



FACT SHEET

Prepared by the Cockpit Country Stakeholders Group in association with
Jamaica Environmental Advocacy Network (JEAN)

Introduction

Cockpit Country is a rugged, forested area of western Jamaica, rich in biodiversity and home to the Leeward Maroons of Jamaica. The wet limestone forest of Cockpit Country is Jamaica's largest remaining primary forest and a refuge for rare Jamaican animals such as the Black-billed parrot and the Giant Swallow-tail butterfly. At least 66 plants are endemic to the Cockpit Country. Its landscape of steep-sided hills and deep, closed valleys eroded from the limestone bedrock is an outstanding example of *karst* topography.

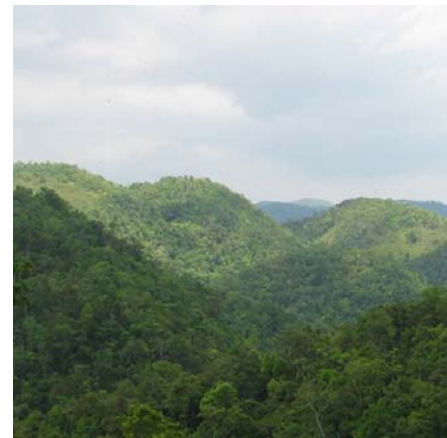
Due to its remoteness and inaccessibility, most of the Cockpit Country has been insufficiently studied. While the 'Land of Look Behind' is famous in Jamaican history, each scientific expedition reveals more natural wonders of this 'biodiversity hotspot' and secrets of its Taino and Maroon heritage.

A renewed interest in prospecting for bauxite in this reservoir of globally significant natural and cultural resources has sparked a major campaign by a wide cross-section of local and overseas Jamaicans to 'Save Cockpit Country'.

Biodiversity

The wildlife of Cockpit Country is specially adapted to this unique environment, and numerous species of plants and animals occur here that are found nowhere else in the world: they are endemic not only to Jamaica, but to Cockpit Country itself. Indeed, the concentrated biodiversity of this island-within-an-island is considered to be of global significance.

Many of Jamaica's threatened birds are found here, including the critically endangered Jamaican Blackbird and both species of Jamaica's endemic parrots. Almost the entire population of the Black-billed parrot (95 percent) is found in Cockpit Country.



Karst topography of Cockpit Country
© Vaughan Turland



Black-billed parrot, *Amazona agilis*
© Wendy Lee



Jamaican Kite Butterfly
or Blue Swallowtail,
Protographium marcellinus
© Windsor Research Centre

Pictured here is Jamaica's only blue butterfly, the Blue Swallowtail or Jamaican Kite Butterfly. Cockpit Country is also home to perhaps the only viable population of the endangered, endemic Giant Swallowtail butterfly, the largest butterfly in the Americas, with a wingspan of up to 8 inches (20 cm).

Four of Jamaica's 14 endemic frogs occur only in the forests and caves of the Cockpit Country, by far the most important area of habitat for Jamaica's amphibians and reptiles. Unique in the world is a species of crab that inhabits the water at the base of bromeliad leaves in limestone forests such as those of the Cockpit Country.

Cultural Importance

Although much of the Cockpit Country remains unstudied, there are a number of known sites of Taino occupation. The zoomorphic art of the Taino, such as this drawing based on a Taino pictograph, reflects their reverence for the natural world. The frog was a Taino fertility symbol.

Cockpit Country is renowned in Jamaican history as the refuge of the fiercely independent Maroons, descendants of the earliest slaves who were freed by the Spanish settlers around the time of the British conquest in 1655. After almost a century of resistance to British rule in the 'Land of Look Behind', the Maroons forced the British into signing a peace treaty in 1739. Jamaica's living Maroons, both here and abroad, are united in their opposition to prospecting and mining in Cockpit Country.



