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BEYOND BOUNDARIES–THE SAVE COCKPIT COUNTRY MOVEMENT. Theresa Rodriguez-Moodie and Abigail McIntosh (Editors) 2025. Jamaica Environmental Trust, Kingston, Jamaica.

Protected areas are a key component of virtually all national and international biodiversity conservation strategies. The conservation effectiveness of protected areas however, varies considerably in the Caribbean often due to a lack of human and financial resources and threats from various human activities. Nevertheless, support from civil society and local community engagement can bolster protected area establishment, survival, and effectiveness of biodiversity protection. But marshalling and sustaining local support and public engagement has proven challenging despite its critical importance for protected area success.

The Save Cockpit Country Movement in Jamaica overcame many of the challenges faced by protected areas with strategically planned events to generate widespread public engagement to support protection from bauxite mining in the Cockpit Country as summarized in *Beyond Boundaries*. The document traces the history of the movement beginning with organizing the stakeholders comprised of individuals and groups with diverse perspectives. Communication among the movement members was crucial, as were the modes and timing of communications with the general public. Scientific information provided the basis for educating the public about Cockpit Country as a crucial freshwater source and its importance for biodiversity conservation. Scientific studies and historical documents were consulted to help define the protected area boundaries, and to address misinformation circulated by mining supporters. Recollections of key individuals involved in the movement over the decades are highlighted along with lessons learned. *Beyond Boundaries* also chronicles the tensions within the movement that inevitably arise from working with diverse groups and individuals with different experiences and perspectives. *Beyond Boundaries* is intended to be a useful resource for researchers and scholars interested in Cockpit Country and the remarkable efforts invested in its protection. Insights gained from the movement's advocacy campaign will be of interest to environmental and social activists for their own advocacy efforts. Moreover, the document highlights the complexities and scale of efforts faced by the movement in their prolonged process of securing protection for one of the Caribbean's most significant areas for biodiversity and cultural heritage.

Cockpit Country (1,295 km^2) in west-central Jamaica is characterized by steep-sided cone-shaped hills with deep concave depressions or basins. Originally, the word cockpit referred to the hillsides, but by the 1950s the term was being used to describe the bottomland enclosed depressions. The karst or limestone terrain is highly soluble in rainwater resulting in numerous caves, sinkholes, and underground rivers and the rarity of surface water in streams and lakes. The abundant rainfall falling on the forested watersheds is stored in a vast aquifer of Cockpit Country and accounts for 40% of Jamaica's fresh water. The red bauxitic soils of the cockpit basins are slow to drain rainwater, and because of their abilities to retain moisture during prolonged droughts provide some of the best agricultural soils on the island. The region is home to rich biodiversity including 907 species of vascular plants, 160 species of ferns, almost 200 vertebrate species, and over 400 species of invertebrates, many of which are endemic to Jamaica and some endemic only to Cockpit Country. Some of the endemic species here are globally endangered or threatened, including *Nesopsar nigerrimus* (Jamaican Blackbird), *Amazona collaria* (Yellow-billed Parrot), *Amazona agilis* (Black-billed Parrot), *Patagioenas inornata* (Plain Pigeon), *Geotrygon versicolor* (Crested Quail-Dove), *Chilabothrus subflavus* (Jamaican or Yellow Boa), and *Papilio homerus* (Jamaican Giant Swallowtail).

Cockpit Country holds cultural significance first evident in the presence of Tainos, the earliest residents of the land well before European arrival. The Tainos were followed by the Maroons, descendants of Africans who gained freedom from Spanish colonization or escaped British enslavement. The Maroons used Cockpit Country's impenetrable landscape as a resource and refuge, establishing and defending a strategic settlement in the forested western region before the 18th century. The British rulers faced staunch resistance from the defiant Maroons and in 1739 were forced to sign a historic peace treaty which led the British to formally recognize the freedom and autonomy of the Maroons, albeit with some restrictions. As with other rural communities, the Maroons impacted the environment and biota with their agriculture, tree felling, and hunting. Nonetheless, their overall environmental impacts pale in comparison to the impacts from bauxite mining planned for the region.

