

Jamaica Blue Mountains Trail Project: First 30 Months and Vision of the Future



Jamaica Conservation and Development Trust

The Jamaica Conservation and Development Trust is an environmental Non-Governmental Organisation established in 1988. The mission is to advance environmental conservation and sustainable development with a focus on the Blue and John Crow Mountains National Park for the benefit of Jamaica and our people.



Blue and John Crow Mountains National Park Zonation

LEGEND

- Preservation Zone
- Community Buffer Zone
- Conservation Zone
- General Use Zone
- Recreation Areas

Communities

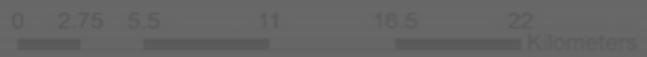
- Communities within 1Km and 2Km
- Communities of Interest
- Protected National Heritage Under

Roads

- Major Roads
- Minor Roads

BLUE AND JOHN CROW MOUNTAINS NATIONAL PARK (BJCMNP)

- Includes Jamaica's highest point – the Blue Mountain Peak at 2,256 metres.
- The park covers an area of 41,198 hectares (101,802 acres) and incorporates much of the interior of the parishes of Portland, St. Thomas, St. Andrew and a small section of south-east St. Mary.



What are we conserving?

Rare Tropical Cloud Forest

Key Biodiversity Area

UNESCO World Heritage Site- about 12,500 hectares of pristine closed broadleaf forest

Many varied ecosystem services- water provision, carbon sequestration, pollination



a mountain retreat over 900 metres (3,000 feet) above sea level, in the cool, mist forests of the Blue and John Crow Mountains National Park. Just an hour's drive from Papine, Kingston and two hours from Port Antonio, Holywell is the perfect place to escape. Come and experience the magic of the mist, the sweet sound of chirping birds - Todys and Solitaires among many others seen and heard along the trails. Absorb breathtaking views as you nestle among the beautiful Yacca, gorgeous tree ferns and other spectacular trees in this mountain paradise. Visit us for our cabins, campsites, guided tours, picnic areas, hiking trails, Discovery Centre & Gift Shop and the Kids Discovery Zone (KDJZ).

PLANT LIFE AND WILDLIFE AT HOLYWELL



Courtesy: Claude Fletcher

Jamaican Tody (*Todus todus*)



Jamaican Rose
(*Blakea trinervia*)



Hot Lips (*Cephaelis elata*)



Rufous-throated Solitaire
(*Myadestes genibarbis*)

This species of solitaire is endemic to Jamaica and typically breed in mountain forests above 1000m.



The Blue Mahoe is the national tree of Jamaica. The name "Mahoe" comes from a Carib Indian word and the "Blue" refers to the blue-green streaks in the polished wood of the tree.

Mahoe (*Hibiscus elatus*)



Lichens are a combination of algae and fungi that cover tree trunks and branches throughout the park



Tree Ferns

CULTURAL HERITAGE OF THE BLUE & JOHN CROW MOUNTAINS

In 2015, the Blue and John Crow Mountains National Park was recognized as a World Heritage Site by the UNESCO for the outstanding universal value of both its natural and cultural heritage. The very first inhabitants of Jamaica were an Amerindian group known as the Taino, who resided mainly on the coast. In the early 1500s, the Spanish Conquistadors began to settle on the north coast of the island. Many of the Taino fled inland to the hills and mountains, resulting in the Spanish looking towards African Labor for their farms. Some of the enslaved Africans escaped and joined the Taino in the mountains. They were then referred to as 'Maroons' from the Spanish word 'Cimarron', meaning 'runaways living in the mountain-tops'. In 1655, the British took Jamaica from the Spanish and brought more enslaved Africans to work on their sugar plantations, however some escaped to join the Maroons. The Maroons moved toward the interior forests of the Blue Mountains and created their capital at what later became known as Nanny Town. Using the rugged terrain and resources provided by the mountains, the Windward Maroons waged an effective guerrilla warfare against the British. This eventually led to the signing of the 1739 Peace Treaty which secured Maroon sovereignty and ended the war. Since then, the Maroons have moved out of the interior mountains and into the Rio Grande, Wag Water & Buff Bay Valleys, establishing the communities of Moore Town, Scott's Hall and Charles Town. These communities still practice traditional administration, music, dance, cuisine, and medicine.



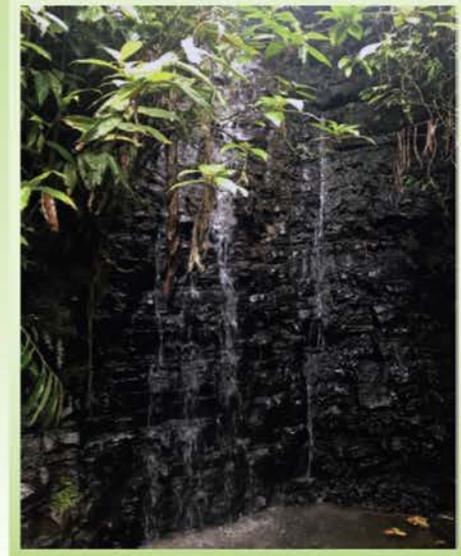
Courtesy: B&F



Cabin at Holywell



View of Kingston from Visitors' Centre



Waterfall Trail

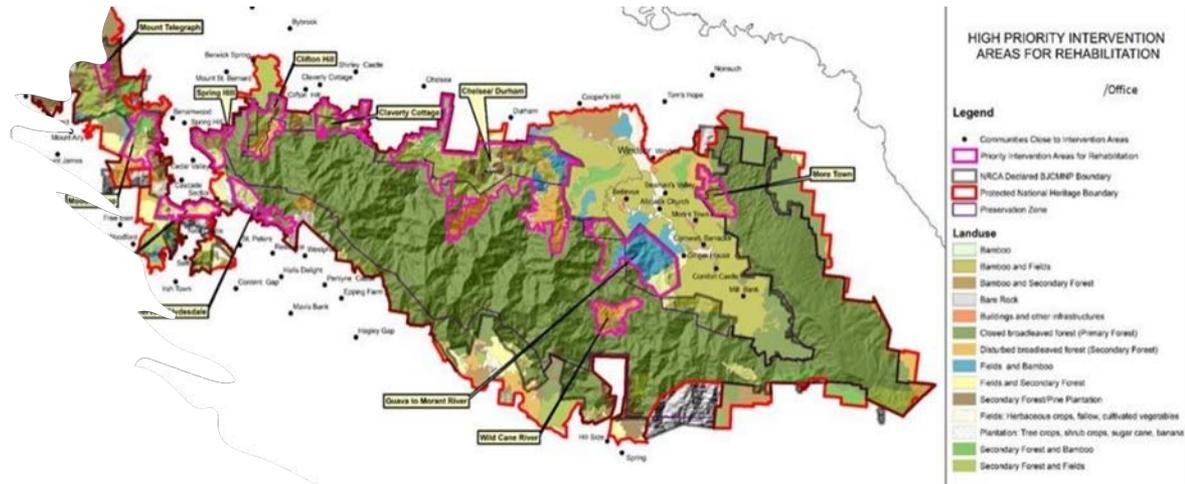
Propagation and Conservation of Threatened Trees

- Tree species that have been classified as threatened are prioritized for conservation



Forest Restoration

- Identifying priorities for restoration and using native trees to restore degraded landscapes



Jamaica Trail Project

The Project

- The Jamaica Trail Project is a collaborative activity of Jamaican and American organizations to refurbish and develop a people-friendly and historic hiking trail in the UNESCO World Heritage Blue and John Crow Mountains of Jamaica.

Purpose

- To highlight, promote and support volunteerism and service in Jamaica while expanding and deepening the appreciation of Jamaica's history and natural resources.

Goals

- To spotlight Jamaican volunteerism.
- To create a collaborative activity for Americans and other non-Jamaicans to work alongside Jamaicans for the development of Jamaica.
- To expand the opportunities for visitors to learn about the Blue Mountains.
- To provide opportunities for sustainable development of local communities.



