Community-based Coral Reef Monitoring and Management

Report of Junior Coral Reef Ambassador Workshop

June 2008
CONTENTS

1 Background .........................................................................................................................................3
2 Welcome and Introduction .................................................................................................................3
3 Sustainable Environmental Education & Environmental Issues ...................................................3
4 I am a Coral Reef turning trash into cash .........................................................................................3
   4.1 Why are coral reefs important? ................................................................................................3
   4.2 I am a coral reef: special story .................................................................................................5
5 Negril Junior Ranger Programme and drafting the JCRA manual .................................................5
6 Follow-up .............................................................................................................................................7
7 Workshop evaluation ..........................................................................................................................8
8 Appendices ..........................................................................................................................................9

Contact

Ms. Katherine Blackman
Centre for Resource Management and Environmental Studies
University of the West Indies
Cave Hill Campus
St. Michael
Barbados

Ms. Andree Griffith
Caribbean Conservation Association
Wildey House
Wildey
St. Michael
Barbados

Mr. John Nicholls
Folkestone Marine Reserve
Folkestone
St. James
Barbados

Citation:
1 BACKGROUND

The context and background to the Community-based Coral Reef Monitoring and Management project are outlined in the project flyer (Appendix 1). One component of the project is the establishment of the Folkestone Marine Reserve’s Junior Coral Reef Ambassador (JCRA) Programme. The aim of this programme is to increase and strengthen the youth’s awareness of the Folkestone Marine Reserve and its importance to preserving and conserving marine biodiversity through interactive and educational activities. A total of five schools from across the island, three primary schools and two secondary schools were invited to the workshop. Participation at the workshop was high as all of the invitees attended (Appendix 2). Schools were provided with the People and Corals workbook and the Negril Junior Ranger training manual to be reviewed before the workshop was held. At the workshop, participants received a workshop file containing the agenda (Appendix 3), the Negril Junior Ranger Training Manual (Appendix 4), Project Flyer, Newsletter (first issue) and a flyer promoting International Year of the Reef. The Junior Coral Reef Ambassador Workshop is listed on the IYOR 2008 Events Calendar.

2 WELCOME AND INTRODUCTION

Mrs. Andrée Griffith of the Executive Director (Ag) of the Caribbean Conservation Association welcomed everyone to the workshop. She highlighted the Community-based Coral Reef Monitoring and Management project and its objectives, with emphasis on the importance of building the capacity of the youth. She indicated that the workshop would not be possible without assistance from the Centre for Resource Management and Environmental Studies (UWI).

3 SUSTAINABLE ENVIRONMENTAL EDUCATION & ENVIRONMENTAL ISSUES

Mrs. Donna King-Brathwaite from the Ministry of Family, Youth Affairs, Sports and Environment briefed the participants about the environment and sustainable development. She discussed the environment, its importance, justifying the need for sustainable development. The various environmental issues affecting Barbados were discussed such as the impact of climate change, solid waste (dumping), land use, land degradation, freshwater conservation, pollution and vulnerability to natural disasters. She also highlighted some solutions to the environmental issues currently being faced. One of the solutions being the need for education at all levels.

4 I AM A CORAL REEF TURNING TRASH INTO CASH

4.1 Why are coral reefs important?

Ms. Susan Mahon initiated the interactive session of the workshop by conducting an activity that allowed participants to state why coral reefs are important. The participants were divided into four groups and each group was given various local postcards with varying sceneries that correlated to the uses of coral reef. The groups were given a few minutes to consider the importance of coral reefs. The participants wrote their responses on the strips of paper provided for each group. Afterwards, two members of each group were asked to stick their ideas on the
sheet of paper placed on the wall. Their ideas were separated into different themes. This activity was based on Resource sheet 1 in the People and Coral workbook⁴.

Figure 4.1: Susan categorizes the participants’ ideas

The responses indicated that the participants were significantly aware of the importance of coral reefs (Figure 4.2). Some of their responses included the corals were important because they

1. provide a habitat for fish and marine life.
2. provide natural breakwaters which reduce wave action and prevent beach erosion.
3. create sand.
4. help the economy as it attracts people and increases our foreign exchange.
5. provide recreation for locals.
6. provide good water quality.
7. provide food for marine life.

⁴ This workbook had been developed by the Caribbean Conservation Association and Field Studies Council to support coral reef conservation through environmental education.
4.2 I am a coral reef: special story

Ms Mahon presented her “I am a Coral Reef: Special Story”. This presentation defined what coral reefs are and the marine flora and fauna associated with the coral reef ecosystem. She showcased the physical structure, reproductive mechanism and survival requirements for coral reefs. The fact that coral reefs are vulnerable to physical damage was emphasised and a chart was displayed indicating the types of human-related damages inflicted on coral reefs and asked the participants to identify them. Some of the physical damages identified were touching and standing on reefs, disposal of liquid waste from vessels (e.g. oil spillage), dumping garbage overboard which significantly affects marine fauna like turtles, anchorage by boat, lobster traps. She also indicated that the use of suntan lotion has been noted to affect reefs as well. Coral reefs are also supersensitive to environmental changes such as temperature rise, storm and hurricane, freshwater flooding and erosion and sedimentation. Emphasis was made on the fragility of coral reefs and that the coral reef ecosystems are interconnected being a habitat for many marine organisms. The presentation ended with a few guidelines for snorkelling. At the end of the presentation, she indicated that a CD will be made available to the schools if they would like a copy as it would be useful in teaching about coral reefs.

