

COCKPIT COUNTRY CULTURAL & ECOLOGICAL HERITAGE
Examples of how the Cockpit Country Protected Area (CCPA) Boundary
compromises the integrity of Cockpit Country

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19-October-2025



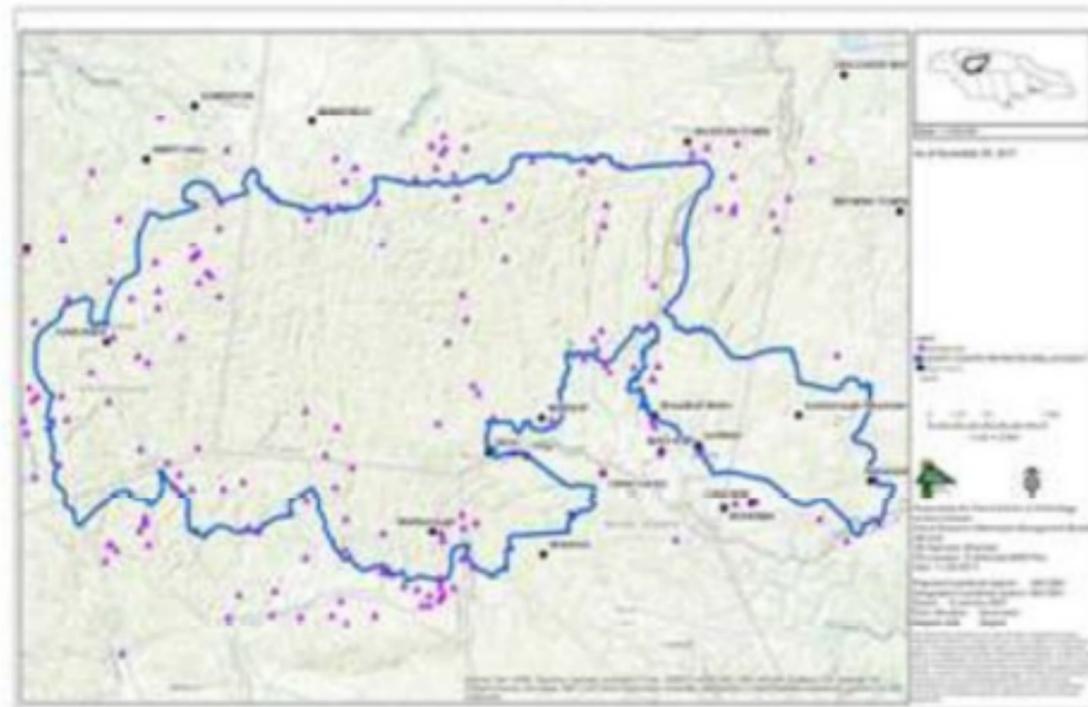
Aerial view of Cockpit Country. Jackie Tyndale-Biscoe

EXCLUSION OF CULTURAL HERITAGE

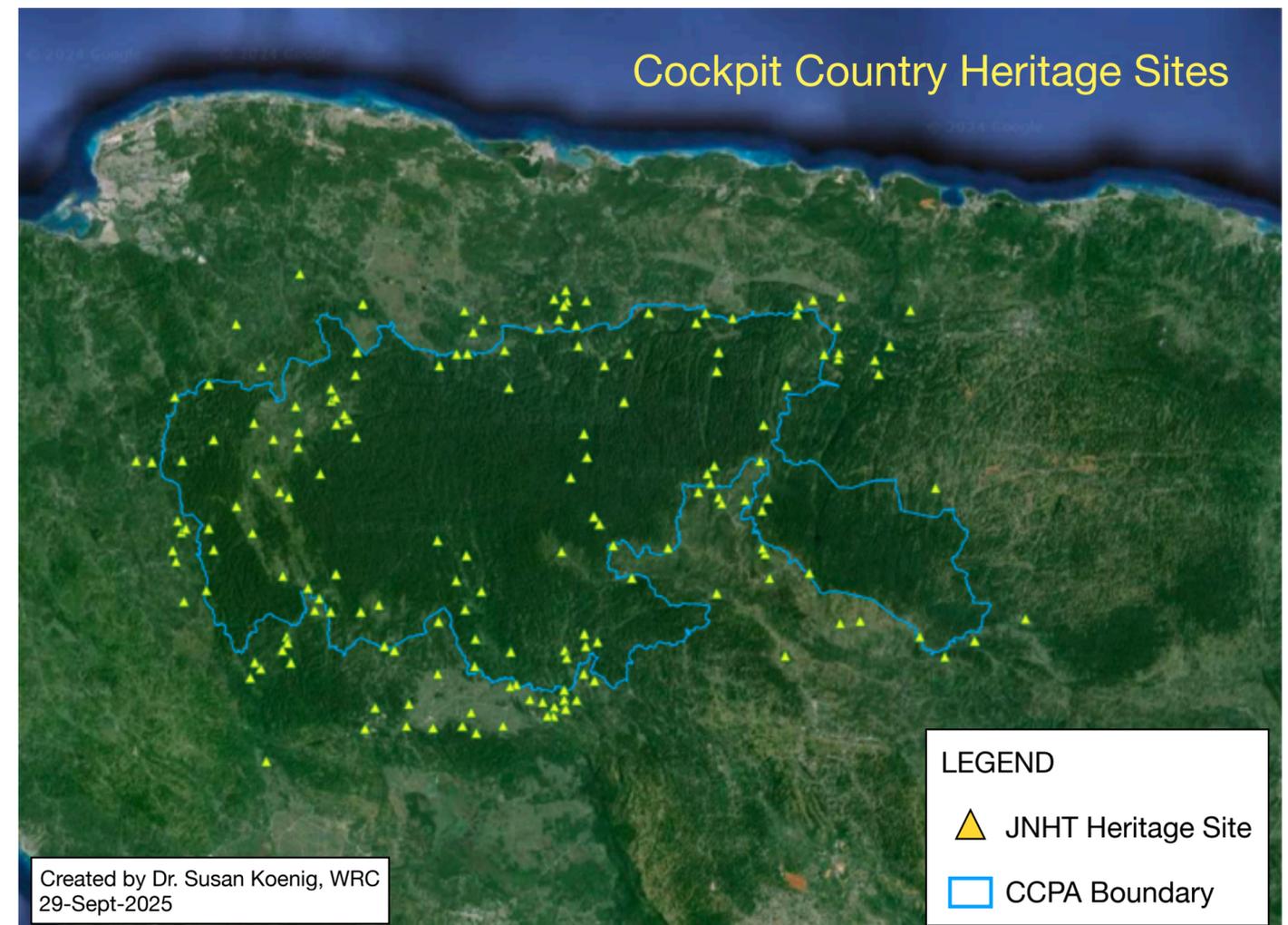
On November 21, 2017 The Most Honourable Andrew Holness, ON, PC, MP presented a Statement to Parliament on the Delimitation of the Boundary of the Cockpit Country and the Cockpit Country Protected Area <https://go-jamaica.com/pages/cockpit/files/assets/basic-html/page-1.html>

This 2017 designated boundary for a CCPA visibly excluded Cockpit Country Heritage Sites (Map 6, page 9) identified in JNHT's 2009 Report.