Maroons of Jamaica

- Originated with escape of approximately 1,500 Africans from plantations with the capture of Jamaica by the British from the Spanish
- They occupied the hinterlands of the center and east of the island
- They maintained a contentious relationship with the British rulers and there were two major wars First Maroon War 1728 – 1739
- Second Maroon War 1795 - 1796
- There is a rich historical and archaeological heritage and a few communities remain
- Queen Nanny of the Maroons whose image appears on the \$500 note, is a Jamaican National Hero





THE MAROONS TRAILS OF JAMAICA

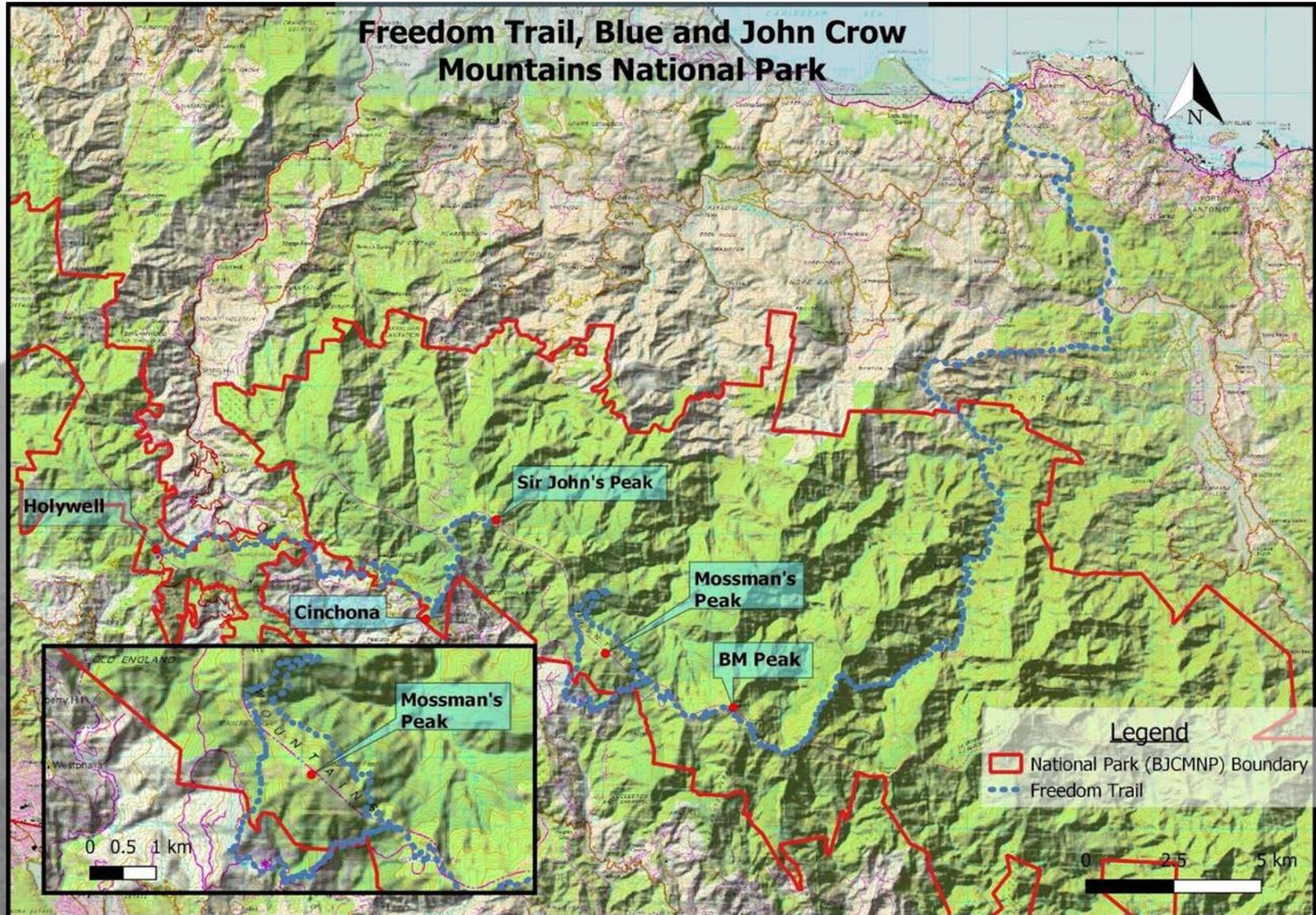
- They created and maintained a network of strategic trails that were important for communication and hunting
- These trails avoided settlements, coastal areas, interior valleys and plantations.
- Trails to and from the main maroon settlements were deliberately tortuous to make access difficult to the British armies and militias
- The maroon avoided open fighting in open areas and instead engaged in guerilla style skirmishes which they invariably won
- Trails were also created to allow maroon parties to raid plantations for food and weapons



MAROON TRAILS TODAY

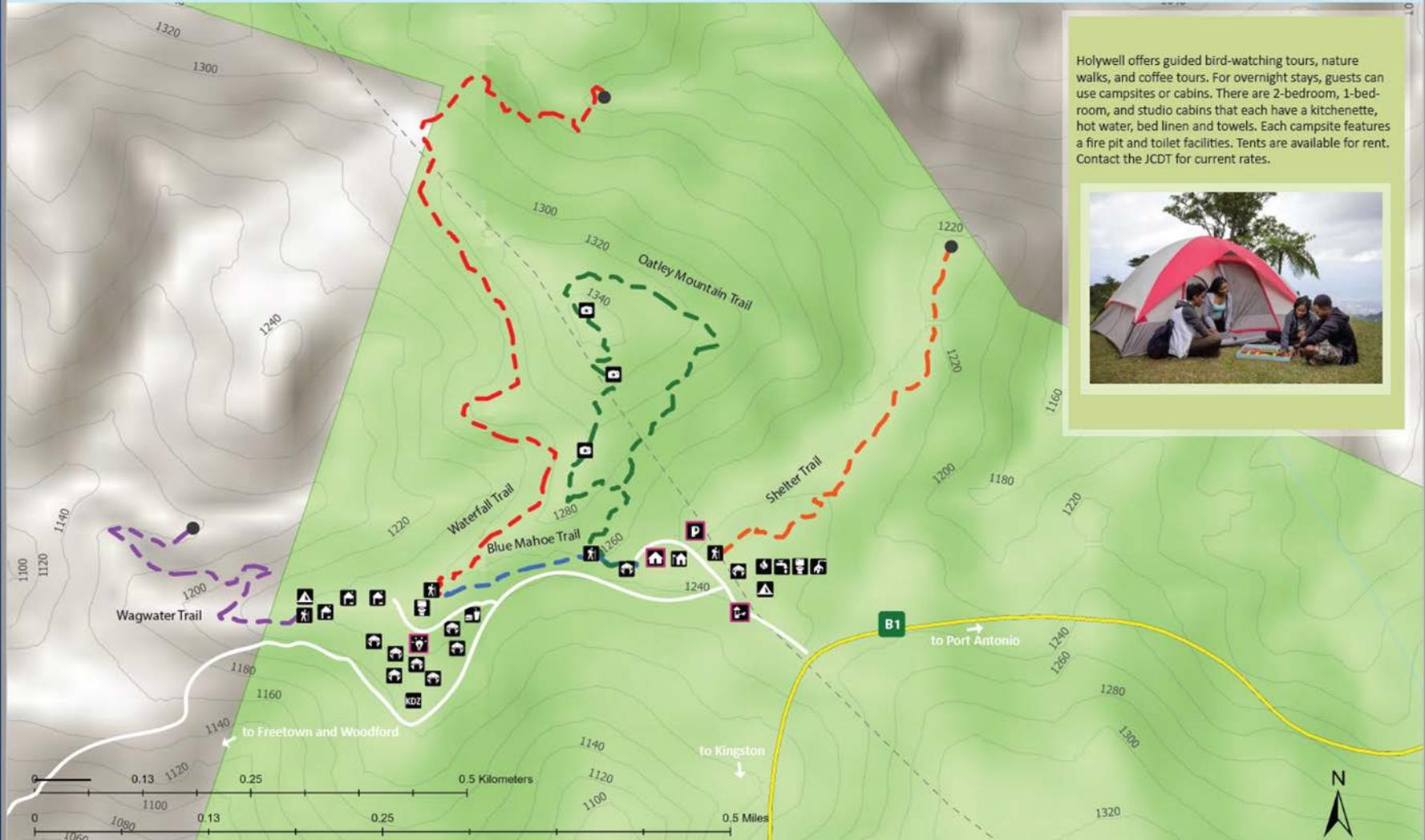
- Many maroon trails are known and are logged in the Mater Catalog of Trails (MCOT) of the Jamaica Trails Project.
- One aim of the project is to clear and encourage the use of some of these historical trails
- Some are still actively used for recreation, hunting and farming purposes such as the Cunha Cunha Pass and the Vinegar Hill Trail.
- Some are considered Lost such as the trail going east from Charles Town to Nanny Town or going west from Charles Town to Scotts Hall. There are legends to do with caves and tunnels but these have not been found.
- The trail from Windsor in the Valley of the Rio Grande to the former major settlement of Nanny Town, which was decimated by a British raiding party in 1734 and which is now considered a maroon sacred site, is quite difficult. Although only 11 Km, it traverses heavily forested terrain and has been described as steep, muddy. Slippery and rugged. It requires peak physical fitness and can be done in 12 – 14 hours one way.

