Conservation and Conflict in the Cockpit Country, Jamaica, 1962-2022

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ABSTRACT

Cockpit Country in west central Jamaica is a unique karst landscape. Based on a wide range of published and online sources, this article examines threats to the area's biodiversity and attempts to conserve it, from Jamaica's independence in 1962 to the declaration of the Cockpit Country Protected Area in 2022. It focusses on several stakeholders – the government, international organisations, environmental groups, and Cockpit communities –, and argues that their interplay made conservation of the area a far from straightforward trajectory. It will show that by the late 1980s, international organisations increasingly used mainstream conservation approaches in their work to protect the Cockpit Country and that local environmental groups gradually also came to embrace mainstream conservation. But it will also highlight that Cockpit communities have had a more ambivalent attitude towards conservation of the area than local environmental groups and international organisations, and that a focus on short-term gain has made the government a reluctant and even obstructive stakeholder in the preservation of the area's biodiversity.

Keywords: conservation; Jamaica; Caribbean; mining; ecotourism.

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The Cockpit Country in west central Jamaica is one of the world's most unique karst landscapes. The Cockpits are 'steep sided conical hills (with 30° to 40° slopes in some areas) and concave depressions up to 150 m deep and 1 km in diameter'.[2] This wet limestone tropical forest is a biodiversity hotspot containing at least 100 Cockpit endemic and 400 Jamaican endemic plant species, and an aquifer, providing some 40 per cent of Jamaica's freshwater.[3] Agriculture and bauxite mining are major threats to the Cockpit Country's biodiversity. Protected areas, if resourced sufficiently and managed effectively, can be an important tool to protect biodiversity. In the immediate post-war period, parts of the area were turned into forest reserves. From the late 1960s, calls were made to turn the Cockpit Country into a national park, but it took until 2022 before part of it was declared a protected area.

This article maps both the threats to the Cockpit Country's natural resources and attempts to conserve the area, from Jamaica's independence in 1962 to the declaration of the Cockpit Country Protected Area (CCPA) in 2022. It focusses on several stakeholders – international organisations, the government of Jamaica, environmental groups, and local communities – and asks how power relations played out between them. It will argue that their interplay made conservation of the area a far from straightforward trajectory but that certain conservation approaches – as defined by (inter) national institutions –4 received considerable support.

As Dan Brockington, Rosaleen Duffy and Jim Igoe have shown in their *Nature Unbound: Conservation, Capitalism and the Future of Protected Areas* (2008), from the late 1970s 'fortress conservation', which sought to enclose wild terrains and limit possible human interference, was increasingly challenged and gradually gave way to 'mainstream conservation'. Mainstream conservation is a 'very broad amalgam of different approaches, ideas and dynamics' but has two key features. Firstly, it is grounded in efforts to separate people and nature via the promotion of protected areas and favours participatory approaches, including community-based

[2] Minke E. Newman, Kurt P. McLaren and Byron S. Wilson, "Using the Forest Transition Model and Proximate Cause of Deforestation to Explain long-term Forest Cover Trends in a Caribbean Forest," *Land Use Policy* 71 (2018): 397.
[3] Minke E. Newman, Kurt P. McLaren and Byron S. Wilson, "Use of Object-oriented Classification and Fragmentation Analysis (1985–2008) to Identify Important Areas for Conservation in Cockpit Country, Jamaica," *Environmental Monitoring and Assessment* 172 (2011): 393-94.
[4] This article focusses on hegemonic or conventional conservation. Subaltern approaches coexisted with these approaches but are not examined here as they are much harder to document.

conservation. And second, mainstream conservation is capitalist – it embraces the idea that nature 'can be turned into in situ "natural capital" so that the creativity of the pursuit of profit can effectively and efficiently be linked to the protection of nature and the "environmental services" it provides'.[5] The following will show that by the late 1980s, international organisations, such as The Nature Conservancy (TNC) and the United States Agency for International Development (USAID) came to embrace mainstream conservation approaches in their work to protect the Cockpit Country's biodiversity and that these became more capitalist in the neoliberal area. It will furthermore highlight that largely for funding reasons, local environmental groups also gradually adopted mainstream conservation but that local communities and the government had a more ambivalent attitude towards this approach.

There is no consensus amongst policymakers, academics, and residents what area comprises the Cockpit Country. For some, it only includes the 52,000 hectares made up of Cockpit karst but for others it is much broader, including sites of cultural and historical importance stretching across multiple parishes, especially the area where the British and Maroons fought during the slavery era. Maroons are descendants of escaped African slaves, who established free communities in the mountainous interior. A number of Maroons known as the Leeward Maroons settled in the western part of the Cockpit Country, where they set up Accompong and Cudjoe's Town, named after their leader Cudjoe. They frequently raided sugar plantations which disturbed the British so much that they went to war with the Maroons, destroying various settlements. Cudjoe agreed to a peace treaty in 1739, which recognised the Maroons as free, allocated them 1,500 acres of land in the parish of Trelawny, and gave Cudjoe the right to dispense justice in his community. In return, the Maroons had to take part in the defence of the island and return runaway slaves.[6] As the treaty did not make specific reference to the Accompong Maroons, land around them was increasingly occupied by new owners. They successfully petitioned the governor in 1757 and were granted 1,000 acres in the Cockpit Country.

[5] Bram Büscher and Robert Fletcher, *The Conservation Revolution: Radical Ideas for Saving Nature beyond the Anthropocene* (London: Verso, 2020), 3.
[6] Barbara K. Kopytoff, "Jamaican Maroon Political Organization: The Effects of the Treaties," *Social and Economic Studies* 25, no. 2 (1976): 88-91.

They were given additional land in the 1930s. Today, they occupy 2,876 acres and hold semi-autonomous status.[7]

Alongside Maroon communities in Accompong, Quickstep, and Flagstaff, there are many other communities in the Cockpit Country – just 38 in Cockpit Country north alone.[8] The total population today is about 70,000 and small farmers make up the majority.[9] Most small farmers hold one to five acres and grow various crops, particularly yams.[10] Located at the heart of the Cockpit Country is the hamlet of Windsor, which houses the Windsor Research Centre, a not-for-profit company that promotes research into the Cockpit Country and works with government ministries and agencies, NGOs, and community-based organisations. Together with two environmental groups – the Southern Trelawny Environmental Agency (STEA) and the Jamaica Environment Trust (JET) –, it has played a key role in the campaign to prevent bauxite mining in the Cockpit Country.

Except for the history of the Maroons, Caribbean historians have largely ignored the Cockpit Country. It has been studied by geographers and geologists concerned to categorise and map the kart terrain;[11] increasingly by environmental scientists, who have examined the area's biodiversity loss;[12] and more recently by anthropologists, ethnographers, and political scientists. For instance, Kemi Fuentes-George has mapped the development of a Transnational Advocacy Network around the domestic implementation of the UN's Convention on Biological Diversity in the Cockpit Country,[13] Bobby Seals has examined how Maroons maintain an ecological balance between nature and modernity,[14] and Jason A. Douglas has explored attempts

[7] Alice E. Baldwin-Jones, "The Jamaican Marronage, a Social Pseudomorph: The Case of the Accompong Maroons," (Ph.D diss., Columbia University, 2011), 142-43; Kenneth M. Bilby, "Maroon Autonomy in Jamaica," Cultural Survival, accessed May 12, 2023, https://www.culturalsurvival.org/publications/cultural-survival-quarterly/maroon-autonomy-jamaica.
[8] "Conserving Biodiversity and Reducing Land Degradation Using an Integrated Landscape Approach," Global Environment Facility, accessed May 12, 2023, https://www.thegef.org/project/conserving-biodiversity-and-reducing-land-degradation-using-integrated-landscape-approach.
[9] "Liquid Gold in Cockpit Country," UNDP Multi Country Office in Jamaica, accessed May 12, 2023, https://undpjamaica.exposure.co/liquid-gold-in-cockpit-country.
[10] Leon Jackson, "Environmentalist Bats for the Cockpit Country," *Gleaner,* February 28, 2017, C4.
[11] See, for instance, P. Lyew-Ayee, H. A. Viles and G. E. Tucker, "The Use of GIS-based Digital Morphometric Techniques in the Study of Cockpit Karst," *Earth Surface Processes and Landforms* 32 (2007): 165-179; Michael Day, Alan Halfen and Sean Chenoweth, "The Cockpit Country, Jamaica: Boundary Issues in Assessing Disturbance and Using a Karst Disturbance Index in Protected Areas Planning," in *Karst Management*, ed. Philip E. Beynen (Dordrecht: Springer, 2011), 399-414.
[12] See, for instance, Newman, McLaren and Wilson, "Using the Forest Transition Model," and their "Use of Object-Oriented Classification".
[13] Kemi Fuentes-George, *Between Preservation and Exploitation: Transnational Advocacy Networks and Conservation in Developing Countries* (Cambridge, MA: MIT Press, 2016).
[14] Bobby Seals, "The Accompong Maroons: Survivability, Adaptability and Resiliency," (Ph.D. diss, California Institute of Integral Studies, 2022).

at community-based participatory resource management in the area.[15] This, on the other hand, is a historical study. Based on a wide range of published and online sources, including newspaper accounts and reports by environmental groups and international organisations, it offers an account of the interaction between various stakeholders and nature in the Cockpit Country over the last 60 years. In doing so, it adds to scholarship on modern Caribbean history which has been biased towards urban areas and when it has studied rural areas, has done so largely through an agricultural history lens.[16] And it also adds to historical scholarship on nature conservation, which first examined the establishment of national parks in the late nineteenth and early twentieth centuries[17] but now also addresses protected areas other than national parks,[18] the conflicts between conservationists and local communities,[19] and the shift towards mainstream conservation.[20] Except for the Caribbean coast of Costa Rica,[21] this body of work has largely ignored the Caribbean.