Map 6 - Cockpit Country Protected Area and Heritage sites



The 2022 gazetted CCPA continues to exclude Cockpit Country Heritage Sites identified in JNHT's 2009 Report.



EXCLUSION OF ECOLOGICAL HERITAGE: Hydrology & Caves

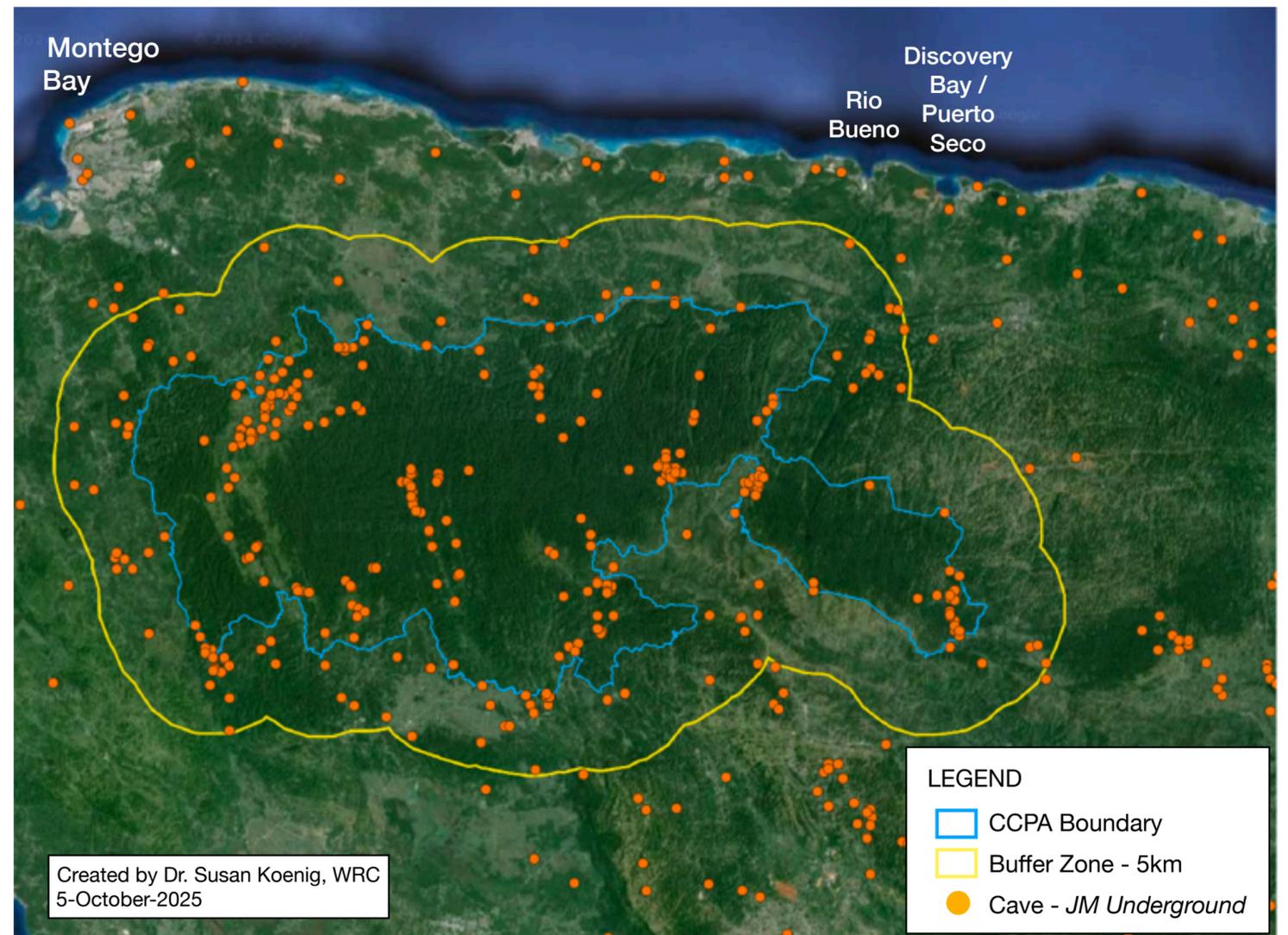
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In Map 4b (page 7) the Prime Minister showed the locations of cave openings to serve as proxies for the underground aquifer. He did not, however, distinguish between relict caves in hilltops and those which are hydrologically active.

Map 4b. Cockpit Country Protected Area with Hydrological features (caves)



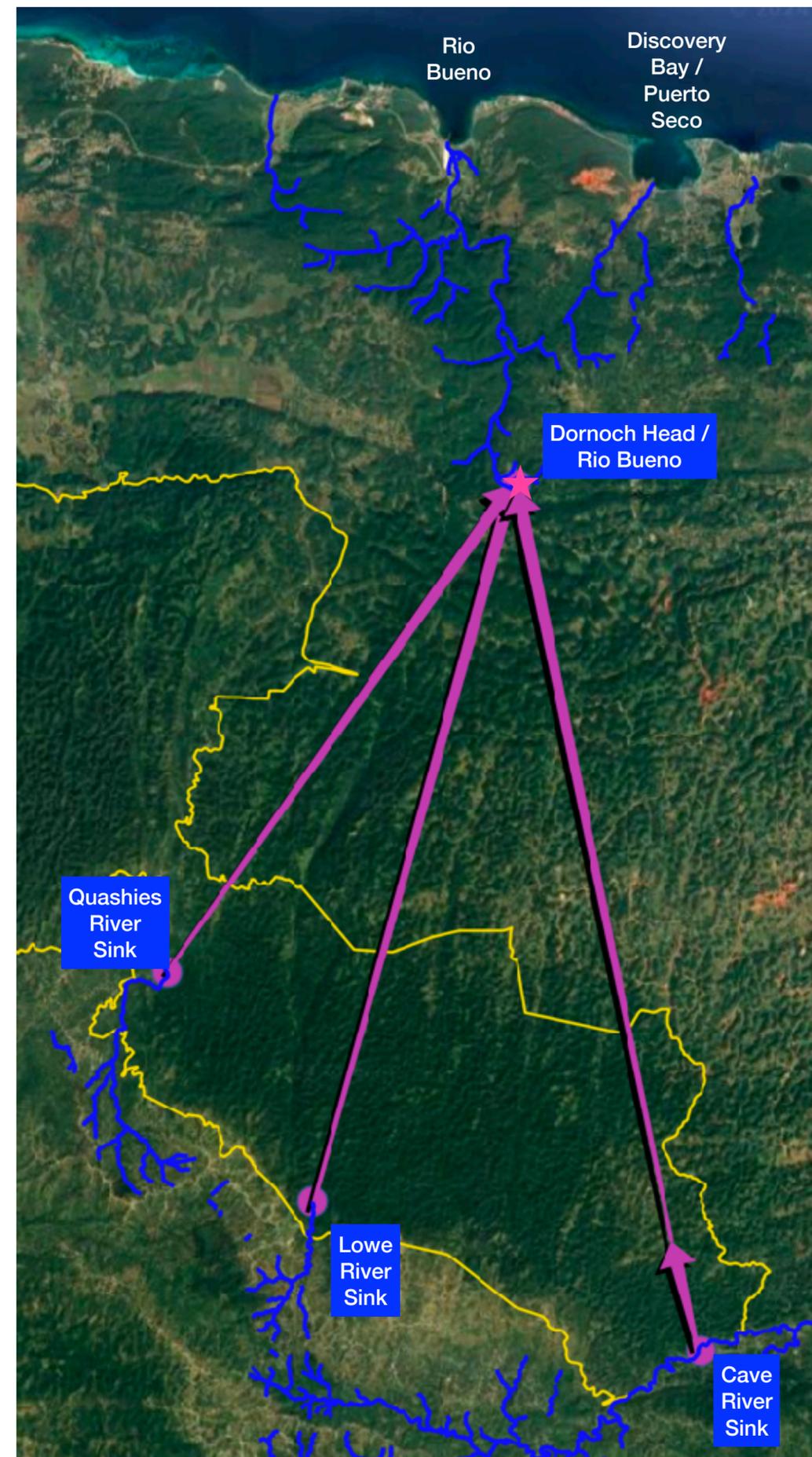
Mapping is useful for identifying caves within a 5-km* radius of the gazetted CCPA. Cave openings also help to visualize the transition in the east, from the Dry Harbour Mountains south of Puerto Seco to Cockpit Country's Rio Bueno Sub-basin Watershed Management Unit (see also next slide). *The EIA for Special Mining Lease 173 identified a 5km Sphere of Influence for bauxite mining.



