

# WORLD WETLANDS DAY 2013 REPORT

Theme: “Wetlands and Water Management.”

Prepared by MTIASIC Project  
February 2013



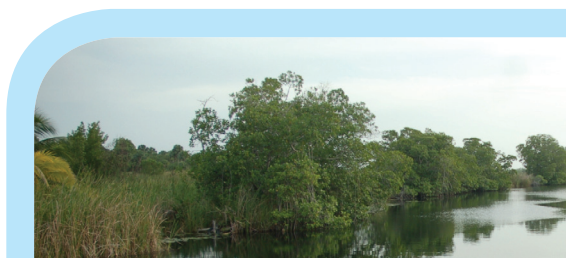
# PROGRAMME



World Wetland's Day Enviro Expo  
February 1, 2013  
Black River Safari, St. Elizabeth  
10:00 a.m.

**THEME: "WETLANDS AND WATER MANAGEMENT"**

- |            |  |
|------------|--|
| 10:00 a.m. | Prayer   |
| 10:05 a.m. | Welcome  |
| 10:10 a.m. | Overview of World Wetlands Day 2013  |
| 10:20 a.m. | Greetings: NEPA - Ms. Sheries Simpson<br>Open Greetings from noted stakeholders                          |
| 10:45 a.m. | Cultural Item  |
| 11:00 a.m. | Invasive Alien Species Schools Debate Competition<br>(Moderator - Ms. Caryl Grant)                       |
| 12:30 p.m. | LUNCH BREAK  |
| 1:15 p.m.  | Launch of Environmental/IAS Social Marketing Action<br>Plan for the Black River Lower Morass (D. Powell) |
| 1:20 p.m.  | Song/DJ Competition  |
| 1:30 p.m.  | Awards & Prizes  |
| 2:00 p.m.  | Boat Tours   |
| 3:00 p.m.  | Closure  |



## ***Focus Activity***

Environmental Expo: Black River Lower Morass (BRLM) Pilot project site, St. Elizabeth- Jamaica

## ***Objectives***

1. To share information and raise awareness among local and other stakeholders, encourage participation in Invasive Alien Species- IAS identity and control, thus leading to the preservation of the Black River Lower Morass. This will be achieved by launching a social marketing Programme.
2. The launch of a Social Marketing Campaign involving the collaboration of partners in identifying long term interventions in preserving the Black River Lower Morass.

## ***Background***

The Black River Lower Morass in St. Elizabeth- Jamaica, is the site of the largest recognized freshwater wetland in the English –speaking Caribbean.

The NEPA/GEF/CABI Mitigating the Threat of Invasive Alien Species in the Insular Caribbean Project (MTIASIC) is actively involved in the Black River Lower Morass.

This is in keeping with the Goals and objectives of the Project which is to broaden the approach to dealing with invasive species while observing globally important eco-systems.

This site is of significance to the economic and social life of the Parish of St. Elizabeth as freshwater species such as shrimp and crayfish provide a livelihood for citizens. The presence of important forests stands are critical to the preservation of these wetlands hence the need for effective methods of invasive species control.

## ***MTIASIC interventions and Wetland Preservation***

Over the last three years, the invasive Alien Species Project has undertaken several interventions in the Black River Lower Morass.

The MTIASIC Project's interventions in the Black River Lower Morass include identifying and tracking the spread of invasive species and, devising ways of controlling their spread by the introduction of eco friendly methods through on-going research.

A range of Public Awareness activities have taken place over the period including school expo's, school debates, information dissemination through promotional material and inter-agency partnerships.

## ***Wetlands and Water Management***

In observation of World Wetlands Day theme for 2013- "Wetlands and Water," the GEF/CABI/MTIASIC Project being implemented through the National Environment and Planning Agency , continues to highlight the critical importance of preserving our wetlands and our island's bio-diversity.

## ***World Wetlands Day 2013 activities in Black River***

In planning World Wetlands day in Black River, care was taken to be inclusive of school, agencies and



community groups.

Several Preparatory, Primary and High Schools were invited to participate.

(1) Students competed in debates also, poetry and DJ items were contributed by students relating to the invasive species threat to the BRLM and control of spread of invasives,

(2) Students participating in information dissemination by visiting exhibitor's booths, collection of IAS material, attending power- point and other presentations and, doing boat tours of the Morass.

In addition, a World Wetlands Day poster was specially designed and disseminated to schools, the media and the Social Development Commission to help raise interest in the event.



## Participating schools:

- Black River Prep
- Parottee and Pond Side Primary
- Lacovia, Newell and Maggoty High



Students from Newell High enjoying the boat tour



Attentive audience observing WWD presentations



Students engaged with IAS material at NEPA's main booth.



Pupils registering for WWD 2013 Expo.



A number of partnering agencies from within St. Elizabeth were invited to set up exhibits.

The following agencies confirmed their participation and were a part of WW Day 2013 activities:

- Tourism Development Product Company – TPDCO
- St. Elizabeth 4H Movement
- Forestry Department
- Social Development Commission, St. Elizabeth
- Fisheries Division, Ministry of Agriculture
- Community group members were invited and were represented.

## ***Greetings***



Greetings were given to gathering on behalf of the CEO – NEPA. The message outlined the importance of WW Day and the importance of preserving the Black River Lower Morass – a Wetland of international importance.