The threats to and the different views on conservation of the Cockpit Country will be examined in three, roughly chronological sections. The first section explores attempts to turn the Cockpit Country into a national park, from the late 1960s to the early 1990s. The second examines the rise of community-based conservation projects from the late 1990s onwards. And the final section deals with the last two decades and looks at the clash between the government on the one hand and environmental groups and local communities on the other, over bauxite mining.

1 NATIONAL PARK STATUS

In the two decades following the adoption of a national forestry policy in 1949, 17 forest reserves were set up within the Cockpit Country, comprising 31,278

[15] Jason A. Douglas, "In the Cockpit: The Political Ecology of Integrated Conservation and Development in Cockpit Country, Jamaica," (Ph.D. diss, City University of New York, 2013).
[16] See, for instance, Tony Weis, "Restructuring and Redundancy: The Impacts and Illogic of Neoliberal Agricultural Reforms in Jamaica," *Journal of Agrarian Change* 4, no. 4 (2004): 461-91; Michaeline A. Crichlow, *Negotiating Caribbean Freedom: Peasants and the State in Development* (Lanham, Maryland: Lexington Books, 2005).
[17] See, for instance, Bernard Gissibl, Sabine Höhler and Patrick Kupper, eds, *Civilizing Nature: National Parks in Global Historical Perspective* (New York and Oxford: Oxford University Press, 2012).
[18] See, for example, Frode Sundnes, "Scrubs and Squatters: The Coming of the Dukuduku Forest, an Indigenous Forest in KwaZulu-Natal, South Africa," *Environmental History* 18 (2013): 277-308.
[19] See, for instance, Jane Carruthers, "The Royal Natal National Park, Kwazulu-Natal: Mountaineering, Tourism, Nature Conservation in South Africa's First National Park c. 1896 to c. 1947," *Environment and History* 19 (2013): 459-85.
[20] See, for example, Boga Thura Manatsha, "The Politics of Tachila Nature Reserve in the North East District, Botswana: A Historical Perspective," South *African Historical Journal* 66, 3 (2014): 521-45.
[21] See, for instance, Stirling Evans, *The Green Republic: A Conservation History of Costa Rica* (Austin: University of Texas Press, 1999).

hectares.[22] In 1967, the United Nations Development Programme (UNDP) recommended that several areas in Jamaica should become national parks, including the Cockpit Country.[23] In the 1970s, the government made efforts to set up a national parks system. National parks were mentioned in a new National Physical Plan and in 1975 a National Resources Conservation Department (NRCD) was set up, which formulated proposals for several national parks, including one for the Cockpit Country.[24] But thereafter progress towards a national parks system stalled. A 1987 USAID-funded report argued that this was largely because 'higher administrative levels of government' perceived protected areas as a 'potential obstacle' towards development, translating into limited staffing and resourcing for the NRCD, a lack of legislation to set up national parks and other protected areas, and limited involvement of Jamaica in international initiatives relating to protected areas.[25]

In the 1980s, the government was indeed strongly focussed on development. In 1981, it announced plans to increase the production of bauxite – a major income earner – but shortly afterwards the international bauxite market went into recession, causing some bauxite companies to leave the country. Tourism, another leading sector, also went into decline and there was high inflation and unemployment. The government then negotiated several structural adjustment loans with International Financial Institutions, which came with conditions such as fiscal restraint and the encouragement of privatisation, deregulation, and foreign investment.[26] As such, there was not much public money for conservation in the 1980s, preventing the formation of new protected areas and affecting existing protected areas. For example, cuts in the Forestry Department's staffing and resources led to lax implementation of the national forestry policy and this allowed Cockpit Country residents to intrude on the forest reserves and clear land for cultivation.[27]

[22] Minke E. Newman, Kurt P. McLaren and Byron S. Wilson, "Assessing Deforestation and Fragmentation in a Tropical Moist Forest over 68 Years: The Impact of Roads and Legal Protection in the Cockpit Country, Jamaica," *Forest Ecology and Management* 315 (2014): 139.
[23] "U.N. Development Programme in Jamaica," *Gleaner*, February 6, 1967, 10; Ralph M. Field and Julie E. Troy, *Jamaica – Country Environmental Profile* (Washington DC: USAID, 1987), 219.
[24] Field and Troy, *Jamaica – Country Environmental Profile*, 162.
[25] Ibid, 169.
[26] Anthony J. Payne, *Politics in Jamaica* (London: St. Martin's Press, 1988), 111-30.
[27] USAID, *Jamaica Project Paper: Projected Areas Resources Conservation* (Washington, DC: USAID, 1989), 7.

Also stifling progress towards a national parks system in the 1980s was a 'weak and disorganised' environmental community.[28] Until the late 1980s, there were few environmental groups and most were concerned with research, such as the Natural History Society of Jamaica. Increased awareness about the state of environmental degradation and support from international organisations led to a mushrooming of environmental groups. By 1995, there were already 40 groups that undertook awareness-raising campaigns and lobbied the government, including some national-level groups, such as JET and the Jamaica Conservation Development Trust (JCDT).[29]

The JCDT played a prominent role in the USAID-funded Protected Areas Resources Conservation (PARC) programme, which ran from 1989 till 1998. It piloted two national parks – the Blue and Jim Crow Mountains National Park (BJCMNP) and the Montego Bay Marine Park (MBMP) – and tried to set up a national parks and protected areas system.[30] PARC demonstrates the shift from fortress to mainstream conservation. It was argued by USAID that national parks would generate foreign exchange and employment by, amongst others, attracting tourists and allowing locals to use marginal land.[31] Conservation, then, was no longer just about protecting species and ecosystems but also enhancing rural livelihoods, and it worked within capitalism.[32]

That the Cockpit Country was not singled out as a pilot park for PARC is not surprising as the Blue and Jim Crow mountains and Montego Bay's marine area were more likely to attract tourists and thus have commercial potential.[33] It was agreed that once the BJCMNP and MBMP were financially sustainable, national parks would be set up in the Cockpit Country and the Black River watershed area. But this did not happen because during the second phase of the programme (1993-98), the two pilot

[28] "'Save our Forests' Action Plan," *Gleaner*, September 26, 1989, 2.
[29] Patricia Lundy, "Fragmented Community Action or New Social Movement?: A Study of Environmentalism in Jamaica," *International Sociology* 14, no. 1 (1999), 83-102.
[30] The project was funded by USAID, the Government of Jamaica, JCDT and TNC. The parks were selected based on 'biological value, socio-economic value and management considerations'. USAID, Jamaica *Project Paper,* 6. For more on the project, see James G. Carrier, "Market and Economy in Environmental Conservation in Jamaica," in *Market and Society: The Great Transformation Today*, eds Chris Hann and Keith Hart (Cambridge: Cambridge University Press, 2009), 240-55.
[31] USAID, *Jamaica Project Paper;* USAID, *Project Grant Agreement between the Government of Jamaica and the United States of America for Protected Areas Resources Conservation Project* (Washington, DC: USAID, 1989).
[32] W. M. Adams, *Green Development: Environment and Sustainability in the Developing World,* 3rd ed. (London and New York: Routledge, 2009), 275-77.
[33] Carrier, "Market and Economy," 246.

parks failed to become financially sustainable as the JCDT struggled to raise sufficient funds from the private sector and external donors for a National Parks Trust Fund – a public-private partnership, a key tool of mainstream conservation –, which had to cover the costs of the pilot parks.[34]

The initial push, then, to turn the Cockpit Country into a national park came from UNDP, while USAID stepped in to fund its formation in the absence of public money for conservation. The JCDT supported USAID in its efforts but other environmental groups equally saw national park status as an important tool to preserve the Cockpit Country's biodiversity. Since the failure of PARC's second phase, JET, STEA and other groups have repeatedly lobbied the government to turn the Cockpit Country into a national park or even a World Heritage site, often supported by the Forestry Department and the NRCD.[35] But local communities have been more ambivalent about national park status, fearing it may affect their land ownership and use, lead to more official intrusion, and affect their traditional way of life by increasing the number of visitors.[36] In fact, in 2000 the World Bank withdrew a proposal that built on PARC and would have developed the Cockpit Country as a protected area after it encountered resistance from the government and local communities because of its insistence on 'biodiversity-friendly productive activities' in the buffer zone, ruling out both bauxite mining and intensive agriculture.[37] The following section will show that even conservation projects short of bestowing some form of protected area status on the Cockpit Country were not always welcomed by local communities.