5 NEGRIL JUNIOR RANGER PROGRAMME AND DRAFTING THE JCRA MANUAL

Susan introduced the Negril Marine Park’s Junior Ranger Programme’s Training Manual to the participants and the benefits of such a programme to kids in Negril, Jamaica. She indicated that some of the students were later qualified to become rangers at the marine park. Susan

2 The Negril Junior Ranger Programme is one the Negril Coral Reef Preservation Society’s educational programmes. It was initiated in 1995. The programme involves twelve schools within the Environmental Protection Area and has enrolled each year 180 Junior Rangers. Junior Rangers go through specialized training programmes and complete a Junior Ranger Manual and other requirements for Graduation. The program also entails a summer program which offers swimming and CPR/Lifesaving lessons as well as reinforcing positive environmental practices. Visit http://www.negril.com/ncrps/ncrps_files/page0004.htm for more information.
described the manual page by page and subsequently adapting it to the Folkestone Marine Reserve with feedback from the participants (Figure 5.1). The recommendations that were made thus far for the manual are displayed in Table 5.1.

Figure 5.1: Participants being introduced to the manual

Table 1: Recommendations for the FMR JCRA training manual

<table>
<thead>
<tr>
<th>Contents</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cover page</td>
<td>Entitled the Junior Coral Reef Ambassador Training Manual. A children competition will be initiated among participating schools to design a logo for the manual.</td>
</tr>
<tr>
<td>Manual Introduction</td>
<td>About the Folkestone Marine Reserve and its Folkestone area history</td>
</tr>
<tr>
<td>Ranger/Ambassador</td>
<td>Definition of the NCC Ranger and the Junior Coral Reef Ambassador</td>
</tr>
<tr>
<td>The JCRA programme</td>
<td>In Jamaica, the programme targets all-age schools and participants suggested that there should be two distinct programmes for primary and secondary schools in Barbados.</td>
</tr>
<tr>
<td>JCRA Specialty Programmes</td>
<td>• Junior Coral Reef Ambassador Specialty Programmes</td>
</tr>
<tr>
<td></td>
<td>• Administrative Management (same as manual. It should also include use of computer and database management</td>
</tr>
<tr>
<td></td>
<td>• Environmental Monitoring I for primary schools (same as manual)</td>
</tr>
<tr>
<td></td>
<td>• Environmental Monitoring II for secondary schools (same as manual)</td>
</tr>
<tr>
<td></td>
<td>• JCRA Lifesaving (same as manual but also includes scuba diving)</td>
</tr>
<tr>
<td></td>
<td>• Marine Park Management (same as manual)</td>
</tr>
<tr>
<td></td>
<td>• Eco-Tour Guide (same as manual)</td>
</tr>
</tbody>
</table>
Laws that JCRA must know

- Marine Areas Act (1985) and Regulations (1981)
- Coastal Zone Management Act (1985)
- Wild Birds Protection Act (1907)
- Trees (preservation) Act
- The Fisheries Act (1995) and Regulations
- Marine Pollution Control Act (1998)
- Five National Water Zones

Programme workshop

- Workshops
  - History of the watershed
  - Wetlands
  - Coral reef, seagrass and mangrove workshop (field trip to FMR, Carlisle Bay, Drill Hall, St. Lawrence lagoon).
  
  A reference was made to the Barbados Marine Trust that has a monthly lime which begins with coral presentations at Carlisle Bay. It occurs on the first Friday of every month from 6:30pm.
  - Waste management workshop
    - These workshops can be held on Saturdays to meet badge requirements.
    - Water world by CZMU can be accredited as part of the programme. Pre-planned activities will be less work for the trainer. Teachers can plan some activities instead of relying on other agencies.
    - Workshop can be staggered throughout the school year.

JCRA requirements

- Names of special areas across the island (Coles Cave and Harrisons Cave – to see the relationship between coastal and inland caves)
- Knowledge of park zones and their uses
- Knowledge of Barbados’ protected, rare and endangered plants and animals
- Knowledge of Barbados’ protected, rare and endangered marine plants and animals
- Knowledge of the Watershed units/ water catchments
- Knowledge of persons that enforce environmental laws
- Ability to conduct research

6 FOLLOW-UP

Due to limited time, the draft for the manual was not completed at the end of the workshop. It was recommended that the manual would be prepared and provided to teachers to be reviewed and provide feedback. Ms. Katherine Blackman from the Centre for Resource Management and Environmental Studies will provide the draft manual of the FMR Junior Coral Reef Ambassador manual by the third week of May 2008. This will be revised by the teachers to produce the final version. It is hoped that the final version of the manual will be launched on June 5th (World Environmental Day). When the final version of the manual is prepared, it will be provided to the participating schools for use. This will aid with determining the feasibility of implementing the programme in schools across the island. At the end of the workshop, participants were
presented with their certificate of participation. Primary schools students were specially presented with a participation prize that illustrated how to make treasures from recycled material, cds (Figure 6.1).

![Figure 6.1: Primary school students displaying their participation prize](image)

**7 WORKSHOP EVALUATION**

Overall participants indicated that the workshop was well-organised, the participants were well-informed and the sessions were very interactive. However most of the participants indicated that more time was needed to plan the manual.
8 APPENDICES

Appendix 1: Project flyer

Community-based Coral Reef Monitoring and Management Project

What is it?
This is a project developed by the Caribbean Conservation Association to strengthen the participation and capacity of stakeholders to improve management of coral reef biodiversity and related resources at Folkestone Marine Reserve.

What are the objectives?
- To improve information and resource sharing among managers, scientists, communities and youths for increased participation in decision-making regarding coral reef management.
- To build capacity of youths for advocacy, and incorporate coral reef biodiversity conservation and management into the primary schools curricula.
- To strengthen community and stakeholder management planning and monitor coral reefs and associated biodiversity.
- To assist in mobilizing financial resources for conservation and management of coral reefs in the long-term.

