TOURISM DEVELOPMENT ALTERNATIVE FOR THE TURTLE FISHER COMMUNITY OF LIMÓN, COSTA RICA

Phase I: Planning

April 2002

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Feasibility Study and Master Plan

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For:
Fishers Association of
Cieneguita and Portete (ASCIENPE)
and the
Caribbean Conservation Corporation (CCC)

With financial assistance from:

National Fish and Wildlife Foundation
-
National Oceanic and Atmospheric Administration
-
U.S. Fish and Wildlife Service
-
Firedoll Foundation
-
Caribbean Conservation Corporation
-
Asociación de Pescadores de Cieneguita y Portete

April 2002

EXECUTIVE SUMMARY

Drawing on the successes of the ecotourism industry at Tortuguero, Costa Rica where turtle-based tourism now provides economic incentives for local people to protect rather than eat turtles, the Asociación de Pescadores de Cieneguita y Portete (ASCIENPE) and the Caribbean Conservation Corporation (CCC), worked with the turtle fishers and vendors to plan an ecotourism project to replace and hopefully exceed the revenues generated by the consumptive turtle trade of Limón. In 2002, the planning phase of the project was completed, to plan and determine the amount of funding required for full project implementation. Financial support was provided by the National Fish and Wildlife Foundation, the National Oceanic and Atmospheric Administration, the U.S. Fish and Wildlife Service and the Firedoll Foundation for this activity.

Concepto Visual Integrado, an architectural consulting group, was hired to work with ASCIENPE and CCC in the preparation of an integrated social, technical and economic feasibility study and pre-proposal. Beneficiary groups participated in the planning process via consultative meetings. The resulting master plan recommendations and funding requirements are available in print versions and can be viewed on-line at the CCC web page (www.cccturtle.org).

ASCIENPE is now seeking funding for the full project. The Costa Rica government is promoting growth of the tourism industry for Limón and is supportive of this and other projects to aid the area's fishers. The development of a successful model for non-consumptive use of sea turtles through ecotourism by an endemic group of fishermen in Limón could prove replicable in sister communities along the Caribbean coast where turtles are subject to considerable hunting pressure.

ACKNOWLEDGMENTS

We thank the following institutions and their representatives for their valuable contributions to the preparation of this document:

I. San José Studio
· Architect Andrés Fernández
· Architect Manuel Quezada
· Designer Laura Quiroz
- Ing. Pablo Villalobos

II. Caribbean Conservation Corporation
· Lucinda K. Taft
· Roxana Silman Carranza

III. ASCIENPE
· Danny Rankin González
· The fishers of Limón

IV. JAPDEVA
· Ingeniero Julio Sarmiento
· Lcda. Liliana Ching

V. Instituto Costarricense de Turismo
· Architect Nuria Gutiérrez (Development Department)
· Lcdo. Víctor Quezada (Development Department)

We would especially like to thank the National Fish and Wildlife Foundation, the National Oceanic and Atmospheric Administration (NOAA), the U.S. Fish and Wildlife Service (USFWS) and the Firedoll Foundation for the financial support that made this study possible.

The views and conclusions contained in this document are those of the authors and should not be interpreted as representing the opinions or policies of the US Government or the National Fish and Wildlife Foundation. Mention of trade names or commercial products does not constitute their endorsement by the US Government or the National Fish and Wildlife Foundation.

1.0 INTRODUCTION

Drawing on the successes of the ecotourism industry at Tortuguero, Costa Rica, where turtle-based tourism now provides economic incentives for local people to protect rather than eat turtles, Caribbean Conservation Corporation (CCC) began working with turtle fishers and vendors to plan and implement an ecotourism project that would replace and hopefully exceed the revenues generated by the consumptive turtle trade operating out of the Port of Limón, Costa Rica. CCC, an international sea turtle conservation organization, partnered with the local Fishers Association of Cieneguita and Portete (ASCIENPE) to implement the project.