2 COMMUNITY-BASED CONSERVATION

Community-based conservation approaches became a common tool of mainstream conservation in the 1990s, based on the assumption that rural people would be more willing to protect biodiversity if they could make money from it. While

[34] "Development of Environmental Management Organization (DEMO): Evaluation Summary (1996)," USAID, accessed 12 May, 2023, https://pdf.usaid.gov/pdf_docs/PDABP079.pdf.
[35] Fuentes-George, *Between Preservation and Exploitation,* 14-16 and 176.
[36] M. J. Day, "Stakeholder Reaction to the Proposed Establishment of the Cockpit Country National Park, Jamaica," in *Proceedings of Trans Karst 2004,* eds Okke Batelaan et al. (Hanoi: Research Institute of Geology and Mineral Resources, 2004), 34-9.
[37] Fuentes-George, *Between Preservation and Exploitation,* 37; World Bank, *Jamaica – The Cockpit Country Conservation Project, Report no. PID8176* (Washington, DC: World Bank, 2000); Jason E. Douglas, "'When dem come': The Political Ecology of Sustainable Tourism in Cockpit Country, Jamaica," in *Reframing Sustainable Tourism,* eds Stephen F. McCool and Keith Bosak (Dordrecht: Springer, 2016), 125.

community-based conservation was more inclusive and sensitive to local needs than fortress conservation, it was not necessarily more effective. In fact, many community-conservation projects failed because they did not successfully integrate the dual aims of conservation and rural development or link the local level with multiple levels of organisation that impact and shape institutions at the local level. Also hindering their effectiveness was the fact that biodiversity was often not a high priority for rural communities.[38] These shortcomings can also be observed in two types of community-based conservation undertaken in the Cockpit Country since the late 1990s. First, ecotourism, which is a 'nature-based tourism that is ecologically sustainable, environmentally sensitive, and often involves adventure travel, environmental education, and cultural exploration'.[39] And second, agroforestry, a form of agriculture that through the intentional integration of trees on crop or pastureland provides a range of ecosystem services, including soil enrichment and climate change mitigation through carbon capture, and can also benefit small farmers through the diversification of income, increased crop yields, and substitution of agricultural inputs.[40]

Starting in the late 1990s, several ecotourism projects were set up in the Cockpit Country with external funding that aimed to enhance local livelihoods and increase environmental awareness. In 1997, STEA set up Cockpit Country Adventures Tours (CCAT), which offered half-day walking tours.[41] With funding from, amongst others, the World Bank-supported Rural Economic Development Initiative (REDI), it has since done much to expand ecotourism in the Cockpit Country. For example, it has added a herbal trail, created a 600-meter walking trail with safety rails, set up a kiosk, and helped residents open their homes to visitors wishing to stay overnight.[42]

Other key players in the development of community-based ecotourism in the Cockpit Country were the three Local Forestry Management Committees (LFMCs) set

[38] Fikret Berkes, "Community-Based Conservation in a Globalized World', *PNAS* 104, no. 39 (2007): 15188-93.
[39] "Ecotourism," in *A Dictionary of Environment and Conservation,* 3rd ed., eds Chris Park and Michael Allaby (Oxford: Oxford University Press, 2017), n.p.
[40] Joseph Bettles et al., "Agroforestry and Non-State Actors: A Review," *Forest Policy and Economics* 130 (2021): 1.
[41] USAID, *Ecotourism in Jamaica: An Economic and Environmental Assessment of Selected Sites* (Washington, DC: USAID, n.d.), 45.
[42] Nagra Plunkett, "Cockpit Herbal Trail Catches on," *Gleaner*, March 7, 2007, 6; "NGO Stays Course to Make better use of Cockpit Country Ecotourism Offerings," *Gleaner*, August 10, 2017, C7.

up in 2007 with support from USAID and TNC through the Parks-in-Peril Project.[43] The LFMCs amply reflect the participatory, stakeholder-focused approaches of mainstream conservation. They brought together government agencies, NGOs, community-based organisations, and forestry staff to manage and conserve the area as well as explore sustainable economic activities.[44] They have, amongst others, set up a visitor centre in Flagstaff and rehabilitated some Maroon historical sites.[45] In recent years, some private ecotourism ventures have also started to work closely with local communities. For example, the Bunkers Hill Cultural Xperience and River Tours, set up in 2014 with funding from the Social Enterprise Boost Initiative, uses local produce and employs locals as cooks, tour guides and lifeguards.[46]

The impact of the various community-based ecotourism projects on rural livelihoods is questionable. USAID did a review of CCAT a year after it had been launched and concluded that the trained guides and the residents who provided transport or accommodation for tourists had received some income and become more environmentally aware but not many others.[47] No formal assessments have been made of the other projects but considering the low number of visitors – e.g., in 2017 no more than 60 people per month did a CCAT tour –[48] and the fact that most visitors have been day trippers, few community members other than guides and taxi drivers will have directly benefitted from these initiatives. Limited government support for ecotourism goes some way to explain the low number of visitors. Despite the adoption of a 'Master Plan for Sustainable Tourism' in 2002 and a 'Community Tourism Strategy' in 2015, Jamaica's tourism strategy has largely remained focussed on sun, sand, and sea. In 2011, the Minister of Tourism promised that by 2013-2014 the

[43] The 1996 Forest Act made provision for LFMCs. It was not until 2000 before the first LFMCs were set up. They initially struggled to take root because of various challenges, including the stakeholders' lack of understanding of the aims and objectives of LFMCs and an overreliance on reaching stakeholders through local organisations so that not all important stakeholders were represented, especially the poorest. See Tighe Geoghegan and Noel Bennet, *Local Forest Management Committees: A New Approach to Forest Management in Jamaica* (Trinidad: CANARI, 2003). While government favoured the participatory management of forests, it did not make sufficient resources available for the LFMCs so that they largely depended on donor support. See Marilyn Headley, "Participatory Forest Management: The Jamaica Forestry Department Experience," FAO, accessed May 12, 2023. https://www.fao.org/3/y5189e/y5189e07.htm
[44] Douglas, "'When dem come'," 125.
[45] Ana Maria V. González and Angela S. Martin, *Governance Trends in Protected Areas: Experiences from the Parks in Peril Program in Latin America and the Caribbean* (Arlington, Virginia: The Nature Conservancy, 2007), 31.
[46] "Bunkers Hill Cultural Xperience and River Tour," Visit Jamaica, accessed May 12, 2023, https://www.visitjamaica.com/listing/bunkers-hill-cultural-xperience-%26-river-tour/2878/.
[47] USAID, *Ecotourism in Jamaica,* 49-53.
[48] "NGO Stays Course," C7.

Cockpit Country would be developed into a 'world-class ecotourism product'.[49] Yet it was not until 2017 before specific funding was made available for ecotourism in the area.[50] Government has, however, long supported Accompong in attracting tourists. For example, the Jamaica Tourist Board has a longstanding agreement with Accompong and cruise liners to advertise the village to tourists;[51] in 2017, the Ministry of Tourism added the Accompong Maroon festival, held every 6 January to mark the signing of the peace treaty, to its annual calendar of events to 'bring more visitors to the island';[52] and in 2021, the Ministry of Culture, Gender, Entertainment and Sport gave the community a bus that could be used to 'transport visitors on tours of the heritage-rich Accompong Town and help to boost the economy of the community'.[53]

The Accompong Maroons have welcomed government support to bring more tourists to their town and have themselves also undertaken efforts to do so. For example, with support from the Critical Ecosystem Partnership Fund, they have formed a Cooperative Society so they can access funds to further enhance tourism and support other development initiatives.[54] But not all Cockpit Country communities have been supportive of attempts to increase ecotourism. In his ethnographic fieldwork of tourism projects run by the three LFMCs, Jason A. Douglas has shown that many residents were reluctant to participate. Firstly, because these projects were largely advocated by outsiders – TNC staff and mostly urban, educated, middle-class Jamaicans. And secondly, because many of these projects involved the purchasing or leasing of land. Small farmers thus had to weigh up what would generate more income – cultivating the piece of land or selling or leasing it to the LFMC. [55]

[49] Mark Titus, "All set for Cockpit Country Development," *Gleaner,* September 29, 2011, A7.
[50] Petre Williams-Raynor, "Minister Eyes Cockpit Country for Community Tourism," *Gleaner*, August 31, 2017, C9.
[51] See, for instance, "The Accompong Maroons," Visit Jamaica, accessed May 12, 2023, https://www.visitjamaica.com/listing/the-accompong-maroons/255/
[52] "Tourism Ministry Looks to Add Accompong Maroon Celebrations to Calendar of Events," Jamaica Information Service, accessed May 12, 2023, https://jis.gov.jm/tourism-ministry-looks-add-accompong-maroon-celebrations-calendar-events/
[53] "Culture Ministry Gifts Accompong Maroons Bus Ahead of January 6 Celebrations," Jamaica Information Service, accessed May 12, 2023, https://jis.gov.jm/culture-ministry-gifts-accompong-maroons-bus-ahead-of-january-6-celebrations/
[54] "Registration of Accompong Maroons as Legal Entity to Undertake Conservation Initiatives and Actions to Protect a Key Biodiversity Area – The Cockpit Country in Jamaica," Critical Ecosystem Partnership Fund, accessed May 12, 2023, https://www.cepf.net/grants/grantee-projects/registration-accompong-maroons-legal-entity-undertake-conservation
[55] Douglas, "'When dem come'".