Taino frog drawing
© Estate of J. W. Lee

Geology and Hydrology

Cockpit Country is recognized internationally as the 'type locality' for cockpit *karst* – a term given to limestone bedrock that has been dissolved and eroded by rain over millions of years. It has taken over 15 million years for Jamaica's Cockpit Country to be created in this way.

Cockpits, the star-shaped valleys, average in depth from 100 to 120 metres, with walls generally sloping from 30 to 40 degrees. Drainage of the cockpit bottoms occurs via percolation or by sinkhole.

The municipal and agricultural water supply for much of western and northern Jamaica is dependent on the input of groundwater from Cockpit Country sources. The headwaters of a number of the island's major rivers are found within Cockpit Country, including the Martha Brae to the north, the Hector's River and Black River systems to the south, and the Rio Bueno to the east.

The Quashie's River sink at Freeman's Hall (within the prospecting licence area) is one of the sources of the Dornoch Head Rising near Stewart Town, which flows to the sea as the Rio Bueno.

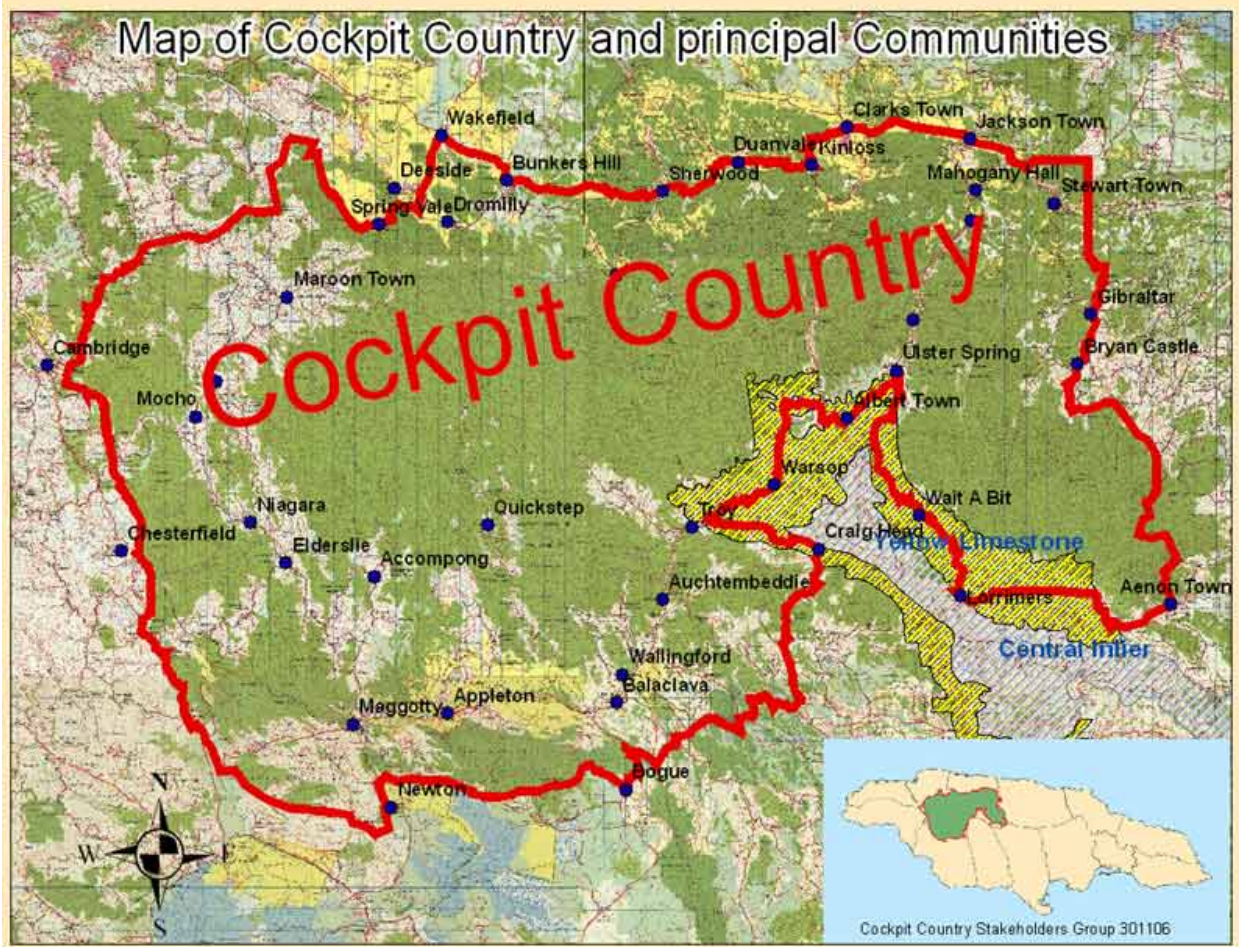
The hydrology of the area is not yet thoroughly understood and further research is needed to trace the vast subterranean network connecting the caves, sinks and risings of the Cockpit Country.

