

Sustainable Coastal Tourism in Cuba: Roles of Environmental Assessments, Certification Programs, and Protection Fees

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I.	INTRODUCTION	592
II.	COASTAL MANAGEMENT INFRASTRUCTURE IN CUBA.....	593
III.	COASTAL TOURISM IN CUBA	596
IV.	ENVIRONMENTAL IMPACT ASSESSMENTS AND POST-PROJECT DOCUMENTATION	600
	A. <i>Planning and Licensing</i>	601
	B. <i>Public Comments, Availability of Draft EIAs, and Siting Decisions</i>	603
	C. <i>Independent Peer Review and Cumulative Impacts</i>	605
	D. <i>Long-Term Analyses and Environmental License Compliance Reports</i>	606
	E. <i>Incentives for Voluntary Disclosure of Noncompliance Information</i>	608
V.	SUSTAINABLE DEVELOPMENT AND MARKET-BASED INCENTIVES	608
	A. <i>The Cuban Environmental Recognition Program</i>	608
	B. <i>Environmental Protection Fees to Fund Sustainable Management</i>	612

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VI. CONCLUSIONS: CREATING OPPORTUNITIES FROM CHALLENGES.....	615
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I. INTRODUCTION

With the largest island shelf in the Caribbean, Cuba's coastal biodiversity is unparalleled.¹ This fact, multiplied by potential openings to the U.S. tourism market, has created an extraordinary set of challenges and opportunities for the near-term management of Cuba's coastal resources.² The Caribbean already has the largest proportion of people employed in and Gross Domestic Product (GDP) gained from the tourism sector (25% and 30%, respectively) compared to any other region in the world.³ The traditional agricultural economy of Cuba is becoming increasingly service-based with tourism as the primary source of foreign capital (e.g., 40% of convertible currency in 2001).⁴ This trade-off has profound environmental and socio-economic impacts that must be addressed in strategic ways to protect both the environment and long-term economic growth.

The absence of U.S. tourism contradicts not only geography and economics, but also history. Before the Revolution in 1959, 90% of the tourism market in Cuba was from the United States.⁵ In the forty-three year absence of this income and the subsequent loss of billions of dollars in annual Soviet financial assistance in the early 1990s, Cuba has focused on a variety of national and foreign joint ventures to build a modern tourism industry focused on Europe, Canada, and other areas, including South America and Japan.⁶ This has resulted in construction activities that have increased the number of hotel rooms three-fold,⁷ with an

1. Vales, M. A. Alvarez et al., eds. *Estudio Nacional sobre la Diversidad Biológica en la República de Cuba*; PROGRAMA DE NACIONES UNIDAS PARA EL MEDIO AMBIENTE / CENTRO NACIONAL DE BIODIVERSIDAD / INSTITUTO DE ECOLOGÍA Y SISTEMÁTICA / CITMA, SPECIAL PUBLICATION, 480 (1998); see also Rodolfo Claro et al., *Cuban Fisheries: Historical Trends and Current Status*, in *ECOLOGY OF THE MARINE FISHES OF CUBA* 194, 194-98 (Rodolfo Claro et al. eds., 2001).

2. See Oliver A. Houck, *Thinking About Tomorrow: Cuba's "Alternative Model" for Sustainable Development*, 16 TUL. ENVTL. L.J. 521, 527 (2003).

3. CARIBBEAN TOURISM ORG., SUSTAINABLE TOURISM DEVELOPMENT STRATEGY AND PLAN OF ACTION FOR THE CARIBBEAN I (1999), available at <http://www.onecaribbean.org/information/documentview.php?rowid=475>.

4. See MARTHA HONEY, ECOTOURISM AND SUSTAINABLE DEVELOPMENT: WHO OWNS PARADISE 192-93 (1999); Anne-Marie Garcia, *The Euro Circulates in Varadero*, GRANMA, May 5, 2002, at 2.

5. Miguel Alejandro Figueroa, Special Advisor to the Cuban Minister of Tourism, Briefing at Conference on Sustainable Reef Management, Cayo Coco, Cuba, Sept. 18, 2002.

6. *Id.*; HONEY, *supra* note 4, at 193.

7. 15 CUBA BUS Mar. 2001.

additional 3000 new rooms annually in recent years.⁸ In many Caribbean islands, tourism arrivals more than double local population sizes and exacerbate existing environmental problems.⁹ Cuba's sheer size and its late entry into the regional tourism market, however, provide a window of opportunity to properly site pending tourist infrastructure and services. If sustainable development practices were to characterize the new Cuban coastal tourism products, the potential that other Caribbean markets would competitively adopt environmentally progressive practices may be increased.

Although sustainable coastal development is often discussed in coastal areas worldwide, examples of real-world applications are limited. Even in those places where potentially sustainable development policies have been applied, potential long-term impacts of new development are rarely monitored or evaluated.¹⁰ Further, a wide variety of effective best management practices to aid many aspects of tourism development are commonly underused, even when cost-efficient.

Implementing best practices for sustainable coastal development requires both regulatory and market-based approaches. For example, rigorous licensing and environmental assessment protocols can foster more orderly and low-impact activities.¹¹ These regulatory approaches are complemented by private sector incentives that provide the economic rationale and the guidelines to employ best practices in the siting, construction, and operation of projects that impact coastal areas.¹² This Article characterizes primary attributes of Cuban tourism and focuses on several regulatory and market-based tools for sustainable development that are particularly relevant to Cuba and other developing coastal states. In particular, we focus on environmental impact assessments (EIA), sustainable certification programs, environmental protection fees, and associated opportunities that are both timely and tractable.

II. COASTAL MANAGEMENT INFRASTRUCTURE IN CUBA

Since the mid-1990s, a major restructuring of the primary Cuban governmental institutions and legal instruments responsible for

8. Figueroa, *supra* note 5.

9. Alessandra Vanzella-Khoury, *Implementation of the Protocol Concerning Specially Protected Areas and Wildlife (SPA) in the Wider Caribbean Region*, 30 U. MIAMI INTER-AM. L. REV. 53, 59 (1998).

10. Jeremy B.C. Jackson, *Reefs Since Columbus*, in 16 CORAL REEFS §§ 23-32 (1997).

11. See Oliver A. Houck, *Environmental Law in Cuba*, 16 J. LAND USE & ENVTL. L. 1, 38-47 (2000).

12. CARIBBEAN ALLIANCE FOR SUSTAINABLE TOURISM (CAST), *MANUAL DE MANEJO MEDIOAMBIENTAL PARA HOTELEROS CARIBEÑOS* (1998).

environmental management has occurred.¹³ Many aspects of this restructuring are detailed elsewhere,¹⁴ but a fundamental aspect of these changes involved the development of Law No. 81, a framework environmental law, and the ascendancy of a new Cuban Environment Ministry, CITMA (Ministerio de Ciencia, Tecnología y Medio Ambiente), which provided new statutory and administrative structure to a wide array of previously disparate agencies and laws.¹⁵ Subsequent to the adoption of Law No. 81, a series of decree laws and resolutions have been passed with the intent of implementing key components of Cuba's 1997 National Environmental Strategy.¹⁶ Legal instruments and agencies charged with coastal management, coastal park implementation, and certification standards are emphasized here.

Primary instruments for managing coastal development and the growth of tourism include Decree Law No. 212 on Coastal Management and Resolution No. 77/99 that establishes a licensing and EIA protocol.¹⁷ Several agencies within CITMA are charged with the implementation of regulatory components of these laws, particularly the Center for Environmental Licensing and Control (CICA).¹⁸ Many coastal management support tasks and research responsibilities fall within an array of additional CITMA agencies such as the Center for Environmental Information, Planning, and Education (CIGEA), and can include research centers within CITMA that were formerly components of the Cuban Academy of Sciences.¹⁹ Institutions with significant coastal roles include the Institute of Oceanology (IdO) and the Center for Engineering and Environmental Management of Bays (CIMAB) within the Ministry of Transportation, which provide technical guidance to many agencies and, more recently, serve as contractors for EIAs.