Like ecotourism projects in many other parts of the Global South,[56] the community-based ecotourism projects in the Cockpit Country have tended to reproduce existing socio-economic inequalities within communities. Residents with land to sell or lease or with houses suitable to host visitors and those trained as guides were more likely to generate income than others. But the projects have also created tensions between Cockpit Country communities. In 2009, for instance, TNC directed that all funding for ecotourism under the Protected Area and Rural Enterprise (PARE) project, funded by USAID, should go to the Flagstaff LFMC, largely because a private landowner refused to sell land for its envisioned tourism project in the area covered by the Bunkers Hill LFMC. This then left both the Bunkers Hill and Albert Town LFMCs without funding for ecotourism. This caused much resentment not just towards the Flagstaff LFMC but also TNC because by deciding to direct all ecotourism funding towards the Flagstaff LFMC, TNC went against local community members' understanding of LFMCs as institutions in which all participants had a stake in decision-making.[57]

The ecotourism projects succeeded little in raising local environmental awareness but several educational activities started after the turn of the century did. STEA, the Windsor Research Centre and the PARE project, amongst others, worked with specific communities and local schools to raise awareness about unsustainable activities.[58] One of the main activities they focussed on was yam cultivation. Increased yam production was a proximate cause for deforestation in the Cockpit Country in the 1980s and 1990s.[59] Yam production increased from 126,051 tons in 1982 to 161,711 tons in 1990.[60] Many communities in and around the Cockpit Country produced yams. In fact, throughout the period under discussion, Trelawny, the parish where most of the Cockpit Country is located, was the main producer of yams. Not just yam

[56] See Adams, *Green Development*, 284-85.
[57] Douglas, "'When dem come'", 127.
[58] "Conserving Cockpit Country Biodiversity through Sustainable Development Practices," GEF Small Grants Program, accessed May 12, 2023,https://sgp.undp.org/spacial-itemid-projects-landing-page/spacial-itemid-project-search-results/spacial-itemid-project-detailpage.html?view=projectdetail&id=9625; "Final Project Completion Report," Critical Ecosystem Partnership Fund, accessed May 12, 2023, https://www.cepf.net/sites/default/files/final-report-62337.pdf ; USAID, *Biodiversity Conservation and Forestry Program: Annual Report* (Washington, DC: USAID, 2010), 77.
[59] Newman, McLaren and Wilson, "Using the Forest Transition Model," 406.
[60] David Barker and Clinton Beckford, "Yam Production and the Yam Stick Trade in Jamaica: Integrated Problems for Resource Management', in *Resources, Planning and Environmental Management in a Changing Caribbean*, eds David Barker and Duncan McGregor (Kingston: University of the West Indies Press, 2003), 62.

production but also a lively trade in yam sticks caused deforestation. Up to today, most Jamaican small farmers use a yam production system whereby heads of yam are buried in hills or mounds about two meters apart, which are then staked with several sticks of three to four meters to provide support for climbing vines. As yam production increased in the 1980s, largely driven by demand in the Caribbean diaspora, suitable trees for yam sticks elsewhere in the island rapidly dwindled and this with the building of more roads in interior parts of the Cockpit Country led to the cutting of saplings from Cockpit forests for the use of yam sticks. By the late 1990s, the Cockpit Country supplied around 36 per cent of all yam sticks.[61]

In the late 1980s, attempts were made across the island, with USAID and other external funding, to introduce a yam growing method that did not use yam sticks – the minisett technology. This system whereby small planting pieces are planted in continuous mounds which are then covered in plastic or grass mulch was less laborious, could lower production costs, increase yield per acre, reduce demand for yam sticks, and prevent soil loss. Uptake was limited and not just because farmers felt strongly about a centuries-old cultivation method. The minisett technology produced smaller tubers, which were not in high demand on the market, and it was not suited for all soils and terrains. Plastic mulch, for instance, could make the clay soils on which most yams in the Cockpit Country were grown to become waterlogged, leading to the rotting of tubers.[62] Thus, organisations that tried to introduce the minisett technology failed to carefully consider the needs, cultural values, and conditions of local farmers.

Realising that farmers preferred to grow yams with sticks, environmental groups and donors began to consider ways to produce yam sticks more sustainably. In the early 1990s, for example, the Food and Agriculture Organization (FAO) ran a pilot project in central Jamaica – the main yam growing area that includes parts of the Cockpit Country – to encourage farmers to plant fast-growing leguminous trees that would produce yam sticks after two years, or to use 'live yam sticks' – stems from

[61] Barker and Beckford, "Yam Production," 67.
[62] Clinton L. Beckford, "Sustainable Agriculture and Innovation Adoption in a Tropical Small-scale Food Production System: The Case of Yam Minisetts in Jamaica," *Sustainability* 1 (2009): 81-96.

leguminous trees, managed in ways that they remain green throughout the year without increasing in size.[63]

Since the turn of the century agroforestry projects have increased. In the early 2000s, STEA with FAO support taught some 400 farmers in southern Trelawny the hedgerow and cropping alley system – planting fast-growing leguminous trees or shrubs at very high densities along the contours of a slope, which produced yam sticks and prevented soil erosion. A lack of resources prevented STEA from rolling this out to the wider community.[64] And under the PARE project, TNC and the Forestry Department encouraged agroforestry amongst Trelawny farmers.[65] The take-up of tree planting was initially limited because not enough consideration was given to the economic conditions of small farmers and not enough was done to demonstrate to them the advantages of agroforestry. The projects, for instance, were of little interest to farmers who did not own land or whose land tenure was insecure – in some parts of the Cockpit Country less than 50 per cent of residents formally own the land they cultivate.[66] The costs of seedlings, the difficulty obtaining them, and the time it took to take care of seedlings also put many farmers off. For example, many farmers who had taken part in the FAO pilot stopped growing trees after a while because they struggled to take care of seedlings alongside their other farm work as it involved a lot of weeding. But a lack of understanding of the long-term benefits from growing their own yam sticks was also a key obstacle to farmer participation in the project. Many farmers simply did not realise how much they could save by growing their own trees and sell surplus sticks.[67]

A recently-started project funded by the Global Environmental Facility (GEF) that aims to harmonise 'socio-economic development, sustainable management of forests and other natural resources and biodiversity conservation' in the new CCPA, through amongst others ecotourism and agroforestry, has acknowledged that not

[63] Clinton L. Beckford, "Decision-making and Innovation among Small-scale Yam Farmers in Central Jamaica: A Dynamic, Pragmatic and Adaptive Process," *The Geographical Journal* 168, no. 3 (2002): 254.
[64] "Hedgerows /Alley Cropping system to Control Soil Erosion, Jamaica," FAO, accessed May 12, 2023, http://www.fao.org/3/ca3939en/ca3939en.pdf; Clinton L. Beckford, Donovan Campbell, and David Barker, "Sustainable Food Production Systems and Food Security: Economic and Environmental Imperatives in Yam Cultivation in Trelawny, Jamaica," *Sustainabilit*y 3 (2011): 552.
[65] Noel Thompson, "Sustaining Trelawny Yam," *Gleaner*, June 9, 2009, D1.
[66] "Conserving Biodiversity and Reducing Land Degradation".
[67] Beckford, "Decision-Making and Innovation," 254-55.

enough has been done to date to demonstrate to small farmers in the Cockpit Country the benefits of agroforestry and other sustainable forms of agriculture or to make suitable technology for this shift more readily available.[68] Several other agroforestry projects are currently caried out in the Cockpit Country, which reflect a wider global effort by the UNDP, World Bank and other international organisations to increase agroforestry in an attempt to advance global climate change adaption and sustainable development,[69] including a three-year European Union-funded project carried out by the Forestry Department that uses agroforestry to replant parts of the Cockpit Country while helping local residents to enhance their livelihoods through bee-keeping and craft production.[70] But it is not just external organisations encouraging local communities to embrace agroforestry. In 2016, residents from Sawyers formed a non-profit organisation so that they could apply for funding from different donors. Amongst others, they secured a GEF small grant for a project that combined agroforestry and beekeeping.[71]