Cockpit Country boundaries

Cockpit Country spans an uplifted limestone plateau that has been sculpted by nature for over 15 million years to create a world renowned *karst* landscape – rounded hillocks and deep, star-shaped valleys named for their resemblance to cock-fighting pits. When viewed from the air, the terrain resembles an upturned egg carton. The boundaries of Cockpit Country are shown in red on the map below.

Within this area is Jamaica's largest remaining primary forest, which apart from its extraordinary biodiversity, sustains the water supply for western Jamaica and underpins the viability of the critical tourism industry.

The remote and inaccessible terrain of Cockpit Country has provided a refuge and resource base for the people known as the Leeward Maroons for over 300 years. Natural routes along geological fault lines have a continuous history of passage from the time of the Taino (ca. 600-1500) through the Spanish occupation (1494-1655), the English colonial years (1655-1962) and now in the post-Independence period. An extensive network of footpaths and cave passages connects places whose names echo the African and European origins of the early settlers – Accompong, Cambridge, Ulster Spring, Auchtembeddie, Balaclava – as well as the area's colourful and turbulent history: Quickstep, Land of Look Behind, Me No Sen You No Come, Wait-a-bit.



Threats to Cockpit Country

Cockpit Country is invaluable for many endemic Jamaican plants and animals as their last undisturbed refuge. It shelters unique flora and fauna that are threatened by a range of human activities, including illegal hunting of birds for food and for the pet trade, unregulated collecting of rare species of plants, extensive logging for yam sticks and timber, and the conversion of forest to agriculture.

Forest clearance not only reduces the overall size of the forest and opens it up to external threats, but the associated fragmentation facilitates the spread of harmful non-native plants and animals. Clearing of the forest occurs most along the edges of Cockpit Country made accessible by roads, which are among the greatest threats to the area's ecosystem.

Roads facilitate illegal logging and open up corridors to sunlight and airflow, thus altering the microclimates of the cockpits. Since the flora and fauna of Cockpit Country are adapted to very high humidity, it is very important that these conditions be maintained, or many plants and animals will not survive even in remaining patches of forest. Frogs and butterflies are particularly dependent on the high humidity of the undisturbed cockpits and cave systems.

Roads also allow access to poachers. Plant collectors have caused the extinction in the wild of Cockpit Country's only endemic cactus, *Mammillaria jamaicensis*, less than three years after the species was first described in 2003. A collection in Jamaica houses all the known individuals of this species, just 35 plants, grown from seeds.

Threats to wildlife include the illegal capture of Jamaican parrots for the pet trade and the killing of snakes such as the endemic Jamaican Boa or Yellow Snake (*Epicrates subflavus*) because of the mistaken belief that they are poisonous.

Most significantly, however, Cockpit Country is now threatened by BAUXITE MINING.