Bauxite, the primary ore for aluminum production, has been an important economic contributor to Jamaica, reaching prominence in the 1950s when several of the largest multinational aluminum companies moved to the island. The companies invested heavily in the island's infrastructure while paying wages well above the Jamaican average for those working in agriculture, tourism, and domestic labor. By the 1960s, Jamaica had become the world's largest exporter of bauxite. Bauxite mining, however, no longer holds the importance it once did, reportedly contributing less than 3% annually to the gross domestic product between 2009 and 2018. The government of Jamaica, by law, maintains sole ownership of minerals and control of mining. Bauxite mining has been promoted as a cornerstone of Jamaica's development.

Bauxite mining interests have hindered efforts to establish a Cockpit Country protected area for many years because mining is so lucrative for the government and the mining industry. Mining is incompatible with protected area status and even mining in adjoining landscapes can degrade the conservation value of a

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protected area. Bauxite mining destroys habitats by removing forests, ground cover, and soil. Mining also changes hydrology, ecological connectivity, and the climate, and introduces invasive species. Mining operations and the associated haul roads, when located within the vicinity of homes and farms, may cause residents to suffer from noise and dust, exacerbating disruption of livelihoods and harming public health. Finally, remediation of mined sites is difficult if return to native forest is desired, because it is time consuming and expensive, and often with uncertain outcomes.

To protect Cockpit Country from mining, the movement's advocacy approach focused on educating the public about the value of Cockpit Country with the goal to enlist public support and motivate conservation action by the government, while also directly persuading the government to protect Cockpit Country. Multiple strategies and communication modes were employed by the movement to have Cockpit Country protected and closed to mining. Advocacy efforts involved creative artists and videographers, who co-produced impactful publications, brochures, films, and videos, including short documentaries and public service announcements, all of which played a vital role in raising awareness and appreciation of Cockpit Country's ecosystem services (e.g., water source), rich biodiversity, and cultural history. Traditional media was informed of Cockpit Country issues via press releases, media campaigns, and press conferences as the activists honed their press communication skills and as the movement's Windsor Research Centre became a trusted source for technical and scientific information. Information was further conveyed via social media and websites, while potential advocates were informed and cultivated via listservs and email groups. Peaceful demonstrations attracted media attention, and petitions against Cockpit Country mining and for protection brought the issues directly to the attention of elected officials. Finally, several lawsuits were filed by movement members against the government, established standing for environmental organizations and communities, and set legal precedents relating to citizens' environmental rights.

For decades, some Jamaican environmentalists assumed that bauxite mining in Cockpit Country was unlikely as the bauxite-filled depressions were smaller and of lower quality than elsewhere in Jamaica and construction of the haul road network in the rugged karst landscape was thought to be too expensive. Nevertheless, in May 2006, mining explorations were observed in Cockpit Country, prompting discussions among environmentalists related to appropriate responses. But first it was necessary to define Cockpit Country by setting its boundaries for protection.

Grounded in the expansive cockpit geomorphology across the uplands of central Jamaica, some of the earliest Cockpit Country boundaries were aligned with wet limestone forests to protect their climate role identified by the forester E.D.M. Hooper in the late 1800s who advocated for Cockpit Country forest protection. Since then the Cockpit Country boundary was defined differently at various times, depending on the professional background or experience of the boundary maker. For some, the Cockpit Country boundary was in the eye of the beholder. The Cockpit Country stakeholders, however, were in full agreement that the defined boundary should ensure protection of the geomorphology, watersheds, ecosystems, natural resources, and cultural heritage, and the stakeholders worked to delineate a boundary that considered the area's geology, topography, hydrology, biodiversity, and history. However, the stakeholders' boundary map was too inclusive (area too large) for the government to accept for protection, so the government contracted with the Geology and Geography Department of the University of the West Indies (Mona campus) to produce a map with Cockpit Country boundaries based only on geology and geomorphology, resulting in a smaller, less inclusive Cockpit Country area.