Who is involved?
- Local communities of the Folkestone area (e.g. schools, fisher folks)
- Government
- Local NGOs
- Private sector
- International organisations (UNDP GEF/SGP)

What will be some of the project’s highlights?
- Establishing a Junior Coral Reef Ambassador Programme
- Developing the Folkestone Marine Reserve Summer Programme
- Providing coral reef related resources
- Providing schools with the People and Corals pack
- Training in MPA: Management Effectiveness
- Initiating community coral reef monitoring
- Establishing the Folkestone community forum/e-group

For more information, please contact:
Mrs. Andree Griffith, CCA Executive Director: outreach@cccanet.net
Mr. John Nicholls, Folkestone park manager: folkestonemarine@yahoo.com
Ms. Katherine Blackman, CERMES: katherine.blackman@cavehill.uwi.edu

Join the e-group for more info!

Funded by

GEF
The GEF Small Grants Programme

SGP
UNDP

Appendix 2: Participants list

<table>
<thead>
<tr>
<th>Name</th>
<th>Title</th>
<th>Affiliation</th>
<th>Phone</th>
<th>Fax</th>
<th>E-Mail</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hazeline Griffith</td>
<td>Teacher</td>
<td>St. Alban’s Primary</td>
<td>4251388/4225044</td>
<td>-</td>
<td><a href="mailto:vonald@caribsurf.com">vonald@caribsurf.com</a></td>
</tr>
<tr>
<td>Shahida Hope</td>
<td>Student</td>
<td>St. Alban’s Primary</td>
<td>422-1129</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Elroy Payne</td>
<td>Teacher</td>
<td>St. James Secondary</td>
<td>4320136</td>
<td>-</td>
<td><a href="mailto:epayne20b@hotmail.com">epayne20b@hotmail.com</a></td>
</tr>
<tr>
<td>James Moore</td>
<td>Student</td>
<td>St. James Secondary</td>
<td>4320136</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Janelle Johnson</td>
<td>Teacher</td>
<td>Erdiston Primary</td>
<td>4292459</td>
<td>-</td>
<td><a href="mailto:foenix22@hotmail.com">foenix22@hotmail.com</a></td>
</tr>
<tr>
<td>Andree Griffith</td>
<td>Ex Dir (Ag)</td>
<td>CCA</td>
<td>426-5373</td>
<td>-</td>
<td><a href="mailto:outreach@ccanet.net">outreach@ccanet.net</a></td>
</tr>
<tr>
<td>Donna King-Brathwaite</td>
<td>Environmental Officer</td>
<td>Environment Division</td>
<td>4675724</td>
<td>4378859</td>
<td><a href="mailto:kingdo@gob.bb">kingdo@gob.bb</a></td>
</tr>
<tr>
<td>Danielle A. Gill</td>
<td>Student</td>
<td>Erdiston Primary</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Kadeem Pinder</td>
<td>Student</td>
<td>Erdiston Primary</td>
<td>4382732</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Pamela Small-Williams</td>
<td>Teacher</td>
<td>Erdiston Primary</td>
<td>4292459</td>
<td>-</td>
<td><a href="mailto:pam_battle@hotmail.com">pam_battle@hotmail.com</a></td>
</tr>
<tr>
<td>Rosalind Charlemagne</td>
<td>Teacher</td>
<td>Alexandra Secondary</td>
<td>432-1210</td>
<td>-</td>
<td><a href="mailto:rosemah8@hotmail.com">rosemah8@hotmail.com</a></td>
</tr>
<tr>
<td>Armand Piggot</td>
<td>Student</td>
<td>Alexandra Secondary</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Drifa Mahdi</td>
<td>Student</td>
<td>Alexandra Secondary</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Andrea Phillips</td>
<td>Teacher</td>
<td>St. James Primary</td>
<td>4329788/4320366</td>
<td>-</td>
<td><a href="mailto:andishaa@yahoo.com">andishaa@yahoo.com</a></td>
</tr>
<tr>
<td>Shertonia Clarke</td>
<td>Student</td>
<td>St. James Primary</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Patrick Williams</td>
<td>Snr Park Naturalist</td>
<td>Folkestone</td>
<td>4222871</td>
<td>4322793</td>
<td>-</td>
</tr>
<tr>
<td>Aaron Forde</td>
<td>Teacher</td>
<td>Alexandra Secondary</td>
<td>4220480</td>
<td>-</td>
<td><a href="mailto:atoforde@hotmail.com">atoforde@hotmail.com</a></td>
</tr>
</tbody>
</table>
## Community-based Coral Reef Monitoring and Management

<table>
<thead>
<tr>
<th>Name</th>
<th>Title</th>
<th>Affiliation</th>
<th>Phone</th>
<th>Fax</th>
<th>E-Mail</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nicole Garofano</td>
<td>Administrator</td>
<td>Counterpart Caribbean at Future Centre Trust</td>
<td>4252020</td>
<td>-</td>
<td><a href="mailto:futurecentre@sunbeach.net">futurecentre@sunbeach.net</a></td>
</tr>
<tr>
<td>Maria Pena</td>
<td>Project Officer</td>
<td>CERMES</td>
<td>4174727</td>
<td>-</td>
<td><a href="mailto:maria.pena@cavehill.uwi.edu">maria.pena@cavehill.uwi.edu</a></td>
</tr>
<tr>
<td>Katherine Blackman</td>
<td>Research Assistant</td>
<td>CERMES</td>
<td>4174827</td>
<td>-</td>
<td><a href="mailto:katherine.blackman@cavehill.edu.bb">katherine.blackman@cavehill.edu.bb</a></td>
</tr>
<tr>
<td>Susan Mahon</td>
<td>Facilitator</td>
<td>Future Centre Trust</td>
<td>-</td>
<td>-</td>
<td><a href="mailto:susan.mahon@gmail.com">susan.mahon@gmail.com</a></td>
</tr>
</tbody>
</table>

## Appendix 3: The Workshop Agenda

### Junior Coral Reef Ambassador Workshop

**AGENDA**

May 2nd 2008  
8:30 a.m. – 2:00 p.m.