Trail Development



Park Boundary	Bathrooms	Campsite	Viewpoint	Firepit	Blue Mahoe Trail Distance: 250m Time: 10 minutes Difficulty: Easy	Shelter Trail Distance: 600m Time: 1/2 hour Difficulty: Moderate
Unpaved road	Gazebo	Cabin	Ranger Station	Trail Head	Oatley Mountain Trail Distance: 1.2 km Time: 1 hour Difficulty: Moderate	Wagwater Trail Distance: 600m Time: 1/2 hour Difficulty: Moderate
Paved road	Tuck Shop	Kids Discovery Zone	Visitor Centre	Parking	Waterfall Trail Distance: 1.3 km Time: 1 hour Difficulty: Moderate	
Area in zoom	Discovery Centre	Water Spigot	Showers	Entrance Gate		
End of trail						

HOLYWELL TRAILS INFORMATION



Holywell offers guided bird-watching tours, nature walks, and coffee tours. For overnight stays, guests can use campsites or cabins. There are 2-bedroom, 1-bedroom, and studio cabins that each have a kitchenette, hot water, bed linen and towels. Each campsite features a fire pit and toilet facilities. Tents are available for rent. Contact the JCDT for current rates.



Stakeholders & Collaboration

Local Community

- JCDT works closely with local communities to collaborate in the management of the National Park. We facilitate training for tour guides in order to assist in providing economic opportunities from recreational activities.
- The communities are partners in ensuring appropriate use of trails.

Tour Groups

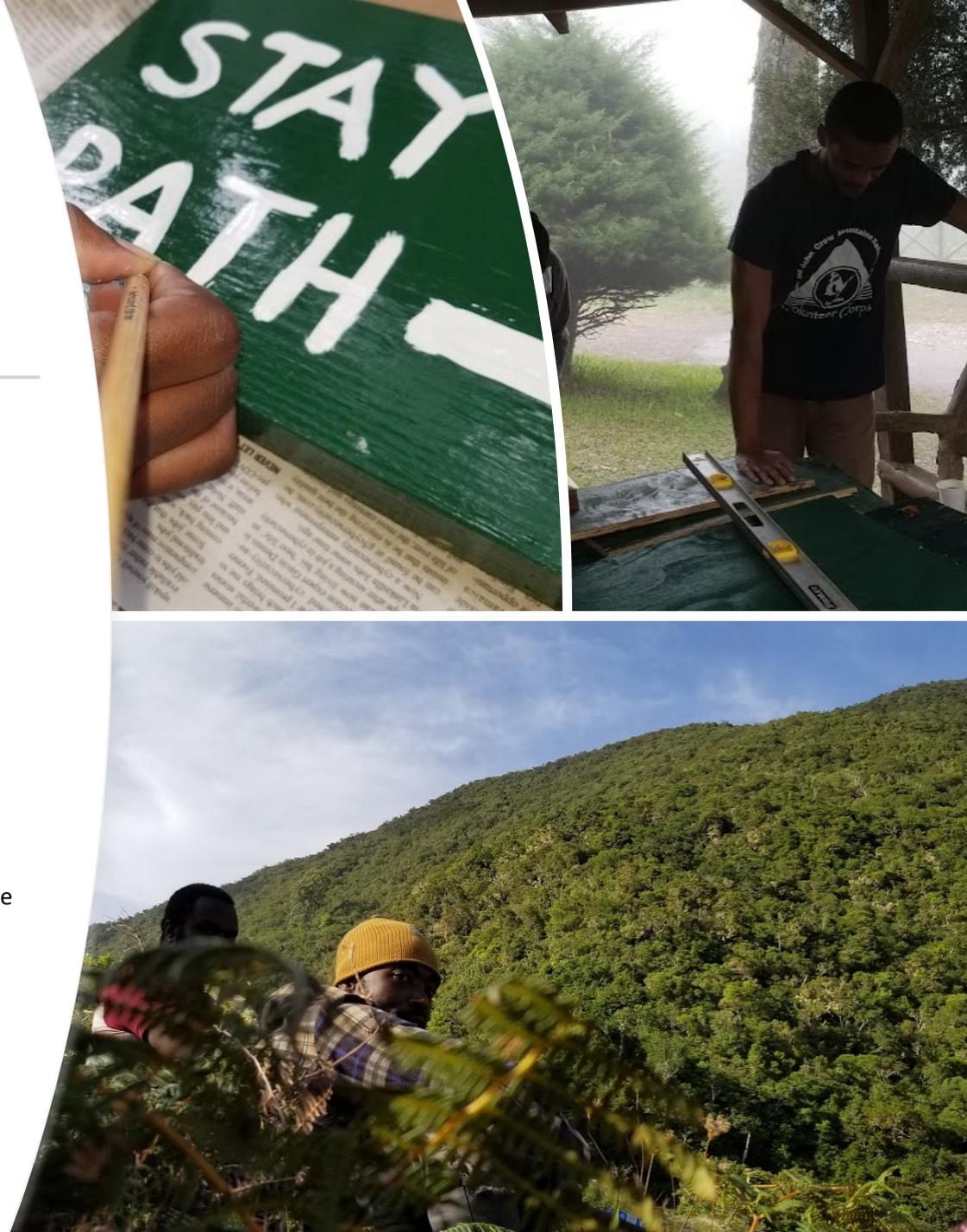
- Tour groups are also partners in ensuring appropriate use of trails.
- Help to ensure maintenance of trails by ensuring fees are passed on to trail managers.

Volunteers

- Opportunity being provided for Jamaicans to get involved with volunteerism and taking care of the environment.
- Assisting with ensuring appropriate use of trails.
- Building greater appreciation for nature.

Benefits of the Initiative

- Benefits:
 - jobs and skills training for local communities
 - revenue from tourism for conservation and sustainable development
 - knowledge exchange
- How do we engage?
 - Volunteer Corps- Launched in 2020, we put out a call for interested people to sign up. Advertised on social media and also made presentations at the local University.
 - Reaching out to local communities for people to work with us. Local people have a lot of information about these trails and bring a lot of skill and knowledge to the effort.





Outcomes

- A sustainable system of trail development and maintenance in the Blue Mountains that involves volunteers, the local community and tour partners.
- Protection of the Blue Mountains environment.
- High levels of environmental sensitivity and outdoor ethic among trail users.
- A learning laboratory for outdoor experiential education where educators and others can teach about nature, natural medicine, Jamaican natural and human history.



Partnership with the Trail Conference

Peter Dolan
Trail Program Manager
Jamaica Trail Project Volunteer



Connecting People with Nature since 1920

New York-New Jersey Trail Conference

A volunteer-directed public service organization committed to:

- Developing, building, and maintaining trails since 1920
- Protecting trail lands through support and advocacy
- Educating the public in the responsible use of trails and the natural environment





How Did We Get Involved?

- Introduced by local Jamaica Trail Project supporter.
- Time invested was combination of personal volunteer time, and Trail Conference-covered professional development.
- Visit to Jamaica had time covered by the Trail Conference, and expenses covered by a generous Jamaica Trail Project donor.





What is Our Role?

- **Not** leadership or decision-making.
- Serve as a conduit to the specialized world of technical trail design, construction, and maintenance.
- Share existing resources and best practices to ensure nobody is forced to “reinvent the wheel.”
- Share obscure (but useful!) tools that may not be readily available in Jamaica.
- Invite project allies and volunteers in the NYC metro area to engage with in-person Trail Conference workshops to learn skills to bring to Jamaica.
- Seek opportunities for collaboration and promotion in the United States, such as this Trail Summit.

