



COMMENTARY

Biosphere Reserve to Transshipment Port: Travesty for Jamaica's Goat Islands

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Photographs by Robin Moore except where noted.

You know what is a huge bummer? Being a part of an amazing conservation success story to recover a species, only to reach the point where all those efforts appear lost. I know I'm not the only conservationist who has fought similar battles — many losing, but occasionally winning. I still have hope that reason will prevail and my colleagues and I can make further progress toward true recovery and the long-term goals of sustainability.

The Jamaican Iguana (*Cyclura collei*) is a really big lizard that was thought to have been extinct for 40-something years when a small number of individuals were found in the rugged limestone interior of the Hellshire Hills on the southern coast of Jamaica. Faculty and staff at the University of the West Indies and the Hope Zoo in nearby Kingston and several dedicated international colleagues with experience conserving other iguana species developed a multi-faceted plan for the

iguana's recovery. As staff in the research department at the San Diego Zoo, I began working for the recovery program in 1996, which by then had only six years of making slow but very promising progress. I was thrilled to be able to offer my skills to work with an amazing animal that we all thought had gone the way of the Dodo! After spending millions of dollars and uncountable hours from hundreds of professionals and volunteers, we are able to proclaim true milestones in the wild and know that this species can be saved. Today, the number of nesting adult females and their hatchlings has increased over six-fold since the first surveys in the early 1990s (Van Veen et al. 2014). Most wild adults seen are those given a "headstart" on life by being raised in captivity at the Hope Zoo for a few years before re-release.

Ten species of Rock Iguanas in the genus *Cyclura* are endemic to the Greater Antilles, each unique to its island



The Jamaican Iguana (*Cyclura collei*) has seen a substantial population increase from presumed extinction during 1948–1990 to the present, in one of the world's most compelling conservation success stories. Photograph © Joseph Burgess.



Most wild adult Jamaican Iguanas (*Cyclura collei*) seen are those given a “headstart” on life by being raised in captivity at the Hope Zoo for a few years before re-release. Photograph © Joseph Burgess.

home. Habitat conversion and degradation, non-native mammals such as dogs, rats, and feral cats, as well as present-day and historical hunting threaten almost all iguana species in the region. The Jamaican Iguana was particularly hard hit by the introduction of the Small Indian Mongoose (*Urva auropunctata*; often referenced in the literature as *Herpestes javanicus*) in the late 1800s. Mongooses eat iguana eggs and juveniles up to one kilogram in size. Extensive trapping in the core iguana zone has now made survival to adulthood a real possibility for at least some wild hatchlings. Nevertheless, until some currently unimaginable new method of completely eradicating mongooses from large islands is developed, the persistence of the Jamaican Iguana will depend on intense conservation efforts. With that in mind, all stakeholders in the recovery plan have long planned to reintroduce iguanas, as well as other native endemic species, notably Jamaican Boas (*Epicrates subflavus*) and Jamaican Hutias (*Geocapromys brownii*), to the small offshore Goat Islands. A protected second population could provide a “wild headstart program” for sustaining the Hellshire population. Jamaica could then market itself as a leader in small island restoration and ecotourism.

Iguanans are keystone species in their tropical dry forest and scrubland habitats. Primarily vegetarians, plant seeds that pass through an iguana’s digestive system have higher germination rates and seedling growth is more robust. Like a grazing ungulate, iguanas break down their food, converting plant leaves to a more digestible energy source for other species. In this way, iguanas help nurture the plants they eat, thereby providing sustainable homes for insects, birds, other animals, and also indirectly the plants they do not eat, such as the mangroves that enrich marine ecosystems and shape coast-



Jamaican Iguana babies weigh an average of 31 g after hatching and are extremely vulnerable to predation by non-native predators such as the Small Indian Mongoose (*Urva auropunctata*).



Jamaican Protected Areas. The Portland Bight Protected Area (PBPA) is Jamaica’s largest, encompassing 724 square miles, of which 81 square miles are dry limestone forests and 32 square miles are wetlands, including the Hellshire Hills and offshore Goat Islands. Map © Jamaica Protected Areas Trust (<http://jpat-jm.com/>) and Forest Conservation Fund.

lines and beaches. Although most may not realize the role iguanas play in shaping the forest and coastline, the fisher-folk of nearby Old Harbour Bay and the other 44 communities in the Portland Bight Protected Area certainly understand the importance of this ecosystem!