<table>
<thead>
<tr>
<th>Time</th>
<th>Session</th>
</tr>
</thead>
<tbody>
<tr>
<td>8:30am - 9:00a.m.</td>
<td>Registration</td>
</tr>
<tr>
<td>9:00 a.m. – 9:05am</td>
<td>Welcome and Introduction</td>
</tr>
<tr>
<td>9:05am – 9:15am.</td>
<td>What is Sustainable Environmental Education?</td>
</tr>
<tr>
<td>9:15am – 10:15am</td>
<td>I am a Coral Reef, turning Trash into Cash</td>
</tr>
<tr>
<td>10:15am – 10:45am</td>
<td>BREAK</td>
</tr>
<tr>
<td>10:45am – 11:30am</td>
<td>Relevant local environmental issues</td>
</tr>
<tr>
<td>11:30am – 12:30pm</td>
<td>LUNCH</td>
</tr>
<tr>
<td>12:30pm – 1:45pm</td>
<td>A look at the Negril Junior Ranger Programme and Drafting the Manual</td>
</tr>
<tr>
<td>1:45pm-2:00pm</td>
<td>Workshop Evaluation</td>
</tr>
</tbody>
</table>
Appendix 4: The Negril Junior Ranger Programme
The Negril Environmental Protection Area

The Negril Environmental Protection Area was declared November 28, 1997 by Government. It is called NEPA for short, and the people who live there care very much about their environment. They know that we depend on the environment to make a living and feed our families. For example, we have been blessed with coral reefs that provide homes for fishes and other marine life that we can use for food. We have thick, lush forests and hills that catch the rain water and store it in underground springs. Mango, ackee, papaya, and banana are only a few of the many trees that supply us with fresh nutritious fruits. The white sandy beaches give us a place to swim, and many tourists visit us every year to bathe in our crystal clear waters and enjoy our bright sunshine.

The Negril Environmental Protection Trust (NEPT) is the umbrella organization for the EPA and is responsible for its management. Within the protected area many more protected areas can and will be developed. One such area is the...

Negril Marine Park

The Negril Marine Park was officially declared on March 4, 1998, after a seven year lobby by the Negril Coral Reef Preservation Society (NCRPS). The boundaries of the Marine Park start at the high watermark, (which is where the waves come up on shore), and goes out to the deep water drop off, which in some cases is as far as three miles out to sea. The Marine Park is currently being managed by NCRPS.

Teachers and community leaders from all around NEPA have worked very hard with the Negril Coral Reef Preservation Society to put together this training manual. We would like to recognize the following people for their writing, drawing, and organizational skills that have made this handbook a reality, and a welcome training tool for our future Junior Rangers.

- Katy Thacker, Executive Director
  Negril Coral Reef Preservation Society

- Jean P. Brown, President
  Negril Coral Reef Preservation Society

- Roberta Raigle Fryor, Reef Rap Editor
  Negril Coral Reef Preservation Society

- Chantelle Carvalho Black, Coordinator
  NCRPS Junior Ranger Programme

- Diane Johnson, Teacher
  Negril All Age School

- Ray Jackson, Teacher
  Green Island Comprehensive School

- Oscar Reckord, Community leader
  Orange Bay

- Valerie Fraser, Teacher
  St. Paul Primary School

- Aldith Walker, Teacher
  Sheffield All Age School

- Hella Clayton, Teacher
  Mount Airy All Age School

- Andrea Campbell, Teacher
  Mount Airy All Age School

- Stella Lindsay, Teacher
  Mount Airy All Age School

- Louise Pringle Simms, Teacher
  Mount Airy All Age School

- Everald Spence, Student
  Negril All Age School

- Karen King, Student
  Negril All Age School

- Leasho Johnson, Student
  Negril All Age School

- Pheecia McKenzie, Student
  Green Island Comprehensive High School

- Gary Caruthers, Student
  Green Island Comprehensive High School

2000 printing made possible, in part, through funding from Environmental Foundation of Jamaica.
Who is a Ranger?

A Ranger is someone who takes care of special parks and protected areas like the Negril Marine Park within the Environmental Protection Area. Rangers teach people about the environment and the laws that are designed to protect our natural resources. Rangers have the power to enforce those laws, so that if they see someone doing wrong, they can arrest them. A ranger teaches children and adults about the special plants and animals in our protected area and what we can do to take care of them.

Who is a Junior Ranger?

A Junior Ranger is a caretaker for the environment. The Junior Ranger learns as much as he/she can about our natural resources so that he/she can teach others. Junior Rangers look after their schools and communities to make sure that they are kept clean. Junior Rangers learn about environmental laws so that they can help Rangers enforce them. Junior Rangers are always trying to learn more about their natural resources so that they can teach others and learn to be Rangers one day.

This manual is about what Rangers need to know, and about what Rangers need to do.

One thing Junior Rangers need to do is complete all of the activities in this manual. That is the first step towards becoming a Negril Environmental Protection Area Junior Ranger.
Basic Junior Ranger Programme

Students must complete all the activities in the Junior Ranger Manual. The manual must be monitored, approved and signed by a certified Junior Ranger Trainer to be accepted as a completed manual.