Why Professional Trailbuilders?

What features of trail projects might necessitate the involvement of trail building experts? Below are some examples, most of which are anticipated in this project:

- **Topography**
 - Steep slopes
 - Water features
- **Substrate**
 - Loose soil
 - Organic material
- **Expected Use**
 - Accessibility
 - “Filters” for users
- **Structures**
 - Staircases
 - Bridges





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February 2020 Scouting Trip

The purpose of our scouting visit was to gather data and scope out requirements for Phase One of the Trail Project, including:

- An accurate GPS/GIS track of the trail.
- GPS locations of specific points of interest such as viewpoints, significant project sites, potential reroutes, notable natural features, etc.
- Recurring trail issues in need of construction/repair.
- Photographs and materials for communicating and promoting the Trail Project.





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Final Report

This final 91-slide PowerPoint report on the visit covered:

- Introduction to the Jamaica Trail Project
- Maps
- Challenges



Final Report: Maps

11 / 91 | - 50% + | [Map Icon] [Refresh Icon]

Pre-Scouting Maps

The maps below were created prior to the field scouting trip in February 2020. They depict a conceptual "birds-eye view" of the trail in terms of historic routes and potential connectivity. Larger versions are on the following slides.




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Freedom Trail

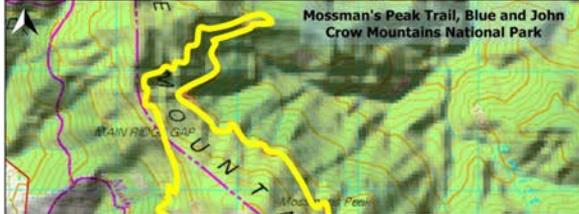


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Mossman's Peak Proposed Loop



Mossman's Peak Proposed Loop



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Final Report: Challenges

39 / 91
50%
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Bench Cut: Also known as "sidehill," a bench cut creates a gently outsloped walking surface which comfortably supports users while allowing water to naturally flow and drain downslope.

not exceed 1:5 slope.

Scatter thin layer of duff and organic soils on backslope.

Tread outslope should be 1/2 of the trail grade, but no less than 3%.

Excavated soils should be used elsewhere on trails for surfacing or fit OR scattered, compacted, and covered with duff downslope of treadway.

Undisturbed sub-soil or compacted mineral soil.

The photograph below shows a fresh bench cut, with the yellow line following the slope of the steep terrain.

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Connecting People with Nature since 1920

Unstable Tread (Wide) - Solution

The diagram below shows how bench should be cut. The triangle shows where soil is removed, and the parallel lines show the new tread surface.

Unstable Tread (Wide) - Solution

The diagram below shows how bench should be cut. The triangle shows where soil is removed, and the parallel lines show the new tread surface.

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Final Report: Recommendations

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Recommendations: Phase II

Phase II: We recommend working to accomplish the following tasks as tools, resources, and training allow. They require more investment and experience.

- Cutting Bench
 - *Wherever possible, new bench should be cut (sidehilled). This allows for safer and more sustainable use.*
- Water Crossings
 - *Loose, uneven, potentially slippery stone should be cleared out and replaced with armored swales or open stone culverts.*
- Steep Grades
 - *Steep grades should be addressed with simple drains, grade reversals, or short flights of steps.*

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Recommendations: Phase III

Phase III: The following tasks are resource and skill-intensive. They will likely require outside expertise (engineering, trail building) and funding (grants).

- Cribbing
 - *For narrow and unstable sections of trail that could not be bench cut, cribbing should be built with the appropriate local materials.*
- Viewing Platforms
 - *Building viewing platforms will allow for a sense of “destination” along the trail, and will serve a safety function as hikers can rest and safely pass each other.*
- Bridges
 - *Extensive planning with experts will be needed to determine if any cable bridges are appropriate or feasible. The local geology makes anchor points particularly tricky, as brittle stone may not hold a structure safely.*

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Recommendations

Using a simple Excel document or Google Sheet can help make sure that projects are tracked and completed based on priority, proximity to the trailhead, compatibility with volunteer groups, or other criteria.

Section	From Trailhead (k)	Activity*	Linear Distance (m)	Priority	Notes
1	0.1	Trail Clearing	56	3	



Tools

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Final Report: Tools

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Tools – Griphoists

- Use:** Lifting and dragging heavy materials such as fallen trees and boulders.
- Keep in Mind:** While simple linear drags are the easiest way to use a griphoist, creative rigging will allow experienced crews to “fly” rocks through the air.




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Tools – Port-A-Wraps

- Use:** Lowering heavy materials such as fallen trees and boulders.
- Keep in Mind:** The Port-A-Wrap can be used in conjunction with a griphoist to belay heavy materials downslope on a steel cable “zipline.” This is critically important on the steep slopes at this project site.




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Tools – First Aid Kits







Final Report: Resources

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Additional Resources

The titles and links below are all valuable resources for those looking to learn more about trail design, construction, and maintenance. From the basics of clipping and blazing a trail to substantial construction projects, it's all covered here.

If you're having trouble finding the information you're looking for, feel free to contact the Trail Conference office at info@nynjtc.org.

- USFS Trail Construction and Maintenance Notebook**
<https://www.fs.fed.us/r-d/pubs/pdf/pubs/pdf07232806.pdf07232806dpi72.pdf>
- USFS Forest Service Standard Trail Plans and Specifications**
<https://www.fs.fed.us/recreation/programs/trail-management/trailplans/index.shtml>
- USFS Wetland Trail Design and Construction**
<https://www.fs.fed.us/r-d/pubs/html/pubs/html07232804/foc.htm>
- USFS Trail Bridge Plans**
https://www.fs.fed.us/recreation/programs/trail-management/documents/plans/trail_bridge_pdfs/COMBINED_STD_TRAIL_BRIDGE_PLANS.pdf
- USFS Handtools for Trail Work**
<http://www.bchmt.org/documents/education/HandtoolsforTrailWork.pdf>
- Forest Service Trail Accessibility Guidelines (FSTAG)**
<https://www.fs.fed.us/r-d/pubs/pdf/pubs/pdf15232812/pdf15232812dpi300.pdf>



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Additional Resources

- Lightly on the Land: The SCA Trail Building And Maintenance Manual 2nd Edition**
Bob Birkby, The Student Conservation Association (2006)
- Natural Surface Trails by Design: The Physical and Human Design Essentials of Sustainable, Enjoyable Trails**
Troy Scott Parker, Natureshape LLC (2004)
- New York-New Jersey Trail Conference Trail Maintenance Manual**
https://www.nynjtc.org/sites/default/files/Trail%20Maintenance%20Manual%20revised_0.pdf
- New York-New Jersey Trail Conference Trail Maintainer's Best Practices**
<https://www.nynjtc.org/book/maintainers-best-practices>



