

Jamaica Cave Protection Guidelines

Jamaican Caves Organisation (JCO)*

2010

Caves.1. Short Title

This document shall be known and cited as Jamaica Cave Protection Guidelines.

Caves.2. Declared Purpose for these Guidelines:

Caves are uncommon geologic phenomena, and the minerals deposited therein may be rare and occur in unique forms of great beauty that are irreplaceable if destroyed. Cave formations (speleothems) and sediments are often uniquely valuable records of past climates, and the fossil records are irreplaceable testimonies to Jamaica's biological heritage and geological history. Also irreplaceable are the cultural resources in caves, which are of great scientific and historic value. Further, the organisms that live in caves are unusual, uniquely adapted, and of limited numbers, many of them rare and endangered species. Caves are a natural conduit for groundwater flow, which is highly vulnerable to water pollution, thus having far-reaching effects transcending man-made property boundaries. It is therefore declared to be the policy of the JCO and the intent of this document to protect these unique natural and cultural resources.

Caves.3. Definitions

The following words and phrases when used in this document shall have the definitions provided to them in this section, unless the context requires a different meaning:

- (a) "Cave" means any naturally occurring void, cavity, recess, or system of interconnecting passages beneath the surface of the earth or within a cliff or ledge including natural subsurface water and drainage systems, but not including any mine, tunnel, aqueduct, or other manmade excavation, which is large enough to permit a person to enter. The word "cave" includes or is synonymous with cavern, sinkhole, natural pit, grotto, and rock shelter.
- (b) "Cave life" means any animal, plant, or other life form which normally occurs in, uses, visits, or inhabits any cave or subterranean water system.
- (c) "Commercial cave" means any cave utilized for the purposes of exhibition to the general public as a profit or nonprofit enterprise, wherein a fee is collected for entry.
- (d) "Cultural resource" means all or any part of any archaeological, paleontological, or historical item including, but not limited to, any petroglyph, pictograph, basketry, human remains, tool, beads, pottery, projectile point, remains of historical mining activity, or any other occupation found in any cave.
- (e) "Educational purpose" means activities undertaken with the intent to prepare displays and exhibits for education of the general public.
- (f) "Frequent visitation" means entering any specific cave more than once per month,
- (g) "Gate" means any structure or device that limits or prohibits access to any cave.
- (h) "Hazard" means a risk of serious physical harm to persons or property.
- (i) "Landowner" means the person who holds title to the land immediately outside of a cave entrance.
- (j) "Major impact" means any significant impact to a cave. This includes, but is not limited to:
 - (1) Converting a cave passage or room for commercial or non-commercial use,
 - (2) Obstructing cave entrances by way of filling, or the erection of artificial barriers,
 - (3) Creating or widening openings, such that air flow and light regimes are altered significantly,
 - (4) Installation of permanent lighting,

- (5) Frequent visitation in caves that have bat-roosts estimated to contain more than 500 bats, or fewer than 500 bats if the species present are considered to be threatened,
 - (6) Alteration of more than 10% of the floor area of a cave by way of (but not limited to) the construction of walkways, soil compaction, and removal of naturally deposited soil or rocks, or any alteration of a cave in a manner that separates the floor area into non-contiguous sections,
 - (7) Removal, trampling or compaction of guano deposits,
 - (8) Altering the natural flow of water into, within, or exiting caves.
 - (9) Destroying, or in any way altering Amerindian pictograms or petroglyphs
- (l) "Minor impact" means any incidental impact made to a cave that is consistent with responsible visitation and exploration. This includes, but is not limited to:
- (1) The leaving of foot prints, disturbing loose materials as a result of passage, smoothing of non-speleothem rock surfaces caused by passage, or excavating a few cubic feet of material to make a passage passable, if done with respect to Subsection (6) under Major Impacts,
 - (2) Introducing temporary survey marks,
 - (3) Placing climbing bolts for safety and rigging,
 - (4) Installing cave gates if done in accordance with Section 9.
- (m) "Major site" means a cave that has one or more of the following characteristics:
- (1) Contains a bat-roost estimated to have more than 500 bats, or fewer than 500 bats if the species present are considered to be threatened,
 - (2) Contains invertebrate troglobytes, not including common troglonexes and troglaphiles such as the cave cricket (*Uvaroviella cavicola*).
 - (3) Is considered by the Water Resources Authority (WRA) to be an important component of the hydrological system,
 - (4) Has known Amerindian artefacts, including, but not limited to, potsherds, pictograms, and petroglyphs,
 - (5) Has undisturbed guano deposits deeper than 30cm.
- (n) "Minor site" means any cave that does not meet the criteria of "Major site", or has no true dark zone.
- (o) "Person" means any individual, partnership, firm, association, trust, or corporation or other legal entity.
- (p) "Petroglyph" means images created by removing part of a rock surface by incising, pecking, carving, and abrading.
- (q) "Pictogram" means images created by drawing, or painting, on a rock surface with charcoal, clay, ochre, or any other substance.
- (r) "Rescue personnel" means any police officer, fire fighter, paramedic, or recognized volunteer who is acting in response to an emergency or believed emergency.
- (s) "Scientific purposes" means research, or exploration, or both, conducted by persons with the intent to advance knowledge and to publish the results of exploration or research in an appropriate medium.
- (t) "Sinkhole" means a closed topographic depression or basin, generally draining underground, including, but not restricted to, a doline, uvala, blind valley, or sink.
- (u) "Speleogen" means an erosional feature of the cave boundary and includes or is synonymous with anastomoses, scallops, rills, flutes, spongework, and pendants.
- (v) "Speleothem" means a natural mineral formation or deposit occurring in a cave. This includes or is synonymous with stalagmite, stalactite, helictite, shield, anthodite, gypsum flower and needle, angel's hair, soda straw, drapery, bacon, cave pearl, popcorn (cave coral), rimstone dam, column, palette, flowstone, et cetera. Speleothems are commonly composed of calcite, epsomite, gypsum, aragonite, celestite, and other similar minerals.
- (w) "Troglobyte" means a cave obligate species that inhabits a cave for its entire life cycle
- (x) "Troglophile" means a species that frequently completes its life cycle in caves, but is not confined to this habitat

- (y) "Trogloxene" means a species that spends only part of its life cycle in caves, and returns periodically to the surface outside of the cave.