The protection of coastal biodiversity and ecosystem functioning necessary for sustainable tourism and fishing activities are fundamentally

13. See Houck, *supra* note 11, at 18-25.

14. Three surveys include: Houck, *supra* note 11, at 18-25; Rajendra Ramlogan, *Protection of the Environment in Cuba: Piercing the Caribbean Iron Curtain*, 29 U. MIAMI INTER-AM. L. REV. 37, 49 (1998), Matias F. Travieso-Diaz, *Key Environmental Legislation for Cuba's Transition Period*, 21 U. PA. J. INT'L ECON. L. 331, 386-87 (2000).

15. Orlando Rey Santos, *Reflections on the Legislative Process of the New Environmental Law*, in CUBAN ENVIRONMENTAL LAW 11, 13 (Jerry Speir ed., 1999).

16. MINISTERIO DE CIENCIA, TECNOLOGÍA Y MEDIO AMBIENTE (CITMA), NATIONAL ENVIRONMENTAL STRATEGY (2002).

17. See Houck, *supra* note 11, at 35-45.

18. CTR. FOR INSPECTION & ENVTL. CONTROL (CICA), GUÍAS PARA LA REALIZACIÓN DE LA INSPECCIÓN AMBIENTAL ESTATAL 63 (2000).

19. CITMA, CUBA: ENVIRONMENT AND SUSTAINABLE DEVELOPMENT 10 YEARS AFTER THE RIO DE JANEIRO SUMMIT (RIO TO 10) § 3.1 (2001); see also Houck, *supra* note 11, at 19.

administered under Decree Law No. 201 on Protected Areas and Decree Law No. 164 on Fisheries Regulations.²⁰ Decree Law No. 201 is administered by the National Center for Protected Areas (CNAP), a CITMA agency responsible for a diverse range of tasks including mapping, drafting legal proposals for new parks, developing management plans, park implementation, and long-term management.²¹ An ambitious effort to build a network of science-based marine parks around Cuba is also underway involving several agencies. Key aspects of several marine park proposals involve the designation of areas in which all extractive activities are prohibited to rebuild fishery stocks and protect the habitats they depend on.²² A variety of significant applications towards sustainable tourism and coastal land management derive from such initiatives.²³ Fishery production issues, very important in terms of both coastal impacts and for exports to obtain foreign capital, are administered by the Ministry of Fisheries (MIP).²⁴ As necessary, agencies and councils within MIP coordinate with CITMA agencies, such as IdO and CNAP, and other entities, such as the National Oceanographic Commission.²⁵

In addition to coordinating actions within CITMA, there is a need to coordinate the actions of other ministries whose activities have environmental implications for coastal areas. For example, the Ministry of Economy and Planning decides many key planning and land-use issues and the Ministry of Agriculture oversees mangrove management. Furthermore, the Ministry of Tourism (MinTur) and the Ministry of Foreign Investment (MinVec) drive many coastal tourism development actions, and the Ministry of Basic Industry oversees many mining and construction activities.²⁶ The Directorate for the Environment (DMA) is the agency within CITMA charged with integrating the environmental actions of all of these ministries under the legal and policy frameworks

20. Del Sistema Nacional de Áreas Protegidas, DECRETO-LEY NO. 201 [Decree Law of the National System of Protected Areas, DECREE LAW NO. 201] (1999) (Cuba); Reglamento de Pesca, DECRETO-LEY NO. 164 [Fishing Regulations, DECREE LAW NO. 164] (1996) (Cuba).

21. Many terrestrial components of these parks are managed by the Empresa Nacional de la Protección de la Flora y Fauna (Flora y Fauna) of the Ministerio de Agricultura.

22. Richard S. Appeldoorn & Kenyon C. Lindeman, *A Caribbean-Wide Survey of Marine Reserves: Spatial Coverage and Attributes of Effectiveness*, 14 GULF & CARIBBEAN RES. 139-140, 139-154 (2003).

23. Paul F. J. Eagles et al., *Sustainable Tourism in Protected Areas: Guidelines for Planning and Management*, 8 BEST PRAC. PROTECTED AREA GUIDELINES 21 (World Comm'n on Protected Areas ed., 2002).

24. DECRETO-LEY NO. 164.

25. The National Oceanographic Commission is an interagency commission in Cuba that reports to the International Oceanographic Commission of UNESCO.

26. CITMA, *supra* note 19, at 17.

dictated by Law No. 81 and the National Environmental Strategy.²⁷ DMA has an extraordinary array of responsibilities and has functioned admirably so far in balancing the many interests at play. As development pressures in Cuba expand, however, these challenges will surely multiply and DMA will require substantial resources to manage new sets of issues and to ensure that environmental concerns are well addressed by all ministries.

Each of Cuba's fourteen provinces and the special municipality of the Isle de la Juventud has a CITMA provincial delegation with associated environmental units.²⁸ Many administrative tasks associated with coastal management decision making are driven by reports and guidance that originate from, or are delegated to, the territorial or provincial level.²⁹ The size and the internal structure differ among provinces, but a typical delegation will include sections dedicated to regulatory issues, planning, and research components.³⁰ All of these sections have additional subsections that are responsible for licensing, environmental assessments, management plan writing, and research.³¹ Many other ministries also have provincial delegations and integrated evaluations of planning and zoning occur at territorial as well as national levels.³²

III. COASTAL TOURISM IN CUBA

Although not a high priority until the late 1980s and early 1990s, Cuba has mobilized a rapidly growing tourism infrastructure to accommodate increasing numbers of international visitors. This has been driven by very centralized planning and management, a willing foreign travel and tourism industry with many experienced and well-resourced investors exclusive of the United States, a wide variety of tourist offerings, and the relatively untapped coastal resources of the Caribbean's largest island. Approximately 1.8 million tourists visited Cuba in 2001.³³ A doubling of visitors is possible over five or more years

27. Interview with Teresita Borges, Directorate of the Environment, CITMA, in Havana, Cuba (May 22, 2002).

28. These territorial delegations of CITMA (Unidades de Medio Ambiente de las Delegaciones Territoriales) are located in each province. These teams are extremely important for the fulfillment of many CITMA licensing, planning, and impact assessment responsibilities, and often consult with provincial delegations from other ministries.

29. Interview with Teresita Borges, *supra* note 27.

30. *Id.*

31. *Id.*

32. *Id.*

33. Interview with Norman Medina, Former Director of Development, Ministry of Tourism, in Havana, Cuba (Aug. 13, 2002).

depending on whether the U.S. embargo on travel and trade to the island is modified, eased, or lifted entirely.³⁴

When the U.S. market fully opens, the significance will echo beyond Cuba, extending across the very competitive Caribbean tourism landscape as tourism market shares may decline in other countries over the short-term. These regional effects will depend in part on the frequency with which U.S. tourists divert their travel to the once off-limits country. The high level of government commitment to developing international tourism, the well-trained work force, and the natural features of Cuba could foster repeat visits from U.S. and other travelers. While absolute numbers have and are expected to climb, Cuba has largely entered the market as an inexpensive package-tour destination.³⁵ It will take both government and industry commitment to gain higher profits per visitor with more revenues to local communities. Cuba's coastal identity could be a highlight of every tourist experience and carefully planned and regulated development will be crucial to the frequency of repeat visits.

