

**SUMMARY**  
**OF THE ENVIRONMENTAL**  
**MANAGEMENT SCOPING**  
— OF THE —  
**PORTLAND BIGHT AREA,**  
**INCLUSIVE OF THE**  
**GOAT ISLANDS**

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October 2013

## BACKGROUND

Cabinet and Parliament have been advised of the fact that an investment proposal has been submitted to the Government of Jamaica by a Chinese investor, China Harbour Engineering Company (CHEC), to establish a transshipment port and an industrial and commercial economic zone on the Goat Islands and the lands to the North of the islands in the Old Harbour Bay area.

The proposed investment, valued at \$US1.5 Billion, represents a key development milestone and could have significant positive impacts on the country's developmental agenda. At the same time, the development is proposed in or near to an environmentally rich area. It is, therefore, critical that the nation achieve an appropriate balance between the pursuit of economic and physical development on one hand and the protection of the environment on the other.

An amended Memorandum of Understanding (MOU), signed between CHEC and the Port Authority of Jamaica, provides the investor with time to undertake feasibility studies/due diligence, including technical, financial and environmental, to facilitate the refinement of a final proposal to the Government of Jamaica. The period of assessment is expected to be completed by the end of April, 2014, after which a decision will be made on whether to proceed to a conclusive agreement, providing that all social, developmental and environmental issues have been resolved.

The Port Authority has been instructed to continue its assessment and monitoring of the proposed project area, undertake detailed environmental and feasibility studies, and to offer effective guidance to the Chinese investors about the required development processes and approvals which must be followed or attained, before any final proposal is put to the Cabinet for consideration.

As a part of the on-going monitoring and assessment exercise, the Port Authority commissioned an Environmental Management Scoping Project to identify the legal and regulatory environment, the natural heritage resources, the industrial and commercial interest and the principal bio-physical and socio-cultural characteristics of the Portland Bight Protected Area. This document serves as a summary of the findings.

## THE ENVIRONMENTAL MANAGEMENT SCOPING STUDY

The specific objectives of the study include the following:

- Determining the geographic boundaries of the Portland Bight Protected Area
- Conducting archival research on the historical use of the area
- Identifying applicable international and national environmental policies, legislation, regulations and standards for the area
- Identifying the biologically sensitive features of the marine and terrestrial environment
- Determining the location of rare, threatened and endangered species and their spatial distribution in the Portland Bight and Ridge Area and the Goat Islands
- Identifying the boundaries of fish sanctuaries.

Conducted by a group of appropriately qualified Environmental Management Professionals, the study involved desk research, literature reviews, assessments of remote sensing data including satellite imagery, (limited) terrestrial and marine field investigations and interactions with a range of experts from key institutions.

## FINDINGS OF THE STUDY

The Portland Bight Protected Area (PBPA) is located at latitude 17°53'00" and longitude 77°08'00". It spans the parishes of St. Catherine and Clarendon and has a total area of 1,876 km<sup>2</sup> (724 sq. miles) which consists of 210 sq. km (81 sq. miles) of dry limestone forest, 82 sq. km (32 sq. mile) of wetlands. There are a number of small islands and cays within the PBPA. Those identified are as follows:

### ISLANDS

Little Goat Island  
Great Goat Island  
Pigeon Island  
Short Island  
Long Island  
Salt Island  
Dolphin Head Island  
Little Pelican Island  
Big Pelican Island

### CAYS

Careening Cay  
Rocky Cay  
Man O' War Cay  
Bare Bush Cay  
Big Half Moon Cay  
Little Half Moon Cay  
Big Portland Cay  
Little Portland Cay  
Tern Cay

The Goat Islands are not the only small islands in the Portland Bight Protected Area.

## Legal, Regulatory And Management Status

The Portland Bight and Ridge was declared a protected area in 1999 under the Natural Resources Conservation Authority Act of 1991 and is recognised as a Multiple Use National Park because in addition to its natural heritage resources, it hosts a number of major industrial, commercial, residential and agricultural activities.

Based on its mixed utilization, the PBPA does not fit any of the International Union for the Conservation of Nature (IUCN) categories:

- Strict nature reserve
- Wilderness area
- Natural monument or feature
- Habitat/species management area
- Protected Landscape/seascape
- Protected area with sustainable use of natural resources.

The Portland Bight Protected Area is not exclusively an environmental conservatory and is intended to facilitate multiple activities in a sustainable manner.

The Scoping Study has determined that there are a total of 68 international and national policies, legislation, regulations and standards that may be applicable to the establishment of a project as currently conceived by CHEC in the Portland Bight Area.

The Caribbean Coastal Area Management Foundation (C-CAM) was established in 1997 to promote coastal conservation and has been delegated management responsibility for the PBPA since 2003. C-CAM has prepared a management plan for the PBPA and is contractually responsible for implementing it. This includes securing funds for financing its activities.

It is important to develop a plan for financing the efficient and effective management of the natural resources of the proposed and declared protected areas of the PBPA.