Students must take part in International Earth Day activities, and are encouraged to participate in International Coastal Cleanup.

Students must attend the training workshops during the course of the year and write a report on one of the following field trip experiences:

**History of Negril Watershed**
Forestry Workshop: Field trip to limestone forest and aquifer recharge area.

**Wetlands Workshop**
Field trip to Royal Palm Reserve.

**Coral Reef, Seagrass & Mangroves Workshop**
Field trip optional.

**Waste Management Workshop**
Optional field trip to sewage and water treatment plant.

*Students will receive a NEPA Junior Ranger button to wear during training and a badge upon completion of programme, along with the Basic Junior Ranger Programme Certificate.*

Students shall carry an attendance card that must be signed by the Trainer as proof of attendance at workshops in every phase of the Junior Ranger Programme.

Advanced Junior Ranger Programme  
Prerequisite: Basic Level Certification

*Students must complete all optional field trips not completed under the Basic Programme. Students must participate in International Earth Day and International Coastal Cleanup Activities. Students must assist a Trainer with at least one of the workshops or field trips. Students must complete summer swimming and snorkeling class. Students must pass a test to qualify for graduation.*

*Students wear Basic programme buttons and badges at all workshops and field trips and receive an Advanced Badge and Certificate upon successful completion of Programme.*
Junior Ranger Specialty Programmes

Students will receive Specialty Badges and Certificates upon completion of each Programme.

Administrative Management

Prerequisite: Basic Level Certification

Course includes minimum five days office experience at NCRPS and/or NEPT learning filing, faxing, photocopying, and phone answering skills. Students will have at least one lesson in computer skills. Students will spend three days visiting schools, with a minimum of one day distributing educational materials.

Environmental Monitoring

Prerequisite: Advanced Level Certification

Course includes two days NCRPS lab experience including: assisting in lab with preparation of samples and recording data; two days water sampling field experience, two days transect experience (snorkeling required) with NCRPS Rangers. Student must write report on experience.

Junior Ranger Lifesaving (RLSS)

Prerequisite: Advanced Level Certification

Students must be avid swimmers and undergo strict training for a minimum of five days. Upon completion of course students must demonstrate practical and theoretical first aid and CPR skills, and be well versed in lifesaving procedures.

Marine Park Management

Prerequisite: Advanced Level and Junior Lifesaving Certification

Course includes a minimum of five days patrol with Marine Park Rangers, review of Marine Park regulations and relevant Environmental Laws. Students will interview fishermen, take a one day tour of the EPA, spend two days working on mooring maintenance, and write a Ranger Report.

Eco-Tour Guide

Prerequisite: Advanced Level and Junior Lifesaving Certification

Course includes tourism training by TPDCo, followed by NCRPS Eco-Tour training. Upon completion, students must be capable of knowledgeably guiding a tour to Ireland Pen, West End Cliffs, South Negril River/Royal Palm Preserve and the Coral Reefs.
RANGERS Need to Know...

... about their environment, how it works, and what parts of it are especially important. NEPA Rangers need to know about their environmental protection area and all of the very special places within it. Some of these will become national parks, marine parks, and other kinds of protected areas.

√ Junior Ranger Requirement:
Write the names or numbers of these special areas in the boxes on the map.

1. Long Bay
2. Fossil Reef & Caves
3. Booby Cay
4. North Negril River
5. Bloody Bay
6. South Negril River
7. The Great Morass
8. Negril Lighthouse
9. Royal Palm Reserve
10. Negril Water Supply
11. Orange Bay
12. Dry Limestone Forest
13. Coral Reefs
14. Salmon Point
15. Little Bay
16. Homer's Cove
17. Green Island Harbour
18. Little Bloody Bay

Rangers Need to Know about Laws, such as:

The Natural Resource Conservation Authority Act

This law is used to protect natural and marine parks. The Act points out that the Minister may, by order, make known publicly, any area of land as a National Park. Land near rising water, or any area of water, can be used as a Marine Park. These parks will be kept in good condition for the benefit of the public. Both national and marine parks will keep safe, living and nonliving objects in the natural environment that are of beauty, educational, historical, or scientific interest.
RANGERS Need to Know...

... about the land, the different kinds of habitats (plant and animal communities). They need to know about specially protected plants and animals which might be found there. Rangers also need to know about hunting laws and seasons.

☑ Junior Ranger Requirement:
Find out a FUN FACT about each of the plants or animals on the facing page. Colour the drawings.

Rangers Need to Know about Laws, such as:

The Wildlife Protection Act

The Wildlife Protection Act (WPA) became law in 1945. The purpose of this act is the protection of certain wildlife such as animals, birds, and fishes. To achieve this purpose, special areas were established where hunting and fishing are allowed. There are places known as Game Sanctuaries where you are not allowed to hunt any animal or bird or take their nest or egg. If you are found in the Game Sanctuary with a catapult or other equipment that may be harmful to animals, you can be arrested. It is against the law to capture these birds or animals for sale or keep them as pets. The WPA protects any creature that lives mainly in water and the water that they live in. It is an offense for any person to kill or take immature fishes.

Dynamiting of fishes and use of any other chemical, poisons fish and destroys their breeding ground. A provision of the act protects the rivers, sea, streams, canal, and lagoons, and makes it an offense for us to dispose of dangerous material such as chemicals and sewage in them.

The NRCA is responsible for the administration of the WPA, but as citizens of this country, we will have to do our part to make it work.

Under this act, the NRCA has the power to appoint Game Wardens and Fishery Inspectors, who along with constables, will help to keep the law. They are given powers to search and detain anyone that they see who has in their possession: birds, eggs, nest, fishes, or animals that are protected under the act.
Some of Jamaica’s protected, rare, and endangered plants and animals.

