

The Caribbean Coastal Co-management and Coral Regeneration Programme

4Cs JAMAICA PROJECT

ANNOTATED BIBLIOGRAPHY RELATED TO SOCIOECONOMIC MONITORING FOR COASTAL MANAGEMENT AT THE NEGRIL MARINE PARK RELEASE 1

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Negril Coral Reef Preservation Society

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**Annotated bibliography related to socio-economic monitoring
for coastal management at the Negril Marine Park, Jamaica
(Release 1 — July 2005)**

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Preface

When researchers, consultants, financial institutions, technical assistance agencies, government departments and others reach Negril to work on some project or activity, almost inevitably they end up in the office of the Negril Coral Reef Preservation Society (NCRPS). One of the most common requests having got there is: “Can you give me all the information you have on ...?” The NCRPS is a small non-governmental organization (NGO) that co-manages the Negril Marine Park (NMP) under delegation from the government of Jamaica.

While such information requests are well-intentioned, for a small NGO a response can be time-consuming and burdensome. Therefore, in answering this question for the project *Socioeconomic Monitoring at Negril Marine Park, Jamaica* funded by the National Oceanic and Atmospheric Administration (NOAA) Coral Reef Conservation Grant Program, the NCRPS took the opportunity to produce an annotated bibliography related to socio-economic monitoring for coastal management at the NMP. The intention is for the bibliography to be updated at least annually as literature is both produced in the future and discovered from previous studies.

Technical assistance to compile the first release of the bibliography was provided by the Centre for Resource Management and Environmental Studies (CERMES), Faculty of Pure and Applied Sciences, University of the West Indies (UWI) Cave Hill Campus in Barbados. CERMES is a NCRPS project partner in this and other projects. Maria Pena, project officer at CERMES, compiled and edited the bibliography with some help from a colleague, Rhonda Lee. The Caribbean Natural Resources Institute (CANARI) assisted by sharing the documents gathered by their graduate research student, David Currie of the University of Guelph, who interned with the NCRPS early in 2005. Many other agencies and individuals also suggested relevant literature.

This release of the bibliography is a work in progress that we hope will become useful. Some entries are incomplete. Several entries, copies of which were not accessible at the time, need to be annotated. Ideally the notes should indicate where items can be found since all are not at the NCRPS. Internet addresses are given for obtaining documents that can be downloaded. There is a great deal of grey literature and many unpublished manuscripts that are still being sought. Items on ecology, commerce, tourism and other topics relevant to the socio-economics of Negril are not well represented. Articles in scientific journals at one extreme, and the popular press at the other, need to be included in future releases. Much more has been researched and written on Negril.

Citation:

Pena, M. 2005. Annotated bibliography related to socio-economic monitoring for coastal management at the Negril Marine Park, Jamaica. (Release 1 — July 2005). Negril Coral Reef Preservation Society, Jamaica. 15pp.

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Acronyms and abbreviations

AGRRA	Atlantic and Gulf Rapid Reef Assessment
CANARI	Caribbean Natural Resources Institute
CARECO	Caribbean Eco-systems
CARICOM	Caribbean Community
CCA	Caribbean Conservation Association
CERMES	Centre for Resource Management and Environmental Studies
CREP	Caribbean Regional Environment Programme
CRFM	Caribbean Regional Fisheries Mechanism
CWIP	Coastal Water Quality Improvement Project
DEMO	Development of Environmental Management Organisations
DFID	Department for International Development
EC	European Commission
EFJ	Environmental Foundation of Jamaica
ENACT	Environmental Action Programme
EPA	Negril Environmental Protection Area
EU	European Union
GOJ	Government of Jamaica
IIED	International Institute for Environment and Development
JCDT	Jamaica Conservation and Development Trust
JTB	Jamaica Tourist Board
MOU	Memorandum of Understanding
MPA	Marine Protected Area
MRAG	Marine Resources Assessment Group Ltd.
NCC	Negril Chamber of Commerce
NCRPS	Negril Coral Reef Preservation Society
NEAP	National Environmental Action Plan
NEPA	National Environment and Planning Agency
NEPT	Negril Area Environmental Protection Trust
NEST	National Environmental Societies Trust
NGIALPA	Negril Green Island Area Local Planning Authority
NGO	Non-governmental organisation
NMP	Negril Marine Park
NMSPMC	Norman Manley Sea Park Management Committee
NOAA	National Oceanic and Atmospheric Administration
NRCA	Natural Resources Conservation Authority
NRSP	Natural Resources Systems Programme
OAS	Organisation of American States
STATIN	Statistical Institute of Jamaica
TPDCO	Tourism Product Development Company
USAID	United States Agency for International Development
UWI	University of the West Indies

Annotated bibliography

Aiken, K. 1992. South Coast Aquatic Ecology Report. A study for the Jamaica Conservation and Development Trust for a system of natural protected areas for Jamaica.

Aiken, K. 1998. Protecting Jamaica's coral reefs: Final report of the Negril Reef Mooring Buoy Workshop and Installation Project.

Anonymous. No date. Fisheries policy consultative notes. 26pp.

Associates in Rural Development Inc. 1999. Coastal water quality improvement project. Negril community resource manual. Prepared for the government of Jamaica's Natural Resources Conservation Authority and United States Agency for International Development. Implemented by Associates in Rural Development Inc., March 1999. 72pp

A manual of community organisations and agencies in Negril. The manual was prepared by the Negril Environmental Protection Trust (NEPT) and the National Environmental Societies Trust (NEST). This document is fairly comprehensive and comprises the following information for each organisation: type of organisation, mission of organisation, resources available.

Bedasse, J.P. 2004. Development of a policy framework and strategic plan for sustainable fisheries in Jamaica. Public consultations report. TCP/JAM/2901 (A). UNFAO/GOJ. 32pp.

This document reports on consultations held with stakeholders in the fisheries sector in Jamaica. These consultations were conducted in order to appropriately plan for the implementation of a new Fisheries Bill.