## ***Publicity and Promotion***

Launch of Social Marketing Campaign, Black River (See Appendix # 1)

Material development and distribution

Public Awareness Material was developed sharing aspects of World Wetlands Day 2013. Invasive Alien Species information was also included:

- ✓ Notebooks containing information on IAS in the Black River Lower Morass designed for students (See Appendix # 2)
- ✓ World Wetlands Day Promotional Poster (See Appendix # 3)
- ✓ Black River Lower Morass Brochure (See Appendix # 4)
- ✓ Informational magnets depicting IAS species in the BRLM (See Appendix # 5)

## Media

A newspaper advertorial titled “NEPA Combats Invasive Species in Black River Wetlands” was published in **The Gleaner** of Thursday, January 31, 2013 (half-page) and, **The Daily Observer** Friday, February 1, 2013 (Full page). (See Appendix# 6)

POWER 106 FM provided live broadcast of World Wetlands Day 2013 activities to a national audience. This was inclusive of aspects of the schools debate and interviews with NEPA/IAS team members and other partners. Interviews were conducted both from the Black River Safari location and other areas such as Mason River, which were engaged in World Wetlands Day activities.



Power 106 interviewing students from winning team Magotty High (left), and best speaker from Newell High (right).



Representative of Fisheries Division, Ministry of Agriculture



Mr. Churton Douglas, Forrestry Department



Ms. Powell, 4H Movement-St. Elizabeth



Mrs. Amanda Clarke-Brown, TPDCO



Magotty High representative passionately debating.



Kemarley Lindo of Newell High proposing moot.



Debater from Magotty High .



Newell High's Best Speaker, Collesha Arthurs.



Sheries Simpson presenting winning Maggoty High representatives with trophy.



Sheries Simpson presenting Collesha Arthurs, Sammijo Parchment and Kemarley Lindo of Newell High with 2nd place Plaque



DJ Item with catchy chorus "click click - weh di crab dem walk, click click - weh di fish dem swim"



Cultural item by Shanice Wright from Parotee Primary



Vercia Robinson of Ponside Primary performing a Dub Poem



Boat tours of the Black River by approximately eighty (80) students



NEPA staff in Safari boat with primary school students.

## ***Pictorial of World Wetlands Day 2013 Activities:***

The Debate between Newell High School (proposing) and Maggoty High School (opposing) was well executed by the teams. The Moot was: "Be it resolved that the Protection of the Black River Lower Morass is the responsibility of the Community."

Both teams presented lucid and forceful points on the important roles of both Government and the community in the preservation of the BRLM.

Maggoty High School emerged debate winners. The Best Speaker prize was awarded to Collesha Arthur of Newell High.

The launch of the IAS/Environmental Social Marketing Action Plan for the Black River Lower Morass presented a summary of the ecological importance of the BRLM and the outlines of a Marketing Plan/campaign which would include all major stakeholders in Black River and its environs. Main actions over the 1-year campaign would see intense Focus Group and mass meetings, schools visits and the establishing of a permanent Black River Lower Morass Exhibition. The partners were urged to become a part of the Plan and so ensure local support and sustainable actions for the preservation of the BRLM, long after the IAS Project has ended.



A Power point presentation was made outlining the results of the NEPA commissioned /SDC administered Knowledge, Attitude and Practice Baseline survey-2011 in Black River (See Appendix # 9). The presentation also highlighted the vast information and awareness gap which exists on the issue of the environment, invasive species and bio-diversity, As well as statistics on respondents' willingness to participate in IAS controlling strategies.

## **Summary**

World Wetlands Day 2013 satisfied the expectation of increasing the appreciation on the role of wetlands in our ecosystem.

Through the dissemination of information surrounding the promotion of the event and information sharing at the event, both and national stakeholders would have been provided with facts on invasive species and the characteristics of wetlands with focus on the BRLM.

World Wetlands Day 2013 would have provided another opportunity for participation at the community level where information sharing, activities and feedback will continue.

Prepared by: Mitigating The Threats of Invasive Alien Species in the Insular Caribbean (MTIASIC) Project

February 10, 2013



## SOCIAL MARKETING CAMPAIGN PRESENTATION

### ***Launch of Social Marketing Campaign for Black River Lower Morass***

Ladies and Gentlemen, many of us may know that Black River was the first town in Jamaica to receive electricity and also that the Black River Lower Morass is the largest freshwater Wetland ecosystem in Jamaica. These facts are only the proverbial tip of the iceberg as it relates to the cultural and biological significance of this area. It's a locale rich in biodiversity – over 149 species of birds have been sighted right here in the lower morass. This area is also home to a wide variety of fish like the snapper and tikki tikki, and reptiles, such as turtles and the American Crocodile. The Morass supports a rich indigenous flora and comprises an important genetic reserve with 92 species of flowering plants, 25% of which are considered rare, and 8% endemic to Jamaica.

Its magnificent natural features have not gone unnoticed as the morass is the haunt of many a nature loving tourist. It's a source of recreation, income and wonder. And it's for these reasons that we should all seek to protect the Black River Lower Morass. But before we can safeguard this precious resource we need to understand some of the threats to its existence and how we can seek to address them. A major threat to the Black River Lower Morass and to Bio-diversity in general is Invasive Alien Species. Invasive Alien Species threaten terrestrial, freshwater and marine aspects of the island's rich variety of indigenous and other species.

Island States such as ours are particularly vulnerable as Invasives pose a direct danger to the country's biodiversity. A 2009 analysis of the International Union for Conservation of Nature (IUCN) Red List revealed that IAS are the 5th most severe threat to amphibians; 3rd most severe threat to birds; 3rd most severe threat to mammals; 4th most severe threat to reptiles and a major threat to marine species facing extinction. The economic health of sectors such as agriculture, fisheries and tourism can also be negatively impacted by uncontrolled introduction and spread of IAS.

So we see how important it is to control Invasives -and we all have a role to play. Over the next few months the Mitigating the Threat of Invasive Alien Species in the Insular Caribbean Project will be staging a series of events in Black River aimed at educating community members and stakeholders about the ecological importance of the Lower Morass, and about what we each can do to protect this area from Invasive Alien Species. Look out for our concerts, competitions, expos and public service announcements all aimed at equipping you to join in the fight against Invasive Alien Species.