How many have you seen?
Write a statement about each picture.

- Jamaican Crocodile
- Orchids
- All Snakes
- Jamaican Coney
- Mangrove Trees
- Royal Swamp Palm
- West Indian Whistling Tree Duck
- Jamaican Parrot
**RANGERS Need to Know...**

... about the sea and the different kinds of habitats (plant and animal communities) found there. They need to know about specially protected sea plants and animals. They need to know about those which we harvest for food and other purposes.

... about fishing laws and regulations, about when lobster cannot be harvested because they are breeding.

... about how big fish need to be before they can be caught.

**✓ Junior Ranger Requirement:**

Find out a **FUN FACT** about each of the plants or animals on the facing page and write it on the space provided. Colour the drawings.

---

**The Fishing Industry Act**

The Minister of Agriculture has the right to prohibit fishing in a particular area. Any person caught fishing, or attempting to fish in any area declared as a fish sanctuary shall be taken before court and shall be charged $500 or given a sentence of up to six months imprisonment. The Minister can declare any period to be a closed season for any specified species. Closed Season for lobster is April 1 through June 30.

The fishery inspector may enter boats and examine licenses, identification cards, fishing nets, lines, or other equipment. Anyone who refuses to cooperate with the inspector and should assault or obstruct the inspector who is carrying out his duty shall be guilty of an offense. If you are found committing an offense, the inspector may seize all fishing equipment with or without a warrant.

Anyone who is caught stealing another fisherman's property can be charged $1,000 or 12 months in prison. The owner of every carrier vessel (any boat used to transport fishermen to any Cay to fish) should keep a register of all fishermen employed by him and he is responsible for their welfare during a fishing expedition. He must supply them with drinking water and food, and keep them safe.
Some of Jamaica’s protected, rare, and endangered sea plants and animals.

How many have you seen?
Where did you see them?

Black or White Coral

Sea Turtles

Conch

West Indian Manatee

Sea Urchins

Parrot Fish

Irish Moss

Starfish
Need to Know...

...about maps. Maps show the land and water areas. They show roads, rivers and points of interest. Maps help us to find places we want to go. This is a Map of the Negril Environmental Protection Area.

Junior Ranger Requirement:

Make an X where you live, and another X where your school is located. Colour the various areas within the ZPA when you study them with your Teacher Trainer. Make the sea and rivers blue, and the coral reefs gold. Write the names of all the towns, listed below, in the boxes to show their locations.

1. Orange Bay
2. Santoy
3. Phoenix Town
4. Logwood
5. March Town
6. Cave Valley
7. Spring Garden
8. Moreland Hill
9. Springfield
10. Sheffield
11. Whitehall
12. Homer's Cove
13. Orange Hill
14. Ketto
15. Hesketh
16. Mount Airy
17. Negril
18. Revival
19. Delve
20. Saint Pauls
21. New Hope
22. Negril Spots
23. Retirement
RANGERS Need to Know...

... about Jamaica’s Watershed Management Units. They need to know about the status of each and how many there are in Jamaica. They need to know the boundaries of the units in Hanover and Westmoreland, and they need to know about the relationship between Watershed Management Units and coral reefs.

☑ Junior Ranger Requirement:
Using the Watershed Management Units Map on opposite page:

1. Name the Watershed Management Units in Hanover.

2. Name the Watershed Management Units in Westmoreland.

3. Find a Fun Fact about one Unit in Hanover.

4. Find a Fun Fact about one Unit in Westmoreland.

5. Colour Hanover’s Watershed Management Units Blue.

Rangers Need to Know about Laws, such as:

The Watershed Protection Act
This Act became law in 1963 and governs watersheds in Jamaica. The Natural Resources Conservation Authority is responsible for administering the Watershed Protection Act.

The main purpose of the Act is to conserve water resources by protecting land in or beside watershed areas. The Act aims to ensure proper uses of land in vital watershed areas, to reduce soil erosion, to maintain high levels of groundwater and to encourage regular flows in our rivers and streams.
Jamaica’s Watershed Management Units