MinTur coordinates the majority of tourism planning and foreign investment components with associated ministries, including MinVec, the Ministry of Economy and Planning, and various agencies within CITMA.³⁶ Following a centralized approach, based in part on models from other countries such as Mexico, sixteen tourist zones around Cuba have been identified.³⁷ Of these zones, tourism development is especially targeted in eight primary areas: Havana, Varadero, North Camagüey, North Holguín, Santiago de Cuba, Cayo Coco, Costa Sur Central, Cienfuegos/Trinidad, Archipiélago de Canarreos, and Cayo Largo.³⁸ These areas, the majority of which are coastal, receive 90% of the current investments in tourism.³⁹ Much of the development pressure is for infrastructure (e.g., roads, airports) to provide ready access to formerly remote coastal tourism zones.⁴⁰

MinTur categorizes significant Cuban tourism offerings as either natural or cultural products.⁴¹ Within the former, the largest investments focus on coastal areas and traditional sun-and-sand (referred to as *sol y*

34. *Id.*

35. HONEY, *supra* note 4, at 197.

36. *See id.* at 193; *see also* Daniel J. Whittle et al., *International Tourism and Protection of Cuba's Coastal and Marine Environments*, 16 TUL. ENVTL. L.J. 533, 561 (2003).

37. Figueroa, *supra* note 5.

38. *Id.*

39. *Id.*

40. *Id.*

41. Interview with Norman Medina, *supra* note 33.

playa) markets.⁴² This is reflected by the tourist zones that have received primary emphasis, both past and present.⁴³ For decades, the narrow Peninsula de Hicacos, two hours east of Havana, has supported a dense array of shoreline hotels along Varadero Beach, Cuba's traditional beach destination.⁴⁴ Currently, the government is building new beach resort clusters within several far removed tourist zones.⁴⁵ For example, Cayo Coco, a large island off north-central Cuba, has been zoned completely for tourism and has a new international airport to directly service European markets.⁴⁶ It and the adjacent Cayo Guillermo already have approximately ten major resorts in operation.⁴⁷ These are primarily all-inclusive resorts that are advertised as package deals in Canadian and European sun-and-sand tourism markets.⁴⁸ In addition, Italian cruise ships are now routinely visiting Havana and Isla de la Juventud off the southeast coast, with 100,000 passengers in 2000.⁴⁹ The long-term impacts of cruise ship operations on both land and aquatic resources of Cuba will intensify when the U.S. cruise ship industry descends on this untapped market.

The hotels and associated amenities required to fully support the tourism market can be wholly national or joint-ventures with foreign entities.⁵⁰ A diverse array of arrangements exist among foreign interests and the government, with some foreign investor groups serving primarily in management capacities for Cuban-owned hotels and others focusing on equity with up to 49% ownership.⁵¹ The Cuban government has produced English-language documents that detail the basics of some of these arrangements for potential investors.⁵² A variety of government tourism enterprises, ultimately guided by MinTur, exist within Cuba. Cubanacan, one of the largest, is responsible for the co-management or management of over fifty hotels and two marinas, including the massive

42. *Id.*

43. *Id.*

44. *Id.*

45. *Id.*

46. *Id.*

47. *Id.*

48. *Id.*

49. *Business Tips on Cuba* (Aug. 2001), at <http://www.cubatips.com>.

50. Ley de la Inversión Extranjera, LEY NO. 77 [Foreign Investment Law, LAW NO. 77] (1995) (Cuba); see also Whittle et al., *supra* note 36, at 560.

51. For example, the Spanish hotel company, Sol Meliá, manages approximately 20 hotels around Cuba representing 8000 of the approximately 32,000 rooms on the island. Interview with Gabriel García, Director of Marketing, Sol Meliá Hotels, Cuba, in Havana, Cuba (Nov. 7, 2002).

52. ROBERTO B. RIVERO, LEGAL PROFILE OF FOREIGN INVESTMENT IN CUBA: 110 QUESTIONS 69 (Eileen T. Menendez ed., 3d ed. 2001) (1995).

Marina Hemmingway complex in western Havana.⁵³ Other enterprises have more specialized roles. For example, Gaviota, derived from the Cuban army, manages a commuter airline and Puerto Sol manages over ten marinas around the island. At all levels, tremendous amounts of guidance as well as investment opportunities are being provided by hotel and tourism companies based in Europe and Canada.

To develop skilled management and staff for its existing and pending ventures around Cuba, MinTur has created a national system of tourism schools (Formatur) that is represented in every province and provides a comprehensive industry curriculum.⁵⁴ These schools train several thousand tourism and hospitality students annually and could emphasize the principles and practices of sustainable hotel management. For example, the use of Best Management Practices (BMPs) in several sectors of the Cuban tourism industry could be increased by introducing guidebooks, developed by tourism trade organizations, on sustainable hotel management.⁵⁵

In addition to numerous issues involving direct and indirect coastal impacts from the construction of these hotels, many support activities are being constructed which generate synergistic impacts upon both land and marine systems. For example, expanded marina facilities will be needed, particularly if the massive population of recreational boats in Florida gain access to Cuban waters. Currently, tourism enterprises in Cuba are more focused on diving-based tourism, a lucrative component of package tours, than fishing. In contrast, the majority of marine boaters from the southeast United States will probably be focused on both recreational fishing and diving, and will expect more navigational access for fishing than the current Cuban dive boat fleet. However, both pursuits will require sizable marinas that impact large coastal landscapes. Golf courses, which also introduce major changes to coastal landscapes, water supplies, and coastal run-off, are another new focus of Cuban tourism expansion.⁵⁶ Research in MinTur has identified the current ratio of 1 golf course for every 40,000 hotel rooms as a weakness in Cuban tourism marketing.⁵⁷ Because the ratio elsewhere in the Caribbean is 1 course for every 2000 rooms, the Cuban government is mobilizing to significantly

53. Cubanacan is the only Grupo Hotelero that provides a manual for environmental management (*Como hacer verdes nuestros hoteles*). Interview with Reemberto Abrahantes, Room Division Manager, Melia Varadero, Cuba, in Varadero, Cuba (July 7, 2002).

54. Interview with Norman Medina, *supra* note 33.

55. CAST, *supra* note 12.

56. Figueroa, *supra* note 5.

57. *Id.*

expand its network of golfing facilities and is in the process of building 5-6 new courses over the next four years.⁵⁸

CITMA is promoting the use of BMPs in hotels and other tourist support facilities through its environmental recognition program, ISO 14000 certifications, and other means. If properly implemented, BMPs optimize water and energy use, waste disposal, and other aspects of coastal construction and operations.⁵⁹ However, BMPs for hotels, marinas, dive-operations, golf courses, and associated amenities supporting large-scale tourism are alone insufficient to protect coastal environments.⁶⁰ Long-term benefits from BMP usage will best be realized when coupled with conservative land-use planning and regulatory oversight.

IV. ENVIRONMENTAL IMPACT ASSESSMENTS AND POST-PROJECT DOCUMENTATION

Two major factors influencing the long-term sustainability of coastal development projects are the siting and impact assessment of proposed coastal construction projects, and subsequent compliance with environmental license conditions. Central to these permitting processes, the subsequent monitoring of operations, and the administrative record, is the EIA process. The EIA is a detailed examination and description of the potential environmental impacts of a proposed construction project or activity.⁶¹ It includes an examination of alternatives to the proposal and identifies measures to avoid or mitigate environmental impacts associated with the project.⁶² Ultimately, the EIA is intended to guide final decisions on whether to grant or deny environmental licenses.⁶³ The administrative role and required content of EIAs differ markedly among countries. Cuban EIAs appear more akin in scope and detail to U.S. environmental impact statements (EIS) than to the less thorough environmental assessment (EA). In Cuba, approximately one-third of the proposals to CICA are determined to require EIAs.⁶⁴ The following sections are not intended to provide a comprehensive summary of the still-evolving Cuban EIA process and the various components within.

58. *Id.*

59. ELIZABETH HALPENNY, MARINE ECOTOURISM: IMPACTS, INTERNATIONAL GUIDELINES AND BEST PRACTICE CASE STUDIES 45-47 (The Int'l Ecotourism Soc'y ed., 2001).

60. *Id.*

61. *See* Houck, *supra* note 11, at 25-26.

62. *Id.* at 34-35.

63. *See id.* at 26.