EXCLUSION OF ECOLOGICAL HERITAGE: Hydrology & Rivers

The directions of Cockpit Country underground drainage flows, which feed Dornoch Head Rising at the source of the Rio Bueno, have been known since the 1970s from dye-tracing studies (Brown and Ford 1973). Water Resources Authority (WRA) has confirmed proven and conjectural flows with additional dye-tracing efforts and, more recently, with stable isotope studies. Geoffrey Marshall at WRA should be contacted for results.

The Prime Minister did not show a map of these proven underground drainage flows during his 2017 speech to Parliament.



- LEGEND
- CCPA Boundary
 - Dye injection point
 - ★ Dye detection point
 - ➔ Underground flow direction
 - Surface river

Created by Dr. Susan Koenig, WRC
7-October-2025

EXCLUSION OF ECOLOGICAL HERITAGE: Geomorphology: the *Type Locality* of Cockpit Karst

The CCPA Boundary intersects and excludes contiguous Cockpit Karst in the northwest, southwest and northeast of Cockpit Country.

See Chenoweth (2022) for quantitative GIS analyses of the northeastern area of Cockpit Country. The quantifiable Cockpit Karst of this area was assigned to Special Mining Lease (SML) 173 on August 28th 2018 and excluded from the 2022 gazetted CCPA. *Image source: Chenoweth (2022)*