## History Of Human Occupation

There is evidence that Tainos lived in villages near to Portland Bight and the Goat Islands in the pre Columbian period. In the ensuing period, it is recorded that Christopher Columbus visited the area stopping at Portland Bight where he named the area 'Cow Bay' because of the large number of manatees or sea cows seen in the area. It is also known that in the period of English Occupation Sir Henry Morgan maintained his ships at Careening Cay.

The Portland Bight Protected Area is host to important national heritage resources.

## Current Industrial Activities In The PBPA

Current Industrial activities in the PBPA include the Jamalco Rocky Point Port, the Jamaica Public Service Old Harbour Power Station and Transmission Sub-Station, the Wallendorf Coffee Processing Plant, the Chemical Lime Quarry, the Doctor Bird Power Barges, the Jamaica Broilers Ethanol Plant and several commercial fish, shrimp and chicken farms. In addition, in 2004 Jamalco received a permit to expand its alumina and port, doubling its alumina production capacity from 1.4 to 2.8 million tonnes per year.

It should also be noted that in 2009 Rinker/CEMEX obtained a permit from NEPA to establish a Port to host Post Panamax size vessels with a capacity of 60,000 tonnes. This includes dredging of a ship channel and turning basin to depths of in excess of 14 m.

The PBPA is host to significant industrial, commercial and agricultural activities which are important to the national development agenda.

## Key Biological Characteristics Of The PBPA

The major terrestrial (land based) ecosystems in the Portland Bight Protected Area are:

- Tall open dry limestone forests located in Portland Ridge, Braziletto Mountains and Hellshire Hills
- Broadleaf Forests in the northern sections of the PBPA

- **Mangroves and herbaceous wetlands in the northern, eastern and western shorelines of the PBPA**
- **Riverine and estuarine ecosystems**

There are several rare, threatened and endangered species of animals and plants found in the Portland Bight Protected Area. Among the vertebrates endemic to the Portland Ridge Area are the Portland Ridge tree frog, two species of thunder snakes, the dwarf snake, the blue-tailed galliwasp and the Jamaican fig eating bat. The invertebrates are represented by five species of blind cave dwelling shrimp. In addition to skinks, the Hellshire Hills are the home of the highly endangered Jamaican Iguana and signs of the Jamaican Coney, previously considered extinct, have been reported.

Over 271 plant species have been identified in the Hellshire Hills. These include 53 which are endemic to Jamaica and fifteen (15) species which are endemic to the PBPA.

**Within the PBPA, Portland Ridge and Hellshire Hills are host to a number of important rare, threatened and endangered species of animals and plants and are critical conservation sites that require an effective management plan and the appropriate levels of resources for sustainability.**

Large sea grass beds and coral reefs represent the major marine ecosystems in the area. The low-lying coastal wetlands support mangrove and sea grass growth and are important as marine nurseries and as sources for harvesting of shellfish among other things.

Within the Portland Bight area there are three areas zoned as special fisheries conservation areas or Fish Sanctuaries – Three Bays (south of the Hellshire Hills), Galleon Harbour (north of the Goat Islands and South of Old Harbour Fishing Village and Salt Harbour (just north of Jamalco's Rocky Point Port).

2,585 fishers are registered with the Fisheries Division or the Ministry of Agriculture and Fisheries as operating from Rocky Point and Old Harbour as of September 2013. This represents approximately 14% of the total fishers in the island. The majority of these fishers make their catch from Pedro Cays, because the PBPA is in a degraded condition from dynamiting and over fishing.

Fishing provides mainly supplemental income to other activities in which the fishers are engaged. In addition to fishing, they work as farmers, policemen, coal burners, jockeys, disco operators, net makers, fish pot makers, carpenters, masons, boat repairers, restaurant operators and wage workers at the Kingston airport and the JPS power plant at Old Harbour Bay. A few of the fishers are also employed as wardens in the fish sanctuary.

In respect of the three fish sanctuaries, Galleon Harbour is the only one that may be affected by the proposed development. The existing substrate of Galleon Harbour primarily consists of relatively deep, soft hydrogen sulphide enriched sediment which might lead to the development of anoxic conditions which in turn is likely to be the root cause for the less than satisfactory result of this sanctuary.

**The only sanctuary likely to be impacted by the proposed project is the Galleon Bay which is experiencing naturally degraded performance. It is important that scientific criteria be used in selecting any areas as a fish sanctuary. The mangroves in Salt Harbour deserve careful consideration for expanded development.**

## GOAT ISLANDS

The Scoping Study gave special attention to the Little and Great Goat Islands as they have been identified as proposed locations for aspects of the development.

The Great Goat Island rises from sea level to a maximum elevation in excess of 80m, while Little Goat Island has a maximum elevation in excess of 20m. Deep caves have also been identified on the Goat Islands.

The main features and area coverage of the Goat Islands are dry limestone forest (589.6 acres), mangrove wetlands (829.3 acres), coastal vegetation assemblage on sand (82.5 acres), brackish water bodies (287.7 acres), sea grass bed and reef slope.