64. Interview with Carlos Alvarez, Attorney, CICA, in Havana, Cuba (Aug. 2002).

Instead, these sections highlight important process steps and suggest ideas that may foster more sustainable projects.⁶⁵

A. Planning and Licensing

The environmental assessment process begins from the original vision of planners, developers, or conservationists, through steps that include land-use planning, zoning, the project permitting process, construction, and subsequent monitoring of operations.⁶⁶ If the project is to be financed in part by foreign money, then the process also begins with negotiations over the proposed foreign investment.⁶⁷ Regardless of the perspective that dominates, complex administrative attributes are associated with all stages in the life cycle of a major coastal facility.⁶⁸ In Cuba, planning and land-use decision making are highly centralized and integrated with annual economic planning.⁶⁹ The planning process, spearheaded by the Ministry of Economy and Planning, is complex and involves several other ministries at the national and provincial level working to develop macrolocalization and microlocalization documents.⁷⁰ Specific land-use decisions are made within the context of existing territorial plans that may also reflect components of tourism development plans.⁷¹ Currently, many projects with the most significant long-term impacts on coastal environments are associated with massive resorts and associated amenities such as marinas or adjacent shopping complexes.⁷² Because the framework provided by Law No. 81 is only six years old and key legal instruments for coastal protection (Decree Law No. 212) are even more recent, the protocols for this process have undergone continuous and considerable recent evolution.

With the economic pressure for coastal development, environmental licensing activities (the granting of construction and operating permits) conducted through CICA at provincial and national levels are increasingly important and are central to achieving the country's vision of sustainable tourism. The licensing process is guided in large part by

65. For more details on licensing processes, see Houck, *supra* note 11, at 57.

66. Reglamento del Proceso de Evaluación de Impacto Ambiental, RESOLUCIÓN NO. 77/99 [Environmental Impact Assessment Regulations, RESOLUTION NO. 77/99] (1999) (Cuba).

67. Houck, *supra* note 11, at 30.

68. CTR. FOR INSPECTION & ENVTL. CONTROL (CICA), GUÍAS PARA LA REALIZACIÓN DE LAS SOLICITUDES DE LICENCIA AMBIENTAL Y LOS ESTUDIOS DE IMPACTO AMBIENTAL 70 (2001).

69. Houck, *supra* note 11, at 19.

70. *Id.*; see also Whittle et al., *supra* note 36, at 573.

71. Interview with Teresita Borges, *supra* note 27.

72. See Houck, *supra* note 11, at 42.

Resolution No. 77/99 and implementing guidelines issued by CICA.⁷³ The process contains procedural similarities to other countries, such as detailed applications and subsequent EIAs, but there are fundamental differences that reflect a greater emphasis on top-down planning at the national level.⁷⁴ Importantly, based on centralized planning in Havana, decisions about the siting of hotels, related tourist facilities, and amenities servicing those facilities are often formulated prior to the environmental license application and initiation of the EIA process.⁷⁵ In fact, the first stage of analysis is done at the investment stage, prior to acceptance of the solicitation by MinVec.⁷⁶ This sequence deprives planners of much needed environmental information at early stages and may increase the likelihood that projects will be located in environmentally sensitive areas.⁷⁷

New construction in Cuba has greatly accelerated over the last five years, as evidenced by the demand for environmental licenses. The rate of permit applications to CICA from both national and foreign investors tripled from 1997 to 2000.⁷⁸ In 2000, although 736 out of 748 license requests were granted, many projects were substantially modified to require that measures be taken to avoid or mitigate environmental impacts.⁷⁹ This general ratio is not substantially different from permit applications for coastal construction projects filed under various U.S. federal and state statutes.⁸⁰ Environmental licensing is an especially effective tool for controlling or influencing the nature of development along Cuba's coastlines. CITMA has the legal authority to require that projects be modified to eliminate or reduce environmental impacts and may even veto projects that it believes are environmentally unsuitable.⁸¹

73. Reglamento del Proceso de Evaluación de Impacto Ambiental, RESOLUCIÓN NO. 77/99 [Environmental Impact Assessment Regulations, RESOLUTION NO. 77/99] (1999) (Cuba).

74. CICA, *supra* note 18, at 21-29; *see also* Houck, *supra* note 11, at 25-35.

75. Interview with Teresita Borges, *supra* note 27.

76. MinVec now provides potential investors the '*Guía de aspectos ambientales para la elaboración de las solicitudes de inversiones extranjeras*,' a newly formalized list of information required by CITMA prior to the EIA. This helps the investor to understand what will be assessed, a step that aims to prevent the halting of investments mid-process due to environmental considerations. According to chapter XVI in Law 77 on Foreign Investment, MinVec submits investment proposals to CITMA at their discretion, placing a great detail of responsibility on a ministry without scientific or technical criteria. In reality, some consultations do occur, but typically only for those investments with the greatest environmental impact.

77. Whittle et al, *supra* note 36, at 585.

78. CITMA, *supra* note 19, at 12.

79. *Id.*

80. Interview with Andy Mager, Director, Habitat Conservation Program, National Marine Fisheries Service, Southeast Region, in St. Petersburg, Fla. (Sept. 1998).

81. *See* Ley del Medio Ambiente, LEY. NO. 81 [Environmental Law, LAW NO. 81], art. 26 (1996) (Cuba), *translated in* CUBAN ENVIRONMENTAL LAW, *supra* note 15, at 21; Reglamento del

The key will be for CITMA to develop and retain the political muscle that will be required to make tough licensing decisions as the demand for coastal development intensifies.

B. Public Comments, Availability of Draft EIAs, and Siting Decisions

Law No. 81 provides for public participation in environmental affairs.⁸² For this purpose, the public could include nongovernmental organizations, associations of scientists, research institutes, and citizens, individually or in groups. An informed and participatory public certainly can help protect natural resources and support compliance with license conditions. Some mechanisms to promote and achieve public participation are already in place under current policies. For example, information on pending projects is sometimes provided to local neighborhoods or communities through local peoples councils or municipal assemblies.⁸³ However, for the most part, agencies have not yet finalized methodologies for systematically consulting the public about proposed projects and, consequently, the opportunities for public comments that can directly modify project design early in the decision-making process are limited.⁸⁴ Importantly, Law No. 81 may provide a basis for litigation to stop objectionable projects, though Cuba does not yet have administrative or civil procedures in place to accommodate such private causes of action.⁸⁵ The potential development of such precedents will be complex and their results will be critical to many aspects of long-term environmental management in Cuba.

Public participation in environmental decision making, as envisioned by Law No. 81, is new terrain in Cuba. As CICA develops its public participation methodologies, one strategy to expand public involvement would be to provide specific entities or individuals with notice of draft EIAs and draft environmental licenses *before* issuance of final and approved licenses, followed by subsequent release to a broader audience. Those entities or individuals could be offered an opportunity to review the draft EIA or license and to provide comments on the alternatives and possible conditions. The distribution of draft licenses or EIAs, which is required in the United States and many other countries, is

Proceso de Evaluación de Impacto Ambiental, RESOLUCIÓN NO. 77/99 [Environmental Impact Assessment Regulations, RESOLUTION NO. 77/99 (1999) (Cuba).

82. LEY NO. 81, arts. 4(e), (k), (l), (m), 9(c), (d).

83. Interview with Candice Kanepa, Inspector, CICA, in Havana, Cuba (Feb. 14, 2003).

84. *Id.* CICA is in the process of developing methodologies for public consultations within the EIA process.

85. See Houck, *supra* note 11, at 37.

currently not required in Cuba.⁸⁶ Involving interested stakeholders and other members of the public at this stage (or ideally even earlier with a scoping process) would greatly facilitate new levels of community involvement, enhanced project design, and community buy-in in a manner that need not disrupt or encumber the licensing process. Ultimately, the entire process, from planning to post-construction monitoring, could be informed and enhanced by the availability of drafts of key documents to the public.

