

Science and Technology Issues in Coastal Ecotourism

INTRODUCTION

Tourism has recently emerged as the world's biggest industry¹ and export earner, surpassing even arms and oil in contributing to global economic development [25,67]. Worldwide, tourism is increasing at 4 percent annually, with certain segments of the industry and some destinations growing in popularity faster than others. Data for U.S. tourism are equally impressive:

Preliminary estimates for 1989 reveal travel and tourism spending to be \$350 billion. International travel to the U.S.A. and U.S. domestic travel combined generate 5.8 million jobs, pay \$73.5 billion in wages and salaries, and produce \$40.9 billion in Federal (\$21.1 billion), State (\$15 billion) and local (\$4.8 billion) tax revenues [35].

Tourism also is the "first, second or third largest industry in more than 40 States" [30]. The U.S. Department of Labor estimated that 7 out of every 10 new jobs generated in the 1990s will be in tourism. U.S. Travel and Tourism Administration data show that 90 percent of tourism-related enterprises are small businesses "offering greater entrepreneurial opportunities when big-industry jobs are dwindling." Finally, tourism generates entry-level employment for unskilled labor, and opportunities for skilled employment "such as computer programmers for reservations systems and construction workers" [9].

Tourism has been a strong State and local activity in the United States. For example, tourism programs "benefit from State governments which 1) pass enabling legislation generating taxes to support local promotional activities, 2) assist development with matching funds, and 3) undertake promotional and other activities jointly with cities" [35]. However, tourism has not been considered a high national priority.

Tourism historically has been viewed as a renewable resource-based industry, in which tourists come to admire-not to consume-the attractions of an

area. In fact, tourism has been compared to other resource-based industries, such as agriculture and mining, in that its existence requires the continued availability of the resources on which it is based.² As tourism grew in size and reach, however, it became apparent that "this industry, like others, competed for scarce resources and capital, and that its nonconsumptive attributes did not necessarily prevent the erosion or alteration of attractions" [39]. Today, tourism planners and decisionmakers are faced with multiple sources of competition:

[T]ourism, like any other economic activity, competes for resources. Government agencies needed to accommodate tourism's growing needs with the demands of more traditional resource sectors like fishing, forestry, and agriculture. Furthermore, such concerns over resource allocation had to be accommodated in an era of environmental preservation, brought about by a growing awareness of the world's resource limitations and interrelated ecosystems. . . . [M]ultiple-use and self-sustaining management strategies. . . are needed if the recreation and tourist demands of a growing urban population. . . can be balanced with increased demands for power (hydroelectric, coal, oil sands), the needs of traditional users (forestry, fisheries), and their responsibilities to future generations (land reserves, including national and State/provincial parks) [39].

Coastal areas historically have served as major tourist attractions. Coastal tourism has been "most intensively experienced on the Mediterranean shoreline, the Pacific and Atlantic coasts of the U.S.A., and famous tropical retreats such as Hawaii. . . and the Caribbean" [35]. Not only do many people choose to visit coastal destinations, many people live in the coastal zone. In the United States, for example, ". . . the number of persons living in counties entirely or substantially within 50 miles of the shoreline in 1990 [is estimated] to be 52.9 percent of the national population" [35]. Many of these people use the coastal and marine environment for commercial and leisure pursuits. Moreover, although coastal waters account for only 10 percent of the Earth's surface, they produce at least 30

¹ Using the U.S. Senate definition of "an interrelated amalgamation of those businesses and agencies which totally or in part provide the means of transportation, goods, services, accommodations and other facilities for travel out of the home community for any purpose not related to day-to-day activities."

² Like these industries, however, the infrastructure associated with tourism development is directly resource consumptive.