Caribbean Eco-systems (CARECO). 2001. Negril environmental protected area: Fish River and Negril Hills. Prepared for the Negril Area Environmental Protection Trust (NEPT). March 2001. 47pp.

Social economic assessment of the Negril Environmental Protected Area to assist NEPT with the EPA planning process. The primary objective of the SEA was to understand the ways in which different social interests in Fish River and Negril Hills may be affected by the protected area and how they in turn may impact protected area management. This was a deliverable under the EU funded Negril Marine Park Self-sustainability Project which was implemented by NCRPS

Centre for Resource Management and Environmental Studies (CERMES). 2004. Report of the workshops on enhancing NGO board effectiveness and on coastal resource co-management held on 22 June 2004, Negril, Jamaica. Report of the Counterpart Caribbean Coral Gardens and Coastal Co-management Programme. 14pp.

CFRAMP. 2000. Jamaica national marine fisheries atlas. CARICOM Fishery Report No. 4: 53pp.

Christophersen, K.A., F. Homer and S.J. Grant. 1997. Sustainable interventions for Negril fisher families. Prepared for USAID/Jamaica, Development of Environmental Management Organisations (DEMO). 51pp.

Summary, conclusions and recommendations available online at
<http://www.sustrust.org/Sustainable%20Interventions%20for%20Negril%20Fishers-Summary.pdf#search='negril%20marine%20park'>

Results of analyses carried out on possible alternative livelihood opportunities for fishermen in the Negril area who may be affected by the declaration of the area as a marine park. Rapid Rural Assessments (RRA) of the fishing communities in the Negril area were conducted to determine the social and cultural characteristics of the communities and to obtain information on the fisher family perceptions on fishing, environmental issues, tourism and alternative livelihood opportunities.

CL Environmental. 2001. Environmental impact assessment of the RIU hotel development in Hanover, Jamaica. Final draft. Submitted to RIU Hotel International. Hanover, Jamaica. November 2001.

Environmental impact assessment of the RIU hotel development on the outskirts of Negril, within the Park.

CRFM. 2005. Report of the First Annual CRFM Scientific Meeting. CRFM Fishery Report No. 11. 318p.

Provides a description of the fisheries in Jamaica, including fishing vessels, fishing grounds, status of the fishing industry, fishing methods, fisheries production, management objectives by fisheries, and present data collection system by fishery.

Department of Geology and Geography. 2000/2002. Beach sands resource assessment, Negril, Jamaica. Final report on phase 1. University of the West Indies, Mona, Jamaica. Revised June 2002. 83pp.

This document represents the first phase of a 2-phase project designed to assess the problem of beach erosion in Negril, western Jamaica. The overall goal of the project is to provide stakeholders with a sound scientific understanding of this problem, which can then be used to support the decision-making process (particularly conservation and development control). The project sought to determine appropriate and sustainable criteria for the management and rehabilitation of the beach.

Easton, C. and A. Dixon. 2001. A framework for local sustainable development planning in Jamaica. Environmental Action (ENACT) Programme. 26pp

Representatives of the total Jamaican community – the state, the private sector and civil society- have agreed on a general framework for the achievement of sustainable development in Jamaica. This document represents a step forward in the systematic integration of sustainability into local development.

Ebanks, Robert. 1992. Cultural and Historical Heritage Report. A study for the Jamaica Conservation and Development Trust for a system of natural protected areas for Jamaica.

Environmental Solutions Ltd. 1992. Negril Commercial Centre, Preliminary Resource Assessment.

Environmental Solutions Ltd. 2003. Negril Cabins Hotel expansion, Bloody Bay, Jamaica: Environmental impact assessment. Submitted to Boyken Caribbean LLC. Prepared by Environmental Solutions Ltd in association with Smith Warner International Ltd. September 2003. 61pp.

Espeut, P. and S. Grant. 1990. An economic and social analysis of small-scale fisheries in Jamaica. ISER, UWI, Mona. 80pp.

This paper represents a Jamaica country paper, prepared for the FAO and presented at the workshop on the *Socio-economic implications of small-scale fisheries within the English-speaking Caribbean*. It describes and analyses the social and economic situation of the small-scale fisheries sector in Jamaica. Espeut and Grant in their analysis discuss factors affecting production, the nature of inland fisheries and aquaculture, trade and marketing, income, institutional structure as it relates to fisheries management and government policies with proposed recommendations for management.

Fletcher, D. 1999. The status of fishing and fishermen in the Negril Marine Park.

Floyd, B. 1979. Jamaica: An island microcosm. McMillan.

Forrest, D. 1999. Coastal water quality improvement project. Rapid environmental assessment of the pollution sources impacting on the south Negril River. Submitted to the Norman Manley Sea Park Management Committee for the government of Jamaica's Natural Resources Conservation Authority and the United States Agency for International Development. Implemented by Associates in Rural Development Inc. 81pp.

This report presents findings of the assessment of pollution sources impacting the South Negril River and will be used by the Norman Manley Sea Park Management Committee (NMSPMC), working in collaboration with the Coastal Water Quality Improvement Project (CWIP) and other relevant agencies to develop mitigation measures to improve water quality in the river. The report describes the conditions observed during the fieldwork, relates those conditions to the water quality data and the resulting potential environmental impacts.

Francis, S.K.Y. 2002. An assessment of the impacts of two successfully implemented marine protected areas on the livelihoods of stakeholders in Jamaica and the Turks and Caicos Islands. MSc. Thesis, University of the West Indies, Barbados. 133pp.