In truth, the vast majority of Jamaicans do not like lizards; that disdain is part of their historic culture. Thankfully, today’s younger generation is becoming more open-minded toward all wildlife, and over the years I’ve been visiting I’ve noticed that more adults think this way too. However, you

The Portland Bight Protected Area has the largest remaining mangrove system in Jamaica and the Ramsar Convention has recognized the area as internationally important. Along with many other species, the wetlands provide critical habitat for American Crocodiles (*Crocodylus acutus*).





The Portland Bight Protected Area is a globally important site for the conservation of many endemic and resident birds. The area is also a critical refuge for migrants such as the Yellow Warbler (*Setophaga petechia*).

don't need to like something to recognize its value and importance to the ecosystem, of which humans are a part. Indeed, the government of Jamaica recognized the importance of biodiversity by protecting most of Jamaica's remaining ecologically important forests by law under the Forest Act of 1996. Also, in 1999, the Portland Bight Protected Area (PBPA) was established and is Jamaica's largest protected area, encompassing 81 square miles of dry limestone forests and 32 square miles of wetlands, including the Hellshire Hills and offshore Goat Islands. Until recently, local agencies and major government stakeholders had worked for 15 years to declare the PBPA a UNESCO Biosphere Reserve (United Nations Educational, Scientific and Cultural Organization) — it

would be a first for Jamaica and only the second in the English-speaking Caribbean.

A Biosphere Reserve is an area that is globally recognized under UNESCO's Man and the Biosphere Program and one that demonstrates innovative solutions to the conservation of biodiversity in balance with its sustainable use. The PBPA is a perfect fit for this reserve program, as it already contains "core zones" that protect globally threatened species, as well as containing "buffer and transition zones" supporting existing light development and the livelihoods of 50,000 people living in the area. The PBPA contains three fish sanctuaries, two forest reserves, and six game reserves. The three tropical dry forests overlooking Portland Bight constitute the largest

View overlooking western Hellshire Hills and one of the area's tidal mangrove swamps that are important habitats for numerous species. Portland Ridge is in the distance and the Goat Islands are just out of view to the right (north).



Brown Pelicans (*Pelecanus occidentalis*) find easy perches in Old Harbour Bay, a community close to the Goat Islands where many residents depend on fishing in the PBPA for their livelihood.



remaining area of intact dry limestone forest in Jamaica — and in the entire Caribbean. At least 379 plant species have been identified here, including 53 that are Jamaican endemics, and 17 of IUCN conservation concern. Also, numerous sites of archaeological and cultural importance from pre-Columbian times and the colonial 17th century occur in the PBPA. The area has been recognized as an Important Bird Area by BirdLife International, a Key Biodiversity Area by the Critical Ecosystems Partnership Fund, an Alliance for Zero

Extinction site, and a Wetlands of International Importance identified by the Ramsar Convention.

So why, in November 2013, did the government of Jamaica quietly withdraw their Biosphere Reserve application from UNESCO consideration? In late August 2013, in anticipation of the Panama Canal expansion, the Jamaican government had publicly announced that “very serious consideration” was being given to a proposal from the state-owned China Harbour Engineering Company (CHEC) to



The Portland Bight Protected Area has the highest concentration of fishermen in Jamaica, supplying markets and restaurants in nearby Kingston.



Residents of Old Harbour Bay would be heavily impacted by the proposed transshipment port and most feel they do not have enough basic information on the plan. Of particular concern is the recent disclosure of a coal-fired electricity-generating facility included in the proposal.

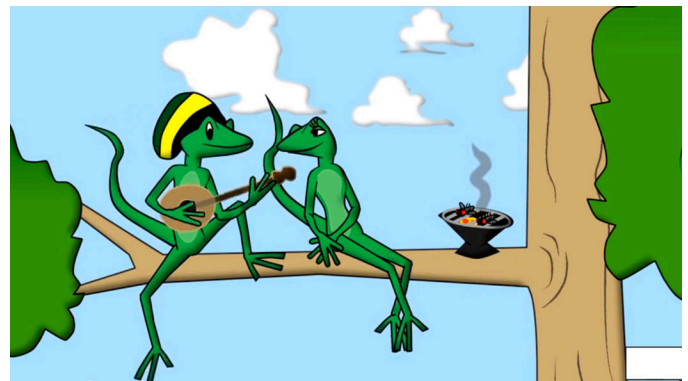
develop a massive transshipment port in the PBPA. Since then, “serious consideration” has snowballed to what appears to be considered more of a “done deal” according to recent rhetoric by Dr. Omar Davies, Minister of Transport, Works, and Housing, despite his indication that a “thorough environmental assessment” would be conducted.