This first phase of the project, whose objective is to plan and determine the amount of funding required for full project implementation, has been funded by the National Oceanic and Atmospheric Administration and the U.S. Fish and Wildlife Service through the National Fish and Wildlife Foundation, the Firedoll Foundation, CCC and ASCIENPE.

CCC and ASCIENPE, through a competitive bid process, selected Concepto Visual Integrado to research and prepare an integrated social, technical and economic feasibility study and pre-proposal. Project planning with the participation of the beneficiaries and other stakeholders via consultative meetings was stipulated. Master plan recommendations and funding requirements have been determined and this document will be used by ASCIENPE to promote the project to donors and area decision-makers and to raise funds for the full project.

1.1 Project background

Although green turtle colonies are endangered globally, Costa Rica possesses the largest nesting colony of green turtles remaining in the Western Hemisphere, a population that has been undergoing recovery for more than 25 years thanks to conservation efforts. Even so, the population remains under threat from unregulated hunting of adult turtles on and near nesting beaches and on foraging grounds. The harvest of reproductive adults is particularly damaging to green turtle populations because they take a very long time to mature (25 to 50 years). Costa Rica, realizing that the heaviest responsibility for the continued survival of green turtles rests on the country possessing the nesting habitat, stepped up protection efforts in starting in 1998.

In February 1999, the Constitutional Court of Costa Rica declared the legal take of green turtles as unconstitutional in response to a lawsuit brought by CCC, local and

national conservation groups and other individuals. Sea turtles were protected elsewhere in Costa Rica but the fishers of Limón were allowed to legally harvest turtles in 1982. With the legal turtle hunt banned, the fishers of Limón began to organize themselves. The green turtle fishery was important to them because no other viable fishery exists from May to July. Conceding that turtle hunting was out of control and that the influx of illegal meat into the market had driven down the price, the fishers opted to join with turtle conservationists to find solutions for their problems. With assistance from sea turtle conservation groups, and particularly the CCC, ASCIENPE has been seeking to develop projects that would benefit its members by providing alternatives to the turtle hunt and improving the situation of the artisanal fishers in general.

1.2 Project partner organizations

1.2.1 Asociación de Pescadores de Cieneguita y Portete

The Asociación de Pescadores de Cieneguita y Portete (ASCIENPE) was organized in early 1999 in response to Costa Rica's ban of a formerly legal green turtle harvest out of Limón. Rather than take an adversarial stance to the new sea turtle protection measures, the turtle fishers decided to approach sea turtle conservationists and request assistance with projects to replace income lost from the turtle hunt and develop alternatives to turtle hunting. Approximately 140 fishers, wholly or partially dependent on turtle fishing, are represented by ASCIENPE, now legally constituted in Costa Rica.

ASCIENPE is currently seeking compensation from the government of Costa Rica and outside donations and financing that would be used to fund the development of under-utilized fisheries and other proposed projects. In the last quarter of 2001, the Association succeeded in acquiring and rehabilitating an abandoned fish processing plant in Limón. The local fishers get better prices for their product by selling it to the plant, and they are also receiving technical assistance and equipment through both the foreign cooperation and private investment that the association has attracted. ASCIENPE is also working with a women's group, organizing training for them in the preparation of cooked fish products for sale.

1.2.2 Caribbean Conservation Corporation

The Caribbean Conservation Corporation (CCC) is a not-for-profit, 501(c)(3) organization based in Gainesville, Florida. CCC is also a registered association in Costa Rica and enjoys public utility status in recognition of the work it does in the interest of the public, the nation and the planet. This status guarantees the organization the assistance of the Costa Rican government in its endeavors. The organization was founded in 1959 by University of Florida zoology professor Dr. Archie Carr and a handful of his supporters to save Tortuguero's green turtles from extinction. CCC is the first and oldest sea turtle conservation group in the world, and has more than 40 years of experience in national

and international sea turtle conservation endeavors, protecting sea turtles through education, research, habitat protection, community outreach, networking and advocacy. Since the mid-80s, CCC has promoted responsible ecotourism at Tortuguero. The organization continues its work in Costa Rica and now conducts ongoing projects throughout the wider Caribbean and in the United States.