Public participation can also be enhanced, and licensee accountability increased, if licensee compliance reports and CICA inspection reports were made available for inspection by groups or citizens outside of the ministry. If cost of duplication and publication is an issue, CITMA could make copies available for inspection at the appropriate provincial delegation and other public libraries and buildings within the affected municipality. Since the number of groups or individuals who may have the time and/or resources to review environmental documents and comment in a useful and informed manner may be small, CITMA could designate specific outside entities to engage in independent peer review of these processes.

To further the goals of information disclosure and public participation, it would be useful for CICA, the Institute of Physical Planning, or other pertinent agencies to produce a written record of each major siting decision. The record would explain how the siting of a facility complies with all provisions of Decree Law No. 212, Resolution No. 77/99, and other relevant laws, decree laws, and resolutions relating to the siting. It would be especially helpful to chronicle CITMA's role in consulting with planners on zoning and siting decisions for specific projects and to note whether and the extent to which CITMA's recommendations were followed.⁸⁷ While the siting of the facility would not be subject to further impact analysis in the EIA process, it would also be useful to include this record of facility siting in any EIA document. In this manner, the agencies responsible for making siting decisions, as well as the business seeking a site, would know up front that those decisions would be available for broader scrutiny (a "deterrent policy" for ramming a project through). Broader public oversight should encourage planners and developers to take greater care in locating construction projects in or near environmentally sensitive areas. This requirement for a record or

86. *See id.*

87. Law No. 81 directs the Ministry of Economics and Planning to work with CITMA and others to ensure that zoning is consistent with environmental protection. Decree Law No. 212 also directs that CITMA be consulted in microlocalization approvals for specific projects.

statement of a major siting decision should apply, not only to hotels, but to all significant construction projects involving roadways and associated tourism infrastructure.

Following construction of a facility, the applicant for siting approval should be expected to submit to the appropriate ministries a siting compliance report showing that the design and layout of the facility and associated parking, roadways, and waste operations comply with siting conditions and, if not, what specific mitigation or corrective actions have or will be taken. Commencement of operations at a new facility should be contingent upon the submission and approval of this type of compliance report. In a more protective mode, the date of the first CICA inspection could be moved forward to the stage prior to granting the work license. This means that if the facility fails to comply with its initial plan (as laid out in the original environmental license), the other ministries would not foster the approval process until CICA is satisfied.

C. Independent Peer Review and Cumulative Impacts

A systemic problem exists within EIA protocols in most countries: peer review of the document's conclusions may not occur, or if it does, it is often not independent.⁸⁸ This can cascade into a variety of potential misinterpretations of the long-term impacts of diverse projects.⁸⁹ For example, in EAs and EISs in the United States, large projects are often treated as occurring in a vacuum: a dozen other anthropogenic stressors may be co-occurring spatially and temporally, but the document does not address synergistic negative interactions between the proposed project and a wide array of other impacts.⁹⁰ When peer review is truly *independent and objective*, the expert reviewer has no personal or institutional connection to the issuance of the permit and, as such, is without constraint in the review of the project's impacts. Under such conditions, fresh eyes are brought to the editing process and fully objective analyses of impact cascades, useful project alternatives, mitigation, or modifications may be fostered.

88. See William A. Tilleman, *Public Participation in the Environmental Impact Assessment Process: A Comparative Study of Impact Assessment in Canada, the United States, and the European Community*, 33 COLUM. J. TRANSNAT'L L. 337, 382-84 (1995).

89. William E. Odum, *Environmental Degradation and the Tyranny of Small Decisions*, 32 BIOSCIENCE 728, 728-29 (1982).

90. Kenyon C. Lindeman & David B. Snyder, *Nearshore Hardbottom Fishes of Southeast Florida and Effects of Habitat Burial Caused by Dredging*, 97 FISHERY BULL. 508, 520 (1999).

The mandate and infrastructure for generating EIAs in Cuba is new.⁹¹ This embryonic nature of EIA protocols, combined with the extraordinary talent pool among Cuban scientists and engineers, suggests that there may be opportunities to lay the foundation for EIA processes in Cuba that are more effective than those in some other countries. An incipient industry to service the license-driven EIA needs of national and foreign investment opportunities is already developing in Cuba. Currently, there are eight accredited EIA-producing institutions in the country, several of these with interesting historical roots. For example, GeoCuba, one of the largest environmental contractors in Cuba with offices in all provinces, is derived from an engineering and geography branch of the Cuban Army. In contrast, the IdO within CITMA, a former component of the Cuban Academy of Sciences, is also now preparing EIAs on a contractual basis. The opportunistic evolution of Cuban research and engineering institutions towards EIAs and the contracts they bring is understandable given dire revenue shortfalls and is increasingly placing many of the most advanced national research scientists in the middle of the EIA process, a situation that is not typical in the United States.

Cumulative effects can develop even when the impacts of one project alone (the scale of the typical EIA) are subtle, and therefore administratively acceptable. The impacts of seemingly small and independent projects coalesce through time, resulting in degraded coastlines with even less potential for sustainability and endangering long-term economic viability as well.⁹² Because the best environmental scientists in Cuba are becoming directly involved in the EIA development process, independent peer review of potential cumulative impacts may benefit the long-term economic and environmental health of Cuba's coasts.

D. Long-Term Analyses and Environmental License Compliance Reports

Rigorous assessment of environmental impacts is also constrained in many countries by an absence of follow-up data collection and monitoring after the issuance of a construction or operating permit. In

91. See generally Houck, *supra* note 11, at 23-25 (describing CITMA's responsibilities under Law No. 81).

92. Kenyon C. Lindeman, *Comparative Management of Beach Systems of Florida and the Antilles: Applications Using Ecological Assessment and Decision Support Procedures*, in *MANAGING BEACH RESOURCES IN THE SMALLER CARIBBEAN ISLANDS* 134, 135 (G. Chambers ed., 1997).

the United States, agencies that consult and comment on federal projects permitted by the Army Corps of Engineers rarely receive follow-up information on project construction, mitigation activities, or long-term impacts.⁹³ Even when strong permit conditions are seemingly in place, the actual long-term impacts of thousands of projects within coastal regions of the United States are still poorly known. Few standardized or accessible databases exist to obtain these data within or across agencies, despite a huge infrastructure theoretically dedicated to leading-edge environmental protection. If Cuban agencies can develop such databases early in their licensing programs, many problems in analyzing long-term cumulative impacts will be avoided.

A major concern is compliance by a licensee with operating conditions set forth in an environmental license. In the United States and elsewhere, compliance monitoring often does not occur after a permit is issued.⁹⁴ One purpose of the Cuban Environmental Recognition process is to provide an incentive for such compliance by licensees.⁹⁵ Those conditions, if they are to be meaningful, should include quantifiable and enforceable standards applicable to activities such as sewage discharges, emissions of air pollutants, consumption of energy and water, and the disposal and management of solid and hazardous waste. Furthermore, conditions should also require monitoring to routinely measure compliance. It is useful for a licensee to submit an environmental license compliance report at least annually to CICA. This self-reporting requirement takes the burden off under-resourced and over-stretched regulatory agencies. Such a report should describe compliance and noncompliance with all license conditions, including a description of applicable monitoring systems and monitoring data to support compliance statements. Where the report includes noncompliance information, the licensee should also describe specific actions and strategies that it intends to take to assure compliance with a proposed schedule. For newer facilities, and certainly those financed in part or whole by foreign investments, rapid action may be expected. For older facilities, a slower timetable may be appropriate. These reporting requirements should be included as specific conditions in a license and would inform CICA of areas to target on their regular inspections.

In addition to annual compliance reports (or more frequent reports for certain discharge operations, such as sewage treatment plants), a

93. Interview with Mike Johnson, Habitat Conservation Division, National Marine Fisheries Service, in Miami, Fla. (Mar. 2002).