This Social Marketing Campaign will culminate with the establishment of a Biodiversity Centre right here at South Coast Safari. The Centre will highlight the cultural and biological importance of the Lower Morass. Ladies and Gentleman, just as it takes a village to raise a child, combatting Invasive Alien Species in the Black River Lower Morass will require all hands on deck. It's a formidable challenge but together we can reap success.

WWD 2013 APPENDIX 2  
NOTE BOOK FRONT COVER

**INVASIVE  
ALIEN SPECIES**  
in the Black River  
Lower Morass,  
**St. Elizabeth**

Wild Ginger



Red-claw Crayfish



Paperbark Tree



Suckermouth Catfish



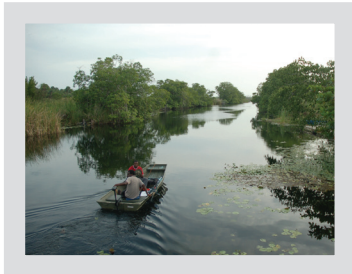
# WWD 2013 APPENDICES 2

## NOTE BOOK INSIDE FRONT COVER

### INVASIVE ALIEN SPECIES in the Black River Lower Morass, St. Elizabeth

#### Biodiversity within the Black River Lower Morass

The Black River Lower Morass, situated in St. Elizabeth, Jamaica is home to the largest recognized freshwater wetland in the English Speaking Caribbean. It represents an area of sensitive forest diversity, hosting a variety of plant and animal species, many of which are indigenous.



Several freshwater species such as local shrimp and fish provide a livelihood for citizens through trade; thus contributing to the social and economic life of the parish. This **RAMSAR SITE** (Wetlands of International Importance) and the resources it provides; is being threatened by several Invasive Alien Species (IAS).

#### What are Invasive Alien Species and how did they get to Jamaica?

Invasive Alien Species (IAS) are plants, animals, or micro-organisms which are introduced deliberately or unintentionally into areas where they do not occur naturally, and whose introduction and/or spread threatens biological diversity.

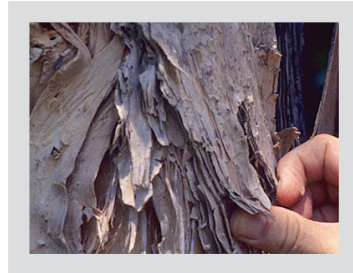
#### Methods of Introduction:

- Smuggling
- Agriculture, horticulture and pet trades
- Natural events e.g.: hurricanes
- Transportation: between countries via trains, airplanes, ships, and packaging materials

#### Common IAS in the Black River Lower Morass:

##### PAPERBARK TREE

(*Melaleuca quinquenervia*)



Commonly known as the Paperbark Tree, it is an aggressive and highly invasive plant. It actively competes with other plant species for water which affects the eco-balance of the Wetlands. It also reduces native species diversity.

##### WILD GINGER

(*Alpinia allughas*)



The Wild Ginger has been steadily spreading throughout the region. It is commonly used as a decorative plant. It forms large thickets which spread quickly and smothers other plants. It outcompetes native species and is taking over large areas of the Black River Morass.

##### WATER HYACINTH

(*Eichhornia crassipes*)



Water Hyacinth is a tropical/sub-tropical water plant found

in rivers, streams and lakes. It clogs waterways and hampers movement of water transport and water sports. It also blocks fish and other animals from access to food, plants, sunlight and nesting areas.

##### RED-CLAW CRAYFISH

(*Cherax quadricarinatus*)



This invasive is much larger than native crayfish species. It attacks and kills local crayfish and reduces the local supply; which is considered a delicacy.

##### SUCKERMOUTH CATFISH

(*Hypostomus olecostomus*)



A tropical fish belonging to the armoured catfish family, it erodes riverbanks, has no known predator in local rivers and competes with domestic species for food and space.

#### You can control the spread of IAS:

- Attend meetings and read materials on the presence of IAS in your area
- Know what your IAS looks like

#### Summary statement

Let us maintain the unique Biodiversity of the Black River Lower Morass by limiting the spread of these Invasive Alien Species.

# WWD 2013 APPENDICES 2

## NOTE BOOK INSIDE BACK COVER

### MULTIPLICATION TABLE

1	2	3	4	5	6	7	8	9	10	11	12
2	4	6	8	10	12	14	16	18	20	22	24
3	6	9	12	15	18	21	24	27	30	33	36
4	8	12	16	20	24	28	32	36	40	44	48
5	10	15	20	25	30	35	40	45	50	55	60
6	12	18	24	30	36	42	48	54	60	66	72
7	14	21	28	35	42	49	56	63	70	77	84
8	16	24	32	40	48	56	64	72	80	88	96
9	18	27	36	45	54	63	72	81	90	99	108
10	20	30	40	50	60	70	80	90	100	110	120
11	22	33	44	55	66	77	88	99	110	121	132
12	24	36	48	60	72	84	96	108	120	132	144

### LENGTH

Kilometer	= 1,000 meters	1 inch	= 25.4 millimeters
Hectometer	= 100 meters	1 foot	= 12 inches
Decameter	= 10 meters	1 yard	= 3 feet
Meter	= 1 meter	1 fathom	= 6 feet
Decimeter	= 1/10 meter	1 mile	= 5280 feet
Centimeter	= 1/100 meter	1 chain	= 22 yards
Millimeter	= 1/1,000 meter	1 furlong	= 220 yards

### CONVERSION CHART

1 centimeter	= 0.3937 inches
12 inches	= 1 foot
1 inch	= 2.54 centimeters
1 foot	= 0.3048 meters
3 feet	= 1 yard
1760 feet	= 1 mile
5280 feet	= 1 mile
1 yard	= 0.9144 meters
1 meter	= 3.28083 feet
1 kilometer	= 3281 feet
1 kilometer	= 0.6214 miles
3 miles	= 1 league

### COMMON VOLUME CONVERSION FACTORS

1 cubic centimeter	= 1000 cubic millimeter
1 cubic decimeter	= 1000 cubic centimeter
1 cubic meter	= 1000 cubic decimeter
1 liter / litre	= .001 cubic meter
1 liter / litre	= 10 deciliter
1 deciliter	= 10 centiliter
1 centiliter	= 10 milliliter
1 cubic foot	= 1728 cubic inches
1 cubic yard	= 27 cubic feet

### THE PARTS OF SPEECH

- A **verb** or compound verb asserts something about the subject of the sentence and express actions, events, or states of being.
- A **noun** is a word used to name a person, animal, place, thing, and abstract idea.
- A **pronoun** can replace a noun or another pronoun. You use pronouns like "he," "which," "none," and "you" to make your sentences less cumbersome

and less repetitive.