Zoom in to Mount Horeb, 5-m contours

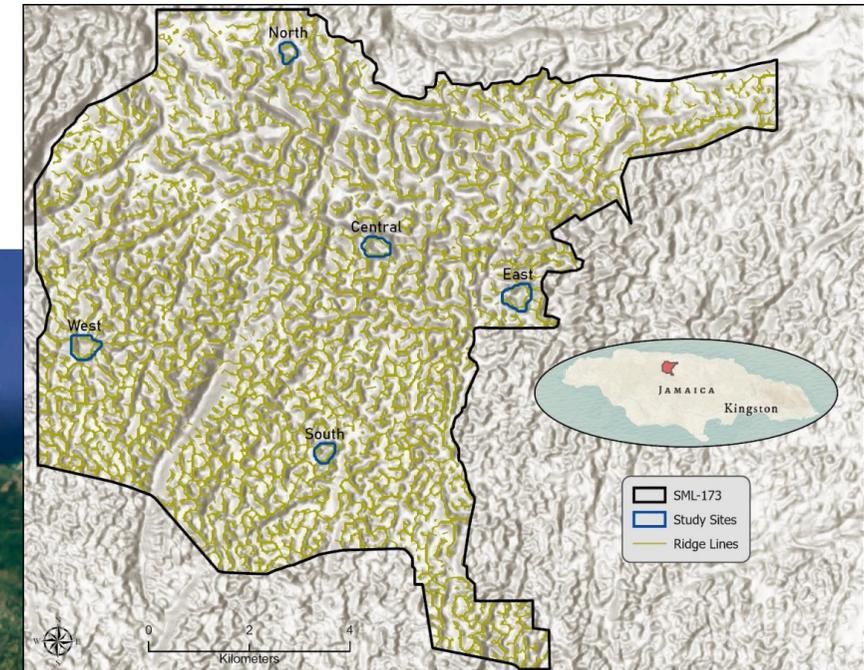
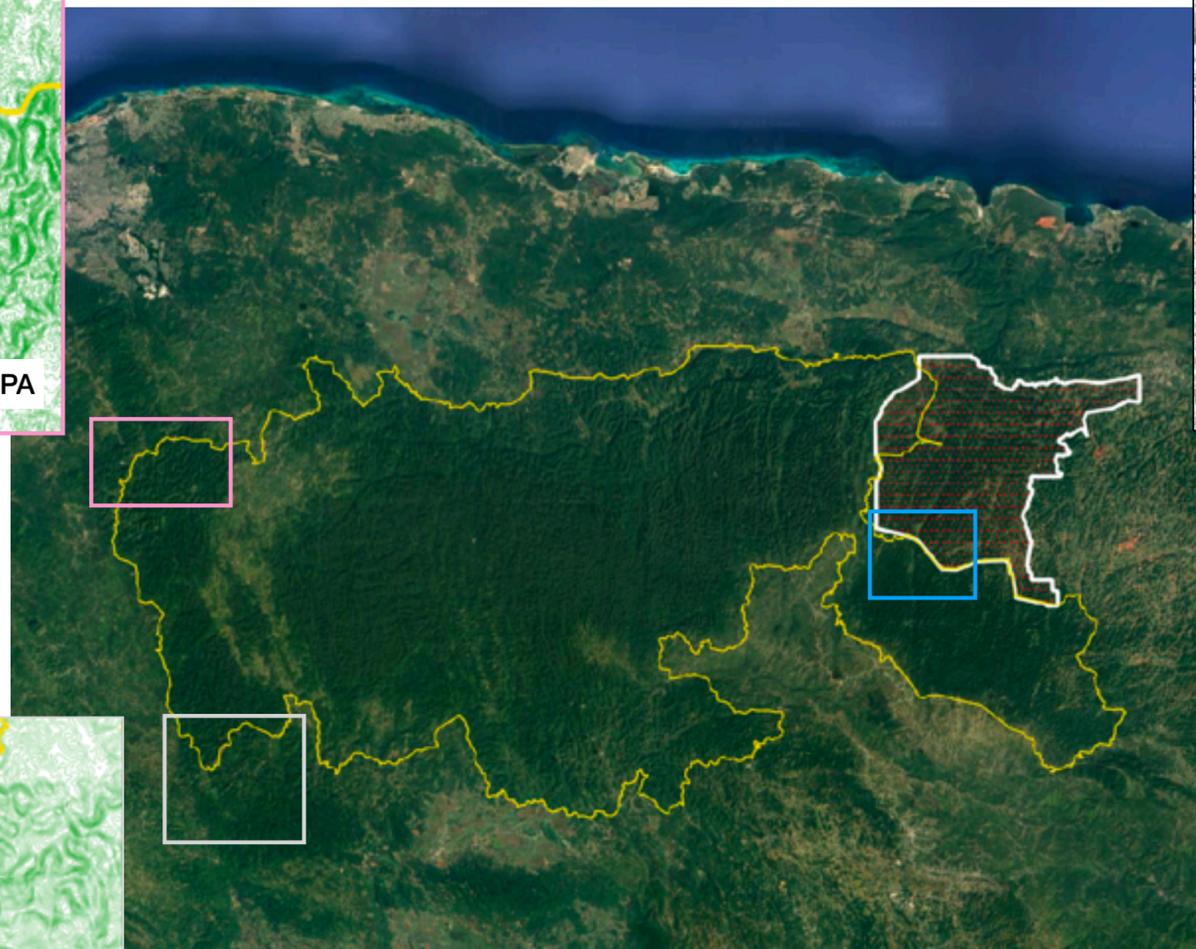
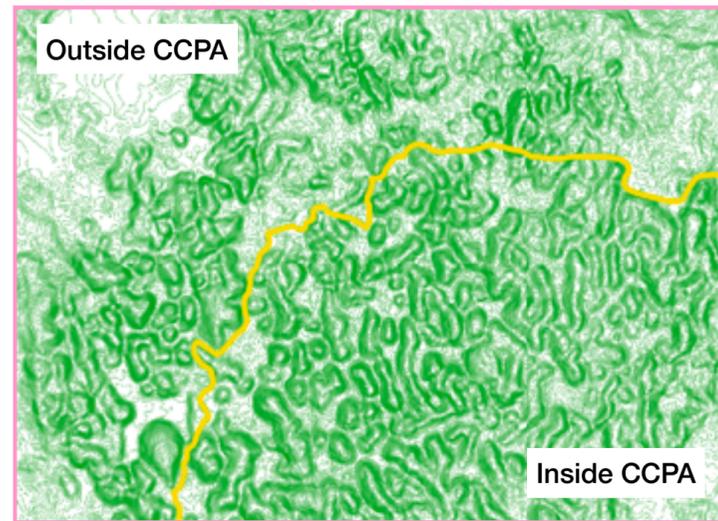
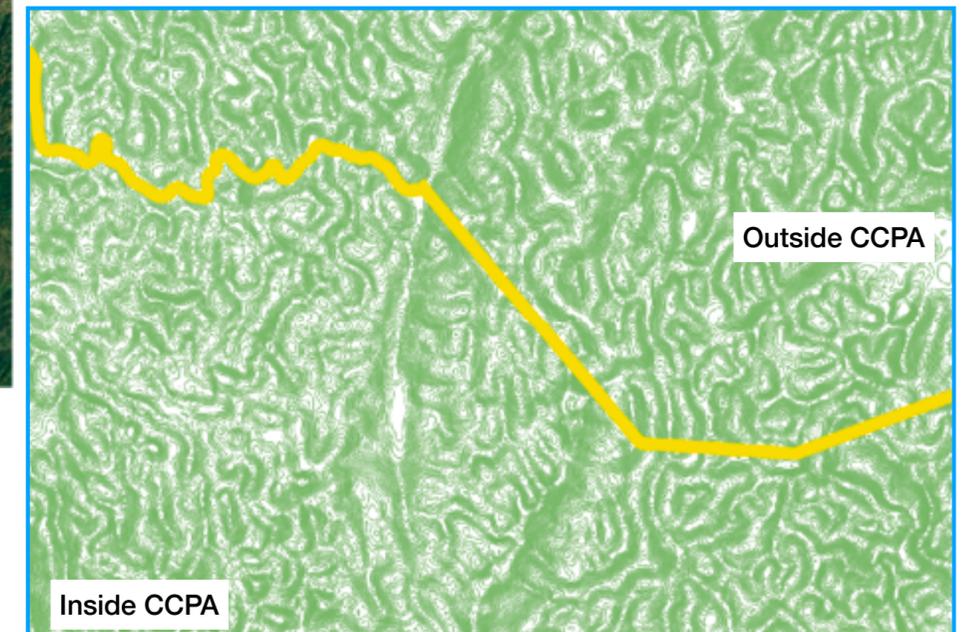
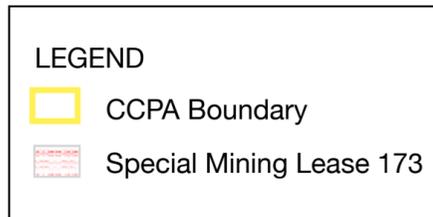
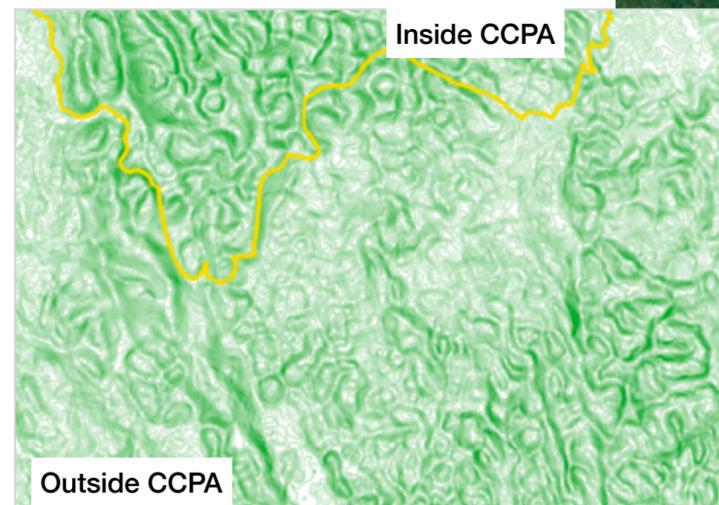


Fig 1: Location of the study area and sample sites in north central Jamaica, West Indies