Since the 1990s, then, international organisations and local environmental groups have undertaken various community-based conservation projects in the Cockpit Country that combine rural development and biodiversity conservation. These projects did not always fully engage all stakeholders, especially the local communities whose needs and knowledge were often ignored or minimised. And they also did not fully integrate the aims of conservation and development. Most of the earlier agroforestry projects, for instance, were more concerned with conservation than development. But for many Cockpit Country residents these projects were also not a priority. For example, many preferred to cultivate their land rather than sell or lease it to a LFMC or to hold onto the traditional yam-growing method which contributed to deforestation. While local environmental groups and Cockpit Country residents did not always agree on community-based conservation, the following

[68] "Conserving Biodiversity and Reducing Land Degradation".
[69] Bettles et al, "Agroforestry and Non-state Actors," 1.
[70] Faces2Hearts, "Faces2Hearts in Jamaica: Reforestation in Cockpit Country," YouTube, February 27, 2020, https://www.youtube.com/watch?v=jyX8SyL5BCo.
[71] "Nature and Livelihoods in Sweet Balance," *Jamaica Observer*, May 23, 2021, https://www.jamaicaobserver.com/news/nature-and-livelihoods-in-sweet-balance/.

section will show that they were united in their opposition to bauxite mining, which after the turn of the century was seen as the main threat to biodiversity.

3 THE THREAT OF BAUXITE MINING

Bauxite, the primary source of alumina and aluminium, is found in the white limestone regions of western Jamaica. Mining started in the late 1940s by North American companies. Production quickly increased and by the late 1960s, Jamaica was already the world's largest bauxite producer.[72] Bauxite deposits were discovered in the Cockpit Country in the 1950s but because the ore was of lesser quality than found elsewhere companies did not apply for mining licences.[73] Only in the late 1990s, when high-quality ore elsewhere began to dry up, did mining companies turn to the Cockpit Country. In 2004 and 2005, three prospecting licences were issued.[74] It was only after one company sought renewal of its licence in August 2006 that environmental groups learned that the government had allowed prospecting in the Cockpit Country. They then set up the Cockpit Country Stakeholders' Group (CCSG), a coalition of environmental groups, the Maroons and other local communities, the LFMCs, journalists, and academics, and started a 'Save the Cockpit Country' campaign, which demanded that the government revoke the licences and declare the Cockpit Country a no-mining area.[75] This campaign was widely reported in the mainstream press and relied heavily on social media.[76]

In response to pressure exerted by the CCSG, the government suspended the licences and agreed to consider the prohibition of mining in the Cockpit Country but only after a study of the area's boundary.[77] A boundary study group was set up, which submitted a report in 2008 that proposed a commonly-understood boundary – the 'ring road' that had linked British army camps in the seventeenth and eighteenth

[72] Owen Jefferson, *The Post-War Economic Development of Jamaica* (Kingston: Institute of Social and Economic Research, 1972), 153.
[73] "Bauxite Found in Cockpit Country," *Gleaner*, February 3, 1954, 1.
[74] "Special Mining Licences (SMLs) and Special Exclusive Prospecting Licences (SEPLs)," Windsor Research Centre, accessed May 12, 2023, https://www.cockpitcountry.com/boundarySML-SEPL.html.
[75] "Environmentalists Move to 'Save the Cockpit Country'," *Gleaner*, October 20, 2006, 1. Kemi Fuentes-George has examined the main strategies and arguments of the CCSG between 2006 and 2012 in his book *Between Preservation and Exploitation: Transnational Advocacy Networks and Conservation in Developing Countries* (2016). This section takes his discussion to the present.
[76] For more on the different methods used by the campaign, see Esther Figueroa, "Cockpit Country Dreams: Film, Media and Protest in the Long Jurney to save Jamaica's Cockpit Country," in *From Sit-Ins to #Revolutions: Media and the Changing Nature of Protest*, eds Olivia Guntarik and Victoria Grieve-Williams (London: Bloomsbury, 2020), 113-26.
[77] "Lecturers' Cockpit Country Appeal gets Silver Pen Award," *Gleaner*, March 9, 2007, A2.

centuries and covered parts of the parishes of St Elizabeth and Trelawny. The report suggested that there should be a public consultation. The government failed to provide funding for such a consultation, forcing the study group to seek external funding which it only obtained in 2013.[78] During the public consultation, six possible boundaries were considered (see table 1). After the consultation, the study group submitted a report to government stating that whichever boundary was chosen, it was essential to have a core zone without mining plus a transition zone and outer boundary, each with their own level of protection.[79]

It took the government four years to reach a decision about the boundary. The consideration of the report by different government ministries and a change in government caused a delay but it was mostly a belief that the bauxite industry was key to the economy that prevented the government from making a quick decision.[80] In the 1960s, the sector's contribution to government revenue was through income taxes and royalties. In the 1970s, the government issued a special levy on bauxite and alumina companies and purchased parts of bauxite and alumina operations. In the 1980s, the levy was removed but since then the government has continued to be part-owner of bauxite and alumina operations. In 2004, it acquired a 51 per cent share in Noranda Jamaica Bauxite Partners (hereafter, Noranda), a bauxite-exporting company that mined in St Ann, a parish partly located in the Cockpit Country.[81] This helps explain why in spite of a significant decline in the bauxite industry after the 2008 financial crisis – in 2008, the industry contributed US$1,369.20 million in foreign exchange earnings, declining to US$ 671.40 million in 2017 –[82] the government took its time to decide on a boundary for the Cockpit Country because some of the proposed boundaries would considerably affect Noranda's operations. In 2004, Noranda was granted a licence (SML 165) for a site of 17,700 hectares south of Brown's Town in St Ann, which as figure 1 shows, partially fell within the boundary proposed by the CCSG. And in 2014, Noranda received a prospecting licence (SEPL 578) for a site of 13,600

[78] Petre Williams-Raynor, "Stakeholders Question Value of Boundary Consultations," *Gleaner*, July 11, 2013, D7; Petre Williams-Raynor, "UWI Reassures Stakeholders on Boundary Consultations," *Gleaner*, July 19, 2013, A9.
[79] Petre Williams-Raynor, "Scientist Flags Urgent Need for Cockpit Country Boundary," *Gleaner*, July 13, 2017, B5.
[80] "Wait Goes on for Cockpit Country Boundary Decision," *Gleaner*, November 10, 2016, C7.
[81] Jamaica Environment Trust, *Red Dirt: A Multidisciplinary Review of the Bauxite-Alumina Industry in Jamaica* (Kingston: Jamaica Environment Trust, 2020), 4 and 40.
[82] "Bauxite/alumina sector foreign exchange earnings," Jamaica Bauxite Institute, accessed May 12, 2023, https://jbi.org.jm/project/earnings/

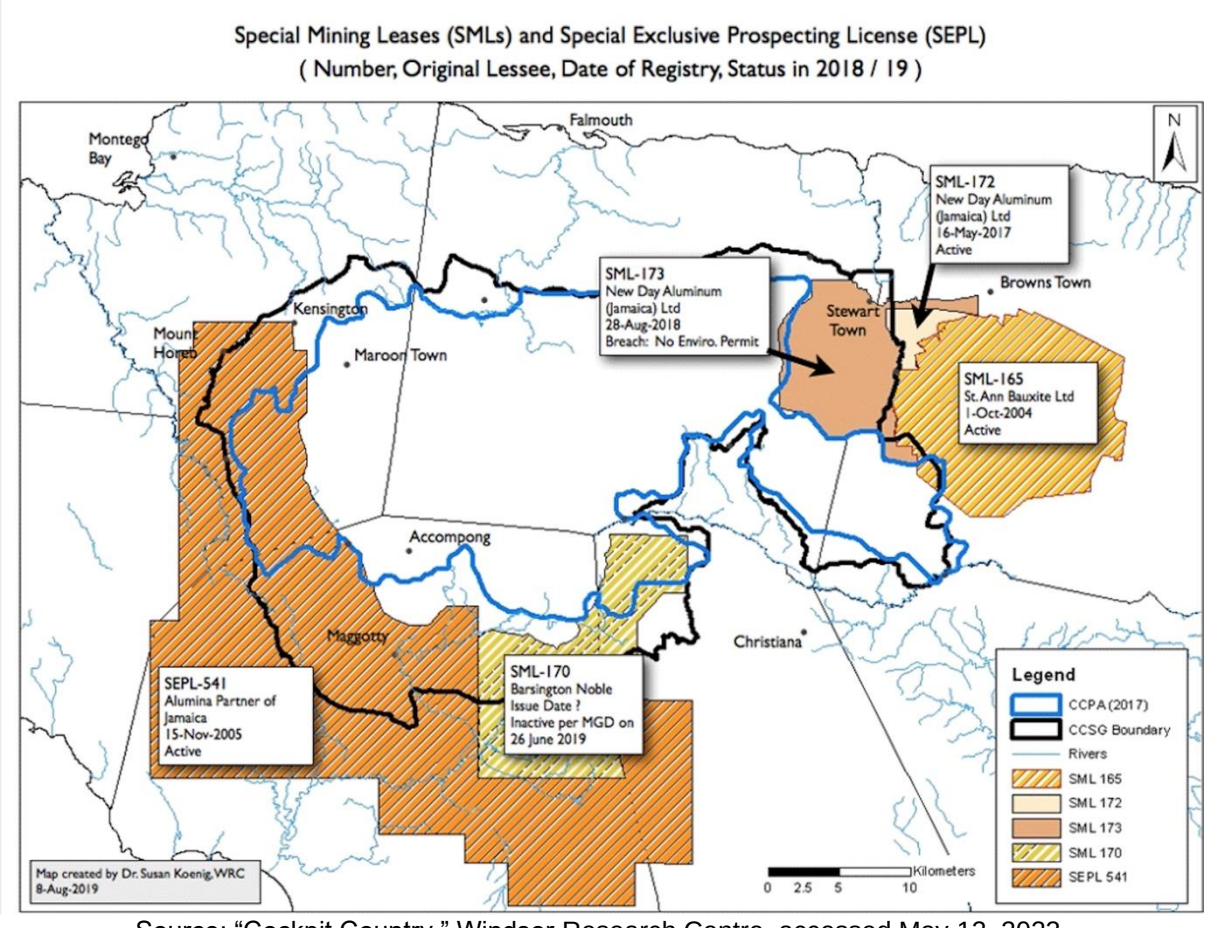
hectares in western St Ann, which also partially fell within some of the proposed boundaries.