The Cockpit Country boundary map prepared for the stakeholders was one of many contributions provided by the Windsor Research Centre, a site-based environmental non-governmental organization located in northern Cockpit Country and the main source for technical information and science for the movement. Most research studies related to Cockpit Country and mining were inaccessible to Jamaicans because they were published in overseas journals and behind paywalls, and therefore the Windsor Research Centre played an invaluable educational role as a science source. The Windsor Research Centre archived relevant technical literature and Geographic Information System layers, facilitating the preparation of Geographic Information System-based maps and technical briefs which could not be summarily dismissed by technical bureaucrats and mining proponents. Because of its technical knowledge, the Windsor Research Centre became a trusted source for stakeholders and media outlets. The Windsor Research Centre had the technical knowledge and credibility to counter misinformation spread by mining proponents.

Finally, after almost 50 years, including 20 years of consistent advocacy, the Prime Minister designated the Cockpit Country Protected Area and declared it closed to mining in March 2022. However, important Cockpit Country areas in the southwest, south, and northeast were excluded from protection, and mining was permitted in the excluded northeast region and commenced in 2022. The protected area was 32% smaller than proposed by the Cockpit Country Stakeholders Group in 2006 and as recommended for protection in 2013 by a Centre for the Environment, University of the West Indies (Mona campus) study. Nevertheless, 78,024 hectares were protected and closed to mining, making the Cockpit Country Protected Area the largest terrestrial protected area in Jamaica. Not surprisingly, many stakeholders and others were disappointed with the small size of the protected area and the exclusion of important Cockpit Country areas to the east and south of the government's designated protected area that sit above important water resources and are rich in biodiversity and culture heritage, but were not protected. Moreover, the core protected area was unlikely to be mined anyway, because of its inaccessibility and high extraction costs. Thus, some in the movement had mixed feelings regarding the outcome of the campaign to protect Cockpit Country.

The Save Cockpit Country Movement achieved notable success in its advocacy. It got the message out to thousands of people who contributed supportive voices. It attracted funding from donors for community meetings, public events, videos, and other educational materials, and research to advance the campaign. The need for Cockpit Country preservation was advanced by public awareness campaigns, advocacy, and legal challenges which established the significance of Cockpit Country in both Jamaican and international consciousness, garnering widespread support across diverse communities. For the first time, a protected area was designated by Jamaica's Natural Resources Conservation

Authority Act with mining restrictions under the Mining Act. In summary, the movement's successful advocacy epitomizes the complexity, patience, tenacity, and resilience required for environmental advocacy in Jamaica or elsewhere.

Despite the government's proclamation of protected status, the Cockpit Country Protected Area continues to face significant challenges, including the absence of a management plan, no buffer zone, continued legal uncertainties, and inadequate monitoring and enforcement within the protected area. Apparently, the government remained disinclined to organize or facilitate the preparation of a management plan at the time of completion of *Beyond Boundaries*. Furthermore, unresolved tensions remain between residents' concern for local livelihoods and the movement's conservation efforts. Local Cockpit Country residents are fearful that the protected status might limit their access to resources, even while contending with threats from extreme weather events, mining, and inadequate government support. Thus, the needs of those who live in the Cockpit Country Protected Area will need to be addressed in the drafting and implementation of any management plan. A management plan based on multiple use of the protected area will be required, but defining multiple use has the potential to be highly contentious. The development and implementation of a management plan for the Cockpit Country Protected Area remains as the next chapter for *Beyond Boundaries*. In the meantime, I recommend reading *Beyond Boundaries* to understand the challenges facing protected areas in the Caribbean.—Joseph M. Wunderle, Jr.

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