Trail Maintenance Manual

<p>Connecting People with Nature Since 1920</p> <p>Trail Maintenance Manual 1st Edition New York - New Jersey Trail Conference</p> <p>October 2021</p>	<p style="text-align: center;"><u>CONTENTS</u></p> <p>INTRODUCTION 3</p> <p>TRAIL MAINTENANCE ASSIGNMENTS 4</p> <p>TRAIL MAINTAINER RESPONSIBILITIES 7</p> <p>TRAIL MAINTENANCE ANNUAL CYCLE 9</p> <p>SAFETY 10</p> <p>INSPECTION 13</p> <p>HOW OFTEN AND WHEN SPECIAL SITUATIONS 15</p> <p>REPORTING 16</p> <p>IMPORTANCE OF REPORTING 16</p> <p>REGULAR REPORTING 16</p> <p>PROBLEM REPORTING 17</p> <p>CLEARING 19</p> <p>EQUIPMENT LIST 19</p> <p>STANDARDS AND METHODS 23</p> <p>TRAIL CLEANUP 25</p> <p>BLAZING 33</p> <p>STANDARDS FOR ALL BLAZING 33</p> <p>BLAZING GUIDELINES 34</p> <p>HINTS FOR BLAZING TRIPS 37</p> <p>TAG BLAZING 38</p> <p>PAINT BLAZING 39</p> <p style="text-align: right;">Page 1 Return to Table of Contents</p>	<p>become filled with sediment that will need to be excavated to</p> <p>Page 6 Return to Table of Contents</p> <p>Checkdams: Right-angled waterbars are checkdams intended to hold back soil. These are used in areas which show severe gully. Rocks or staked logs may be placed across the trail at right angles to slowly catch earth washing down the trail and rebuild the path back up to its original height. Do not clear checkdams. Take notes on the conditions of checkdams along your section. Report any problems, such as rotting or missing wood, on your trail report. Loose rocks should be placed to the side of the trail, so they are not a hazard to users, and possibly reinstalled later. As with waterbars, look for and discourage the use of walk-arounds.</p> <p>Waterbars and checkdams built with rock will last much longer than those built with timber, but they require specialized skills to construct. This work may be best suited for your local trail construction crew.</p> <p>Page 10 Return to Table of Contents</p>	<p>Joining the local trail crew when repairing problems on your section is encouraged, and trail crews should notify maintainers and invite them along when working on a section.</p> <p>Drainage dips: On shallow slopes, a 1-foot-wide ditch, 6 to 8 inches deep, with soil mounded and compacted on the downhill side, will direct water off the trail. This angled ditch should be cleared of anything blocking the flow of water off the trail.</p> <p>Turnpiking: This is an elevated, hardened treadway which may have gaps cut into it where water flows. It is used in regions of poorly drained soil and may be an alternative to steppingstones. Check that the elevated portion does not become a like a bathtub, collecting water. As with waterbars and culverts, the gaps should be cleared of debris. Replace any rocks that may be missing around the elevated treadway.</p> <p>Sidehill restoration: If a sidehill trail gets compacted and cupped from overuse, erosion from water will accelerate, leaving an unsightly gully. Reshape the trail by pulling dirt from the outer edge back across the treadway. Rocks placed along the outer edges at</p> <p>Page 11 Return to Table of Contents</p>
<p>SPECIAL TRAIL MARKINGS 44</p> <p>PROTECTING THE TRAIL AND ITS STRUCTURES 47</p> <p>TREADWAY REHABILITATION 47</p> <p>INCOMPATIBLE USES 55</p> <p>EDUCATING TRAIL USERS 58</p> <p>INJURY AND INSURANCE PROTOCOL 60</p> <p>ENVIRONMENTAL MONITORING 64</p> <p>WEB ACCESS AND YOUR DASHBOARD 66</p> <p>VOLUNTEER SERVICE AGREEMENTS 68</p> <p>CHECKLIST OF WHAT A MAINTAINER SHOULD KNOW 70</p> <p style="text-align: right;">Page 2 Return to Table of Contents</p>	<p style="text-align: center;"><u>INTRODUCTION</u></p> <p>The New York-New Jersey Trail Conference was formed in 1920 "to coordinate the efforts of walking organizations in the States of New York and New Jersey, and to build and maintain trails and shelters in these states." The Trail Conference is dedicated to keeping each trail in its charge easily passable, clearly and consistently marked, in a safe condition, and harmonious with its surroundings.</p> <p>As a trail maintainer, you have volunteered to assist the Trail Conference in its most important mission. We thank you for your very valuable service. The purpose of this manual is to define the role of a trail maintainer and serve as a reference document to supplement formal classroom instruction and on-the-job training. A primary goal of trail maintenance is making the trail safe for users; in performing that duty, make sure to put your safety first. Hopefully, you will find trail maintenance to be a fun and rewarding experience.</p> <p>This document, as well as other key resources and forms (safety documentation, reporting form, other policies) may be found online using the Dashboard feature on the Trail Conference web site www.nynjtc.org/dashboard. Instructions on how to use the Dashboard appear later in this document.</p> <p>A greatly abbreviated version of this manual is available</p> <p style="text-align: right;">Page 3 Return to Table of Contents</p>	<p>intervals will direct users toward the center of the trail and discourage excessive wearing of the edge. The trail should be slightly out sloped so water runs off it and not along it.</p> <p>Log crib: In places where water runs downhill across the trail and threatens to cause a washout, a length of log across the watercourse would be placed just off the trail on the uphill side. It is important to inspect these to ensure that they are continuing to function.</p> <p>Switchback shortcuts: Users sometimes cut across switchbacks to shorten their route, which leads to severe erosion. Discourage shortcuts by blocking them with cuttings, logs, or rocks. Pay special attention to blazes in this area and make using the switchback the most attractive route. This applies similarly to any place where users are bypassing the trail and causing erosion, such as alongside steps.</p> <p>Swampy areas: Users will naturally try to avoid mucky sections of trail by walking around them, resulting in ever-wider swamps. It may be possible to relieve wet conditions by digging a ditch 1 foot wide and 1 foot deep to direct water to another spot. If you bring along a simple hand mattock, or a small garden hoe, you can sometimes dig a sufficient ditch to alleviate minor issues and dry out the trail. If not, place flat-topped stepping stones in the boggy area. Larger spots will require</p> <p>Page 12 Return to Table of Contents</p>	<p>notes and pictures of the area and report them to your supervisor.</p> <p>Bridges: These are major construction jobs. Bridges should be checked on each trip for broken decking or other obvious problems. On your walk through with your supervisor, discuss what needs all the bridges on your trail section have. In most cases, you should notify your supervisor of problems and the trail crew will make repairs. You may make minor repairs if you are able to do so, but you should report them immediately to your supervisor since they may be indicative of more serious problems with the bridge.</p> <p>Puncheon/Boardwalk: These are "bog" bridges over wetland and need the same checking as bridges (above). Puncheon are long boards parallel to the trail on top of support boards called sleepers. Boardwalks are short boards perpendicular to the trail on top of sleepers.</p> <p>Page 13 Return to Table of Contents</p>



Trail Construction Resources

maintenance-manual

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TRAIL BLAZING & MAINTENANCE RESOURCES

The links below will be useful to anyone looking to maintain or blaze a trail to Trail Conference standards. The reporting forms and other documents for assigned Trail Maintainers are available through the Dashboard, the Volunteer Forms page, or by contacting volunteer@nynjtc.org.

If you're looking to learn about designing and constructing trails instead, [click here](#).

Maintenance

- **Trail Conference Trail Maintenance Manual, 8.1st Edition (updated 2021)**
The purpose of the Trail Maintenance Manual is to define the role of a trail maintainer and serve as a reference document to supplement formal classroom instruction and on-the-job training. Consider this your go-to resource for maintenance information. This version is formatted for computer screens and printing on 8.5" by 11" paper.
- **Trail Conference Trail Maintenance Manual, 8.1st Edition Phone Version (updated 2021)**
This is the latest version of the Trail Maintenance Manual, formatted for easier display on a mobile device. Download this version to your smartphone for easy access on the trail.
- **Trail Conference Trail Maintenance Manual Pocket Guide (2020)**
This is the PDF version of the abbreviated 3" by 5" pocket guide to the Trail Conference's Trail Maintenance Manual, which is on three, 3-by-5-inch plastic cards, suitable for carrying with you into the field. Trail maintainers who do not have the cards should work with their supervisor to obtain a set. (Supervisors who are out of a stash should email volunteer@nynjtc.org).
- Additional resources:
 - Trail Conference Maintainer's Best Practices
 - Trail Conference Trail Maintenance 101 Charts
 - Online Learning Library: A recorded version of the Trail Maintenance Workshop Webinar is available for new trail maintainers or individuals who are interested in learning more about trail maintenance.
 - Avenza Maps User Guide

Blazing

- [Trail Conference Guidelines for Blazing Trails](#)

sign-construction-resources

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TRAIL DESIGN & CONSTRUCTION RESOURCES

The links below will be useful to anyone looking to lay out new trails, assess trail problems, construct new sections of trail, or build trail structures. The reporting forms and other documents for assigned Trail Crew Leaders are available through the Dashboard, the Volunteer Forms page, or by contacting volunteer@nynjtc.org.

If you're looking to learn about blazing and maintaining trails instead, [click here](#).