Zoom in to Covey Mountain, 5-m contours



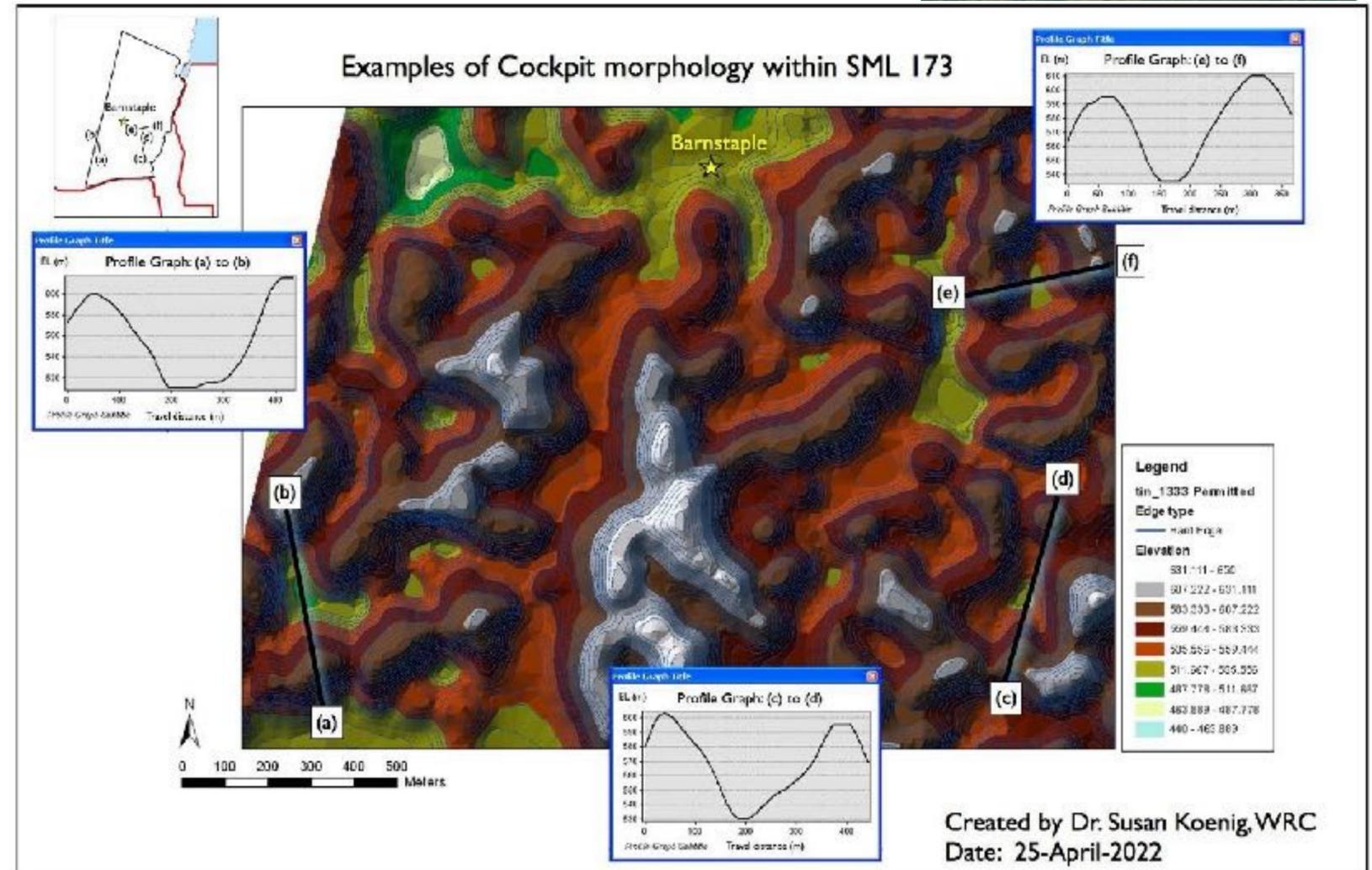
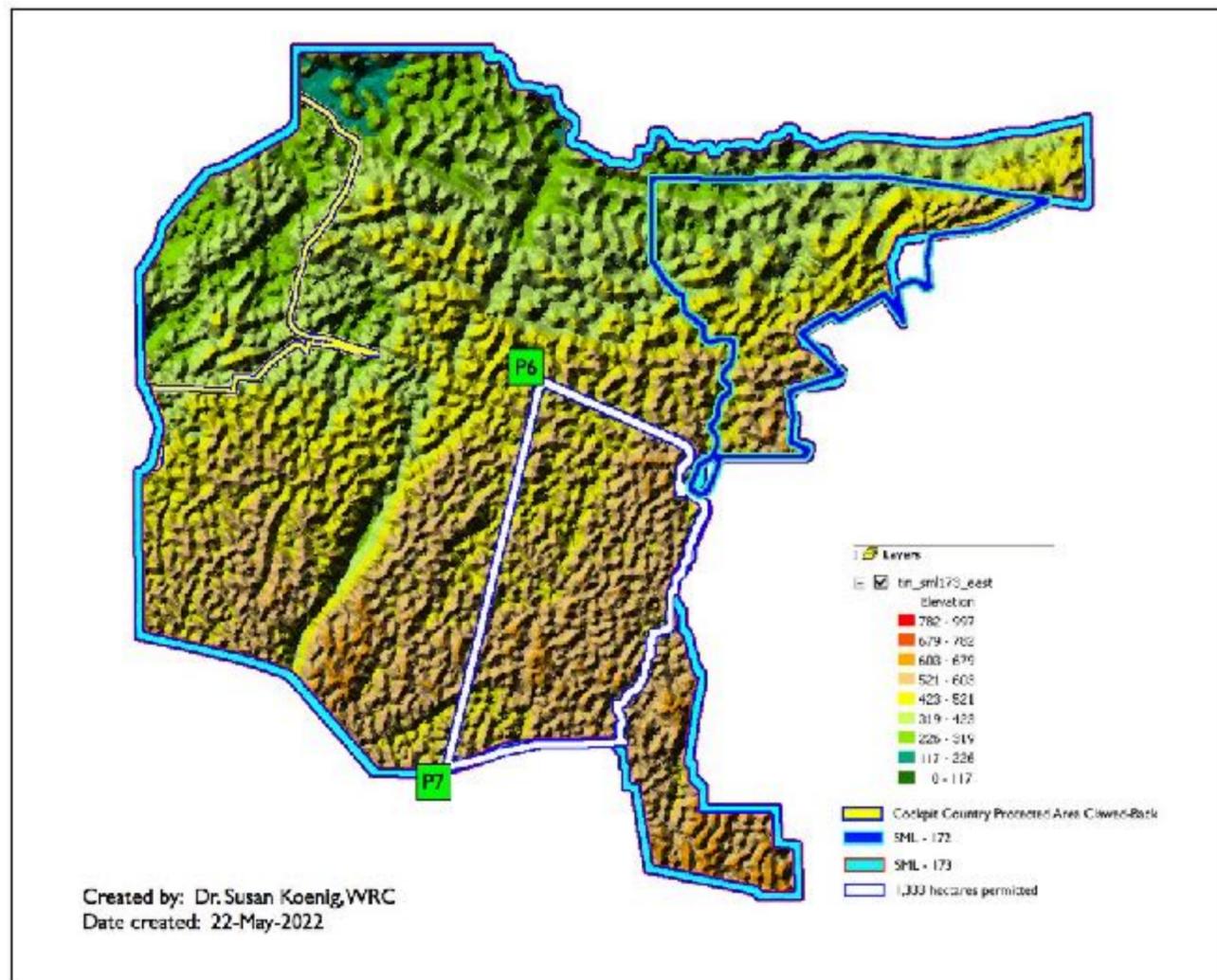
Zoom in to Ipswich, 5-m contours



Created by Dr. Susan Koenig, WRC
8-October-2025

EXCLUSION OF ECOLOGICAL HERITAGE: Geomorphology: the *Type Locality* of Cockpit Karst

- Within Special Mining Lease (SML) 173, 1,333 hectares were released by NEPA in 2022 to allow bauxite mining.
- The “spectacular cockpit karst features” (Lyew-Ayee 2001, cited in Lyew-Ayee 2004) in this area of Cockpit Country are now irreparably altered by mining and haul roads.