Francis uses data collected primarily from formal surveys administered to the principal Marine Protected Area (MPA) user groups to assess the socio-economic impacts of MPA implementation on the livelihoods of the stakeholders. The surveys collected information on demographics, capital assets and individuals' perceptions of the marine parks. Like O' Sullivan, Francis selects the very same sites for study; the Negril Marine Park and Protected Area (Jamaica) and the Princess Alexandra Land and Sea National Park (Turks and Caicos Islands). Results indicate that the impacts of both Parks on variables such as income, business expansion and customer demand were minimal. Additional results also identified inadequacies with the informational channels between park authority and user groups. The study concludes that the MPAs investigated offer limited opportunity for the improvement of livelihoods for the users groups of the parks.

Garaway, C. and N. Esteban. 2002. The impact of marine protected areas on poorer communities living in and around them: Institutional opportunities and constraints. Appendix 5- Case study of Negril Marine Park, Jamaica. December 2002. MRAG Ltd., London, UK. 37pp.

Garaway, C. and N. Esteban. 2003. Increasing MPA effectiveness through working with local communities. Guidelines for the Caribbean. MRAG Ltd., London, UK. 45pp.

This publication is an output from the project 'Institutional arrangements for Caribbean MPAs and opportunities for pro-poor management' (NRSP-R7976, funded by the UK Department for International Development (DFID) for the benefit of developing countries. The guidelines demonstrate that working closely with people in and around MPAs can lead to increased MPA effectiveness. The guidelines suggest how negative consequences can be minimised, positive consequences maximised and how local involvement in management can be fostered to improve the effectiveness of MPA operations. Information in this publication is in the form of selection of ideas and real examples from the Caribbean region, and theoretical methodologies that have been useful when addressing issues of MPA management.

Geoghegan, T., A.H. Smith, and K.Thacker. 2001. Characterization of Caribbean marine protected areas: An analysis of ecological, organisational and socio-economic factors. CANARI Technical Report N°. 287

Also available electronically at

<http://www.canari.org/thacker.pdf#search='negril%20marine%20park'>

Global Coral Reef Alliance. 1994. Artisanal Mariculture Development - Draft proposal to the Environmental Foundation of Jamaica.

Goreau, T.J. 1993. Negril: Environmental threats and recommended actions. NCRPS Second Annual Workshop Proceedings.

Also an internet reference found at

<http://globalcoral.org/Negril%20Environmental%20Threats%20and%20Recommended%20Actions.htm>

This paper discusses the detailed ecology and threats to the reefs of the Negril tourist area in western Jamaica during 1992. Since this paper was written few of the specific recommendations for reef protection have been followed, and all the sites described have deteriorated significantly.

Goreau, T.J. 1994. The Negril Watershed: Habitats and Ecosystems. NCRPS Fourth Annual Workshop Proceedings.

Goreau, T.J. 1995. Negril Environmental Protected Area: Projects and progress in 1995. NCRPS Fifth Annual Workshop Proceedings. 13pp.

In this paper the current and planned development of seven environmental projects in the Negril area are discussed. They are: artificial reefs, mariculture, reforestation, pesticides and water quality monitoring, sewage treatment, coral bleaching, and royal palm reserve.

Government of Jamaica. 1987. Jamaica Country Environmental Profile. Ministry of Agriculture, Natural Resources Conservation Division, International Institute for Environmental and Development. Kingston Jamaica: GOJ.

Government of Jamaica. 1997. Policy for Jamaica's System of Protected Areas: Working for conservation of our national and cultural heritage. Kingston: Natural Resources Conservation Authority/GOJ/USAID. 47pp.

Government of Jamaica. 2000. Cartagena Convention. First Meeting of the Contracting Parties (COP) to the Protocol Concerning Specially Protected Areas and Wildlife (SPA) in the Wider Caribbean Region: Government of Jamaica Progress Report. Kingston, Jamaica: GOJ.

Government of Jamaica. 2001. Towards a National Policy on Ocean and Coastal Zone Management in Jamaica. Council on Ocean and Coastal Zone Management, Ministry of Foreign Affairs and Foreign Trade.

Grant, S., M. Brown, D. Edmondson and R. Mahon. 2001. Marine fisheries census of Jamaica, 1998. CARICOM Fishery Report No. 8: 45pp.

Grant et al. obtained data via a two-stage process using listing surveys encompassing all coastal areas and a questionnaire census of all listed fishing units. Data were set up in an accessible database with accompanying instructions for users. The surveys obtained information on demographics, harvesting locations (fishing grounds), harvesting practices (number and type of vessels, gear types, fishing duration), catch characteristics (composition, seasonality) and marketing arrangements. This report does not contain a detailed analysis of the data obtained. Instead it details basic analyses to illustrate the contents of the database.

Haynes-Sutton, A. 1992. Negril ecology site report. A study for the Jamaica Conservation and Development Trust for a system of natural protected areas for Jamaica.

Jamaica Conservation and Development Trust. 1992. A system of protected areas for Jamaica.

Jones Williams, M. 2000. Biodiversity in development project case study series: Jamaica – Negril Coral Reef Preservation Project. EU, DFID, IUCN. 32pp.

Kauls, A. 1986. The impact of tourism on the physical environment of third world countries: A case study of Negril, Jamaica. Department of Landscape Architecture, Ball State, Muncie, Indiana. Unpublished thesis.

Klomp, K. 2000. AGRRA workshop and assessment of Jamaica's reefs.
<http://www.coral.noaa.gov/agra/reports/jamaica.htm>

Lalor, R.M. 1980. Tourism and development: A case study of Negril. Unpublished MSc thesis.

Lapointe, B. 1992. Eutrophication thresholds for macroalgal overgrowth of coral reefs. NCRPS Second Annual Workshop Proceedings.

Lapointe, B.E. and K. Thacker. 2002. Community-based water quality and coral reef monitoring in the Negril Marine Park, Jamaica: Land-based nutrient inputs and their ecological consequences. *In* J. W. Porter and K.G. Porter, Eds. The Everglades, Florida Bay, and coral reefs of the Florida Keys: An Ecosystem Sourcebook. CRC Press.

McCormack, H. 1992. Socio-economic report. A study for the Jamaica Conservation and Development Trust for a system of natural protected areas for Jamaica. Report to JCDT.