Exact details of the development are being withheld from the public domain, but the port will require at least 3,000 acres, destroy both Little and Great Goat Islands and their surrounding mangroves and reefs, and entail extensive dredging to accommodate entry of ships with a minimum anticipated size of 1,200 feet long with a 50-foot draught. A connection to and development on the mainland (at the western edge of the Hellshire Hills) would include a coal-fired electricity generation plant. A coal-fired plant would be a first for Jamaica and bring a new form of intense pollution to the island. Clearly, this is not the sort of development that UNESCO or anyone else would consider in harmony with sustainable economic use and biodiversity conservation.

With high unemployment in Jamaica and the government’s media blasts promising jobs and foreign investment dollars, the allure of this proposal to many is not surprising. However, details are vague for how many jobs and dollars will actually go to Jamaicans. Also, no one has answered the question why this port cannot be developed in one of the other documented alternative sites, instead of irreversibly damaging a nationally protected area. Proponents of the port proclaim

that “developing nations cannot afford the luxury of protecting the environment and endangered species” and that negotiating with CHEC for development in an alternative site will discourage them and lose the investment opportunity. On the other hand, those opposed to the port on Goat Islands both within Jamaica and abroad clearly state that they recognize the need for developing economic opportunities in diverse sectors. A cost-benefit analysis of the inherent ecological services the PBPA provides to Jamaicans in the form of food security in the fisheries, coastline protection from storm surges, flooding and beach erosion, carbon fixation by forests, and tourism opportunities will far outweigh any anticipated economic benefits provided by the transshipment port. The carbon sequestration value of the PBPA’s mangrove forests alone is estimated to be \$45 million USD per year ad infinitum.

After 18 years of doing my part for the recovery of the Jamaican Iguana, I am certainly personally invested in the future of the Hellshire Hills, the PBPA, and the two Goat Islands. So too are the numerous local and international collaborators with whom I have worked over the years, those I know concentrating on other species and communities, and the wealth of people around the world who care about and donate their time and money to Caribbean conservation. Of great importance, I believe all Jamaicans would also be concerned — if provided with enough information. Working with the strongest environmental advocacy group on island, the Jamaica Environment Trust (JET), I created a website last fall as a repository for facts about this area and the port proposal (www.savegoatlands.org). I am extremely grateful to all of those who helped provide content for this site and have made it a valuable and useful resource. JET has been working tirelessly to keep attention focused on this issue, and the local newspapers have published articles nearly every week. JET’s legal advisors are active in the courts to force the government to uphold their own laws and provide details of the agreement with CHEC under the Access to Information Act. The government will be pressed to uphold the Jamaican Charter



“Don’t Mess with Goat Islands.” The winning entry by Jeremy Ashbourne, Inilek Wilmot, and Quecee for a radio jingle contest resulted in an animated short video produced by NivekPro. Like it on YouTube (<http://youtu.be/E7wAg7y3h2A>).



“Guardian of the Reptiles.” Robin Moore produced a short video highlighting an interview with Booms, one of the outstanding field technicians in the Jamaican Iguana Recovery Program (<http://vimeo.com/93621704>).

of Rights and Freedoms, which states that all Jamaicans have “the right to enjoy a healthy and productive environment free from the threat of injury or damage from environmental abuse and degradation of the ecological heritage.”

The chain of events has been a roller-coaster ride with hopeful moments peppered by more aggravatingly bad news. Community meetings, forums, and lectures with various collaborators have been organized on island. This issue has been discussed on numerous occasions in interviews on Jamaican television and radio. Short and longer Public Service Announcements were developed for television, and a successful radio jingle contest resulted in the production of a charming animated short video. We have even been endorsed/supported by celebrities such as Ziggy Marley. We have been highlighted in high-profile international press such as *National Geographic*, *The Guardian*, *Scientific American*, *Huffington Post*, *Mother Nature Network*, and *Deutsche Welle*. We know that the IUCN, United Nations, and the Ramsar Convention have written letters of concern to the government, to our knowledge none of which have been answered. However, the voices of a well-funded Goliath government propaganda campaign are loud and strong, and our David-esque efforts might not be enough. The government has repeatedly refused to furnish information requested under the

Access to Information Act, which delays our ability to react legally. Additionally, a beach license was granted recently to CHEC, without a thorough and transparent environmental review, to conduct “a geotechnical survey on and around the Goat Islands,” meaning exploratory drilling for geo-sampling.

Ultimately, it will be up to Jamaicans to recognize the wealth of their natural and cultural heritage and fight for it. The protected areas of Jamaica are already providing valuable ecosystem services, even though that might not be visually obvious to an uninformed observer accustomed to seeing dollars only in concrete shapes. The government has a responsibility to its people to be that informer and leader, to Jamaicans as well as the many global environmental conventions to which it is a signatory.

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