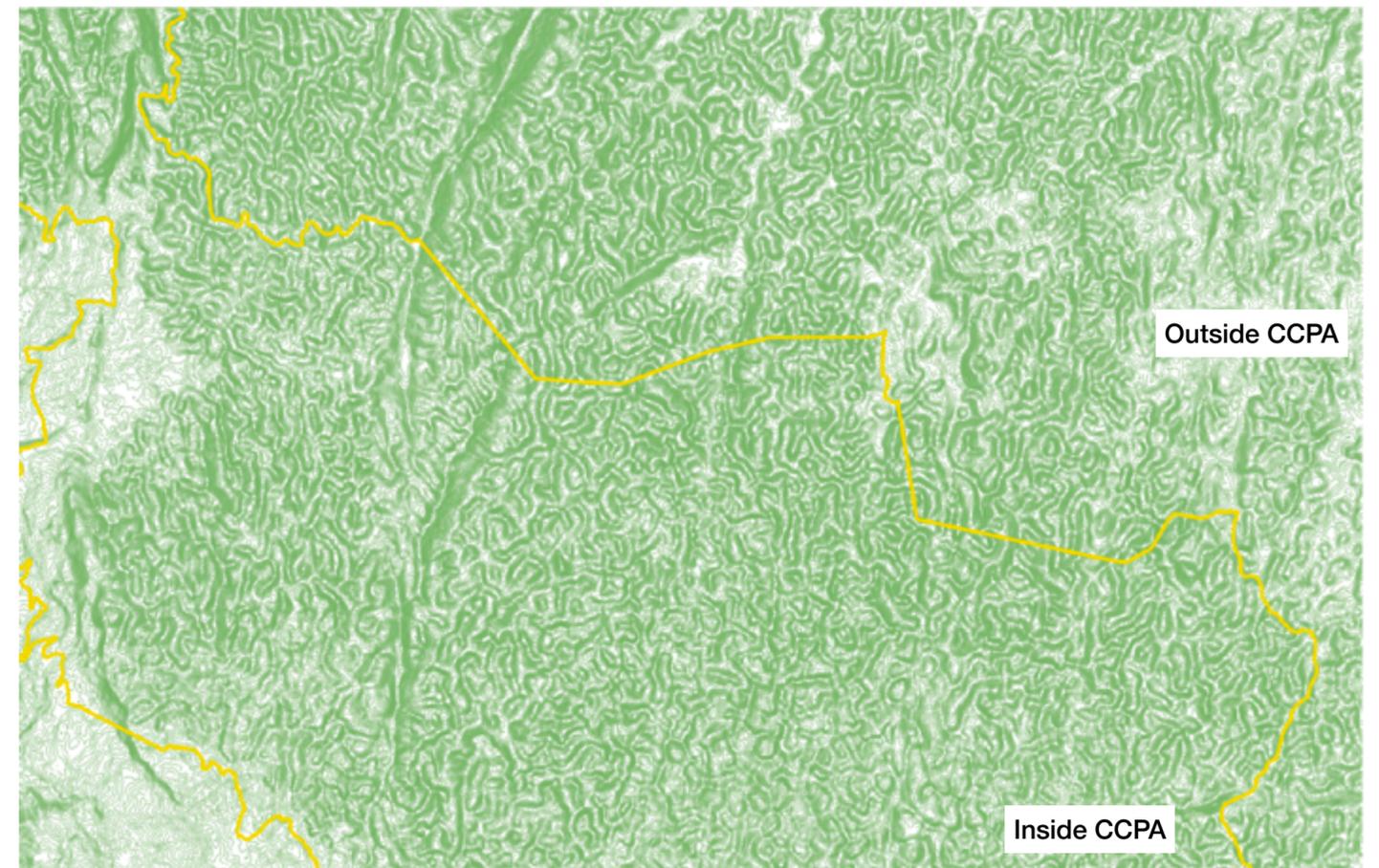
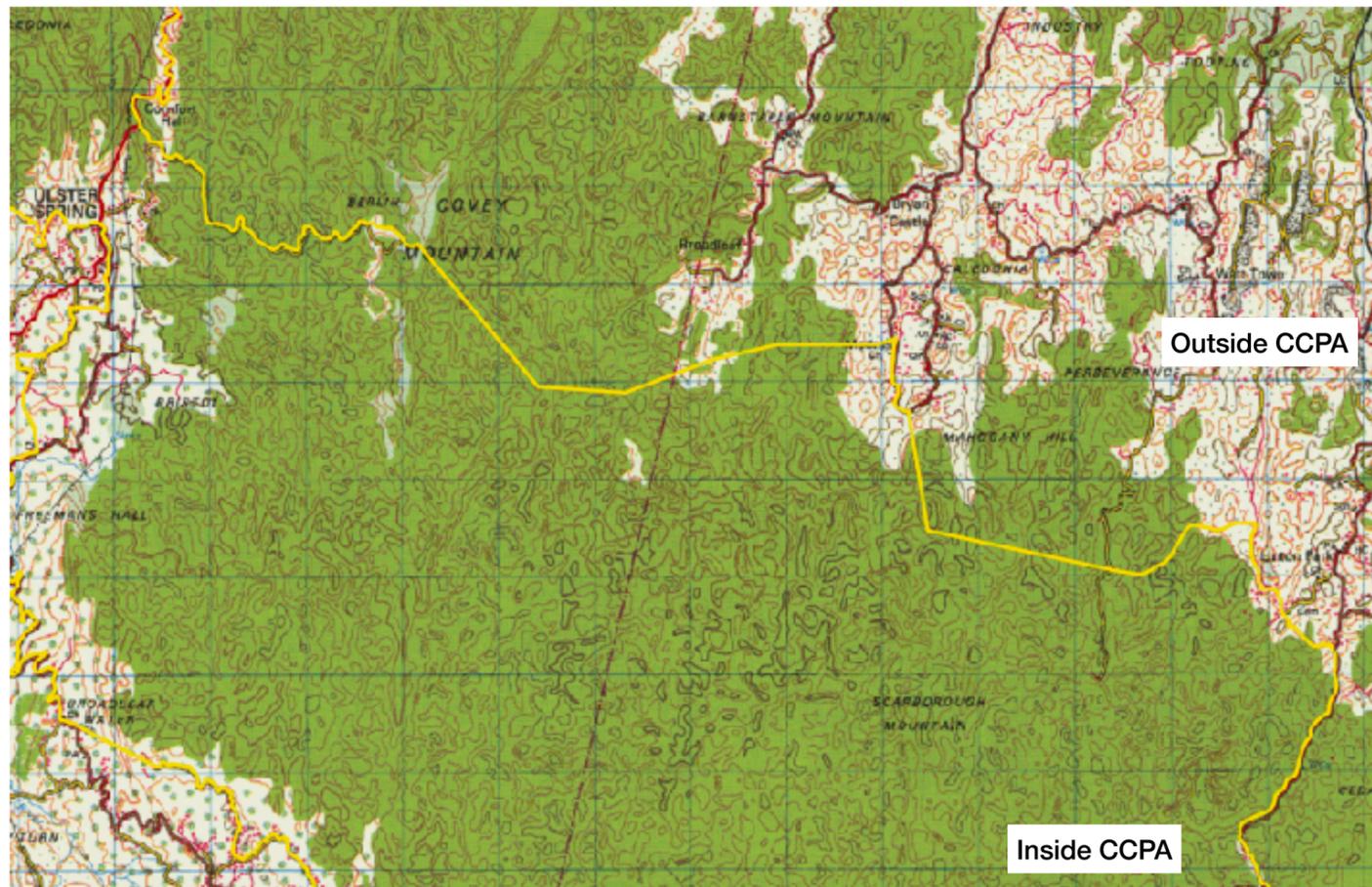


EXCLUSION OF ECOLOGICAL HERITAGE: Geomorphology: the *Type Locality* of Cockpit Karst

A view of the landscape in the southeast reveals how the CCPA boundary did not apply consistent parameters for traversing the Cockpit Karst of Cockpit Country.