McIntyre, K. 2003. Aspects of beach erosion in Long Bay, Negril, Jamaica. School of Environmental Science, University of East Anglia.

Scientific study detailing beach erosion in Negril. Devastating erosion has also been observed with the passing of hurricanes and tropical storms close to the island. However, this beach erosion appears to have worsened in recent years owing to a number of factors such as a reduced sediment budget, loss of offshore reefs as natural barriers and the development of the beachfront. Pressure from local hotels pushed NRCA to begin monitoring program on erosion in May 1989 to August 1990

Miller, L. 1999. Perspectives on the sustainability of protected areas in Jamaica. *Caribbean Geography* 10 (1): 52-62.

Mortley, E. 1994. Negril beach water quality monitoring program: November 1993- March 1994.

- Nature Conservancy. 1991. Aerial survey summary - Jamaica.
- NCRPS. 1992. The Negril environmental survey in NCRPS. Second annual workshop proceedings.
- NCRPS. 1993. Planning Negril's Protection: A community workshop and action agenda (Dec 1993).
- NCRPS. 1994. Protecting Jamaica's coral reef ecosystems, Phase II: Water quality issues. Proceedings of 1992 Workshop.
- NCRPS. 1996. Negril Reef Rap news magazine. Volume III, No. 3 and No. 4. Sept-Dec 1996.
Details of the sixth in the annual series of workshops organized by the Negril Coral Reef Preservation Society are documented in this quarterly news magazine. The purpose of the workshop aptly titled *Protecting Jamaica's Coral Reef Ecosystem* focused on 1) a review and evaluation of work conducted by the NCRPS with regards to establishing a management structure for the Negril Marine Park and Protected Area, 2) the NRCA's guidelines for the establishment of Parks and Protected Areas and 3) the zoning and management of the then proposed Negril Marine Park and Protected Area.
- NCRPS. 1997. Negril Reef Rap news magazine. Volume IV, No. 1 and No. 2.
- NCRPS. 1997. Proposed Negril Marine Park zoning Map.
- NCRPS. 1998. Report to the European Commission.
The final project report on the EU project (1995 to 1998) to establish a management structure for the Negril Marine Park.
- NCRPS. 2003. Business Plan Negril Marine Park. 37pp.
Business plan for the Negril Marine Park developed by the Negril Coral Reef Preservation Society. This sets out several income generating mechanisms for the Negril Marine Park and details how the advent of these mechanisms will allow the Marine Park to finance its operations for the next three years. Proposed mechanisms set out are 1. A government management fee, 2. A government user fee system, 3. Souvenir sales, 4. Sale of boat moorings for private boat owners, 5. An educational community based tour programme, 6. Grants from international donor agencies and local and international foundations and 7. Fundraising/Marketing the Park activities.
- NCRPS. 2003. Negril marine park news. Volume 1, Issue 1. February 2003.
- NCRPS. 2004. Negril Marine Park News. Volume I, Issue 2. February 2004.
This Issue highlights several key activities with much bearing on the Negril Environmental Protection Area. These include the justification for the selection of the Negril area as the CREP site for Jamaica, associated project focus and the selected implementing agencies. In addition, the Issue also briefly addresses the Negril Zoning Project and discusses the use of FAD (Fishing Aggregation Device) as a suitable alternative for fishermen displaced by the foregoing.
- NCRPS and Reef Relief. 1991. Protecting Jamaica's coral reefs: Final report of the Negril Reef mooring buoy workshop and installation project.
- NEPT, NGIALPA, NRCA. 1995. Negril and Green Island Area Environmental Protection Plan.
Reference cited in Otuokon, S. 2001. Case study of the Negril Environmental Protection

Plan. Prepared for the Seminar Integrating Stakeholders in Participatory Natural Resource Management, Kingston, Jamaica, April 2000. CANARI Technical Report N° 284

NEPT, NRCA, NGIALPA. 1997. Negril Environmental Protection Plan. Update November 1997. 66pp.

The long term sustainable development vision of the Negril Environmental Protection Area is presented in the Environmental Protection Plan. The latter addresses a three year action plan, a funding strategy, roles and responsibilities, community environmental issues, as well as a plan for enforcement and compliance. Several recommendations specific to the coastal zone management and watershed protection are also detailed.

NRCA. 1996. Jamaica National Environmental Action Plan status report 1996.

NRCA. 1996. Draft policy for the national system of protected areas.

NRCA. 1996. Integrated coastal planning – Jamaica, Second Interim report – Operative Phase, produced in conjunction with Uppsala University, Sweden.

NRCA. 1997. Coral reef protection and preservation policy and regulation. Kingston, Jamaica: Natural Resources Conservation Authority.

NRCA. 1997. Policy for the national system of protected areas. 42pp.

NRCA. 1997. Towards a beach policy for Jamaica. Green paper. 38pp.

NRCA. 1997. Draft Negril Environmental Protection Area Order.

NRCA. 2000. Jamaica Country Environmental Profile. Chapter 2: Protected Areas. Natural Resources Conservation Authority, Jamaica.

NRCA. 2002. Delegation instrument between the Natural Resources Conservation Authority and the Negril Coral Reef Preservation Society. 5p

In October 2002 the Natural Resources Conservation Authority appointed management of the Negril Marine Park (established in 1998) to the Negril Coral Reef Preservation Society. The subsequent Delegation Instrument signed between these two parties sets out the terms of management including obligations and functions of the parties involved and details the framework of implementation.

O’Sullivan, C.H. 2002. A preliminary assessment of the ecological impacts of two marine protected areas in the wider Caribbean. MSc Thesis, University of the West Indies, Barbados. 157pp.