1.3 Project location

The location of the proposed project will be in or near the port city of Limón, Costa Rica, on the Caribbean, or Atlantic coast (see Figure 1). It lies approximately 152 km to the southeast of Costa Rica's border with Nicaragua, and around 82 km northwest of the border with Panama. Limón is the provincial capital and the only major city along the entire Caribbean coast of the nation. Nearly 100,000 people live in the city and its suburbs.

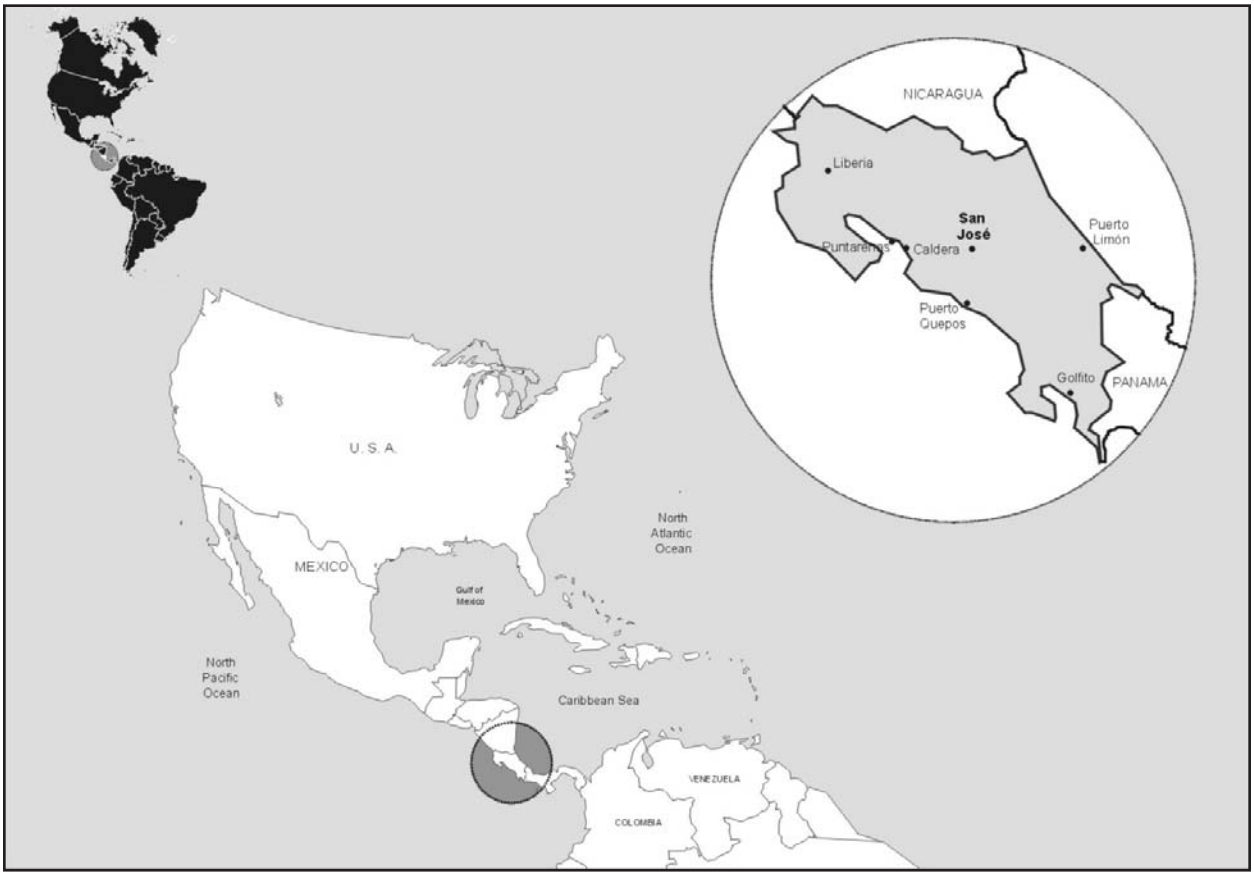


Figure 1. Map showing the location of the city of Limón, Costa Rica.