In August 2006 the Jamaica Environmental Advocacy Network (JEAN) learned that ALCOA Minerals of Jamaica and Clarendon Alumina Production had applied for the renewal of a Special Exclusive Prospecting Licence, first granted in May 2004, to exclusively prospect for bauxite within an extremely large area of western Jamaica, including much of the Cockpit Country. In November 2006, after ignoring repeated attempts by JEAN to present their objections to prospecting and mining in the Cockpit Country, the Minister of Agriculture, the Hon. Roger Clarke, renewed Alcoa's licence and also renewed one licence to prospect for limestone in the Cockpit Country. The public outcry that ensued prompted the Minister to suspend the licences almost immediately, and since that time the debate has focused on defining what is meant by the Cockpit Country, so as to provide for its protection.



Jamaican Boa or Yellow Snake,
Epicrates subflavus
© Wendy Lee

What will happen if bauxite mining is allowed?

There are three phases to any mining operation – the exploration or prospecting phase, the mining itself, and post-mining reclamation.

Considerable damage can be done in the prospecting phase, because often roads are needed to bring drilling equipment in. Under current Jamaican law, prospecting does not require an environmental permit.



The mining phase would require a more extensive road network, and all the vegetation on the surface of the land where bauxite deposits occur would be removed. Apart from the complete destruction of living resources that would result from the removal of surface vegetation and bauxite deposits, this would cause increased surface run-off and possibly impeded infiltration to the groundwater.

Because much of the hydrological connectivity is based on underground passages and fissures, water transport systems in this karst region are highly prone to damage through in-filling, siltation, and accumulation of solid waste. These changes manifest themselves as reduced flow and reduced water quality at the downstream risings, as well as flooding in the upstream catchments. Over time, mining could lead to an altered flow regime and changes in drainage patterns, as recharge of the aquifer below is reduced and overland flow becomes more dominant. The likely consequences: flooding of previously safe areas and a reduction in the volume of major rivers flowing from Cockpit Country, compromising the water supplies for the western half of Jamaica's north coast.

Other potential risks to water resources include increased turbidity (cloudiness of water) from erosion of cleared and excavated land, hydrocarbon contamination through fuel spills from vehicles and machinery, and pathogen contamination (e.g. coliform bacteria) due to increased human activity in the area or through the relocation of communities into low-lying areas closer to the aquifer. All of these factors are likely to lead to increased costs of providing clear, potable water to consumers.

Furthermore, deforestation due to bauxite mining in the Cockpit Country would contribute to greenhouse gas emissions (GHG). According to FAO, deforestation worldwide contributes one quarter of all GHG emissions. Bauxite mining itself is energy intensive and most of the energy comes from fossil fuels, further adding to greenhouse gases. There is a growing consensus, worldwide, that reducing climate change through energy efficiency, a rapid switch away from fossil fuels towards renewable energy, and forest conservation are essential steps in order to avoid the disruption of ecological systems upon which all life depends.

It is clear that no matter what approach is taken to the reclamation of mined lands, the biological diversity would be lost forever. And if bauxite mining were allowed even on the edges of Cockpit Country, the region would soon be opened up to logging and limestone quarrying on a massive scale.

The Legal Framework

Legislation relevant to bauxite mining in Jamaica includes:

- The Forest Act, 1996, and Forest Regulations, 2001
- The Mining Act, 1947, and Mining Regulations, 1947
- The Minerals (Vesting) Act, 1947
- The Natural Resources Conservation Authority Act, 1991
- The Natural Resources (Prescribed Areas) (Prohibition of Categories of Enterprise, Construction and Development) Order, 1996
- The Natural Resources Conservation (Permits and Licences) (Amendment) Regulations, 2004
- The Watershed Protection Act, 1963
- The Water Resources Act, 1995, and Water Resources Regulations, 1995



An application for the renewal of a Special Exclusive Prospecting Licence is made to the Minister of Agriculture and Lands through the Commissioner of Mines. The duration of the Special Exclusive Prospecting Licence and the extent of the area it covers is determined by the Minister.