- An **adjective** modifies a noun or a pronoun by describing, identifying, or quantifying words. An adjective usually precedes the noun or the pronoun which it modifies.
- An **adverb** can modify a verb, an adjective, another adverb, a phrase, or a clause. An adverb indicates manner, time, place, cause, or degree and answers questions such as "how," "when," "where," "how much".
- A **preposition** links nouns, pronouns

and phrases to other words in a sentence. The word or phrase that the preposition introduces is called the object of the preposition.

- You can use a **conjunction** to link words, phrases, and clauses, as in the following example:  
I ate the pizza and the pasta.
- An **interjection** is a word added to a sentence to convey emotion. It is not grammatically related to any other part of the sentence.  
Example: Ouch, that hurt!

### BASIC PUNCTUATION RULES

- **Comma** ,  
Use commas to separate independent clauses in a sentence, for example: The game was over, but the crowd refused to leave.
- **Period or Full Stop** .  
The primary use of a period is to end a sentence. Its second important use is for abbreviations.
- **Question Mark** ?  
It goes at the end of a sentence which is a question. For example: How many will be at the party?
- **Exclamation Mark** !  
Only use this when issuing a command or speaking forcefully!
- **Quote Marks** ""  
Quotation marks are used to quote another person's words exactly, whether they be spoken, or written. For example:  
John said, "We are going shopping."

- **Colon** :  
A colon should be used after a complete statement in order to introduce one or more directly related ideas, such as a series of directions, a list, or a quotation or other comment illustrating or explaining the statement. Example: The daily newspaper contains four sections: news, sports, entertainment, and classified ads.
- **Semicolon** ;  
Use a semicolon to join related independent clauses in compound sentences. For example: Jim worked hard to earn his degree; consequently, he was certain to achieve a distinction.
- **Apostrophe** '  
The apostrophe has three uses:  
1) to form possessives of nouns  
2) to show the omission of letters  
3) to indicate certain plurals of lowercase letters.
- **Parentheses** ( )  
Parentheses are occasionally and sparingly used for extra, nonessential

material included in a sentence. For example, dates, sources, or ideas that are subordinate or tangential to the rest of the sentence are set apart in parentheses. Parentheses always appear in pairs. Example: Before arriving at the station, the old train (someone said it was a relic of frontier days) caught fire.

- **Dash** -  
Use the dash to emphasize a point or to set off an explanatory comment; but don't overuse dashes, or they will lose their impact. A dash is typically represented on a computer by two hyphens with no spaces before, after, or between the hyphens.  
To some of you, my proposals may seem radical—even revolutionary.
- **Hyphen** -  
Use a hyphen to join two or more words serving as a single adjective before a noun: chocolate-covered peanuts



WWD 2013 APPENDICES 2  
NOTE BOOK OUTSIDE FRONT COVER



For information on the MTIASIC Project in Jamaica and Invasive Alien Species, contact:  
Global Environment Facility (GEF)/ United Nations Environment Programme (UNEP)/  
Centre for Agricultural Bioscience International (CABI)/  
Mitigating the Threat of Invasive Alien Species in the Insular Caribbean (MTIASIC) Project  
The National Environment & Planning Agency  
10 Caledonia Avenue, Kingston 5  
Tel : (876) 754-7540 | [www.nepa.gov.jm/projects](http://www.nepa.gov.jm/projects) | [www.ciasnet.org](http://www.ciasnet.org)





WWD 2013 APPENDIX 3  
POSTER

THE NATIONAL ENVIRONMENT & PLANNING AGENCY AND  
MITIGATING THE THREAT OF INVASIVE ALIEN SPECIES IN THE INSULAR CARIBBEAN (MTIASIC) PROJECT  
PRESENT

WORLD  
WETLANDS  
DAY 2013

UNDER THE THEME: **"WETLANDS AND WATER MANAGEMENT"**

SLOGAN: **"WETLANDS TAKE CARE OF WATER"**

UNDER THE MTIASIC PROJECT, THE FOLLOWING ACTIVITIES WILL BE CONDUCTED:

PERFORMANCES FROM HIGH SCHOOLS & PRIMARY SCHOOLS  
**BOAT TOURS  
EXCITING DISPLAYS  
RADIO BROADCAST  
SONG COMPETITION  
POETRY COMPETITION  
DJ COMPETITION  
DEBATES**

FRI - FEB  
1<sup>ST</sup>  
2013

TIME:  
10<sup>AM</sup> - 3<sup>PM</sup>

AT  
SOUTH  
COAST  
SAFARI  
BLACK RIVER,  
ST. ELIZABETH



# WWD 2013 APPENDIX 4 BROCHURE - SIDE A



## Suckermouth Catfish

A tropical fish belonging to the armoured catfish family, it erodes riverbanks, has no known predator in local rivers and competes with domestic species for food and space.