General Resources

- USDA Hand Tools for Trail Work
- USDA Trail Construction and Maintenance Notebook
 - Great reference overall, but simpler punchon plans available elsewhere.
- USDA Wetland Trail Design and Construction
- NYNJTC Rigging Handbook
- The Science of Sustainable Trails Jeff Marion

Layout and Design

- NYNJTC Trail Design Standards
- NYNJTC User Guide to the 'Avenza Maps' App
- Trail Layout and Design Webinar (from Online Learning Library)
- Natural Surface Trails by Design: Physical and Human Design Essentials of Sustainable, Enjoyable Trails

Trail Structures

- NYNJTC Primitive Footpath Trail Construction
- USFS Standard Trail Plans and Specifications
- Bridge Best Practices and Samples
- USDA Standard Bridge Plans
- USDA Locating Your Trail Bridge for Longevity

Accessibility



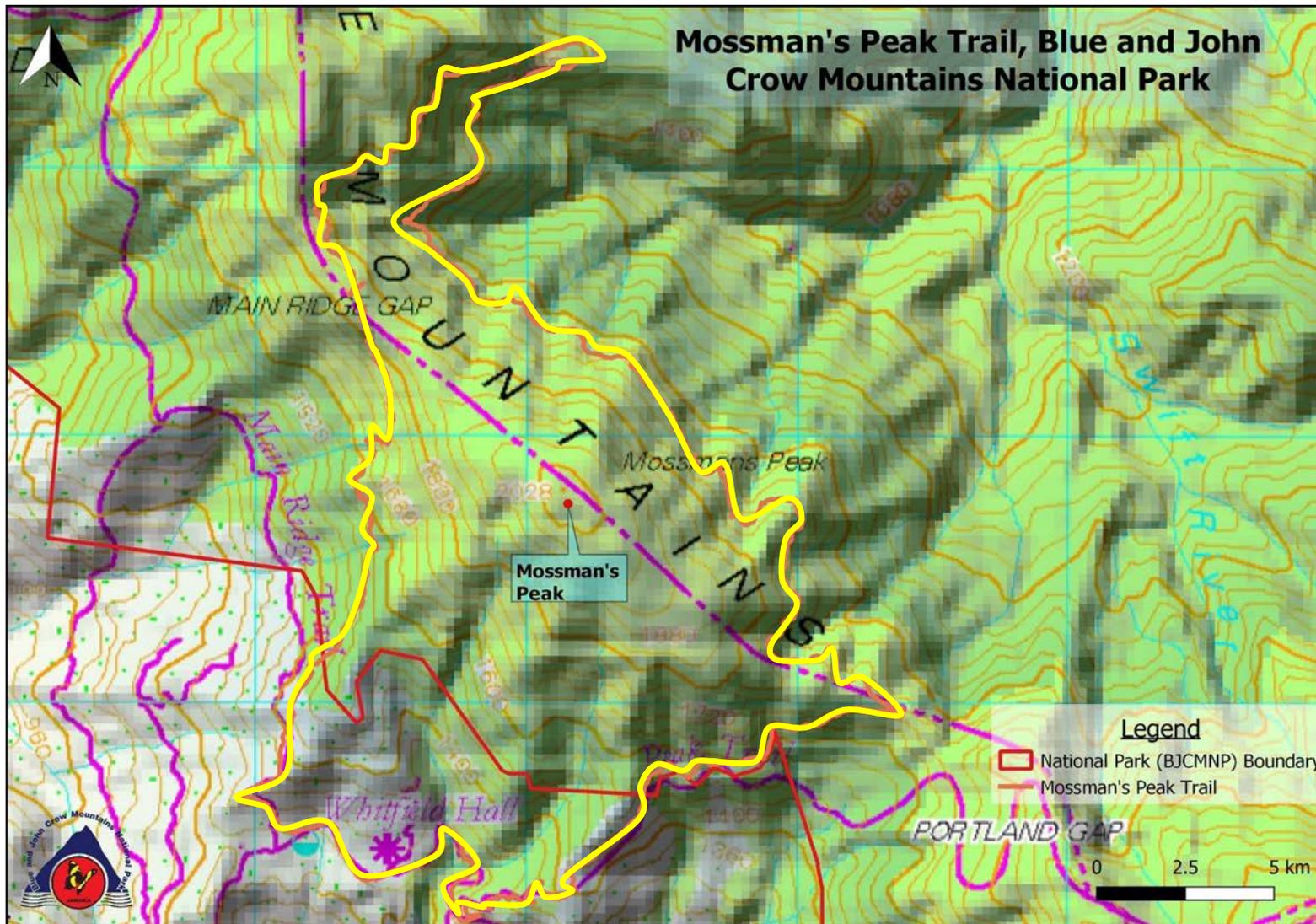
Maps





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Mossman's Peak Proposed Loop

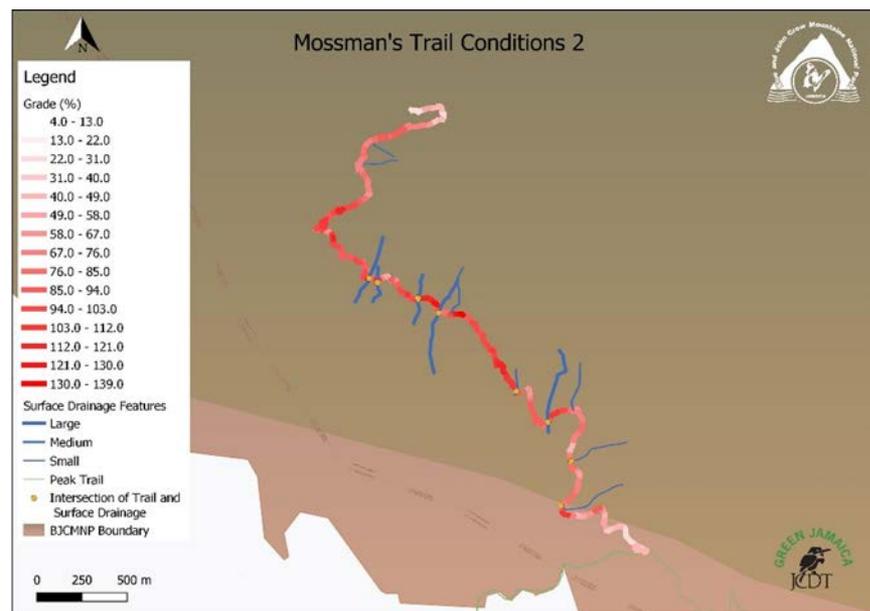
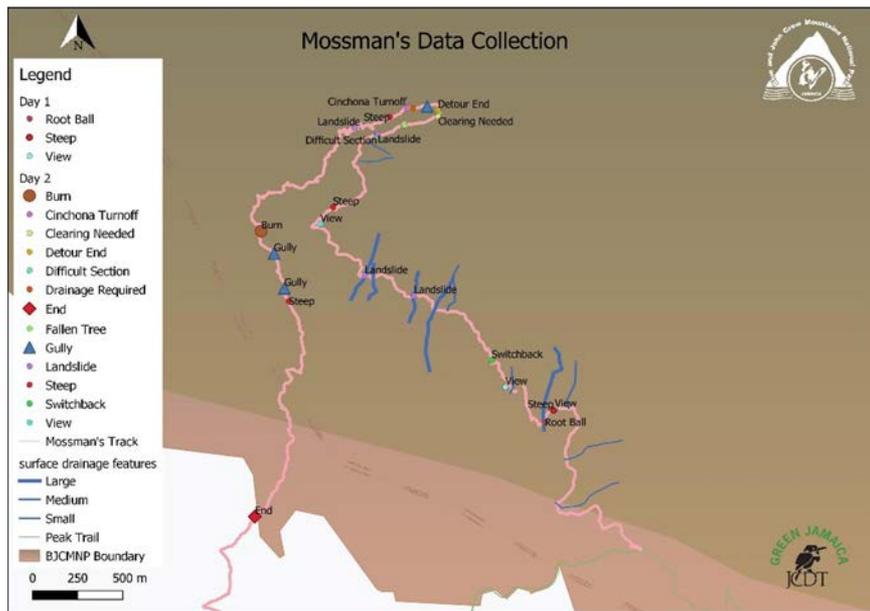




Post-Scouting Maps

These maps depict conditions on the ground including landmarks, water drainages, landslips, and trail grades. Larger versions are on the following slides.

All maps were created by JCDT, not the Trail Conference.