94. *Id.*

95. For a more detailed description, see discussion *infra* Part V.A.

licensee should be required to report to CICA any major violation of a condition or incidence of major noncompliance with a condition. For example, if a license includes standards governing the discharge of treated wastewater, and the treatment plant suffers a breakdown, the licensee should be expected to report such a violation immediately to CICA with an explanation of remedial actions. Standardized databases should be maintained so that analyses of long-term impacts and compliance issues can be efficiently accessed.

E. Incentives for Voluntary Disclosure of Noncompliance Information

A licensee may be legitimately concerned that voluntary disclosure of noncompliance with a license condition or breakdown backed up with monitoring data may subject it to fines or other penalties. To circumvent reluctance based upon this concern, fines or penalties for noncompliance with license conditions that are not voluntarily disclosed, but are identified only through regulatory inspections conducted by CICA, should be more severe than fines or penalties imposed for noncompliance that the licensee voluntarily discloses to CICA. Leniency in penalty could be granted in cases where the licensee provides measurable proof of appropriate remedial action.⁹⁶ Developing protocols and incentives for self-reporting of noncompliance will be especially critical in Cuba in the foreseeable future because CICA and other agencies lack the resources to provide thorough oversight and enforcement.

V. SUSTAINABLE DEVELOPMENT AND MARKET-BASED INCENTIVES

A. The Cuban Environmental Recognition Program

Initiatives for the sustainable placement and operation of coastal tourism facilities were in part pioneered by incentive-based programs using BMPs in the Caribbean and beyond.⁹⁷ Useful guides to BMP implementation for diverse business operations are now available from many sources, including useful summaries direct from hotel industry trade organizations.⁹⁸ A growing array of regional and international

96. See discussion *infra* Part V.B.

97. MARTHA HONEY & ABIGAIL ROME, PROTECTING PARADISE: CERTIFICATION PROGRAMS FOR SUSTAINABLE TOURISM AND ECOTOURISM 19 (2001); Megan Epler Wood & Elizabeth A. Halpenny, *Ecotourism Certification and Evaluation: Progress and Prospects*, in TOURISM ECOLABELING: CERTIFICATION AND PROMOTION OF SUSTAINABLE MANAGEMENT 121, 128 (X. Font & R.C. Buckley eds., 2001).

98. CAST, *supra* note 12; see also CAST, MEJORES PRATICAS HOTELES DE BAYAHIBE, REPUBLICA DOMINICA (2002).

schemes now rate environmental sustainability and award “green” certifications or labels in various forms.⁹⁹ Business incentives and stringent certification programs can drive BMP implementation if coastal businesses see enhanced returns via improved revenues and lowered operational expenses or increased market share by attracting nontraditional customer bases.¹⁰⁰ As a result, some businesses seeking formal sustainability certification have adopted best practices or lower impacts than predecessors.¹⁰¹ However, certification standards and assessment methods vary in rigor. As a result, some recipients of certification are free-riding on the performance of others and some claims, because of a lack of accountability, run the risk of becoming mere marketing devices.¹⁰² This “greenwashing” effect dilutes the very purpose of certification and labeling—a means to differentiate a product or company based on measurable adoption of BMPs in order to increase market share or reduce long-term costs.¹⁰³ With multiple certification schemes of varying credibility, the utility to the consumer is diminished and may jeopardize the future success of labeling schemes altogether.

Cuban resource managers have studied eco-certification programs around the world and are encouraging legitimate approaches using both market and agency-based approaches.¹⁰⁴ In 1997, article 44 of Law No. 81 established a national system of environmental inspections that promotes coordination, self-regulation, and voluntary commitments on the part of entities whose activities can have significant environmental repercussions.¹⁰⁵ In 2000, CITMA developed guidelines for a broad environmental certification system.¹⁰⁶ In 2001, CITMA formally established an environmental recognition program with a series of guidelines to assess both tourism and general service entities, including factories.¹⁰⁷ An environmental evaluation is the starting point for the

99. ECOTOURISM & CERTIFICATION: SETTING STANDARDS IN PRACTICE 38-39 (Martha Honey ed., 2002).

100. *Id.* at 39.

101. *Id.*

102. Martha Honey, *Who Owns Paradise?: Strong Certification Programs Separate Genuine Ecotourism from Greenwashing Fast-Buck Artists*, E MAG., available at http://www.emagazine.com/july-august_2002/0702feat1sb2.html (last visited Aug. 2002); see also Ralf C. Buckley, *Turnover and Trends in Tourism Ecolabels*, in TOURISM ECOLABELING: CERTIFICATION AND PROMOTION OF SUSTAINABLE MANAGEMENT 189 (X. Font & R.C. Buckley eds., 2001).

103. Buckley, *supra* note 102, at 189.

104. Interview with Norman Medina, *supra* note 33.

105. Ley del Medio Ambiente, LEY NO. 81 [Environmental Law, LAW NO. 81], art. 44 (1996) (Cuba), translated in CUBAN ENVIRONMENTAL LAW, *supra* note 15, at 21.

106. Interview with Martha Senti Darias, Directorate of the Environment, in Havana, Cuba (July 3, 2002).

107. *Id.*

crafting of a subsequent action plan that implements a wide array of BMPs, and is required when seeking an Environmental Recognition Seal (*sello*).¹⁰⁸ CICA and CIGEA, working through representatives within the provincial delegations are responsible for assessing and awarding the *sello*.¹⁰⁹ These are given to those general service entities or tourism operations with an action plan that adheres to and delivers on a wide array of sustainability criteria.¹¹⁰ The guidelines inquire about environmental management, monitoring, compliance, and training systems (all similar to typical ISO 14000 queries), energy and water consumption, wastewater and solid waste management, and noise and community impacts.¹¹¹ All of this is supported by preliminary and continuing inspections.¹¹²

Pursuant to Resolution No. 27/00, *sello* recipients receive an official certification that can be used, in the case of hotels, for advertising to the green tourism sector.¹¹³ The Hotel Meliá Varadero is the only hotel recognized to date and has seen increased profits since receiving the *sello*.¹¹⁴ Despite there being only a few successful entities in the application process, those interested in the recognition represent both foreign and Cuban entities, new and old.¹¹⁵ A primary reason for the lack of applicants so far is that companies have trouble complying with many environmental standards.¹¹⁶ It is not that standards and criteria are necessarily more stringent than in other countries, but that existing Cuban facilities are often very old or under-engineered (e.g., liquid waste is often a major problem because waste treatment facilities either do not exist or are old and sub-standard).¹¹⁷ However, the Hotel Meliá Varadero is a newer facility. New companies have a greater chance of complying if wide arrays of key BMPs are built into the process upfront. Industry-developed guidelines for implementing such BMPs are available in manners directly applicable in Cuba.¹¹⁸

The Cuban Environmental Recognition system is limited not only by financial constraints on up-front infrastructural improvements, but by other factors as well. For example, there are few formal attempts to

108. *Id.*

109. *Id.*

110. *Id.*

111. *Id.*

112. *Id.*

113. *Id.*

114. *Id.*

115. *Id.*

116. *Id.*

117. *Id.*

118. CAST, *supra* note 98.

comparatively rank the performances of the participating general service or tourism operations. A grading system similar to the one used for the Certification of Sustainable Tourism (CST) program in Costa Rica could be developed to set a minimum bar for these certification candidates.¹¹⁹ Certification programs at any level should also address three basic issues: health and safety standards (many of which are required by law), quality and service of the operation, and standards for assessing environmental and social impacts of hotels, resorts, and travel programs.¹²⁰ In Cuba, emphasis on the former attributes is not fully developed while impacts on urban environments and cultural and historical values are evaluated by officials from the provincial delegations.¹²¹ However, the Environmental Recognition conditions currently do not deal directly with siting-type issues handled primarily during the land-use planning and EIA processes.¹²²

The Environmental Recognition Resolution is intended not only to ensure that permitted enterprises comply with the conditions in their environmental licenses, but also to foster the routine and widespread use of BMPs that exceed typical wastewater, solid waste, energy, and related standards. Because Cuba does not have laws comparable to the Clean Water Act and Clean Air Act found in the United States, standards for discharge of waste to surface waters, air, and soil are based on “ambient” standards, not technological standards.¹²³ This approach failed in the United States pre-1970 mainly due to the complexities in working back from ambient conditions to discharge constraints for particular sources of pollution.¹²⁴ Potentially, CITMA could develop technology-based effluent and emissions standards for tourist industry operations. In this manner, every new hotel investor would face identical requirements in terms of level of treatment.