While an Environmental Permit from the Natural Resources Conservation Authority (NRCA) is required for mining, there is no such requirement for prospecting. In order to apply for a mining lease, a company must first obtain a prospecting licence or prospecting right. However, the Minister may give permission to an applicant for a mining lease to mine an area prior to the granting of the actual lease.

Few lands are excluded from mining or prospecting under the Mining Act. Although more than 22,000 hectares of Cockpit Country are designated as Forest Reserves, prospecting or mining bauxite can be done within a forest reserve, once the required prospecting licence or mining lease is obtained. Notwithstanding named exclusions, the Commissioner of Mines may approve mining or prospecting in many of those areas.

Under the Mining Act, the Minister has the power to declare an area closed to prospecting or mining. However, this does not apply to an area for which a prospecting licence or mining lease has been granted and is in effect. In addition, the Minister can reopen any area to mining or prospecting after declaring it closed.

Couldn't they mine just a small piece of it or at least do some prospecting?

We believe that Cockpit Country in its totality is an independent, self-contained and self-regulated ecosystem, which will be irreversibly degraded by ANY mining and possibly even by prospecting for bauxite.

Given the global significance of the area and the magnitude of the damage that would result from a commercial mining enterprise, we strongly object to the granting of a prospecting licence for any part of Cockpit Country. If, as the Jamaica Bauxite Institute (JBI) says, the Government of Jamaica has no plans to allow mining in Cockpit Country, we question the logic of allowing prospecting in this unique and sensitive area.

Compared to bauxite mining, what are the alternatives for managing Cockpit Country?

To answer this question we have to first ask, what are the long-term benefits and costs of bauxite mining?

Apart from the mining company, its relatively small work force and the Government of Jamaica, it is not clear who will benefit from mining in Cockpit Country. If we take the communities of southwest St. Ann or rural Clarendon as examples of the consequences of mining, the destruction of this unique landscape is sure to have detrimental impacts on the people living in and around the area. The rural residents, mainly small farmers, will lose their family lands and traditional livelihoods. They will either be relocated to barren, mined-out areas with highly questionable agricultural potential or to existing communities which in most cases lack the improved infrastructure to accommodate the newcomers.

When the air- and water pollution impacts of mining are factored into the equation, people living in or near to bauxite mining or processing pay a very high price in terms of their health and quality of life. Protecting the Cockpit Country forests is also critical for maintaining the water supply for the wider population of western and northern Jamaica.



The biological diversity and cultural heritage is of irreplaceable value nationally and internationally. The Cockpit Country Stakeholders Groups (CCSG) welcomes the assistance of scientists from the University of the West Indies and abroad to explore and assess the values of the biological and cultural resources of Cockpit Country to Jamaica and the world.

Compared with mining, which is the extraction of a non-renewable resource at the expense of all other land uses, there are several alternative uses of Cockpit Country, which can be sustainable if properly managed: ecotourism, cultural tourism, health tourism, geo-tourism, educational tourism, and scientific exploration, as well as careful harvesting of natural products for nutritional and medicinal purposes.

These activities can be undertaken by local people assisted by professionals from Jamaica and elsewhere. The people of the communities in and around Cockpit Country will make a living and a profit from these activities, and the people of Jamaica and the foreign visitors (who already know of the area) will enjoy themselves whilst contributing directly to the local economy.

Tourism is already Jamaica's primary source of foreign exchange. If carefully planned and developed with real, quality-of-life benefits in mind for local people, tourism benefits are renewable and sustainable. For the record, the CCSG has the full support of the Jamaica Hotel and Tourist Association in this campaign to protect Cockpit Country from mining.

Jamaica is facing a choice between conserving and managing Cockpit Country as a world-class tropical forest and wildlife reserve – a UNESCO World Heritage Site enjoyed by thousands of locals and visitors every year for generations to come – or a sterile wasteland of so-called restored pits, its biological diversity and cultural heritage lost forever.