### Effects:

- Erosion of river banks thus changing the physical environment
- Has no known predator in local rivers and streams and is difficult to eliminate due to its armoured scales
- Competes with domestic species for food and space

## The Black River Lower Morass Pilot Project:

- The Black River Lower Morass represents an important Pilot Project site for the intervention of the Mitigating the Threat of Invasive Alien Species in the Insular Caribbean (MTIASIC) Project in Jamaica.
- The MTIASIC Project has targeted 2 Invasive Alien Species (IAS) now posing a danger to the preservation of this sensitive area.
- The MTIASIC Project continues to identify and track the spread of these fresh water plant and animal IAS and to devise ways of controlling their spread by traps and other eco-friendly methods.
- Public awareness activities undertaken by the Project through mass media advertising and promotion, outreach activities and the distribution of relevant informational materials will help the public to identify these species, the damage they represent, and help in their control.

## How I can help control the spread of Invasive Alien Species (IAS)?

- Pay attention to media advisories, attend meetings and read materials on the presence of IAS in your area
- Know what an IAS looks like
- Learn about the damage they do and how they affect you and the local economy
- Refrain from helping to spread these IAS by taking them from one area to the next
- Tell your neighbour and community members about the IAS in your area



## Vision

Jamaica's natural resources are being used in a sustainable way and there is broad understanding of environment, planning and development issues, with extensive participation amongst citizens and a high level of compliance with relevant legislation.

## Mission

To promote sustainable development by ensuring protection of the environment and orderly development in Jamaica through highly motivated staff performing at the highest standard.

For information on the MTIASIC Project in Jamaica and Invasive Alien Species, contact:

**GEF/UNEP/CABI MTIASIC Project**  
The National Environment & Planning Agency,  
10 Caledonia Avenue, Kingston 5

Tel: (876) 754-7540  
website: [www.nepa.gov.jm/projects](http://www.nepa.gov.jm/projects)  
[www.ciasnet.org](http://www.ciasnet.org)

Photo Credits: National Environment and Planning Agency



## Invasive Alien Species in the Black River Lower Morass, St. Elizabeth



Water Hyacinth



Red-claw Crayfish



Wild Ginger



# WWD 2013 APPENDIX 4

## BROCHURE - SIDE B

### Biodiversity within the Black River Lower Morass – Its importance as a Ramsar site

The Black River Lower Morass in St. Elizabeth, Jamaica is home to the largest recognized freshwater wetland in the English-speaking Caribbean. It represents an area of sensitive forest diversity, hosting a variety of plant and animal species, many of which are indigenous.

This area also consists of important forests which are critical to the preservation of this wetland. Several freshwater species such as local shrimp and fish provide a livelihood for citizens through trade thus contributing to the social and economic life of the parish.

This RAMSAR site, and the resources it provides is being threatened by several Invasive Alien Species (IAS)

### What are Invasive Alien Species and how did they get here?

Invasive Alien Species (IAS) are plants, animals, omnicroorganisms which are introduced deliberately or unintentionally into areas where they do not occur naturally, and whose introduction and/or spread threatens biological diversity.

**How they enter the Island**  
Humans are primarily responsible for the introduction of these species, intentionally or unintentionally.

#### Intentional Introductions

- Smuggling
- Species used for biological control
- Trade for agriculture, horticulture and pet trades.

#### Unintentional Introductions

- Transportation of species within a country during natural activities such as flooding, hurricanes and sea currents
- Events and transportation between countries via trains, airplanes, ships, and packaging materials.

Invasive Alien Species (IAS) is a major threat to the vulnerable marine, freshwater and terrestrial biodiversity of Caribbean islands and to the people depending on this biodiversity for their livelihoods.



Common IAS in the Black River Lower Morass - Plant life  
**The Paperbark Tree**  
(*Melaleuca quinquenervia*)

Commonly known as the Paperbark Tree it is an aggressive and highly invasive plant.

This invasive is native to Australia and its infestation results in the degradation of the eco-system. It actively competes with other plant species for water which affects the eco-balance of the wetlands.

The plant reproduces by storing millions of seed pods which it sheds at the slightest threat thus ensuring its survival – at the expense of local species.

- Effects:**
- Reduces native species diversity and results in the degradation of the ecosystem.

Project activities include identifying the number of Paper Bark trees and testing of effective methods to control their spread.



### Wild Ginger (*Alpinia alligulas*)

A native of South East Asia, the Wild Ginger has been steadily spreading throughout the region and surrounding areas, replacing and disturbing the eco-balance which characterizes the Black River Lower Morass.

Its spread has been enhanced by its use as a decorative plant and for landscaping by individuals who are unaware of its ability to spread rapidly.

#### Effects:

- Forms large thickets which spread quickly and smothers other plants.
- It out competes native species and is taking over large areas of the Black River Morass.

The MTTASIC Project is presently investigating effective methods of controlling and destroying the Wild Ginger where it threatens other species. The Project's Public awareness programme informs persons of the dangers of transporting and planting the Wild Ginger.



**Water Hyacinth**  
(*Eichhornia crassipes*)

Is a tropical/sub-tropical water plant found in rivers, streams and lakes. It grows faster than any tested plant and can double its population in as little as 6 days.

- Effects:**
- Clogs waterways – streams and rivers, hampers mechanical and non-mechanical means of water transport
  - Lessens the diffusion of sunlight and reduces oxygen supply in the water thus affecting plant and animal life growth
  - Blocks fish and other animals from access to food plants, shelter and nesting areas
  - Displaces/pushes away and crushes native plant life thus changing water eco-system

### Freshwater animal species

#### RED-CLAW CRAYFISH (*Cherax quadricarinatus*)

The Red-claw Crayfish is a species of freshwater cray fish native to Australia

This invasive is much larger than native crayfish species. It has spread to countries such as Jamaica through global trade and travel.