Table 1. Proposed Boundaries for Cockpit Country and their Impact on Bauxite Mining

Name	Deny access to Tons of Bauxite
CCSG boundary	300 million
Ring Road boundary	150 million
University of the West Indies boundary	140 million
Maroon boundary	100 million
Forestry Reserve boundary	15 million
Bauxite Institute boundary	10 million

Source: *Gleaner*, August 21, 2015, A6.

Figure 1



Source: "Cockpit Country," Windsor Research Centre, accessed May 12, 2023, https://www.cockpitcountry.com/boundarySML-SEPL.html.

In November 2017, the government agreed that 74,726 hectares of the Cockpit Country would become the Cockpit Country Protected Area (CCPA) (see figure 2) where bauxite mining and other unsustainable activities would be prohibited.[83] The boundary of the CCPA was the so-called Parris Lyew-Ayee boundary, based on a 2005 article by university lecturer Parris Lyew-Ayee, which used a 'geomorphological definition' of the Cockpit Country 'free from the ambiguities of anthropogenic and biological definitions'.[84] As a result, the proposed CCPA excluded important cultural and historical sites, including Maroon heritage sites, and did not include the full Cockpit Country aquifer. The area was also 32 per cent smaller than that advocated by the CCSG and extended just beyond the forest reserves and included only one of three key biodiversity areas in the Cockpit Country – Cockpit Country Central.[85]

To avert criticisms from the CCSG that the CCPA did not have a buffer zone so that mining could be allowed up to the boundary and would thus affect watersheds and the livelihoods of rural people that farmed just outside the boundary, the government stressed that mining legislation was robust enough to ensure that mining companies would do the least harm to nature. It also tried to minimise the threat of mining by holding local communities responsible for much of the environmental degradation of the Cockpit Country, stating that once the CCPA was gazetted, enforcement would be stepped up to prohibit such harmful activities as yam stick production.[86]

As Noranda's SEPL 578 fell within the CCPA boundary, the government compensated the company in 2017 by giving it a mining licence (SML 172) for an area of 1,200 hectares in western St Ann.[87] And in 2018, Noranda was granted a 23-year mining licence (SML 173) for a site of 8,335 hectares just outside the CCPA (see figure 1). This was possible because no buffer zone was attached to the CCPA. SML 173 led to

[83] "Statement by the Most Honourable Andrew Holness, Prime Minister to Parliament on the Delimitation of the Boundary of the Cockpit Country and the Cockpit Country Protected Area on Tuesday, November 21, 2017," Office of the Prime Minister, accessed May 12, 2023, https://opm.gov.jm/speech/statement-in-parliament-on-the-delimitation-of-the-boundary-of-the-cockpit-country-and-the-cockpit-country-protected-area/

[84] Parris Lyew-Ayee, "Redrawing the Boundaries of The Cockpit Country, Jamaica," *Caribbean Geography* 14, no. 2 (2005), 102.

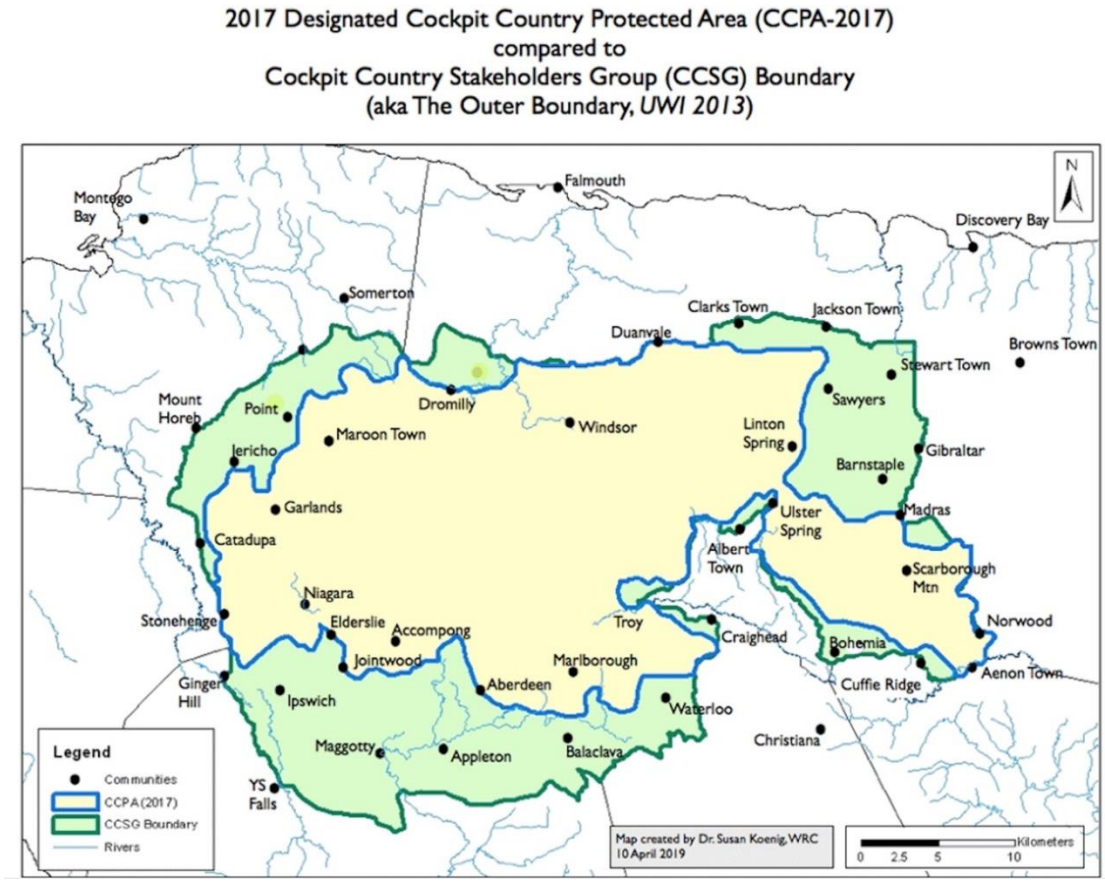
[85] It excluded the Catapuda and the Litchfield Mountain-Matheson's Run key biodiversity areas.

[86] "Statement by the Most Honourable Andrew Holness".

[87] "Extended Cockpit Country Boundaries will not affect Noranda Jamaica's Mining Operations," Alcircle, accessed May 12, 2023, https://www.alcircle.com/news/extended-cockpit-country-boundaries-will-not-affect-noranda-jamaicas-mining-operations-29547

another public campaign against mining in the Cockpit Country because it encroached more upon the CCPA than other licences. This area included many underwater resources and several historically and culturally important communities, who would be negatively affected by the licence. It would, for instance, end existing ecotourism activities, affect agriculture, and force many residents to relocate.[88] Although mining companies in Jamaica do not have to own the land where prospecting or mining is taking place, they often buy up land.[89] Since 2004, Noranda has been buying up land in St Ann and many locals have accepted the offer and relocated elsewhere in the parish, largely to escape the dust and noise of mining.[90]

Figure 2



Source: "Cockpit Country," Windsor Research Centre, accessed May 12, 2023, https://www.cockpitcountry.com/boundaryCCPA-CCSG.html.