As defined in The Jamaica Gazette Supplement Vol CXLV, Friday, March 18, 2022, No. 21, the CCPA adheres to the Ulster Spring Main Road before turning along the track to Covey Mountain. After following the curves of this track, the boundary transitions to straight line “open boundary” segments to Madras, where it briefly adheres to the public road. After Madras, the boundary resumes straight “open boundary” segments to Linton Park.

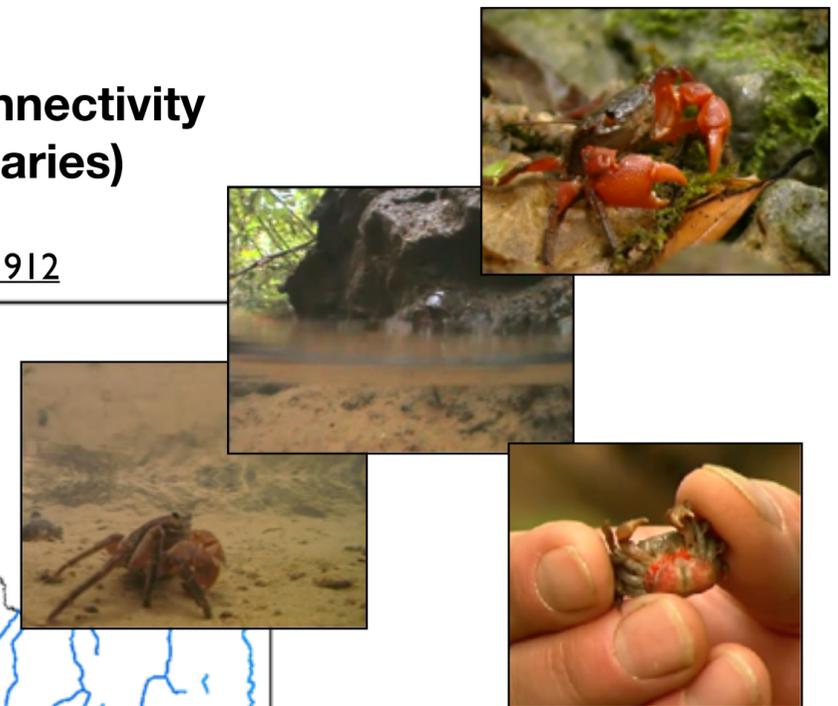
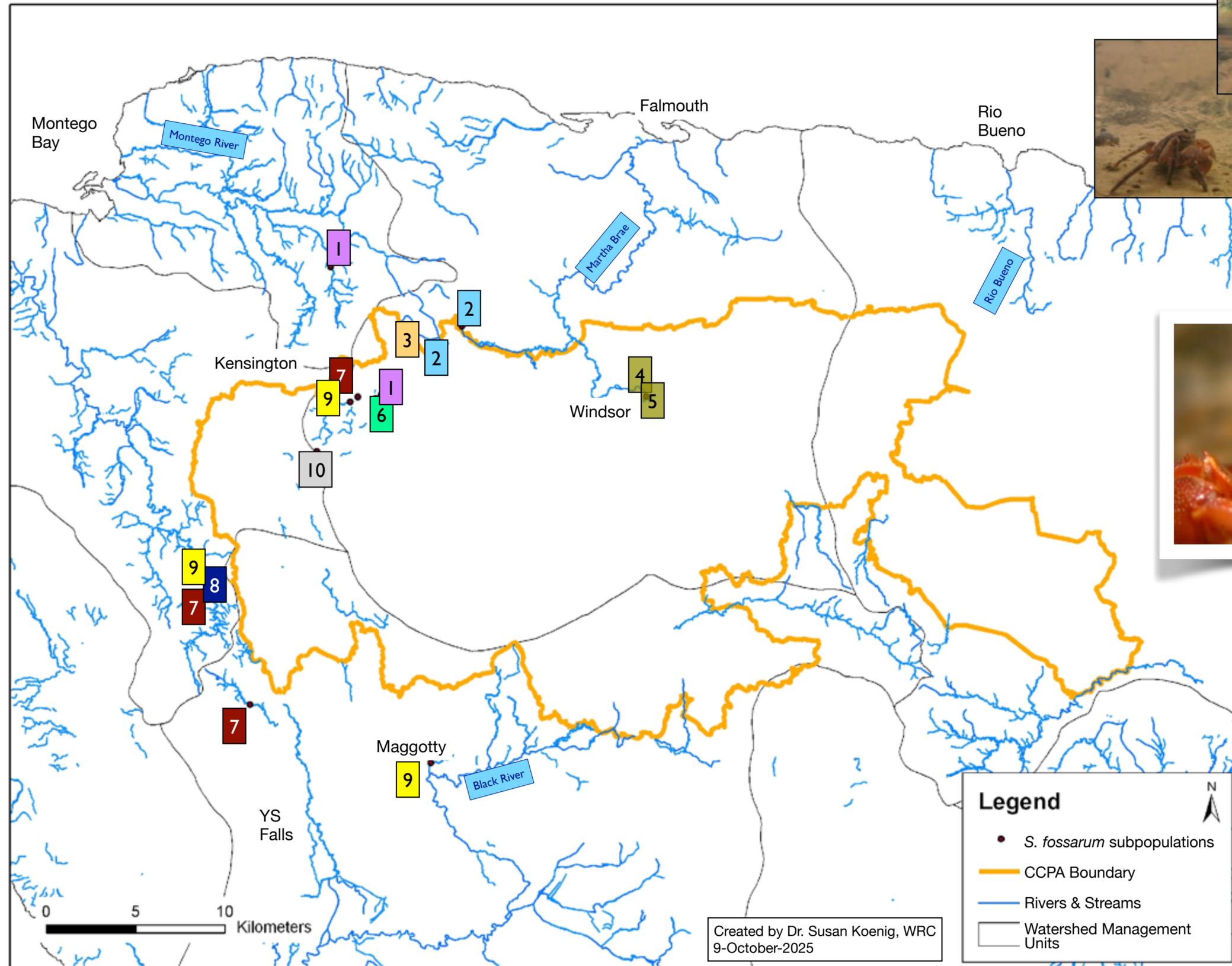
The CCPA boundary appears to have been arbitrarily defined on the eastern flank. Instead of adhering to Cockpit morphology, it clearly intersects contiguous Cockpit Karst.