#### Effects:

- Attacks and kills local shrimp and has no known predator
- Competes for food and space with other species
- Physically changes the eco-system by affecting the structure of river banks
- Reduces the stock of local shrimp which is considered a delicacy





# WWD 2013 APPENDIX 5 INFORMATION MAGNETS



**Suckermouth Catfish**  
(*Hypostomus plecostomus*)

This variety is widely used as an aquarium cleaner in the pet fish trade. This invasive erodes the rivers' banks thus changing the habitat of local species. The Suckermouth Catfish has no local predator and is difficult to eliminate due to its armoured scaling.

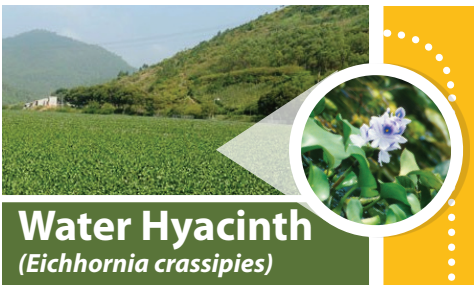


**Red-claw Crayfish**  
(*Cherax quadricarinatus*)

This invasive crayfish is much larger than the native shrimp species but not as tasty as the variety made famous in St. Elizabeth as a delicacy and sold as 'pepper shrimp'. It attacks and kills local varieties and competes for space and food. It has no known predator in Jamaica.

For information on the MTIASIC Project in Jamaica and Invasive Alien Species, contact:  
**GEF/ UNEP/ CABI/ MTIASIC Project**  
The National Environment & Planning Agency  
10 Caledonia Avenue, Kingston 5  
Tel : (876) 754-7540 | [www.nepa.gov.jm/projects](http://www.nepa.gov.jm/projects) | [www.ciasnet.org](http://www.ciasnet.org)

For information on the MTIASIC Project in Jamaica and Invasive Alien Species, contact:  
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**Water Hyacinth**  
(*Eichhornia crassipes*)

This invasive is one of the fastest growing plants in the world and is known to double its size in six days. The Water Hyacinth clogs water-ways, streams and rivers, reduces oxygen and sunlight supply to other plant and animals in the water and displaces plants thus changing the eco-system.



**Wild Ginger**  
(*Alpinia allughas*)

This invasive has been steadily spreading through-out the Lower Morass. Its spread is enhanced by its use as a decorative plant by persons unaware of its rapid growth; which displaces and smothers other plants.



**Paperbark Tree**  
(*Melaleuca quinquenerva*)

The Paperbark Tree, a native of Australia, is an aggressive and highly invasive plant. Its main danger to the eco-system of the Black River Lower Morass is its rapid use of water which will deplete the water available to other species.

For information on the MTIASIC Project in Jamaica and Invasive Alien Species, contact:  
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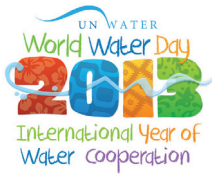
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# WWD 2013 APPENDIX 6

## NEWSPAPER ADVERTORIAL



## WORLD WETLANDS DAY 2013

THEME: "WETLANDS AND WATER MANAGEMENT"

### NEPA Combats Invasive Species in Black River Wetlands

The National Environment and Planning Agency (NEPA), through the Mitigating the Threat of Invasive Alien Species in the Insular Caribbean (MTIASIC) Project, will focus on bringing greater awareness of the importance of preserving the Black River Lower Morass in St. Elizabeth on World Wetlands Day, February 2, 2013.

The Black River wetlands are threatened by Invasive Alien Species (IAS). These are plants and animals which were introduced deliberately or unintentionally into the wetlands and which now threaten the biodiversity of the area.

**The Black River Lower Morass is home to the largest recognized freshwater wetland in the English-speaking Caribbean**

Recreational activities such as boat tours and attractions along the Black River are important revenue earners for the Parish of St. Elizabeth.

#### MANAGING WATER IN THE BLACK RIVER LOWER MORASS

Invasive Alien Species (IAS) pose a threat to the quality and volume of water in the Lower Morass. They also endanger the delicate balance of this eco-system by harming existing plant and animal life. Several of these IAS are highlighted by the NEPA/ MTIASIC Project:

##### Paperbark Tree (*Melaleuca quinquenervia*)

- The Paperbark Tree, a native of Australia, is an aggressive and highly invasive plant. Its main danger to the ecosystem of the Black River Lower Morass is its rapid use of water which will deplete the water available to other species.
- Its ability to store millions of seeds for rapid dispersal can reduce native species diversity.

##### Water Hyacinth (*Eichhornia crassipes*)

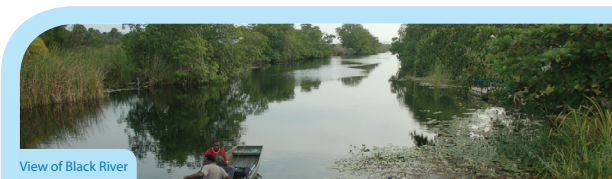
- This invasive is one of the fastest growing plants in the world and is known to double its size in six days. The Water Hyacinth clogs water-ways, streams and rivers, reduces oxygen and sunlight supply to other plant and animals in the water and displaces plants thus changing the eco-system.
  - This plant affects the movement of water transportation and recreational activities in rivers and streams.

##### Wild Ginger (*Alpinia allughas*)

- This invasive has been steadily spreading through-out the Lower Morass. Its spread is enhanced by its use as a decorative plant by persons unaware of its rapid growth; which displaces and smothers other plants.
  - The Wild Ginger degrades the Lower Morass site by reducing land space available for farming.

##### Red-claw Crayfish (*Cherax quadricarinatus*)

- This invasive crayfish is much larger than the native shrimp species but not as tasty as the variety made famous in St. Elizabeth as a delicacy and sold as 'pepper shrimp'. It attacks and kills local varieties and competes for space and food. It has no known predator in Jamaica.