This assessment was conducted using data collected from SCUBA-based visual surveys and interview surveys of Marine Protected Area (MPA) stakeholders. It investigated whether or not there were significant ecological differences in the reef ecology inside and outside two MPAs: the Negril Marine Park (Jamaica) and the Princess Alexandra Land and Sea National Park (Turks and Caicos Islands), and whether differences can be attributed to protection. Data collected included demographics, resource characteristics (condition, size, and density), and stakeholder perception of ecological change. Results of the SCUBA-based visual survey indicated that the sites at the Negril Marine Park were ecologically similar, however, the unprotected site was found to be healthier in some aspects than the protected site. Similar conclusions were drawn from results of the interview-based surveys. Essentially, the assessment concluded that the MPAs studied had not improved the reef ecosystems within their borders. O’Sullivan proposes that in order for MPAs to be successful

measures for effective enforcement of Park regulations should be instituted and the management of problems outside the Park boundaries likely to affect the Park ecosystem should be addressed.

Otuokon, S. 1997. Negril Marine Park Operations Plan. Negril Coral Reef Preservation Society.

Otuokon, S. 1997. Negril Marine Park Management Plan. Negril Coral Reef Preservation Society.

Otuokon, S., K. Thacker and C. Hanson with assistance from CANARI. 2000. Memorandum of understanding between the Negril Area Environmental Protection Trust and the Negril Coral Reef Preservation Society. 8p.

The Memorandum of Understanding (MOU), signed in 2000, is predicated on a desire of both parties to see to the conservation of the Negril Environmental Protection Area. The MOU seeks to engender a joint work relationship between the two parties by defining roles and responsibilities with regards to the management of the Negril Marine Park. In so doing the MOU addresses management and administration, decision-making procedures, conflict management procedures and fundraising and financial management guidelines.

Otuokon, S. 2001. Case study of the Negril Environmental Protection Plan. Prepared for the Seminar Integrating Stakeholders in Participatory Natural Resource Management, Kingston, Jamaica, April 2000. CANARI Technical Report N° 284. 10pp.

This case study is also available electronically at

<http://www.canari.org/otuokon.pdf#search='negril%20marine%20park'>

This case study represents one of the outputs of a research project “Synthesizing the Caribbean experience in stakeholder analysis for participatory natural resource management.” The Case Study presents a description of the Negril Environmental Protection Area (EPA) identifying changes in the resource-use landscape. Moreover, details of the varying stakeholders, their roles and functions, land tenure and management, the major resource uses and the resultant resource use conflicts arising in the Negril EPA are also included.

Porter, J.W., K.G. Porter, Thacker, K., P. Dustan, C. Black, W. Gabbidon, L. Getten, C. Quiolo, D.W. Porter and D.M. Marinek. 1998. Implementation of a coral reef monitoring project in Jamaica: Patterns of coral reef development in the Negril Marine Park and the absolute necessity for a whole-watershed management plan.

Quiolo, C. 1996. Final report: Negril mooring and zoning buoy installation and maintenance training program. Negril Area Environmental Protection Trust (NEPT). Development of Environmental Organisations Project. 32pp.

As coastal beachfront communities are developed and as tourism increases in these communities, so do the activities that take place on the water. With the advent of personal watercraft (jet skis) and other fast recreational crafts, the more traditional beach activities of swimming and bathing have become dangerous due to the mixed use of the same waters by swimmers, boaters and watercraft users. In the case of Long Bay, Negril, Jamaica, a fatality and multiple serious injuries have occurred to swimmers by both jet skis and propeller-driven craft. Swimmers swimming too far from shore and motorised craft operating too close to shore are both to blame for these accidents. In order to reduce these boating accidents and continue ‘multiple use’, Captain Patrick Prawl, Marine Consultant of the Port Authority of Jamaica, created a zoning plan for the entire Long Bay area.

Richards, R.A. 2001. A review of national policy and legislation contributing to or constraining successful marine protected areas implementation in Belize and Jamaica. MSc. Thesis, University of the West Indies, Barbados. 228pp.

Richards uses a comprehensive literature review involving analysis and interpretation of documentation on present and past work conducted on MPAs, interview and sites visits to acquire data in order to undertake an evaluation of the contribution of local, district and national policy and legislation to MPA implementation in Belize and Jamaica and the accompanying institutional arrangements. The report focuses on two MPAs in Belize- the Hol Chan Marine Reserve (HCMR) and Glover's Reef Marine Reserve (GRMR) and three MPAs in Jamaica- Negril Marine Park (NMP), Montego Bay Marine Park (MBMP) and Ocho Rios Marine Park (ORMP). Data collected related to legislation, policy, institutional capacity and enforcement. With specific reference to NMP Richards concludes that the management objectives are being met, however, not to the fullest extent. The absence of an instrument to delegation to legally manage the Park has in some ways handicapped the local management entity. Such a delegation instrument was drafted and signed between the Natural Resources Conservation Authority and the Negril Coral reef Preservation Society in 2002.

Rigall, J. 2001. Number of divers in Negril Marine Park. NCRPS, Negril, Jamaica.

Robinson, E. 1999. Coastal water quality improvement project. Organisational assessment of the Negril Chamber of Commerce. Prepared for the government of Jamaica's Natural Resources Conservation Authority and the United States Agency for International Development. Implemented by Associates in Rural Development Inc.. 48pp.

Romulus, G. 1996. Towards the establishment of a management structure for a marine park and protected area in Negril, Jamaica. Working Group No. 4, Green Issues, Case Study No: 9. OECD. Cited in Jones Williams, M. 2000. Biodiversity in development project case study series: Jamaica – Negril Coral Reef Preservation Project. EU, DFID, IUCN. 32pp.

Rose, Donovan and Associates. 1993. Negril Beach Water Quality Monitoring Programme: 1992-1993.

Smith-Coffin, M. 1988. Underwater park plan for Negril, Jamaica.

Statistical Institute of Jamaica. 2001. Population census 2001. Jamaica. Volume 2: Age and Sex. Government of Jamaica.