### History of Human Activity

The Goat Islands have experienced human activity from the Pre-Columbian times. Taino remains and relics have been found on the Goat Islands. During World War II Little Goat Island was developed by the United States as a Naval Station under the 'destroyers for land exchange' between

Great Britain and the United States of America. In that development, an airstrip, barracks, a power plant, fuel storage facilities and a water treatment system were installed on site. It is also known that 2.8 million cubic yards of material was dredged in creating the jetty for seaplane and naval access. The evidence suggests that the dredged material was stored adjacent to and between the Goat Islands.

**The Goat Islands are not pristine and untouched environmentally. The area has been previously dredged and the spoils have contributed to the current land formation observed between the two islands. The Tainos are known to have inhabited the Goat Islands.**

### **Geological Features**

The more accessible areas on Little Goat Island were characterized by the following:

- Dry limestone forest vegetation such as cashew and log wood
- Mangroves
- Salt adapted dry land coastal vegetation
- Salinas (brackish water devoid of plant forms)

The higher elevations of the Greater Goat Island were dominated by Tall Open Dry Limestone Forest vegetation, which includes the endemic Broom Thatch Palm.

### **Biological Features**

During the survey, the sighting of birds was very infrequent on both islands. Shotgun shells remains were found on Little Goat Island suggested that game hunting was occasionally done on the island, although none were seen during the time of the survey.

There is evidence that the Great Goat Island is still occupied by wild goats. It does not appear that there are iguanas on the Goat Islands.

The most commonly observed terrestrial life forms were small (<10cm diameter) gastropods, bivalve molluscs (snails and slugs), lizards and mangrove tree crabs.

An underwater inspection revealed the presence of sea grass with turtle grass being the dominant species of plants. The inspection also revealed scattered heads of massive corals, which suggests that they were damaged by dynamite. Above water, red mangroves grow up to 10 metres high.

**The marine conditions around the Goat Islands are degraded and damaged by improper fishing practices.**



## CONCLUSION

The Portland Bight Protected Area is a Multiple Use National Park which hosts important natural heritage resources along with a number of major industrial, commercial, residential and agricultural activities. It is the home to a number of rare, threatened and endangered animal and plant species and the Portland Ridge and Hellshire Hills are critical conservation zones. The Fisheries in the PBPA are in a degraded condition suffering from a mix of naturally occurring conditions and improper fishing practices including dynamiting and overfishing.

The Environmental Management Scoping study identifies preliminarily the plant and marine life forms that could possibly be impacted by the proposed development. Previous experience with similarly challenging situations suggests that it may be possible to satisfactorily address or compensate for the environmental impact of the proposed project. Strategies to address the potential environmental impacts and to possibly enhance the existing environmental condition could include the creation of an alternative fish sanctuary, relocation and replanting of disturbed areas of mangrove and sea grass and the development of a habitat within the PBPA for the species that may need to be relocated. The project development phase to carefully design these and other compensatory strategies will commence concurrently with the development of the project to facilitate environmental policy and regulatory compliance between the proposed infrastructure development and environmental conservation.

The Scoping Study has recommended that a plan for institutional strengthening of the Protected Area Trust be developed, aimed at improving the management of the natural resources of the declared protected areas of the PBPA. This is expected to be an important feature of the efforts to improve the sustainable development of this Multiple Use Natural Park.

## NEXT STEPS

1. PAJ will continue liaising with the Investor, CHEC, to clarify the details of the project, to define the stages in which the project will be implemented and the phases of construction including particulars of the areas to be affected during each phase. These details, along with the legal and regulatory conditions which will apply, are essential for completion of a framework agreement between the PAJ and CHEC. The Framework agreement is expected to be finalized before the expiration date of the amended MOU at the end of April 2014.

2. During the negotiation of the Framework Agreement, issues identified in the environmental scoping will be addressed in the preliminary designs.
3. Upon completion of the Framework Agreement, the project will be submitted for consideration by Cabinet for approval.
4. Assuming that the project meets with the approval of Cabinet, it will be submitted to NEPA for the determination of the Terms of Reference of an Environmental Impact Assessment (EIA). The Terms of Reference of the EIA is expected to include among others the following tasks:
  - i. Detailed description of the project (electro-mechanical, structural and civil engineering designs for the pre-construction, construction and operation phase)
  - ii. Analyses of alternative approaches and locations
  - iii. Voluntary and mandatory on-going public information briefs, consultations and surveys
  - iv. Valuation of natural resources
  - v. Cost Benefit Analyses, inclusive of estimates of the Economic Rate of Return (ERR) for the proposed project
  - vi. Detailed description of the bio-physical and socio-cultural environment
  - vii. Detailed oceanographic assessments
  - viii. Drainage assessment
  - ix. Analysis of the regulatory framework
  - x. Identification of potential impacts inclusive of Cumulative Impacts and Regional Impacts
  - xi. Development of impact mitigation strategies
  - xii. Risk assessment to inform, among other things impact identification and impact mitigation
  - xiii. Development of a detailed environmental management & monitoring plan. This plan will include a programme to strengthen the Protected Areas Trust
  - xiv. Preparation of an Emergency Response Plan
5. Cabinet and Parliament will be briefed on a timely basis as the process unfolds.