Mossman's Data Collection

Trail Features and Deficiencies

Legend

Day 1

- Root Ball
- Steep
- View

Day 2

- Burn
- Cinchona Turnoff
- Clearing Needed
- Detour End
- Difficult Section
- Drainage Required
- ◆ End
- Fallen Tree
- ▲ Gully
- Landslide
- Steep
- Switchback
- View

— Mossman's Track

surface drainage features

- Large
- Medium
- Small
- Peak Trail
- BJCMNP Boundary

0 250 500 m





Mossman's Trail Conditions 2



Trail Grade (Generalized)

Legend

Grade (%)

- 4.0 - 13.0
- 13.0 - 22.0
- 22.0 - 31.0
- 31.0 - 40.0
- 40.0 - 49.0
- 49.0 - 58.0
- 58.0 - 67.0
- 67.0 - 76.0
- 76.0 - 85.0
- 85.0 - 94.0
- 94.0 - 103.0
- 103.0 - 112.0
- 112.0 - 121.0
- 121.0 - 130.0
- 130.0 - 139.0

Surface Drainage Features

- Large
- Medium
- Small
- Peak Trail
- Intersection of Trail and Surface Drainage
- BJCMNP Boundary

0 250 500 m





Mossman's Trail Conditions 1



Trail Grade (Detailed)

Legend

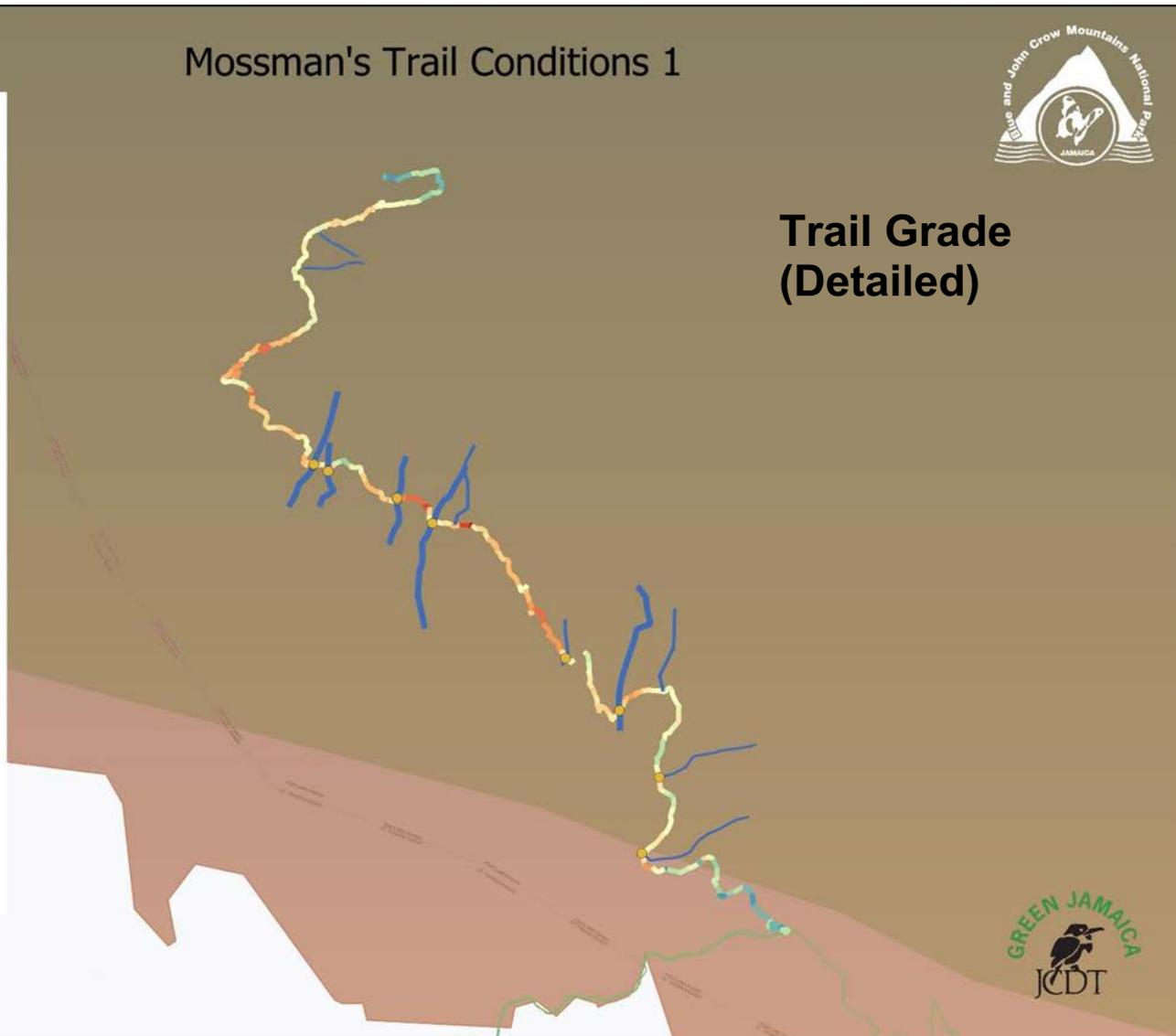
Grade (%)

- 4.0 - 13.0
- 13.0 - 22.0
- 22.0 - 31.0
- 31.0 - 40.0
- 40.0 - 49.0
- 49.0 - 58.0
- 58.0 - 67.0
- 67.0 - 76.0
- 76.0 - 85.0
- 85.0 - 94.0
- 94.0 - 103.0
- 103.0 - 112.0
- 112.0 - 121.0
- 121.0 - 130.0
- 130.0 - 139.0

Surface Drainage Features

- Large
- Medium
- Small
- Peak Trail
- Intersection of Trail and Surface Drainage
- BJCMNP Boundary