[88] Paul Clarke and Leon Jackson, "Cockpit Country Fear lingers," *Gleaner*, June 6, 2019, A3.
[89] Jamaica Environment Trust, *Get up? Stan' up: A Guidebook on Laws and Rights Relating to Mining and Quarrying in Jamaica* (Kingston: Jamaica Environment Trust, 2015), 25-8. Regulations are in place for the resettlement of communities or individuals. They must be given new housing, land, and titles to the land even if they were not previously an owner occupier. All costs for resettlement must be paid for by the mining companies.
[90] Jamaica Environment Trust, *Red Dirt,* 116.

It was not only the various negative impacts of SML 173 on local communities and ecosystem that led to another public campaign but also the fact that Noranda was given the licence before a required Environmental Impact Assessment (EIA) was approved by the National Environment and Planning Agency (NEPA). In March 2019, Noranda started to mine but it was told to stop until the EIA was approved. Considering that the government stood to gain an estimated US$150 million in revenue per year from SML 173, is not surprising that it was keen for Noranda to start mining as soon as possible.[91] In November 2020, NEPA received the EIA. As required by law, a public meeting was held in December, broadcast live on TV and radio and streamed on various platforms.[92] This was followed by a three-week public consultation during which JET organised a virtual town hall meeting and various organisations made submissions registering their objections.[93] Based on this evidence, NEPA decided it needed to further assess the impact of SML 173 on water resources and biodiversity.[94]

In May 2021, the government announced that 6,000 hectares would be removed from SML 173. But this did not constitute a victory for the CCSG because Noranda was promised 6,000 hectares elsewhere in St Ann and the reduced area would still affect the livelihoods and well-being of 10,000 people.[95] After it had rejected several revised EIAs, NEPA received the final version in October 2021, which was denounced by the CCSG as a 'substandard document' that left many significant issues raised in the 2020 public consultation unaddressed, especially the risk posed to the underground water supplies in the watershed area of the Rio Bueno.[96] This notwithstanding in February 2022, NEPA granted an environmental permit for the

[91] Janet Silvera, "Green Light for Bauxite Mining in Cockpit Country," *Gleaner*, November 18, 2020, A1.
[92] Conrad Douglas & Associates Limited, "Environmental Impact Assessment for the Proposed Mining of Bauxite in the Special Mining Lease (SML173) Area in the Parishes of St. Ann and Trelawny – Mandatory Public Meeting Report: Mandatory "mixed virtual" Public Meeting held on December 8, 2020," NEPA, accessed May 12, 2023, https://www.nepa.gov.jm/sites/default/files/2020-12/Verbatim%20Minutes_Mandatory%20Public%20Meeting%20Report.pdf
[93] "A Town Hall Meeting on Mining in the Cockpit Country: Let's Have a Real Discussion Because It's Not Over," Petchary's Blog, accessed May 12, 2023. https://petchary.wordpress.com/2020/12/20/a-town-hall-meeting-on-mining-in-the-cockpit-country-lets-have-a-real-discussion-because-its-not-over/
[94] "NEPA to Decide on Noranda Mining Permit in Two Months," *Gleaner*, January 29, 2021, A7.
[95] Southern Trelawny Environmental Agency, "Facebook post, 29 May 2021," Facebook, accessed May 12, 2023, https://www.facebook.com/Southern-Trelawny-Environmental-Agency-STEA-165607576804617
[96] "Cockpit Country Stakeholders Reject "inadequate" EIA for Bauxite Mining Permit," Petchary's Blog, accessed May 12, 2023, https://petchary.wordpress.com/2021/10/28/cockpit-country-stakeholders-reject-inadequate-eia-for-bauxite-mining-permit/

licence.[97] And a month later, after the conclusion of a ground-truthing exercise to determine the final boundary, the CCPA was finally gazetted totalling 78,024 hectares.[98]

From 2006 when it started the 'Save the Cockpit Country' campaign to the recent SML 173 campaign, the CCSG has mobilised various arguments to support a ban on mining in the Cockpit Country, most notably that the area provides valuable services. A 2011 report commissioned by the Windsor Research Centre provided an economic value for maintaining the Cockpit Country in its current state, estimating it would cost J$2.6 billion a year. The report also stated that the area generated much value, including J$896 million worth of carbon sequestration per year, and a host of other services, such as water filtration, pollination, and recreation, and concluded that the long-term benefits of maintaining the ecosystem services exceeded the short-term economic gains from extracting bauxite.[99] Such evaluations of the economic benefits of biodiversity and ecosystem services have commonly been used by conservation institutions since the 1990s, based on the assumption that if 'natural resources can be valued financially, a critical mass of people – from global policymakers to local resource users – will be motivated to defend them'.[100] But this drive to put an economic value on nature has received much criticism and is further evidence that since the turn of the century, mainstream conservation has further embraced the 'practices, imaginaries and discourses of contemporary capitalism'.[101] In fact, the term 'neoliberal conservation' has increasingly been used to denote this shift, which also includes market-based instruments such as ecotourism and Payment for Ecosystem Services; the expansion of public-private partnerships; and green bonds.[102]

Also in its media outputs, the CCSG has stressed the market and non-market values of the Cockpit Country, stating that the area supplies 40 per cent of Jamaica's

[97] "Environmental Permits Issued to Noranda Jamaica Bauxite Partners II," NEPA, accessed May 12, 2023, https://www.nepa.gov.jm/index.php/environmental-permits-issued-noranda-jamaica-bauxite-partners-ii
[98] "No Mining in Cockpit Country Protected Area," Jamaica Information Service, accessed May 12, 2023, https://jis.gov.jm/fwd-no-mining-in-cockpit-country-protected-area/ .The Forestry Department completed the ground truthing of the CCPA boundary by 31 March 2021. This area did not correspond with the CCPA proposal presented by the Prime Minister in 2017, including a noticeable modification in the northwest.
[99] Peter E.T. Edwards, *Ecosystem Service Valuation of the Cockpit Country* (Trelawny: Windsor Research Centre, 2011).
[100] Robert Fletcher et al., "Nature Capital must be Defended: Green Growth as Neoliberal Politics," *Journal of Peasant Studies* 46, no.5 (2019): 1069.
[101] Büscher and Fletcher, *The Conservation Revolution*, 19.
[102] See Elia Apostolopoulou et al., "Reviewing 15 Years of Research on Neoliberal Conservation: Towards a Decolonial, Interdisciplinary, Intersectional and Community-engaged Research Agenda," *Geoforum* 124 (2021): 236-56.

fresh water and includes numerous endangered species. In addition, the CCSG's public education campaign as well as protests by other groups, such as the Cockpit Warriors and Cockpit Communities for Conservation, have listed economic activities that would provide residents with more sustainable livelihoods than mining, including ecotourism and bioprospecting.[103] Bioprospecting is another instrument promoted by mainstream conservationists based on the idea that the market is best suited to achieve the dual goals of development and conservation. Maroons have long made herbal remedies from plants and trees from the Cockpit Country that are sold widely across Jamaica but bioprospecting in the Cockpit Country and the island more generally is still in its infancy.[104] The University of Technology in Jamaica has been researching the properties of two endemic Cockpit plants with a view to producing a drug that can reduce inflammation and infection but to date no commercial firms have tried to use endemic plants or trees for extraction.[105]

Although the CCPPA has now been gazetted, it is not yet clear how it will be managed nor what activities other than mining will be disallowed. Should bioprospecting be allowed in the CCPA, it is likely that commercial firms will consult Maroons about their herbal remedies. Because there are no legal instruments that would protect Maroons against the exploitation of their knowledge of the Cockpit Country's natural resources, bioprospecting firms could use that knowledge to create pharmaceutical products but Maroons themselves would receive none of the financial gain.[106] But Maroons' concerns about the CCPA go further than this and biodiversity loss. For them, the land they were allocated in the Cockpit Country in the eighteenth century, and which has since been held communally, is sovereign land. As sections of the CCPA cover Maroon land, it is seen as a threat to their sovereign status. For example, in 2017 Colonel Fearon Williams of the Accompong Maroons said that 'these lands cannot and will not be sold or given away to outsiders but remain as it is

[103] See, for instance, Petre Williams-Raynor, "Cockpit Country Now," *Gleaner*, September 26, 2014, A10; Petre Williams-Raynor, "Cockpit Country Now," *Gleaner*, September 27, 2014, C2.
[104] Sylvia A. Mitchell, "The Jamaican Root Tonics: A Botanical Reference," *Focus on Alternative and Complementary Therapies* 16, no.4 (2011): 271-80.
[105] Ingrid Brown, "Utech Researchers Claim Novel Technology," *Jamaica Observer*, March 22, 2015, https://www.jamaicaobserver.com/news/utech-researchers-claim-novel-discovery/. On bioprospecting as a conservation tool, see Christopher B. Barrett and Travis J. Lybbert, "Is Bioprospecting a Valuable Strategy Conserving Tropical ecosystems?," *Ecological Economics* 34 (2000): 293-300.
[106] Marcus Goffe, "Protecting the Traditions of Maroons and Rastafari: An Analysis of the Inadequacy of the Intellectual Property Laws of Jamaica and Proposals for Reform," *SCRIPTed: A Journal of Law, Technology and Society* 6, no. 3 (2009): 575-615.