**MAP KEY**
- --- Parish Boundary
- ---- Watershed Boundary

**Watershed Management Units**

<table>
<thead>
<tr>
<th>No.</th>
<th>NAME</th>
<th>AREA (Km²)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>South Negril-Orange River</td>
<td>46.6</td>
</tr>
<tr>
<td>2.</td>
<td>Lucea River</td>
<td>267.4</td>
</tr>
<tr>
<td>3.</td>
<td>Great River</td>
<td>327.7</td>
</tr>
<tr>
<td>4.</td>
<td>Montego River</td>
<td>289.2</td>
</tr>
<tr>
<td>5.</td>
<td>Martha Brae</td>
<td>615.8</td>
</tr>
<tr>
<td>6.</td>
<td>Rio Bueno-White River</td>
<td>1370.7</td>
</tr>
<tr>
<td>7.</td>
<td>Rio Nuevo</td>
<td>107.7</td>
</tr>
<tr>
<td>8.</td>
<td>Oracabessa-Fagee River</td>
<td>173.4</td>
</tr>
<tr>
<td>9.</td>
<td>Wagwater River</td>
<td>309.4</td>
</tr>
<tr>
<td>10.</td>
<td>Pencar-Buff Bay River</td>
<td>201.9</td>
</tr>
<tr>
<td>11.</td>
<td>Spanish River</td>
<td>127.4</td>
</tr>
<tr>
<td>12.</td>
<td>Swift River</td>
<td>94.2</td>
</tr>
<tr>
<td>13.</td>
<td>Rio Grande</td>
<td>369.7</td>
</tr>
<tr>
<td>14.</td>
<td>Drivers River</td>
<td>216.6</td>
</tr>
<tr>
<td>15.</td>
<td>Plantain Garden River</td>
<td>192.6</td>
</tr>
<tr>
<td>16.</td>
<td>Morant River</td>
<td>307.8</td>
</tr>
<tr>
<td>17.</td>
<td>Yallahs River</td>
<td>214.5</td>
</tr>
<tr>
<td>18.</td>
<td>Hope River</td>
<td>225.8</td>
</tr>
<tr>
<td>19.</td>
<td>Rio Cobre</td>
<td>1219.7</td>
</tr>
<tr>
<td>20.</td>
<td>Rio Minho</td>
<td>865.7</td>
</tr>
<tr>
<td>21.</td>
<td>Milk River</td>
<td>464.4</td>
</tr>
<tr>
<td>22.</td>
<td>Gut Alligator Hole</td>
<td>561.4</td>
</tr>
<tr>
<td>23.</td>
<td>Black River</td>
<td>1838.8</td>
</tr>
<tr>
<td>24.</td>
<td>Deans Valley River</td>
<td>89.1</td>
</tr>
<tr>
<td>25.</td>
<td>Cobarita River</td>
<td>273.2</td>
</tr>
<tr>
<td>26.</td>
<td>New Savannah River</td>
<td>71.9</td>
</tr>
</tbody>
</table>

Watershed Unit Map used with permission of the Natural Resources Conservation Authority (NRCA)
**RANGERS Need to Know...**

... how to help people, and how to find help quickly. Rangers need to know about: First Aid; Lifesaving; CPR (Cardio-Pulmonary Resuscitation); Search & Rescue; and Disaster Preparedness.

✔️ **Junior Ranger Requirement:**

A Junior Ranger's important duty is to help people.
*Write down three ways that a Junior Ranger can help people.*

1.

2.

3.

✔️ **Junior Ranger Requirement:**

*Write the definition of First Aid. List the equipment and supplies needed for a good first aid kit.*

15
Junior Ranger Seek-A-Word

Word List:

JUNIOR  MARINE PARK  LAWS  AIR
ENVIRONMENTAL  MANATEE  PARROT  COMPOST
LOBSTER  FOSSIL  FISHERMEN  CROCODILE
CARETAKER  CORALS  LAND  NEGRIL
RESOURCES  RANGER  SNAKE  SEAMOSS
TURTLE  WILD LIFE  WATERSHED
**RANGERS** Need to Know...

...about who to enforce environmental laws. They are part of a team. They work with many other people to see that all of the environmental laws are obeyed. An important part of enforcement is teaching people about laws and why it is important to obey them.

**Junior Rangers are part of this team. Other members are:**

- **Public Health Officers**: Public Health officers are responsible for inspecting toilets and sewage treatment for homes and businesses to make sure that they are safe. They can also make people pick up their garbage and keep their area clean. Public health officers test our drinking water, the water in our rivers, and the sea water, to make sure that is clean and safe.

- **NRCA Conservation Officers**: NRCA Conservation officers teach people about the various environmental laws of Jamaica. They also enforce those laws like the Wildlife Protection Act, Fishing Industry Act, and more.

- **NGALPA Building Inspectors**: These inspectors check to see that people are following the rules for development, and to see if they have the proper permits for building. They also inspect toilets and sewage systems.

- **Fisheries Officer**: The Fisheries officer checks to see that fishermen have licenses. They also enforce the Fishing Industry Act. This means that they can arrest someone for catching fish and other marine life out of season, or catching fish that are too small.

- **Game Wardens**: A game warden can search any person who is suspected of breaking the rules of the Wildlife Protection Act. A game warden can also search any vehicle or boat for any animal, bird, fish, and bird’s nest or egg. He/she can search for any weapon used to trap or kill these animals.

- **National Park Rangers**: National Park Rangers enforce the laws for the Park. They also teach people all about the environmental laws and how important they are. They stop people from cutting down trees and using dangerous chemicals when they are farming or planting.

- **Marine Park Rangers**: Marine Park Rangers enforce Marine Park Regulations. This means that they stop people from drooping anchors on the reef, and dumping garbage into the sea. They teach people about the environmental laws and how to take care of the coral reefs and sea.

- **Police and Marine Police**: The police have the power to arrest any person who is disobeying the law, so they work with all the other members of the team.
If you found someone doing the following things, which team member(s) on the facing page would you try to call for help?

1. Somebody collecting turtle eggs from the beach.

2. Somebody dumping garbage in the river.

3. Somebody building a house without permission.

4. Somebody cutting a tree in a national park.

5. Somebody collecting corals in a marine park.

6. Somebody using dynamite to catch fish.

7. Somebody catching lobster in April.

8. Somebody hunting birds out of season.

9. Somebody putting a pit toilet right next to the river.

10. Somebody dropping an anchor on the coral reef.

Are all of these actions against environmental laws? Yes No
**RANGERS Need to Know...**

... how to do research. They need to collect data, compare findings and compile results for analysis.

✔ **Junior Ranger Requirement:**

*Research Jamaica’s unique Mangroves.*

**Visit a Mangrove Forest**

*Remember to wear appropriate shoes and clothing, and observe safety rules.*

1. **Observe mangroves that grow in the water.**

   What is unique about these trees? Observe their leaves. Use a magnifying glass to see more details.

2. **Observe mangroves that grow behind the waterline.**

   What is unique about these trees? Use a magnifying glass to observe their leaves.

3. **Observe mangroves that grow further inland.**

   What is unique about these trees? Observe their leaves.

