacting a cave, a report can then be forwarded to pertinent agencies and stakeholders, and action taken to mitigate the impact.

Appendix 1: List of multiple references


4: Bengry RP & Lewis CB (1941) Portland Ridge Caves, Natural History Notes (Jamaica), 74. [JU/52]


Research Association, Spring Issue, 30-31. Reports the discovery of a new cave in the Jackson’s Bay area containing large deposits of fossil guano. Briefly discusses implications for paleo-climate. [161]


11: De la Beche HT (1825) Notice on the diluvium of Jamaica, Annales Philosophy, 10: 54-58. [JU/118]


Appendix 2: A summary of existing data for speleological sites in the Portland Bight area. Please note that it does not give values, only whether they are currently recorded, marked “X”. Empty cells denote a lack of information. The columns here are limited to records for the main features; the complete database for the Jamaica Cave Register includes a number of others.

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