View of Black River



Red-claw Crayfish

Suckermouth Catfish

Fishing Boats

##### Suckermouth Catfish (*Hypostomus plecostomus*)

- This variety is widely used as an aquarium cleaner in the pet fish trade. This invasive

erodes the rivers' banks thus changing the habitat of local species. The Suckermouth Catfish has no local predator and is difficult to eliminate due to its armoured scaling.

#### THE BLACK RIVER LOWER MORASS

The Black River Lower Morass is home to the largest recognized fresh-water wetland in the English-speaking Caribbean and is an internationally recognized site under the RAMSAR Convention - a global agreement signed in 1971 among governments committed to the preservation of wetlands worldwide.

A wetland is an area characterized by large volumes of water which may be stagnant or slow moving and is the habitat for specific plant and animal life.

The Black Lower Morass is a complex system of shallow lagoons, limestone islands, tidal marshes, mangroves and extensive freshwater marshes with peat formations.

This area supports a variety of plant and animal species, (species being organisms which are highly similar and which can only reproduce among themselves).

Another important feature of the area is the presence of swamps and forests; which are critical to the preservation of the wetland.

#### SOCIAL AND ECONOMIC IMPORTANCE OF THE BLACK RIVER LOWER MORASS

As we emphasize water management and wetlands preservation in the Black River Lower Morass, attention must be given to the economic and social role of the area.

Several freshwater animals such as local shrimp and fish provide a livelihood for hundreds of citizens. Farming is also an important activity taking place in the Lower Morass.



The Paperbark Tree



Water Hyacinth



Wild Ginger

#### BUILDING PARTNERSHIPS TOWARDS PRESERVING THE BLACK RIVER LOWER MORASS

The MTIASIC Project through NEPA is funded by several international donor bodies - Global Environment Facility-GEF, Centre for Agricultural Bio-Science International- CABI and United Nations Environmental Programme-UNEP. The Project is also supported by local partners such as the University of the West Indies.

The Project has over the last two (2) years sought to raise the awareness level within Black River by the following means:

- Research and audit of IAS in the Black River Lower Morass and methodologies in reducing them.
- School outreach activities including team debates on the importance of the wetlands.
- Environmental Expos in partnership with agencies and organizations such as the Social Development Commission - SDC, Rural Agricultural Development Authority - RADA, 4H Movement, Institute of Jamaica (IOJ) and South Coast Safari as well as communities and schools throughout St. Elizabeth.
- Commissioning of a Knowledge, Attitude and Practices (KAP) Baseline Survey 2011/12, aimed at capturing the views of citizens in the Black River regarding their relationship with the environment.
- Live Radio Broadcasts highlighting activities designed to preserve the Black River Lower Morass.

World Wetlands Day 2013 activities in St. Elizabeth will include the launch of the Black River Lower Morass Social Marketing Campaign.

This campaign involves the close collaboration of partners through agencies and citizens' groups in highlighting the treasures of the Black River Lower Morass and establishing long-term interventions aimed at preserving this important wetland.

#### TIPS ON HOW YOU CAN PREVENT THE INTRODUCTION AND SPREAD OF INVASIVE ALIEN SPECIES

- Purchase pets from reputable pet traders only
- Leave natural items in their natural habitat
- Avoid transporting live plants, fruit, vegetables, soil, insects, lizards, snails, or other animals into or out of the country
- Use native plants for landscaping
- Don't buy mixed seeds (wildflowers) for planting in gardens
- Dispose of unwanted plants and pets properly

WWD 2013 APPENDIX 7  
CERTIFICATE OF PARTICIPATION

Certificate of Participation



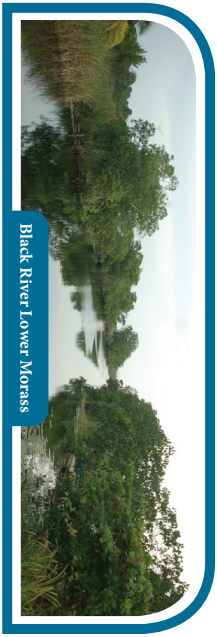
FOR PARTICIPATING IN THE BLACK RIVER AREA HIGH SCHOOLS' DEBATE COMPETITION  
PRESENTED TO

\_\_\_\_\_

FEBRUARY 2, 2013

Chief Executive Officer,  
National Environment & Planning Agency

Date





# WWD 2013 APPENDIX 8

## REGISTER

### **Laconia High**

Roando Farguhson  
Migel Reid  
Ashieka Irons  
Charolle White  
Osheen Wright  
Simon Campbell  
Sheika Blake  
Dwayne Clark  
Kemeisha Williams  
Antonette Johnson  
Caneke Campbell  
Kurt Mattis  
Kayfio Thompson  
Felicia Elliot  
Darian Wallace  
Georgette Foster  
Mellana Edwards  
Rochelle Johnson  
Churton Douglas

### **Newell High**

Collesha Authors  
Sammijo Parchment  
Kemarley Lindo  
Chevaine Warner  
Mario Morant  
Shanice Morgan  
Sudeen Edmond  
Annmarie Elliot  
Javaughn Gooden  
Sania Green  
Bradley Sterling

### **Pondside Primary**

Ranique Bennett  
Britney Nembhard  
Asobia Jacobs  
Anneka Brown  
Tariq Brown  
Tahjae Green  
Natalie Christian  
Frederica Forbes  
Oniel Banton  
Vanecia Robinson  
Rashaan forbes  
Fabion Reid  
Kenroy Campbell  
Denval Campbell  
Arel Morgon  
Shovice Wright  
Eric Samuels  
Devonda Hall  
Sonich Wright  
Tashara Picart  
Felica Bennett  
Tasheka Drummond

### **Maggotty High**

Lacy-Ann Dennis  
Shatel Watson  
Andrew Morris  
Kissan Farquhsan  
Taj Davy  
Chrissan Dawkins