Bauxite mining, Manchester
© Wendy Lee

Mining in Cockpit Country would destroy the natural, cultural and archaeological resources of Cockpit Country that are virtually untapped as a source of sustainable livelihoods, especially eco- and heritage tourism, for many rural communities of Jamaica.

Petition to the Prime Minister of Jamaica

Cockpit Country is the largest remaining primary forest in Jamaica and sustains the water supply of western Jamaica. It is an internationally-recognized 'hotspot' of biodiversity and cultural heritage and its preservation is critical to the sustainability of Jamaica's tourism sector.

1. We call on the Prime Minister of Jamaica to ensure that the Cockpit Country and environs, as described by the Cockpit Country Stakeholders' Group, is declared CLOSED to mining and commercial prospecting.
2. We urge the Government of Jamaica to take steps to declare the Cockpit Country a Protected National Area as a matter of priority, as stipulated in the 1997 Policy for a National System of Protected Areas in Jamaica.
3. As organisations and individuals interested in the conservation of Jamaica's unique natural and cultural heritage, we wish to see the Cockpit Country protected and managed as a World Heritage Site.

Cockpit Country Stakeholders Group (CCSG)
in association with
Jamaica Environmental Advocacy Network (JEAN)
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What is the Cockpit Country Stakeholders' Group doing?

The CCSG, which consists of more than 30 organisations and over a hundred individuals, is seeking information. We want to know exactly what is contemplated for Cockpit Country and where, with respect to mining and protection of our heritage. We fear that if any mining is allowed, even on the edges of Cockpit Country, this will be a precursor to more extensive mining. We are concerned that investors will seek maximum returns on their investment, and will therefore want to mine as widely as possible. We know that in some, if not all, mining agreements the Jamaican Government provides the mining companies with entitlements to specified amounts of bauxite and guarantees them additional land for mining if the land covered by the mining rights does not contain sufficient levels of commercially exploitable bauxite.

- ◆ We have written to the Commissioner of Mines, the Chairman of the Jamaica Bauxite Institute and the Ministry of Agriculture and Lands requesting information on what is planned for Cockpit Country. We have also copied our letters to the Minister of Local Government and the Environment, the Natural Resources Conservation Authority (NRCA), and the National Environment and Planning Agency (NEPA). Up until December 15, 2006 we had not received a definitive reply to any of our letters, but since suspending the prospecting licences the Minister of Agriculture has convened two meetings at which representatives of the CCSG have made presentations.
- ◆ We have prepared a legal opinion on the legal and regulatory framework of mining in Jamaica.
- ◆ We have sought information under the Access to Information Act as to the track record of bauxite companies in restoring mined out lands.
- ◆ We have embarked on a public education campaign on the Cockpit Country, holding several community meetings and giving presentations to stakeholders. So far this issue has been covered extensively by the local media, and there have been several articles in the foreign press – the USA, Canada and Germany – about the biological and cultural assets of Cockpit Country, including the Maroons and their heritage.
- ◆ We have produced a short documentary film to highlight the experiences, values and concerns of stakeholders living in and around Cockpit Country.
- ◆ We have led a 4-hour hike through Windsor and Bamboo Bottom on the northern edge of Cockpit Country. More than 60 people participated and more tours are planned.
- ◆ We have created a Petition targeting the Most. Hon. Portia Simpson-Miller, Prime Minister of Jamaica, appealing to her to Save Cockpit Country. We have circulated it widely by various means, online as well as in hard copy to a wide range of stakeholders, through the efforts of the CCSG and JEAN members.

Please visit JEAN's website – www.jeanjamaica.org – for more information about the campaign, links to the CCSG / JEAN member organisations and a link to the online Petition, which to date has attracted more than 2,800 signatures.

There has been an overwhelming response from the Jamaican public and the Diaspora in support of the campaign to 'Save Cockpit Country.' We thank all those who have written letters, signed the Petition, pooled their talents and contributed financially to this effort.