
Tourism and Coastal Resources Degradation in the Wider Caribbean

A Study for the
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Acronyms

BDD	British Development Division
BMP	best management practices
BVI	British Virgin Islands
CANARI	Caribbean Natural Resources Institute (St. Lucia and St. Croix)
CARICOM	Caribbean Community
CARICOMP	Caribbean Coastal Marine Productivity
CBO	community based organization
CCA	Caribbean Conservation Association
CDB	Caribbean Development Bank
CED	Centre for Environment and Development (UWI)
CEP	Caribbean Environment Programme (UNEP)
CHA	Caribbean Hotel Association
CIDA	Canadian International Development Agency
COSALC	Coastal and Beach Stability in the Lesser Antilles
CTO	Caribbean Tourism Organisation
ECLAC	Economic Commission for Latin America and the Caribbean (UNESCO)
ECODEF	Eastern Caribbean Organisation of Development Foundations
ECDPM	European Centre for Development Policy Management
ENCORE	Environmental and Coastal Resources Project (of the OECS/NRMU)
GDP	gross domestic product
GEF	Global Environmental Facility
GTZ	German Agency for Technical Cooperation
IAF	Inter-American Foundation
I&E	Industry and Environment Unit (UNEP)
IDB	Inter-American Development Bank
IDRC	International Development Resources Center (Canada)
IITF	International Institute of Tropical Forestry (US Dept. of Agriculture)
IISD	International Institute for Sustainable Development
IRF	Island Resources Foundation
IUCN	World Conservation Union
MAREMP	Marine Resource and Environmental Management Programme (UWI)
NGO	Non Governmental Organization
NRMU	Natural Resources Management Unit (of the OECS)
OAS	Organization of American States
OECS	Organization of Eastern Caribbean States
RCU	Regional Coordinating Unit
SIDA	Swedish International Development Agency
SIDS	Small Island Developing States
UNCED	United Nations Conference on Environment and Development
UNDP	United Nations Development Programme
UNEP	United Nations Environment Programme
UNESCO	United Nations Educational, Social and Cultural Organisation
USAID	United States Agency for International Development
USVI	United States Virgin Islands
UWI	University of the West Indies
WHOI	Woods Hole Oceanographic Institution
WTO	World Tourism Organization
WTTC	World Travel and Tourism Council
WWF-US	World Wildlife Fund/United States
WWF-UK	World Wide Fund for Nature (UK)

1. --- Introduction

“The main problem in understanding environmental impacts of tourism is that few scientific tools exist to determine the more subtle changes. The methodology to monitor changes and to establish biological carrying capacity is still unsophisticated. Therefore, we know little about the long-term environmental impacts of tourism on natural resources.”

Elizabeth Boo, 1992

The Caribbean Environment Programme of UNEP (UNEP/RCU/CEP) is implementing a regional project in cooperation with the United States Agency for International Development (USAID) in support of the International Coral Reef Initiative. The objective of the project is to promote corrective actions on land-based sources of pollution caused by the tourism industry which negatively impact coastal and marine resources.

This report is one of a series of studies to determine the level of coastal degradation, the best approaches and practices available to address these issues, and effective public awareness and training activities. The information contained in these studies will be used *inter alia* to further develop the activities of this project which include pilot projects, training workshops and courses, public awareness activities and networking.

This report of *Tourism and Coastal Resources Degradation* includes Island Resources Foundation’s assessment of the extent of coastal resource degradation due to tourism and recommends approaches to address this degradation in the Wider Caribbean. The assessment and recommendations have been written with special attention to promoting the use of the information by regional and national planners and policy managers.

The companion study by the Foundation on *Best Management Practices for Coastal Tourism* has been written for use *by national planners and industrial participants themselves*, as partners in sustainable tourism development and maintenance and conservation of the industry’s primary resource.

Other Sections of this report include:

- Review of coastal degradation
- Economic and social benefits and costs from tourism and allied sources
- Mitigation and amelioration strategies for addressing coastal degradation.

2. _____ Review of Coastal Degradation

This Section provides an overview of coastal degradation, a three-dimensional framework for analyzing the environmental effects of coastal tourism, and a summary of the topical focus of references used in this report in terms of the analytical framework for coastal tourism.

The principal conclusions of this section are:

- tourism impacts in the Wider Caribbean are extremely diverse, depending on differences among state economies, the relative and absolute size of the tourism sector, the rate of growth of tourism, and the nature of the tourism facilities involved;
- environmental degradation effects from tourism facilities in the coastal area are generally small, often dispersed, critically placed, and multi-faceted. Resolution of these effects are addressed by marshaling information and expertise from a wide range of technical resources in both the private and public sector.

Overview of Condition of Coastal and Marine Resources

Coastal and marine resources throughout the Wider Caribbean Region have suffered major impacts by human actions since early colonial days. A synthesis of major impacts conveys a picture in which virtually every state of the Wider Caribbean suffers from sewage pollution of coastal waters, most suffer some contamination from oil spills and production leakages, a majority of states report coastal pollution from mining and industrial activity, and most of the low income states of the region report solid waste contamination of coastal areas. In addition, many states report inadequate monitoring and assessment systems to understand the causes, dimensions, and impacts of coastal pollution. Table 1 illustrates observed and reported marine and coastal conditions in the region in the period from the late eighties to the present.

Of these impairments of coastal and marine environments, tourism is a major direct contributor to sewage and solid waste pollution in virtually every country. In tourism-dependent states it is the prime contributor to coastal erosion and sedimentation from construction activities.

Tourism is also a major indirect contributor to much of the oil and fertilizer/pesticide pollution of coastal waters. For example, in the US Virgin Islands most reportable oil spills stem from yacht, ferry and cruiseship fueling activities. In both the Sarasota Bay and the Corpus Christy National Estuary Program assessments, lawn care practices on golf courses and second-homes and condominium resorts were found to be major sources of nitrate and phosphate contamination of the bay from storm water runoff (Sarasota, 1993, and personal communication).

For countries in the top quintile (20%) of those dependent on tourism (*i.e.*, those states with more than 50 rooms per 1000 inhabitants: Cayman Islands, Northern Netherlands Antilles, Anguilla, Turks & Caicos, Aruba, Montserrat, British Virgin Islands, Antigua and Barbuda, US Virgin Islands), the environmental costs of tourism are even more evident when examining the named sources of “damage to reefs, mangroves and associated coastal ecosystems:” anchor

damage (3 countries), litter (4 countries), spearfishing (4), mangrove clearing (4), diver damage (2), dredging, dynamiting (2), sand removal (2), trampling, and boat groundings (Hoagland, *et al.*, Table 11).

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