Sharika Starling

### **Forestry Department**

Donald Watson

### **TPDCO**

Amanda Clark  
Cameil McLeum

### **RADA St. Elizabeth**

Jermaine Wilson

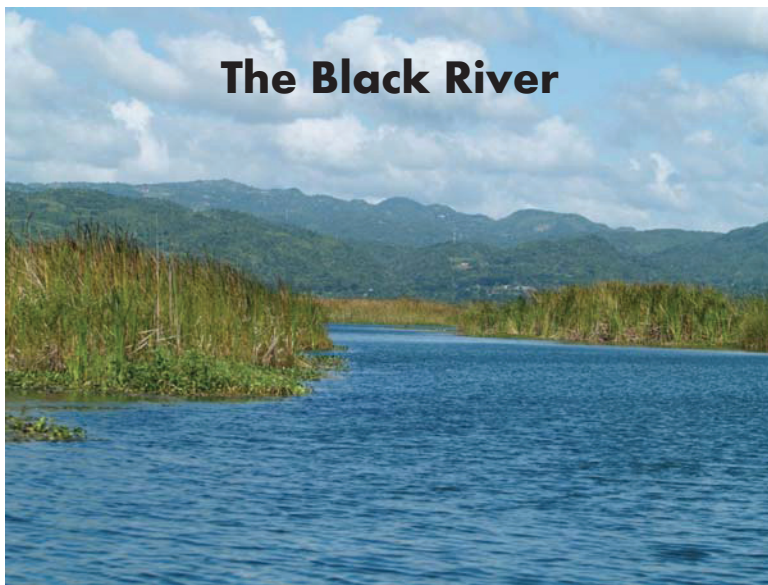
### Background

### BLACK RIVER Baseline Survey, 2011

Measuring Environmental  
Knowledge, Attitude and Practice in  
Black River, St. Elizabeth

The National Environment and Planning Agency (NEPA) through the Mitigating the Impact of Invasive Alien Species in the Insular Caribbean (MTIASIC) or IAS Project has identified The Black River Lower Morass in St. Elizabeth as one of its Pilot Projects in Jamaica.

The Black River Lower Morass is of national importance as it is the largest fresh water wetland in Jamaica and, one of the largest in the Caribbean.



### NEPA/IAS Project in Black River

The Invasive Alien Species (IAS) Project has identified a number of invasive species in the Black River Lower Morass.

Invasive alien species are plants, animals or micro-organisms which are introduced into areas where they do not belong. They threaten the **biological diversity** as they spread.

Where these invasive species threaten the biodiversity of the wetlands, a number of **initiatives** and **interventions** have been planned to aid in the **preservation** of the wetlands.

### Invasive Species in the Black River Lower Morass



### The KAP Baseline Survey (2011)

In 2011, the National Planning and Environmental Agency (NEPA), commissioned a Knowledge, Attitude and Practice Survey in Black River.

This was done in partnership with the Social Development Commission (SDC), Research Department

## Objectives of the KAP

The objectives of this baseline survey or KAP in Black River were:

- To establish the level of knowledge and awareness of the environment
- To identify the types of practices impacting the environment
- To measure the overall attitude towards the environment

## KAP objectives, cont'd

- To measure the awareness of persons in Black River on the presence and impact of invasive species on the environment
- Using the results of the KAP to inform strategies aimed at encouraging Best Practices in preserving the Black River Lower Morass (BRLM)

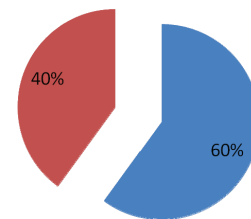
## Summary of KAP results

### Knowledge of the environment

- 60% of respondents said they could define “environment” i.e., surroundings where we live /everything around us/natural and man-made
- 79% of respondents said “no” when asked if they could name any environmental activities taking place in their community with 21% saying “yes”

## Table: Respondents knowledge of the environment

Respondents



## KAP results on knowledge of the environment, cont'd

- 55% respondents said they had insufficient knowledge of things environmental
- 29% said they knew enough
- 16% reported they knew a lot

## Attitudes towards the Environment

- 97.5% said the environment was important to them
- In terms of interest, 80% of respondents indicated their willingness to participate in environmental activities
- 92% would be willing to meet with groups and discuss environmental issues



## Environmental Practices

The top 5 poor environmental practices identified by respondents were:

- Disposal of solid waste in rivers and water ways
- Cutting down of tress
- Poor farming habits
- Washing of vehicles in rivers and water ways
- Catching of small fish

## KAP IAS results (cont'd)

8.3% of respondents identified some of the negative impacts of invasive species as:

- Reduction of fish and shrimp
- Obstruction of waterways, making navigation by boats and canoes difficult

## KAP IAS results (cont'd)

When asked to suggest ways of control of IAS, 59% of respondents stated their willingness to assist in activities aimed at preserving the Black River Lower Morass.

## KAP IAS results, (cont'd)

- 84% were not aware of the definition of “invasive”
- 58% were unsure of the term species
- 86.6% were not aware of the term – invasive alien species
- 89% could not name an invasive
- 8.3% identified the common negative impacts caused by invasive species as

## Impacts of IAS

Water Hyacinth (*Eichhornia crassipes*)



## The Black River Lower Morass

Research activities to preserve the BRLM



## **Recommendations**

- Substantial environmental education recommended for the area
- Activities aimed at reducing the IAS threat be done in partnership with all agencies , organizations, NGO'S
- Provision of educational material for use in by public in seminars, expo's and schools
- Community meetings were seen as the preferred mode of communicating , followed by use of brochures, flyers and music

## **Recommendations (cont'd)**

- NEPA to take the lead in providing technical advice, knowledge and monitoring as well as training

**THANK YOU**