4. **Within your group, or with a partner, discuss the similarities / differences you observed about the mangroves.**

5. **Go to the library or visit the NCRPS office and find out more about the different types of mangroves. You may ask a Marine Park Ranger or the Environmental Education Officer for help.**

6. **Document your observations on the Plant Report sheet on the following page.**
<table>
<thead>
<tr>
<th>Plant Report</th>
<th>Date of Entry/Observation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Family Genus</td>
<td>Species</td>
</tr>
<tr>
<td>Common Name</td>
<td>Nickname</td>
</tr>
<tr>
<td>Evidence used to support identification:</td>
<td></td>
</tr>
<tr>
<td>Description of roots:</td>
<td></td>
</tr>
<tr>
<td><strong>Description of leaf:</strong></td>
<td>Drawing of leaf or root system</td>
</tr>
<tr>
<td>Leaf arrangement, <em>(opposite, alternate, whorled)</em></td>
<td></td>
</tr>
<tr>
<td>Type of tree:</td>
<td></td>
</tr>
<tr>
<td>(woody tree, woody shrub, herbaceous tree)</td>
<td></td>
</tr>
<tr>
<td>Where does it grow?</td>
<td></td>
</tr>
<tr>
<td>Reproductive status</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Family Genus</th>
<th>Species</th>
</tr>
</thead>
<tbody>
<tr>
<td>Common Name</td>
<td>Nickname</td>
</tr>
<tr>
<td>Evidence used to support identification:</td>
<td></td>
</tr>
<tr>
<td>Description of roots:</td>
<td></td>
</tr>
<tr>
<td><strong>Description of leaf:</strong></td>
<td>Drawing of leaf or root system</td>
</tr>
<tr>
<td>Leaf arrangement, <em>(opposite, alternate, whorled)</em></td>
<td></td>
</tr>
<tr>
<td>Type of tree:</td>
<td></td>
</tr>
<tr>
<td>(woody tree, woody shrub, herbaceous tree)</td>
<td></td>
</tr>
<tr>
<td>Where does it grow?</td>
<td></td>
</tr>
<tr>
<td>Reproductive status</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Family Genus</th>
<th>Species</th>
</tr>
</thead>
<tbody>
<tr>
<td>Common Name</td>
<td>Nickname</td>
</tr>
<tr>
<td>Evidence used to support identification:</td>
<td></td>
</tr>
<tr>
<td>Description of roots:</td>
<td></td>
</tr>
<tr>
<td><strong>Description of leaf:</strong></td>
<td>Drawing of leaf or root system</td>
</tr>
<tr>
<td>Leaf arrangement, <em>(opposite, alternate, whorled)</em></td>
<td></td>
</tr>
<tr>
<td>Type of tree:</td>
<td></td>
</tr>
<tr>
<td>(woody tree, woody shrub, herbaceous tree)</td>
<td></td>
</tr>
<tr>
<td>Where does it grow?</td>
<td></td>
</tr>
<tr>
<td>Reproductive status</td>
<td></td>
</tr>
</tbody>
</table>
10 tasks you need to complete to become a member of the NCRPS Junior Ranger Corps

1. Find a place that needs cleaning, and keep it clean for at least a month.

   | Place Cleaned | Witness Signature | Date |


   _______________________________________________________________
   _______________________________________________________________
   _______________________________________________________________

   | Person Helped | Witness Signature | Date |

3. Be able to identify 5 different kinds of trees or flowers.

   1. _____________________________  4. _____________________________
   2. _____________________________  5. _____________________________
   3. _____________________________

   | Witness Signature | Date |

4. Be able to identify 5 different kinds of birds. (No chickens)

   1. _____________________________  4. _____________________________
   2. _____________________________  5. _____________________________
   3. _____________________________

   | Witness Signature | Date |

5. Visit at least four of these special places in the NEPA

   | Royal Palm Reserve | Date Visited | Fish River Hills | Date Visited |
   | NCRPS/NEPT Office | Date Visited | Orange Bay | Date Visited |
   | Mangrove Forest | Date Visited | Ireland Pen | Date Visited |
   | Bloody Bay | Date Visited | Booby Cay | Date Visited |
   | Negril Lighthouse | Date Visited | Little Bloody Bay | Date Visited |
   | Fossil Coral Reef | Date Visited | Sewerage Plant | Date Visited |
   | Living Coral Reef | Date Visited | Other | Date Visited |

   | Witness Signature | Date |
6. Teach your brother, sister, or class, something about the Negril Environmental Protection Area. Write what you taught and when.

________________________________________________________________________________________

________________________________________________________________________________________

________________________________________________________________________________________

________________________________________________________________________________________

Person Taught  Witness Signature  Date

7. Meet one of the Negril Environmental Protection Area's Environmental Enforcement Officers and have them sign here. (See page 17.)

Signature of Person  Title or Position  Date

8. Complete at least three of these activities

   Build a compost pile  Date Completed  Keep a nature journal or sketchbook.  Date Completed
   Plant a tree
   Save Water
   Separate Trash
   Other (Describe)

Witness Signature  Date

9. Learn, and be able to recite the Junior Ranger Pledge written on the back page of this Manual

Witness Signature  Date

10. Complete all of the Junior Ranger Requirements in this manual.

Junior Ranger  Teacher Trainer Signature  Date

22
I give my Pledge as a Junior Ranger

To show respect for God's creation, by helping to care for our environment, the soil, water, forests, wildlife, reefs, and air. So that my good example will teach others how to care for and properly use our natural resources. So our home, school, community and country will be a healthy environment for all.

The Junior Ranger Pledge

egril

CORAL REEF PRESERVATION SOCIETY