Statistical Institute of Jamaica. 2001. Population census 2001. Jamaica. Volume 3 Part A: Education. Government of Jamaica.

Statistical Institute of Jamaica. 2001. Population census 2001. Jamaica. Volume 4 Part A: Housing. Government of Jamaica.

Statistical Institute of Jamaica. 2001. Population census 2001. Jamaica. Volume 4 Part B: Housing. Government of Jamaica.

Statistical Institute of Jamaica. 2001. Population census 2001. Jamaica. Volume 5: Living arrangements. Government of Jamaica.

Statistical Institute of Jamaica. 2001. Population census 2001. Jamaica. Volume 7: Ethnic and origin and religion. Government of Jamaica.

- Statistical Institute of Jamaica and the National Environment and Planning Agency. 2001. Jamaica's environment 2001: Environment statistics and state of the environment report. Government of Jamaica.
- Statistical Institute of Jamaica and the Planning Institute of Jamaica. 2002. Jamaica survey of living conditions 2002. Government of Jamaica.
 An overview of the findings of the Jamaica Survey of Living Conditions. Descriptive data on demographic characteristics, household consumption, education, health, social welfare and housing for Jamaica are provided.
- Statistical Institute of Jamaica. 2003. Demographics 2003. Government of Jamaica. 86pp.
- Statistical Institute of Jamaica. 2003. Environment statistics 2003 and mineral accounts. Government of Jamaica
- Statistical Institute of Jamaica. 2003. The labour force. 2003. Government of Jamaica.
- Thacker, K. 2002. Community participation in the creation of the Negril Marine Park. Draft manuscript. 10pp.
- Thacker, K. No date. Protected area management in Negril. 6p.
- Thacker, K. 2000. State of Negril's reefs, Year 2000. Negril Reef Rap 6(1): 1-3.
- Thacker, K. 2001. The history of the development Long Bay Beach in Negril, Jamaica. Managing beaches in the Caribbean: Investing in our future. Seagrant, University of Puerto Rico.
- Thacker, K. and C. Hanson. 2003. Negril Marine Park Management Plan. Negril Coral Reef Preservation Society. 130pp.
 This is an update of the plan produced by Otuokon (1997). The management plan contains an executive summary and an introduction outlining the national and regional background and scope of the plan, and its mission and goals. It covers the management context in the regional setting including physical resources and conditions, biological resources within the park and socioeconomic features. It refers to existing usage including recreation, commercial, research and education and indirect uses. It also includes the existing legal and management framework, existing and potential impacts and implications for management, natural impacts, human impacts, direct physical interference, degradation of the physical environment, degradation of the biological/ecological conditions, a summary of threats, and management policies and programmes.
- Tourism Product Development Company. Environmental guidelines for watersport operators in the Negril Marine Park and harbour.
- Travis, C.R. 1992. The goals and objectives of the Negril Fishermen's Cooperative Ltd.
- Wade, B. 1992. Nutrient levels in Negril wetland and coastal waters. NCRPS Second Annual Workshop Proceedings.
- Walling, L. 1996. A total economic assessment of the conservation benefits of the Montego Bay Marine Park, Montego Bay, Jamaica. Masters Thesis, University of the West Indies, Barbados.

Warner, G. No date. Report on a brief survey of the marine environment in the vicinity of the route planned for fibre optic cabling in Long Bay, Negril. 10pp.

As part of an island-wide plan by Cable and Wireless Ltd. to provide an improved transmission network to Jamaica, it is intended to lay a cable from deep water to land in the Negril area. Local stakeholders, in particular the Negril Chamber of Commerce (NCC), the Negril Environmental Protection Trust (NEPT) and the Negril Coral Reef Preservation Society (NCRPS) are concerned about the impact of this cabling on the marine environment of the bay.

White, S. (for TSS). 1995. Negril environmental awareness survey. Baseline data for the period December 1994 - March 1995. DEMO.

Williams, J. and S. Jameson. 2000. Local needs and interventions for management of coral reefs in the developing Tropical Americas - The Montego Bay Marine Park Case Study. *In*: K. Gustavson, R. Huber and J. Ruitenbeck (eds.) Integrated Coastal Zone Management of Coral Reefs. USA: The World Bank.

Wright, M. 1994. An economic analysis of coral reef protection in Negril, Jamaica. MSc. Thesis. Williams College, Massachusetts.

Internet sites

Anonymous. No date. Sustainable livelihoods. Basic core funding for NCRPS to manage the Negril Marine Park.

http://www.efj.org.jm/pdf/Sustainable_Livelihood03.pdf#search='negril%20marine%20park
Summary paragraph on the above project outlining the funding granted to the NCRPS and activities for which the funding would be used. The Environmental Foundation of Jamaica (EFJ) funded a series of short term (six month) projects with this title between 2003 and 2005.

Anonymous. No date. Sustainable livelihoods. Negril Coral Reef Preservation Society: Consultation on the financial sustainability of the Negril Marine Park.

http://www.efj.org.jm/pdf/awards_2.pdf#search='Negril%20Marine%20Park'

This document provides information on grants given to various Trusts and Societies for projects. Mention is made of the NCRPS and a grant made to it to cover the cost of consultations and workshops to develop a financing strategy, work-plan and identify appropriate management systems for the Negril Marine Park.

Caribbean Regional Environment Programme (CREP). Jamaica amenity area demonstration project – Negril environmental protection area (Royal Palm Reserve) and Negril Marine Protection Area. http://crep.creativejunction.com/index.php?ZZZ=115_1051

This document contains information on a CREP demonstration project which is focused on the Negril Marine Park and Negril Morass. Details of four proposed outputs for the project are given and include: Capacity of Focal Point Organizations Built to ensure Participatory Management of the Negril Environmental Protection Area; Resource Management Plans Developed for Key Resources in the NEPA; Physical Infrastructure Developed and Maintained; Resource Remediation Design Undertaken; Income Generating Opportunities Developed; Raise Public Awareness and Support for the NEPA.