stipulated that all Maroon lands are for the born and the unborn, and this I will ensure remains that way'.[107] And not long after the CCPA was declared, Colonel Richard Currie sought an injunction against the government and the Jamaica National Heritage Trust preventing them from entering Cockpit Country to extract minerals until the Maroons get legal title to 116,218 hectares of Cockpit Country land.[108]

It is less clear what non-maroon communities think about the shift towards protected area status because the media has mostly conveyed the views of academics and environmental groups. Many communities seem to have been willing to give up their reservations about protected area status to avert mining.[109] But if some of their livelihood activities will be restricted alongside mining, such as logging or the cultivation of marijuana, which started in the 1970s and became one of the most lucrative crops,[110] they may become less supportive of the CCPA. In fact, Kemi Fuentes-George observed tensions in his studied Transnational Advocacy Network with most members approving of sustainable agriculture but a small number wishing to ban all agriculture.[111] Once the government has set out what activities will be allowed in the CCPA, the unity that environmental groups, academics and local communities displayed in the CCSG could then easily disappear.

4 Conclusion

From the late 1960s until today, it has been repeatedly suggested by local environmental groups and international organisations that the threats of intensive agriculture and bauxite mining to the Cockpit Country can be contained by granting it protected area status. But such a status offers no panacea. Newman, McLaren and Wilson have shown that till the early 1980s, the forest reserves in the Cockpit Country experienced less deforestation than the non-reserves but lost much of their protective quality thereafter because of cuts in the Forestry Department's staffing and

[107] "Accompong Maroon Chief vows to protect Cockpit Country," *Jamaica Observer*, January 8, 2017, https://www.jamaicaobserver.com/news/accompong-maroon-chief-vows-to-protect-cockpit-country/.
[108] Tanesha Mundle, "Gov't wants Maroon Lawsuit Thrown Out," *Gleaner*, July 22, 2022, A2.
[109] Fuentes-George, *Between Preservation and Exploitation*, 24.
[110] In 2019, Accompong was incorporated into a pilot project that aims to transition traditional marijuana farmers into the medicinal cannabis industry. See "More Traditional Ganja Growers to take Part in Alternative Development Programme," Jamaica Information Service, accessed May 12, 2023, https://jis.gov.jm/more-traditional-ganja-growers-to-take-part-in-alternative-development-programme/
[111] Fuentes-George, *Between Preservation and Exploitation,* 25.

budget resulting from structural adjustment loans, increased yam production, and road building in the interior.[112] This underlines that protected areas can only achieve their aims if sufficiently funded and staffed.

Deteriorating economic circumstances in the 1980s meant that the government had to rely on external organisations to make progress with the development of a national parks system and these organisations embraced the practices of mainstream conservation. The difficulty of raising sufficient funds through a public-private partnership to manage a national parks system was one of the main reasons why attempts to turn the Cockpit Country into a national park in the early 1990s failed. And a government wedded to a growth policy centred on bauxite and overseas tourism does much to explain why the development of ecotourism and other community-based conservation projects in the Cockpit Country also largely depended on external funders, and why the government first dragged its feet in declaring a boundary for the CCPA, then chose a limited boundary, and granted mining licences for sites just outside the CCPA.

For different reasons, local communities also had an ambivalent attitude towards conservation. They feared restrictions on agricultural practices, more visitors, and in the case of the Maroons also changes in landownership. But when government started issuing mining licences, many gave up reservations about protected area status and worked with local environmental groups to prevent mining in the area. Further research, including oral interviews, is needed to assess the viability of this collaboration as local communities may have different views of protected area status than local environmental groups, which are led by urban, highly educated Jamaicans and expats.

NEPA successfully applied for funding from the GEF for a project that will draft a management plan and conservation targets for the CCPA.[113] In its application, it invoked the practices and discourses of mainstream conservation, stressing for instance that it would actively consult local communities; consider ways to support ecotourism; and use such methods as Payment for Ecosystem Services to finance the

[112] Newman, McLaren and Wilson, "Using the Forest Transition Model".
[113] "More protection for Cockpit Country," Jamaica Information Service, accessed May 12, 2023, https://jis.gov.jm/more-protection-for-cockpit-country/.

CCPA.[114] The foregoing has shown that local environmental groups also embraced mainstream conservation's practices and discourses whether to obtain external funding or because they believed this offered the best protection for the Cockpit Country. They have undertaken community-based projects that aim to steer local communities towards more biodiversity-friendly livelihood strategies, and in their opposition to bauxite mining, stressed the market and non-market values of the Cockpit Country.

Mainstream conservation has increasingly come under attack. In 2012 Peter Kareiva and Michelle Marvier published an article entitled 'What is Conservation Science' which advocated what has become known as 'new conservation'.[115] New conservationists move away from protecting nature for biodiversity's own sake, want to make conservation human-centred, and argue that conservation practices that promote economic growth and partner with corporations can help reduce inequality and poverty. Yet another criticism of mainstream conservation is 'neo-protectionism', which wants to see even more of the world set aside as strictly enforced protected areas.[116]

Büscher and Fletcher have recently offered a third alternative to mainstream conservation – 'convivial conservation'. It rejects the human-nature dichotomy of fortress conservation and neo-protectionism and the capitalist solutions of mainstream and new conservation. Instead of areas that protect nature from humans, they call for areas that 'promote nature for, to and by humans', based not on exploitation or productivity but conviviality – 'the building of long-lasting, engaging and open-ended relationships with nonhumans and ecologies'. Rather than recommending ecotourism or other market-based livelihood strategies, they suggest that all individuals living in or next to conservation areas should be given a basic income allowing them to 'sustain biodiversity-friendly livelihood pursuits'.[117]

There is much to be said for a conservation basic income but how suitable is this for heavily indebted countries like Jamaica? Between 1970 and 2016, Jamaica spent

[114] "Conserving Biodiversity and Reducing Land Degradation".
[115] Peter Kareiva and Michelle Marvier, "What is Conservation Science?," *BioScience* 62, no. 11 (2012): 962-69.
[116] Büscher and Fletcher, *The Conservation Revolution*, 2-3.
[117] Ibid., 164 and 187-88.

on average 11.82 per cent of GNI per year on debt servicing.[118] The pandemic and high inflation resulting from the war in Ukraine, which have affected overseas tourism, have made it even harder for the government to contemplate such a radical proposal as giving all residents in and around the CCPA a conservation basic income. Considering how it has already struggled in the past to support conservation efforts, it is unlikely that the government will spend much of its budget in coming years on nature conservation.[119] As such, the conservation of biodiversity in the CCPA and the area just beyond, which many regard as part of the Cockpit Country, will continue to rely on external funders, who are increasingly embracing practices consistent with new conservation thinking. [120]

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118 "Jamaica – Total Debt Service," Index Mundi, accessed May 12, 2023, https://www.indexmundi.com/facts/jamaica/total-debt-service.
119 The basic management of the national protected areas system requires US$8.4 million per year but there is currently a funding gap of US$2 million. See "The Funding Gap," National Conservation Trust Fund of Jamaica, accessed May 12, 2023, https://conservejamaica.org/who-we-are/
120 Clive L. Spash, "Conservation in Conflict: Corporations, Capitalism and Sustainable Development," *Biological Conservation* 269 (2022): https://doi.org/10.1016/j.biocon.2022.109528

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Conservación y Conflicto en Cockpit Country, Jamaica, 1962-2022

RESUMEN

Cockpit Country en el centro oeste de Jamaica es un paisaje kárstico único. Basado en una amplia gama de fuentes publicadas y en línea, este artículo examina las amenazas a la biodiversidad del área y los intentos de conservarla, desde la independencia de Jamaica en 1962 hasta la declaración del Área Protegida Cockpit Country en 2022. Se enfoca en varias de las partes interesadas: el gobierno, organizaciones internacionales, grupos ambientalistas y comunidades de Cockpit, y argumenta que su interacción hizo que la conservación del área no fuera una trayectoria sencilla. Mostrará que a fines de la década de 1980, las organizaciones internacionales utilizaron cada vez más enfoques de conservación convencionales en su trabajo para proteger Cockpit Country y que los grupos ambientalistas locales gradualmente también adoptaron la conservación convencional. Pero también resaltará que las comunidades de Cockpit han tenido una actitud más ambivalente hacia la conservación del área que los grupos ambientalistas locales y las organizaciones internacionales, y que su enfoque en la ganancia a corto plazo ha convertido al gobierno en un actor reacio e incluso obstructivo en la preservación de la biodiversidad de la zona.

Palabras clave: conservación; Jamaica; Caribe; minería; ecoturismo.

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