Although most operations do not currently meet Cuban standards for sustainable development recognition, if they do adopt a series of BMPs in the future they should be credited for it. Setting the bar too high initially can constrain any incentive-based value, particularly in developing countries with extremely limited resources for leading-edge

119. HONEY & ROME, *supra* note 97.

120. Honey, *supra* note 102.

121. See RESOLUCIÓN No. 27/00 [RESOLUTION No. 27/00] (2000) (Cuba).

122. See *id.*

123. See Houck, *supra* note 11, at 58.

124. See Oliver A. Houck, *Of Birds, Bats and B-A-T: The Convergent Evolution of Environmental Law*, 63 MISS. L.J. 403, 417-28 (1994); see also Oliver A. Houck, *TMDLs: The Resurrection of Quality Standards-Based Regulation Under the Clean Water Act*, 27 ENVTL. L. REP. 10,329, 10,333 (July 1997) [hereinafter Houck *TMDLs*].

facility construction or the retrofitting of existing operations. There may well be a need for a revision of standards to differentiate between existing and future developments, large-scale and small-scale hotels, and traditional leisure tourism and more active eco-tourism. This is the case in some certification systems with graduated ratings that encourage initial adoption, coupled with different categories of tourism offerings to avoid misleading comparisons.¹²⁵ Such distinctions could ultimately allow for the definition of different environmental recognition categories. Up-front discussion of these options among agencies, business operators, nongovernmental organizations, and academics will expedite the adoption of useful and tractable standards for both business operations and certification.

It would be advantageous if CITMA could create comparable incentives for licensed firms to perform better than their environmental licenses require or for unlicensed enterprises (presumably those in existence prior to Resolution No. 77/99) to perform better than negotiated standards require. To do this, CITMA could create a “Superior Environmental Recognition” designation. It could even have three tiers of recognition. In doing this, CITMA would have to determine how much better an enterprise would have to perform above standards or norms in each category to qualify. For example, the higher level recognition could require that the siting of a hotel and all associated infrastructure, including roadways, not disturb any sensitive environmental areas (such as wetlands, dunes, or shallow water habitat), that energy systems be extremely efficient, and that wastewater treatment include some degree of nitrogen removal. Further, CITMA could offer an incentive to enterprises to report violations of standards or other license requirements expeditiously by offering reduced penalties for such voluntary disclosure versus violations found through CICA regulatory inspections.

B. Environmental Protection Fees to Fund Sustainable Management

To enhance the quality of life for its citizens and to maintain sustainable tourism revenues, Cuba needs to make major investments immediately in wastewater treatment, stationary and mobile emission controls, solid waste management, including recycling, and other modernizations. These investment needs are urgent (e.g., currently

125. Both benefits and problems can arise from graduated ratings. See Amos Bien, *Environmental Certification for Tourism in Central America: CST and Other Programs*, in *ECOTOURISM & CERTIFICATION: SETTING STANDARDS IN PRACTICE*, *supra* note 99, at 148-49.

sewage rarely receives even secondary treatment) and will only grow. The money required for such capital needs far exceeds current agency budgets for repairs and renovations and Cuba will need to be creative in how it generates revenues sufficient for this daunting task. One place it should look is its National Environment Fund, authorized under articles 65 and 66 of Law No. 81. The fund currently receives only approximately \$250,000 annually.¹²⁶ These funds are largely derived from licensing costs for new construction projects and fines, and are expended largely on restoration projects and protected areas.¹²⁷ Although managed by a board represented by multiple sectors, the fund has little legal identity and insufficient sources of revenue.¹²⁸ Building this fund and dedicating monies from it to environmental infrastructure improvements would support the country's efforts to grow in manners that ensure long-term sustainability.

Given the lack of financial resources available for capital requirements, an immediate question is how the tourist economy itself could help to finance badly needed sustainable infrastructure improvements through a better-resourced environmental fund or other pathways. Following examples from many other countries, there are opportunities to fund such needs through existing but underutilized fee-based systems with dedicated revenues for audited environmental programs.¹²⁹ The impact of the fees can be insignificant at the individual level but cumulatively important for protecting the long-term investment. As the number of tourists increases, particularly tourists from Western Europe and North America who are seeking ecologically high-quality destinations, dedicating finances to maintain fully functioning coastal areas are extremely cost-effective economic and social investments.¹³⁰

Given the central role of tourism in Cuba's new economy, it is both logical and appropriate that Cuba should look to the tourism industry as a source of revenues to directly support environmental protection. There are also existing precedents for environmental fees.¹³¹ One source of funding could be a hotel fee clearly linked to environmental protection

126. Raul Garrido, Address at the Conference on the Future of Environmental Law in Cuba (Aug. 15, 2002).

127. *Id.*

128. *Id.*

129. *See, e.g.*, ENVTL. TAX POLICY INST. VT. LAW SCH., THIRD ANNUAL GLOBAL CONFERENCE ON ENVIRONMENTAL TAXATION, ABSTRACTS (2002), at http://www.vermontlaw.edu/elc/emp_envirotaxcon_template.cfm?doc_id=141.

130. *See* ORG. OF AM. STATES, THE FINANCING REQUIREMENTS OF NATURE AND HERITAGE TOURISM IN THE CARIBBEAN (1995).

131. Ley de la Inversión Extranjera, LEY NO. 77 [Foreign Investment Law, LAW NO. 77], art. 50 (1995) (Cuba).

activities. The fee could be termed and marketed as a clean water, green, blue, or environmental protection fee and would be based on bed-tax models that occur throughout the hotel industry in nearby tourism centers (Miami, Florida; San Juan, Puerto Rico). However, instead of proceeds going primarily to tourism promotion campaigns, they would go towards protecting the natural resources that support long-term tourism. Some government and hotel industry interests may initially be concerned that any fee may have an anti-competitive effect that would cause some tourists to go elsewhere. However, most Caribbean, U.S., and European coastal resorts already have a range of expensive fees and taxes on services, including hotel and bed taxes.¹³² Thus, many tourists to Cuba would not be surprised to encounter an additional, small fee (e.g., \$1-2 per night on a hotel bill), and many should be impressed by the environmental innovation it implies upon their use of this vendor.

Cuba could initially adopt a very modest fee in the order of 2-3% of a nightly room charge, a percentage that may generate \$20 to \$30 million per year for an environmental fund at the current visitation rate since almost two million tourists spend \$1 billion annually, approximately half of which is for hotel room charges.¹³³ As the number of tourists will surely rise when the U.S. travel ban ends, such a hotel environmental fee would provide an increasing level of revenues for this fund. Millions of foreign and U.S. tourists already routinely pay \$20-\$50 per person per day to visit artificial marine ecosystems in Florida such as SeaWorld or the Miami Seaquarium. Nominal room fees for dedicated environmental funds, like small user fees in protected areas, are excellent investments for long-term protection of coastal ecosystems and the economic origins they drive.¹³⁴

The use of revenues from any such fees should be administratively limited to the financing of critical water and land infrastructure investments that will protect resources of benefit to tourists and citizens of associated communities. The purpose of environmental fees should rarely be to pay for environmental improvements that hotel investors could and should be undertaking directly (e.g., to receive permits or environmental recognitions), with few exceptions and under very specialized conditions. For example, many improvements dealing with wastewater treatment for a new hotel should be addressed through the

132. Puerto Rico, for example, levies a \$22 USD per night 'resort tax' on guests staying in various San Juan hotels.

133. Interview with Norman Medina, *supra* note 33.

134. Ricardo Anzola Betancourt, Presentation at the Conference on Sustainable Reef Management, in Cayo Coco, Cuba (Sept. 18, 2002).

environmental license process and EIA procedures. Monies generated from environmental fees should be dedicated to financing larger-scale improvements that investors and developers could not be expected to finance themselves. In addition, such fees could also help finance badly needed staff for duties such as the management of protected areas. Clearly, independent oversight and auditing of the funds collected and subsequent expenditures are needed, as well as transparency in decision making.