Country report. Tourism: Jamaica is here to stay. 3p.

http://europa.eu.int/comm/development/body/publications/courier/courier178/en/en_050.pdf#search='negril%20marine%20park'

A tourism country report on Jamaica produced possibly by the Jamaican Tourist Board (JTB) (no mention of authorship in the document). This report contains information on Jamaica's charm, information on how to get there, tourist accommodation and a protecting the environment. In this latter section, Negril is featured as an area of high tourist attraction and the work of the Negril Coral Reef Preservation Society (NCRPS) and the Negril Environmental Protection Trust (NEPT) in addressing environmental problems in Negril is noted. The establishment of the Negril Marine Park is mentioned as well as local hotels and tourist businesses which have been encouraged to adopt environmental codes of practice and to promote eco-tourism. Public education initiatives in the area are mentioned.

Davis-Mattis, L. 2002. Jamaica's commitment to the conservation and management of natural resources: Ten years in retrospect. Unpublished paper, National Environment and Planning Agency, Kingston, Jamaica (March 2002).

http://nepa.gov.jm/legal/discussion_10Y_in_retro.htm

A discussion paper on the Jamaican government's initiatives geared towards the proper management conservation and protection of the natural resources within the context of sustainable development.

European Commission. 1997. Project summary sheet: Self-sustainability of the Negril Marine Park. Development policy. Sustainable development and natural resources. 1p.

<http://europa.eu.int/comm/development/body/theme/environment/b7-6200/resumes/9822.pdf#search='negril%20marine%20park'>

European Union. European Commission's delegation to Jamaica, Belize, the Bahamas, Turks and Caicos Is. and the Cayman Is. Negril Marine Park gets new headquarters. Press release Thursday July 24, 2003.

<http://www.deljam.cec.eu.int/en/infosources/press/2003/July24.htm>

A European Commission Information Sources press release announcing the imminent opening of the new headquarters of the Negril Marine Park by Head of the Delegation of the European Commission. The press release provides a synopsis of the EU funded self-sustainability for the Negril Marine Park project, mentions that the NEPA and marine park have been chosen as a demonstration site by the EU-funded CREP and mentions that the EU has supported Negril's efforts for years providing an example of the funding disbursed for the establishment of the Negril Marine Park and the accompanying project activities.

Geoghegan, T., A.H. Smith and K. Thacker. 2001. Characterisation of Caribbean Marine Protected Areas: An analysis of ecological, organisational and socio-economic factors. Caribbean Natural Resources Institute (CANARI). Technical report N. 287. 140pp

<http://www.canari.org/thacker.pdf#search='negril%20marine%20park'>

This paper characterises MPAs in the region. Detailed surveys of all MPAs within the geographical scope of the project meeting specific criteria were conducted. 75 MPAs were identified in 17 insular countries and territories of the Lesser Antillean and Central Caribbean biogeographic zones. For each MPA in the survey, were sent survey forms to review, correct or complete or were interviewed by telephone. Information pertaining to management status, resource characteristics, institutional and management characteristics and user community characteristics of the MPAs was gathered and the data were analysed and synthesised into draft findings. This final report incorporates the findings received.

Goreau, T. J. 1992. Coral reef protection in western Jamaica. *In: Protecting Jamaica's Coral Reefs: Water Quality Issues* p.39-65.

http://globalcoral.org/coral_reef_protection_in_western.htm

This paper describes the ecological status of coral reefs along the entire western half of Jamaica during 1992, identifies the major stresses taking place in each area, and makes specific recommendations regarding the management and conservation of all of them, with special attention to identifying those reefs of special importance because of their high biodiversity, live coral cover, coral size, and roles as fish nurseries and in shore protection. Since this paper was written all the sites described have deteriorated significantly.

Goreau, T., J. Brown, E. Gordon, G. Gordon, V. Guthrie, N. Ruddock, R. Evans, and K. Thacker. 1995. Negril & Green Island Area Environmental Protection Plan. <http://globalcoral.org/Negril%20&%20Green%20Island%20Area%20Environmental%20Protection%20Plan.htm>

This paper represents the first effort to develop a management plan for an entire watershed and coastal zone in Jamaica. Detailed assessment of environmental problems is given in every community in the region, and specific projects are outlined to reverse the degradation.

Graveline, P. 1995. Jamaica: Negril Marine Park via Jim Jordan. Caribbean Travel Roundup press release. http://caribtravelnews.com/c0395_01.htm

The information file is from an article in the December 1994 "Negril Reef Rap" quarterly magazine of the NCRPS and features a news article on the recently announced establishment of a marine park and protected area in Negril.

JSDN Sustainable tourism. <http://www.jsdnp.org.jm/susTourism-projActive.htm> Sponsored by Canada Jamaica Green Fund. cidajamaica.org.jm/greenfund.htm

The Jamaica Sustainable Networking Programme website has a page dedicated to sustainable tourism and lists a number of completed and ongoing sustainable tourism projects. The Negril Marine Park is listed under activities in sustainable tourism.

Jackson Miller, D. 2000. Jean Brown finds her niche. IGC Newsdesk. Article 97565. newsdesk@igc.apc.org

In this article Jean Brown is interviewed regarding her involvement in the environmental movement in Jamaica, more specifically her affiliation with the Negril Coral Reef Preservation Society. Certain achievements of the NCRPS are highlighted throughout the article.

Jamaica Observer. 2002. NCRPS takes over Negril Marine Park. Monday, October 21, 2002. http://www.jamaicaobserver.com/magazines/Environment/html/20021020T230000-0500_33965_OBS_NCRPS_TAKES_OVER_NEGRIL_MARINE_PARK.asp

Newspaper report covering the signing over of the management of the Negril Marine Park to the NCRPS by way of a delegation instrument. The article outlines the responsibilities of the NCRPS as defined by the delegation instrument. The delegation instrument confers responsibility for planning and managing coastal areas on qualified local groups through delegation of authority.