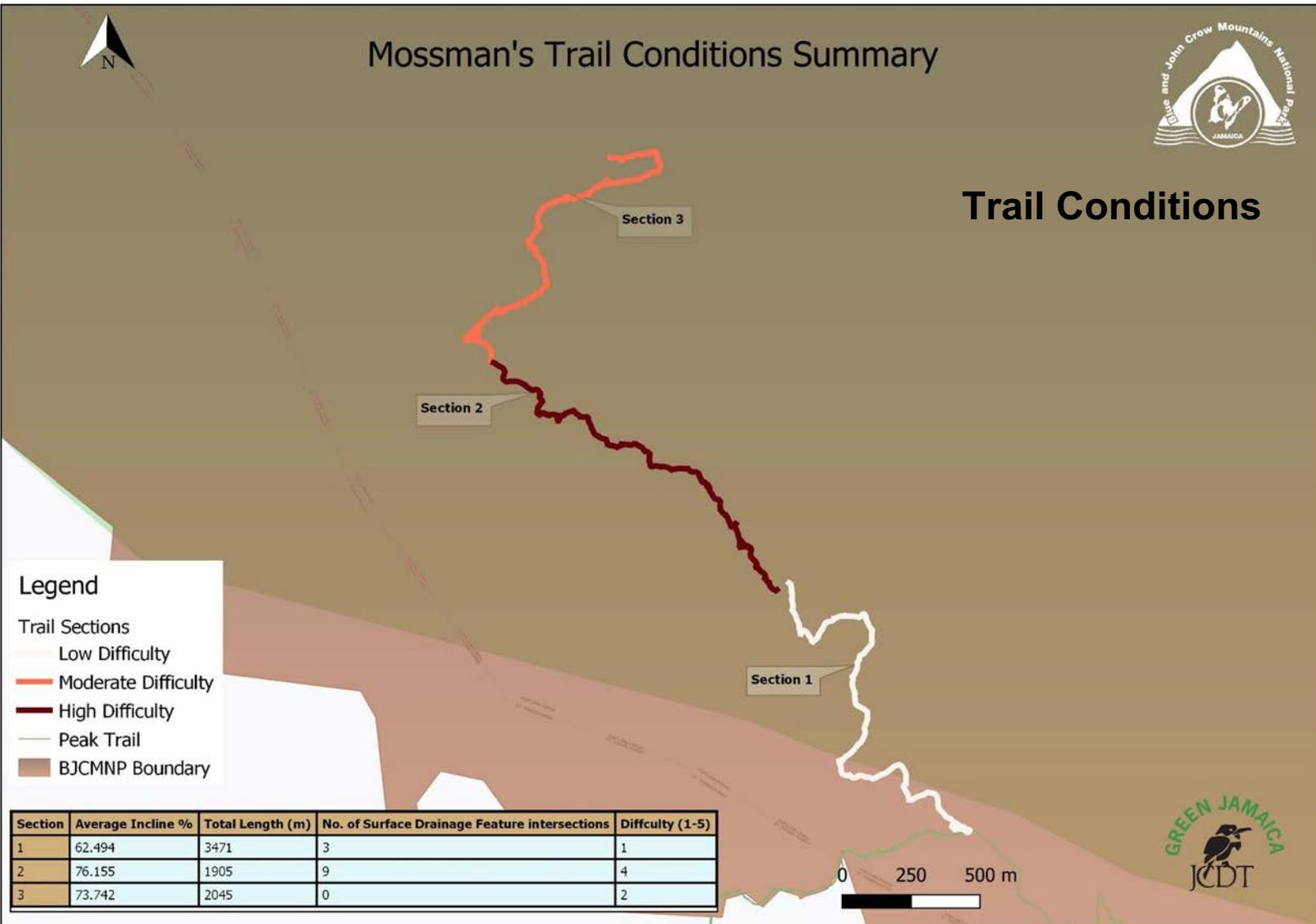
0 250 500 m





Mossman's Trail Conditions Summary

Trail Conditions





Recommendations





Recommendations

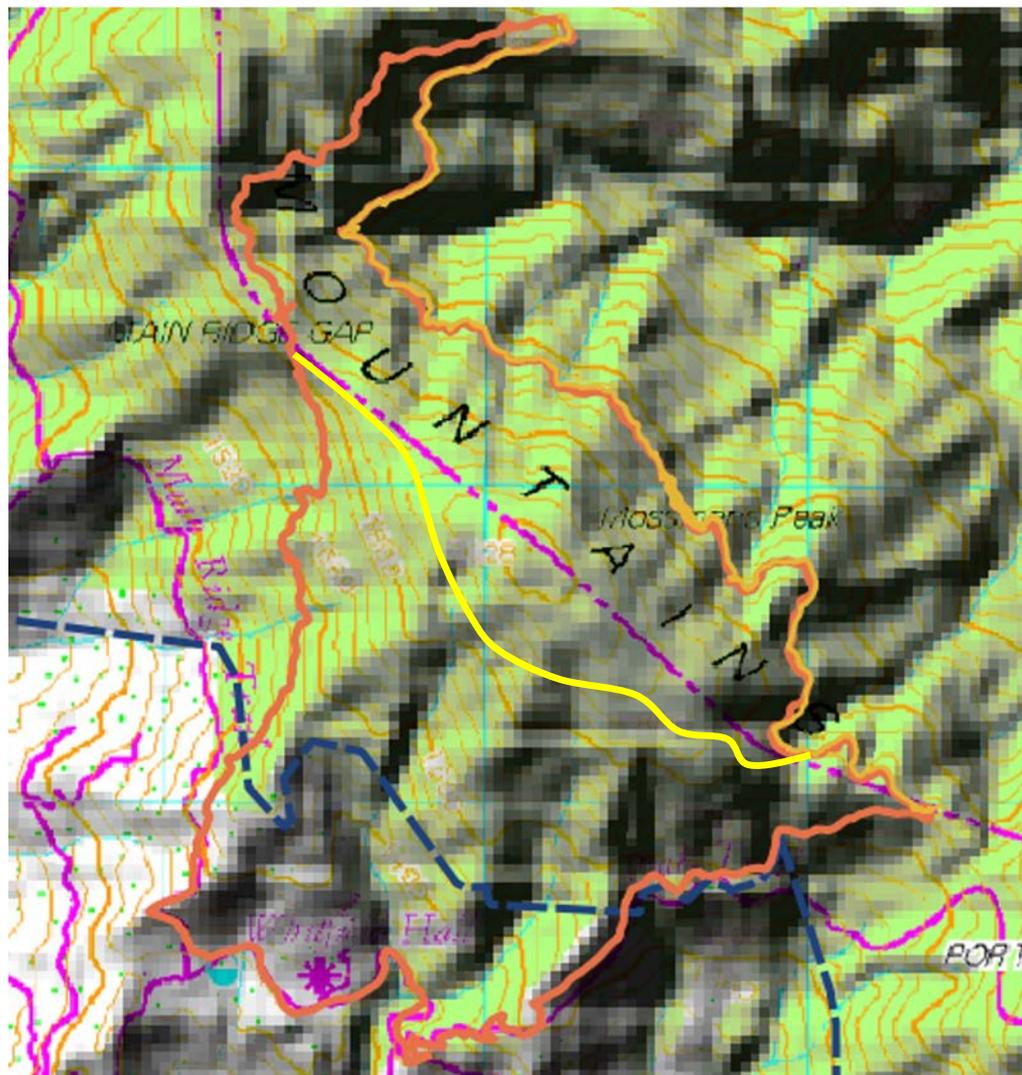
Almost all of the significant challenges with steep slopes and fire-prone habitat occur on the orange portion of the loop. We recommend, at least for the time being, abandoning that section and focusing on improving the yellow portion as part of the larger Freedom Trail.



Recommendations

Eventually, if a full loop hike is desired, it might be easier to build a new trail along a more sustainable route instead of rehabilitating the old, steep sections.

The yellow line opposite has not been scouted but, based on topography lines, is an example of what might be explored.





Recommendations

Using a simple Excel document or Google Sheet can help make sure that projects are tracked and completed based on priority, proximity to the trailhead, compatibility with volunteer groups, or other criteria.

	A	B	C	D	E	F	G	H	I
1	Linear Work Plan - Mossman's Peak Trail								
2									
3	Section	From Trailhead (k)	Activity*	Linear Distance (m)	Priority	Notes			
4	1	0.1	Trail Clearing	56	3				
5	2	0.71	Trail Clearing	21	2				
6	2	0.82	Switchback Creation	75	2	Rare orchids in area, use care when excavating.			
7	2	1.2	Rails / Guiderope	7	1	Rock shatters easily, use larger eyebolts and sink deeper.			
8	3	1.54	Trail Clearing	64	2				
9	3	1.76	Bank Stabilisation	8	4	Previous landslip location, soil extremely unstable.			
10	4	2.3	Trail Clearing	44	3				
11	5	2.4	Trail Clearing	31	2				
12	5	2.45	Rails / Guiderope	4	1				
13									
14		*Activity	Skill Level	Number of Persons	Tools Required				
15		Trail Clearing	Beginner	1-5	machete, shovels				
16		Switchback Creation	Intermediate	1-5	Pick-mattock, McLeod				
17		Rails / Guiderope	Intermediate	2-4	Drill, Mortar, Eyebolts, Rope				
18		Bank Stabilisation	Intermediate	2-4	Pick-mattock, McLeod, Shovel, Bucket				
19		Bridge Construction	Expert	5-20	Generator, power tools, winch				



Trail Conference Partnership





Trail Conference Partnership

While not geographically close to Jamaica, the Trail Conference hopes to continue sharing its experience with trail projects to help make the project a success. Future areas of collaboration include:

- Ongoing support for questions about trail layout, design, and construction.
- Directing members of the project to additional technical trail training and education resources.
- Suggestions on incorporating maps into the Avenza map app platform.
- Sharing volunteer management resources such as paperwork for hour collection, tracking project accomplishments, dollar value of volunteer time, and more.
- Making introductions to other US organizations that might take an interest in supporting or funding the project.
- Connecting the Jamaica Trail Project with members of the Jamaican Diaspora in the New York City metro area.



Connecting People with Nature since 1920

It has been a privilege to be invited into this ambitious and exciting project, and we look forward to supporting it however we can!

Peter Dolan

PDolan@nynjtc.org

Trail Program Manager

New York-New Jersey Trail Conference



Blue and John Crow Mountains National Park and World Heritage Site

Thank You !



United Nations
Educational, Scientific and
Cultural Organization



Blue and John Crow Mountains
inscribed on the World Heritage
List in 2015

Contact us at: thetrailprojectja@gmail.com. www.jamaicatrailproject.org

- David Walters, National Park Manager, Blue and John Crow Mountains, Jamaica Conservation and Development Trust
- Conliffe Simpson, Hike Coordinator, Jamaica Trail Project, [Volunteer]
- Peter Dolan, Trail Program Manager, New York New Jersey Trail Conference [Partner Organization]
- Paul Sully, Project Management Facilitator [Volunteer]
- Mark Trabing, Friends of Jamaica Representative to Trail Project [Volunteer]

www.blueandjohncrowmountains.org & www.jcdt.org.jm