While foreign investors and the Cuban government could include provisions for fees to protect the environment in their investment agreements that would be hidden from tourists, there are potential advantages to structuring and marketing this fee as an explicit, retail fee or tax. Cuba, like other Caribbean nations that are struggling to confront problems of poverty, typically has few alternatives to under-investment in environmental infrastructure. Such a revenue source would encourage Cuba to invest significant funds in environmental protection and would give its environmental and planning ministries additional political clout to put together a comprehensive capital program for environmental protection and improvements. For this fee to be fully supported, an integrated education project for businesses, tourists, and travel agencies should be developed to describe Cuba's environmental needs, its environmental protection programs and plans, and the investment of fund revenues. If unable to fully commit to such a fund in the near-term, it could initially adopt an interim program for volunteer environmental hotel fees. Such programs have been successfully used in central Europe to accomplish the same goals.¹³⁵ Ensuring that funds are dedicated solely to legitimate projects will be critical. Certainly, most sectors can understand the value of upgrading sewage treatment and the water supply, retrofitting factories and automobiles with pollution control equipment, expanding solid waste recycling, and restoring degraded wetlands.

VI. CONCLUSIONS: CREATING OPPORTUNITIES FROM CHALLENGES

Substantial changes in the level of coastal development within Cuba are not avoidable over the intermediate term. Policy and science experts in Cuba recognize this and, subsequent to the statutory firewall they created with Law No. 81, they are now following through with an array

135. Interview with Michael Brown, former President of Thomson Travel, a major European travel company (Nov. 2002) (regarding volunteer environmental hotel fees in Prague in the late 1990s). Payment of these fees was *optional* and most travelers witnessed paid the additional fee.

of strategies that attempt to ensure that new development is well planned, sited, and built. The constraint in successfully achieving long-term environmental protection objectives is certainly not talent. The human capital in Cuba is extraordinary and a fitting match to the coastal resources they are working to manage. The most serious constraints involve the most basic of resource limitations. Coupled with the dynamics of recent change in Cuba, the mix is complicated and nonlinear: most predictions about the economic and administrative future of Cuba are tenuous.¹³⁶ In addition, within almost all environmental agencies and legal pathways, the current systems for managing coastal development are less than six years old and must develop and adapt within one of the most dynamic political landscapes in the hemisphere.¹³⁷ In many countries, nongovernmental organizations have driven some of the most critical environmental policy initiatives.¹³⁸ The role of local Cuban environmental nongovernmental organizations should become increasingly significant over time.¹³⁹ Environmental policymakers and managers must be flexible without sacrificing rigor, and willing to fortify existing administrative approaches when needed.

In terms of the growing pressures from tourism, enhancing the quality of the regulatory process (especially land-use planning, construction permitting, and EIAs) is essential and can include new and tractable ideas here and in companion pieces.¹⁴⁰ However, regulatory approaches alone will not be enough.¹⁴¹ Developing and implementing market-based incentives will be necessary for long-term sustainability. As the Caribbean tourism industry seeks to reinvent itself by increasing regional cooperation, a key challenge for environmental managers will be to reach out to traditional tourism sectors, learn their language, and explain why and how protection of the coastal environment can improve the long-term financial bottom-line.¹⁴² An array of publications in the

136. See Houck, *supra* note 2, at 528-31.

137. *Id.* at 531.

138. Houck *TMDLs*, *supra* note 124, at 10,333.

139. Fredric Evenson, *A Deeper Shade of Green: The Evolution of Cuban Environmental Law and Policy*, 28 GOLDEN GATE U. L. REV. 489, 514 (1998).

140. See generally Whittle et al., *supra* note 36, and a number of other articles within this Special Issue of the *Tulane Environmental Law Journal*.

141. Santos, *supra* note 15, at 18-19.

142. Edwin Ali, *Bahamas P.M. Calls for Reinvention of Tourism*, CARIBBEAN TODAY, Nov. 2002, at 27.

growing fields of environmental economics¹⁴³ and sustainable tourism lay foundations to initiate this much-needed dialogue.¹⁴⁴

A greater appreciation of place distinctiveness is now being heralded as one of the fundamental contributors to the economic survival of coastal resorts.¹⁴⁵ Cuba is among the most ecologically, culturally, and historically diverse countries in the Caribbean. It should be very competitive in terms of place distinctiveness over the long-term if its distinctive coastal areas are managed in rigorous and sustainable manners. Critical coastal areas around the island and its submerged shelf should be added to the National System of Protected Areas to provide biodiversity and fisheries protection at least at the level of Natural Reserve, National Park, or Ecological Reserve.¹⁴⁶ Due to the natural and economic specifics of tourism in many areas, it is not realistic to focus only on ecotourism in the strict sense. Rather, the broader concept of “sustainable tourism” (articulated by MinTur as containing four pillars—economic, environmental, cultural, and social¹⁴⁷) is a more effective framework, though more rigorous ecotourism opportunities can play an important role in setting higher standards for the protection of the natural and cultural environment.¹⁴⁸ The coastal tourism industry has seen variations in the lifecycle of the traditional resort and is now developing new approaches to avoid boom-and-bust cycles in some resort areas.¹⁴⁹ In Cuba, BMPs that reduce impacts and save money should be a major focus for reducing this boom-bust cycle and a central component of the curricula of the tourism schools around the island. Such approaches can dovetail with rigorous eco-certification programs to produce synergistically positive and affordable innovations in sustainable coastal management.

It is critical to recall that within almost any agency or administrative pathway in Cuba, the modern processes for environmental protection are

143. Andrew Balmford et al., *Economic Reasons for Conserving Wild Nature*, 297 SCIENCE 950 (2002).

144. See generally ECOTOURISM & CERTIFICATION: SETTING STANDARDS IN PRACTICE, *supra* note 99.

145. Sheela Agarwal, *Restructuring Seaside Tourism: The Resort Lifecycle*, in ANNALS OF TOURISM RESEARCH 25-55 (2002).

146. Del Sistema Nacional de Áreas Protegidas, DECRETO-LEY No. 201 [Decree Law of the National System of Protected Areas, DECREE LAW No. 201], arts. 10-18 (1999) (Cuba).

147. Interview with Norman Medina, *supra* note 33.

148. WORLD TRADE ORG., WORLD ECOTOURISM SUMMIT: FINAL REPORT 65 (2002); see also ECOTOURISM & CERTIFICATION: SETTING STANDARDS IN PRACTICE, *supra* note 99, at 373 (discussing the Mohonk Agreement).

149. Agarwal, *supra* note 145, at 25.

little more than five years old.¹⁵⁰ Without upgrading the administrative infrastructure of the primary agencies and research centers working on the licensing and EIA processes that should conservatively guide coastal management, the opportunities and ideas discussed in this and other papers in this Issue will not be realized. The Cuban experts are already doing an excellent job. Without additional resources, they can not increase their efficiency to keep pace with the pending new demands. For example, DMA has a total of only three attorneys on staff, yet is charged with coordinating all policy and legal issues involving environmental coordination among over fifteen differing ministries and dozens of agencies within.¹⁵¹ Means to better fund existing environmental funds and also build out the most critical administrative agencies and research centers with dedicated revenue sources are essential. Finally, certification programs and environmental protection fees outlined above are not only logical and marketable, they are also potentially essential.

150. See Houck, *supra* note 11, at 18-25.

151. Interview with Teresita Borges, *supra* note 27.