Jamaica Observer. 2003. EFJ shells out \$60M in grants. Observer reporter: Thursday November 27, 2003.

http://www.jamaicaobserver.com/news/html/20031126T220000-0500_52185_OBS_EFJ_SHELLS_OUT_M_IN_GRANTS.asp

News article on grants totalling greater than \$60 million awarded by the Environmental Foundation of Jamaica (EFJ) to several NGOs as well as the UWI. It was noted that the NCRPS was one of the recipients receiving \$5 million as "basic core funding" for the Negril Marine Park for 6 months.

Jones Williams, M. Biodiversity in Development Project. Case study series. Jamaica-Negril Coral Reef Preservation Project. EC, DFID and IUCN. 29pp.

<http://www.wcmc.org.uk/biodev/case%20study/jamaica.pdf#search='Negril%20Marine%20Park'>

Case study of the Negril area and the work of NCRPS, establishment of NEPA and the Negril Marine Park.

National Environmental Societies Trust. Negril Coral Reef Preservation Society.

<http://www.nestjamaica.com/ngodirec/ncrps.shtml>

Summary sheet on the NCRPS – date established, geographical area served, membership profile, legal status, main focus and objectives, main sources of funding, projects and activities, institutional capabilities and resources, resources needed, areas of expertise and affiliation.

National Environment and Planning Agency (NEPA) News Center. 2003. Minister signs regulations to implement user fees in protected areas: Financial upkeep of national and marine parks. July 24, 2003.

http://www.nrca.org/newscenter/Press_releases/Archive/2003/PR20032407-SignedGazettedOrderProtectedAreas.htm

News report on the signing of three natural resources conservation regulations by the Minister of Land and the Environment, Jamaica. In the report it is noted that the Regulations address the implementation of user fees in marine parks and the Blue and John Crow Mountains' National Park and establish different costs for national and marine parks. User fees for the Blue and John Crow Mountains' National Park came into effect on June 16 2003. The implementation of user fees for marine parks will be staggered and enforced according to priority. Fee structures will vary according to types and duration of usage and fees collected will aid in achieving and maintaining financial sustainability for protected areas systems.

Negril Marine Park. Delegation to the Negril Coral Reef Preservation Society (NCRPS). 2002.

<http://www.jsdnp.org.jm/events-negril-marine-park.htm>

Information regarding the delegation of responsibility of the conservation and management of the Negril Marine Park to the NCRPS by the NRCA. In this article, the terms of the delegation instrument are given.

Noamie's Negril Jamaican Tea Room. The men's who brought Negril to its heights.

<http://www.noamies-negril.com/id69.htm>

This website contains a brief history of park proposals in Negril.

Organisation of American States. Inter-sectoral unit for tourism. Jamaica Tourist Board and World Tourism Organisation's Yearbook of Tourism Statistics. 1997. Vol II.

<http://www.oas.org/TOURISM/jamaica.htm>

Statistics for the period 1992-1996 on tourist arrivals by country of residence, monthly tourist arrivals, monthly cruise passenger arrivals, rooms in tourist accommodation, arrivals at frontiers at tourists from abroad, arrivals from abroad in all accommodation establishments.

PROCICARIBE. CLAWRENET News. No date. Tourism: Jamaica is here to stay. Extracted from The Courier. No: 178. Dec. 1999 – Jan 2000. European Commission, Brussels, Belgium.

http://www.procicaribe.org/oldproci/newsletters/apr00/clawrenet_news.htm

The information in this document is apparently and excerpt from: Country report. Tourism: Jamaica is here to stay. 3p.

http://europa.eu.int/comm/development/body/publications/courier/courier178/en/en_050.pdf#search='negril%20marine%20park'

Reef Line. 1998. Jamaica Project.

<http://www.reefrelief.org/ReefLine/newslet/wint98.html#jamaica>

Summary of REEF RELIEF'S involvement in a project to help the NCRPS implement a water quality monitoring program for the coral reefs of Negril. Included in this summary was background information on the authority designation to NCRPS to manage the NMP. Various projects implemented by NCRPS for coastal management purposes were noted.

Reef Relief. No date. Protecting Jamaica's coral reefs: Final report of the Negril Reef mooring buoy workshop & installation project. <http://www.reefrelief.org/jamaica.html>.

A summary and review of the Negril Mooring Buoy Installation Project and Workshop co-hosted by the NCRPS and REEF RELIEF is given by Katy Thacker entitled "Coral reef preservation in Negril". This review provides information about the Negril Mooring project, training received, financial and in-kind resources received from stakeholders etc. The welcome address given by Robert Stevens, Jamaica Director of Tourism, to participants in the workshop is included.

Thacker, K. The National Environmental Societies Trust. Collaborative approaches to coral management in Negril, Jamaica. NGO Con '98 – Coral reef preservation (full).

<http://www.nestjamaica.com/ngocon98coralreefmanagementfull.html>

This document on the National Environmental Societies Trust (NEST) website provides information on the establishment of the Negril Coral Reef Preservation Society (NCRPS) and its linkages with organisations, agencies and individuals to protect coral reef ecosystems. Certain activities of the NCRPS are featured such as the launching of the Junior Ranger Programme for children attending schools within the boundaries of the Negril Environmental Protection Area. Mention is also made of a project to establish a management structure for a marine park in Negril and states that the NCRPS received significant funding from the EU for this project. In addition, it goes on to mention NCRPSs networking with groups in the region to manage coral reefs.

Newspaper articles

Goreau, T. J. "Protecting Our Coral Reefs." The Daily Gleaner 27 Nov.

The Daily Gleaner. 1992. "Negril Seeks Solutions to Environmental Woes." 9 Oct.

The Daily Gleaner. 1992. "Pollution Problems Surface in Negril." 3 Nov.

The Daily Gleaner 1992. "Workshop Highlights Pollution in Negril." 18 Dec.