LEGEND
□ CCPA Boundary

EXCLUSION OF ECOLOGICAL HERITAGE: Endemic Biodiversity . . . which is also a biological indicator of hydrologic connectivity (aka when animals such as freshwater crabs ignore anthropogenic boundaries)

Stemmer M. and C.D. Schubart. 2016. Genetic analyses determine connectivity among cave and surface population of the Jamaican endemic freshwater crab *Sesarma fossarum* in the Cockpit Country. *Int'l Journal of Speleology* 45: 35-41. <http://dx.doi.org/10.5038/1827-806X.45.1.1912>



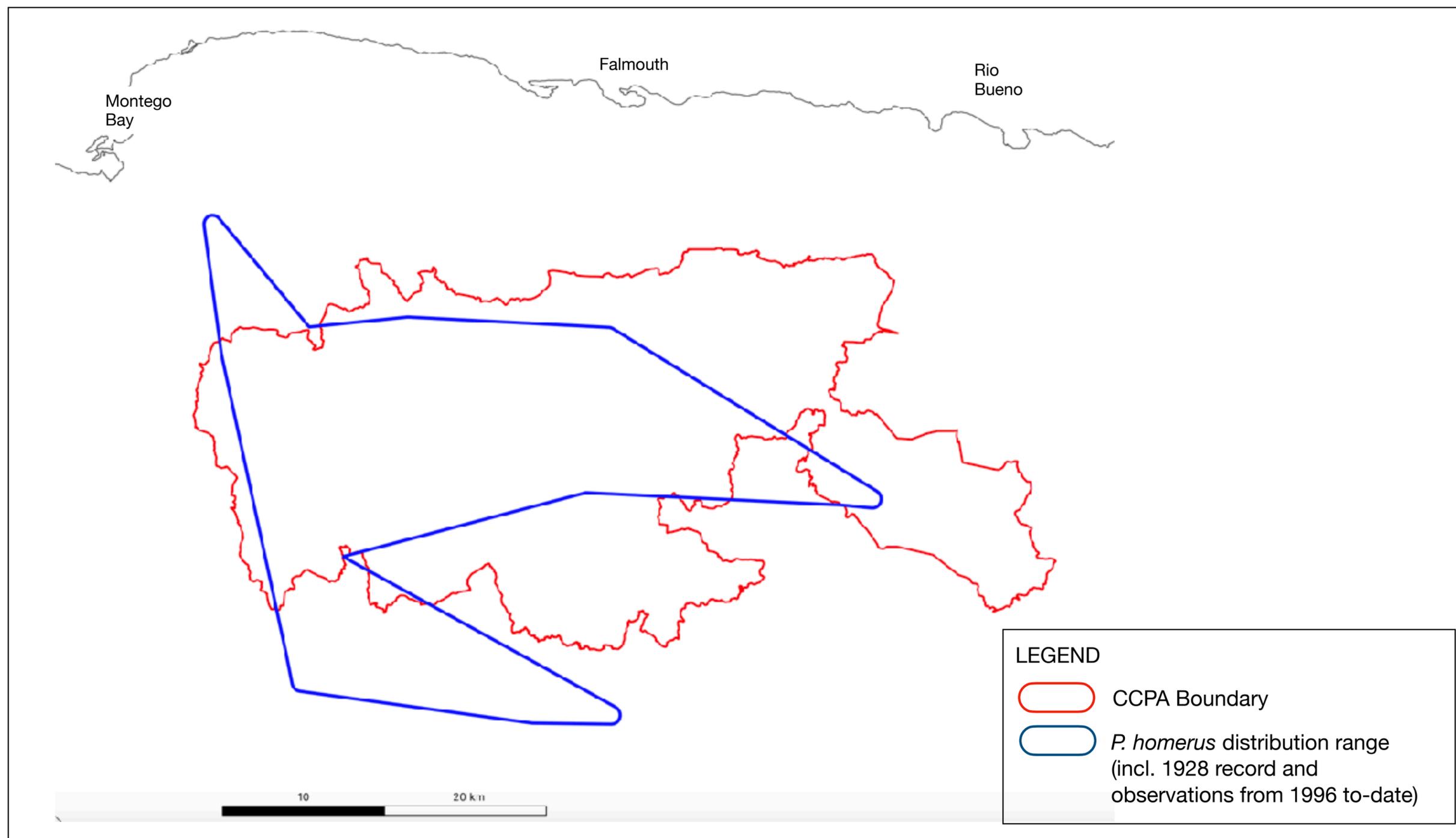
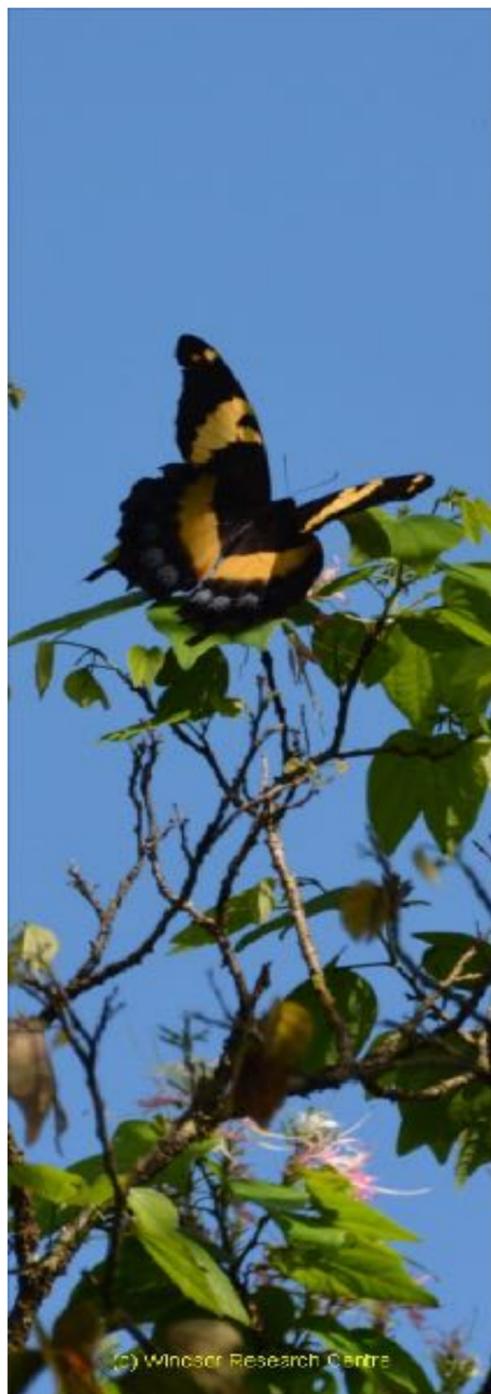
The CCPA boundary fails to protect the connectivity and integrity of subpopulations 7 & 9.

EXCLUSION OF ECOLOGICAL HERITAGE

Example: Jamaican Giant Swallowtail (*Papilio homerus*) Cockpit Country Sub-Population

- IUCN Red List Endangered
- Protected by the Third Schedule of the Wild Life Protection Act
- Protected by Appendix I of the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES)

The Cockpit Country Protected Area boundary excludes natural habitats in the Swallowtail's known range required for in-situ conservation and species survival



THREATS TO THE INTEGRITY OF COCKPIT COUNTRY AND TO THE CCPA: Special Mining Leases (SMLs) and Special Exclusive Prospecting Licenses (SEPLs) for Bauxite Mining

Although the CCPA is gazetted as closed to prospecting and mining [Mining (Prohibition) (Cockpit Country Protected Area) Notice, 2022], the areas of Cockpit Country excluded from the protected area are threatened by bauxite mining and limestone quarrying.

Confirmed with an Access to Information-obtained copy of SML 173, as of August 25th 2025, the boundary of SML 173 has not been modified to align to the CCPA (i.e., an area referred to as the “Clawed Back Area” still has not been removed from SML 173). The boundary of SEPL 541 needs to be checked, particularly as a first block known as the “Outer Valley” has been converted to SML 175.

Based on the EIA for Special Mining Lease 173, a 5 km Buffer Zone is required to protect the CCPA from bauxite mining impacts.