Caves.4. Vandalism

No person shall intentionally, willfully, or recklessly:

- (a) Cause a **major impact** to a **major site** unless express permission has been received in advance from the landowner and a permit/license has been obtained from the National Environment and Planning Agency (NEPA), the Water Resources Authority (WRA), Jamaica National Heritage Trust (JNHT), or other applicable agencies.
- (b) (1) Break, carve upon, write, burn, or otherwise mark upon, remove, or in any manner destroy, disturb, deface, or harm the surfaces of any cave or any natural material which may be found there, whether attached or broken, including speleothems, speleogens, sedimentary deposits, and cultural resources. (2) The provisions of this section shall not apply to minor impacts.
- (c) Fill any sinkhole unless express permission has been received in advance from the landowner and permission has been obtained from NEPA, JNHT, WRA, or other applicable agencies.
- (d) Break, force, tamper with, or otherwise disturb a gate designed to control or prevent access to any cave.
- (e) Excavate, remove, destroy, injure, deface, or in any manner disturb any cultural resource unless a permit has been obtained from applicable government agencies.
- (f) Collect samples for scientific or educational purposes unless a permit has been obtained from applicable government agencies.
- (g) The provisions of this section shall not apply to the removal of unavoidable hazards provided they are mitigated with minimal impact to the cave.
- (h) The provisions of this section shall not apply to rescue personnel in response to an emergency, believed emergency, or other rescue.

Caves.5. Disturbance of Cave Life

No person shall intentionally, willfully, or recklessly:

- (a) Remove, kill, harm, or otherwise disturb any naturally occurring organisms within any cave.
- (b) The provisions of this section shall not be interpreted so as to lessen the restrictions on protections for cave life that may exist as a result of any other chapter in this document or by Jamaican statutes. This includes any requirement for a collection permit.

Caves.6. Sale of Speleothems and Cultural Resources

No person shall:

- (a) Sell, offer to sell, or trade, or export for sale or trade outside of Jamaica any speleothems.
- (b) Sell, offer to sell, or trade, or export for sale or trade outside of Jamaica any cultural resources found in caves.
- (c) The provisions of this section shall not apply to speleothems and cultural resources collected consistent with the scientific and educational requirements described in §Caves.4(f) of this document.
- (d) The provisions of this section shall not be interpreted so as to lessen the restrictions on the sale, trading, import, and exporting of cultural resources that may exist as a result of any other chapter in this document, or in current Jamaican statutes.

Caves.7. Pollution

No person shall:

- (a) Burn within a cave or sinkhole, or within close proximity to a cave or sinkhole, any material that produces any smoke or gas that is harmful to cave life or may cause damage to speleogens and speleothems. This includes, but is not limited to, trash, tyres, kerosene, and carbide.

- (b) Store, dump, litter, dispose of, or otherwise place any refuse, garbage, dead animals, sewage, or toxic substances harmful to cave life or humans, in any cave or sinkhole.

Caves.8. Gates

- (a) No person shall install, alter, or maintain a cave gate or other obstruction at a cave entrance or within a cave that alters the ability of cave life, water, and air to pass through the obstruction that is inconsistent with a minimal impact on the cave. This means that any gate or obstruction should neither appreciably increase nor decrease the ability of cave life, water, and air to pass through the obstruction prior to recent alteration of the area so gated by persons.
- (b) Gates or obstructions which significantly alter the ability of cave life, water, and air to pass through the obstruction are considered to be major impacts and are subject to §Caves.4(a) of these Guidelines.

Caves.9. Future Amendments to these Guidelines:

The JCO, in collaboration with applicable government agencies, and non-governmental organisations with expertise in cave preservation and protection, will further clarify the difference between major and minor impacts, major and minor sites, and define factors in external land use that impact biological connectivity, and watershed integrity.

Caves.10. Jamaican Caves Organisation (JCO) Code of Conduct

Members of the JCO, and their collaborators, will

- (a) Adhere to the guidelines of this document. Further, they will not cause any major impact to any major site, notwithstanding permission to do so that may be granted by any government agency.
- (b) Provide management expertise to requesting public agencies, and landowners, that will help to mitigate impacts to both major and minor sites.
- (c) Provide cave data for use by parish and other governmental agencies.
- (d) Publish or assist in publishing articles, pamphlets, brochures, or books on caves and cave-related concerns.
- (e) Facilitate data gathering and research efforts on caves.
- (f) Inform the public about cave resources and the importance of preserving them for the citizens of Jamaica.

* Based on a model protection act written by Henry L. Welch. Adapted for Jamaica by the JCO, with contributions from A. Haiduk, Dr. S. Koenig, Dr. D. McFarlane, J. Pael, E. Slack, R.S. Stewart, and G. Van Rentergem.