1.4 Project beneficiaries

The fishing community of Limón consists of 500 to 600 fishers. Approximately 240 of these own fishing boats and the rest work as crew members. Of these, approximately 140 were largely dependent on the now-prohibited turtle harvest. It is these individuals and their families that the project proposed herein hopes to benefit most. A small number of individuals referred to as fishers here are women. They rarely go to sea or engage directly in fishing, but they own fishing boats and are involved in the administration of family fishing enterprises and participate in the fishers organizations.

Along the Costa Rican Caribbean coast, as in many tropical coastal areas, use of the palatable green turtle (Chelonia mydas) was a tradition. The green turtle fishery was, until recently, a livelihood for some of the most marginalized individuals in the Limón fishery. The legal quota, until 1999, was 1800 turtles per year. Turtles were speared with harpoons and hauled on board alive (see Figure 2). No special equipment or capital were required to handle the product, such as refrigeration. Green turtles could be restrained and kept alive. for weeks or even months, flipped over on their backs in shady huts and not sacrificed for market until a favorable price could be obtained.

Figure 2. Harpooning hawksbills near Tortuguero, Costa Rica, in the 1960s (CCC file photo, Archie Carr, Jr.).

Although seemingly abundant in Costa Rica, green turtles are endangered, and the turtles that nest here are hunted relentlessly in other parts of their range. Outside of Limón, other communities along Costa Rica's Caribbean coast have, for the most part, abandoned turtle hunting because many of them make good money from tourists who want to see nesting turtles. The turtle tourism entrepreneurs along with conservation groups successfully fought the legal turtle harvest, banned since early 1999. A few of the fishers also agreed with the ban because the turtle fishery had never been regulat-

ed adequately, middlemen made most of the money, and it provided a cover activity for drug-traffickers.

Turtle meat can still be found in the market and restaurants of Limón, but with less frequency. The custom of eating turtle meat is slowly disappearing as recent generations are exposed to environmental education programs and television about wildlife conservation. Even so, in the absence of adequate help, former turtle fishers might resume lobbying for a reopening of a better-regulated turtle harvest. Overturning the ruling of the Constitutional Court would be highly unlikely though, and to date, the harvest is still banned and law enforcement in Costa Rica recently has been quite strong and very effective.

In contrast to the large, well-developed commercial fisheries of Costa Rica's Pacific coast, the Caribbean fishery of Limón is completely artisanal, under-capitalized and under-developed. Their vessel types range from hand-hewn dugouts to 10-meter skiffs with 200 horsepower motors (see Figure 3). Most use 75 or 85 horsepower outboard motors. Fishing gear ranges from hand-lines, to traps for snapper and lobster, to nets for mackerel and other species. Most of the fishers, particularly those who do not own boats, have very low incomes, some averaging less than US$200 per month. These individuals struggle to make a living in an area that is affected by frequent bad weather and rough seas. The near shore fishery is limited due to the lack of extensive shallows and the fishers do not have vessels and equipment adequate for fishing pelagic species.

Figure 3. Typical fishing boats of Limón, moored on the Cieneguita River (Photo: Oscar Cuevas).

The market for the product is local, in contrast to that of the Pacific fishery which harvests shrimp, tuna, swordfish, sardines and several other species for export in addition to supplying the domestic market. The most profitable Caribbean fishery is that of the spiny lobster but the season (December-January) is very short and the last two seasons have been unproductive. The factors that affect the migrations of this species into the area and its abundance are unknown.

In recent years, most of the Limón fishing sector was not organized. Several fishers associations existed, primarily to acquire government-subsidized gasoline for the boats. Other fishers' interests were not represented. In early 1999, in response to the turtle hunting ban, many fishers formed a new association, ASCIENPE, to defend their interests. The fishers are now better organized and in the three years since the ban they are slowly improving their industry. The Costa Rican government reneged on a compensation package for them, and funding for other projects has been slow in coming. Nevertheless, they acquired support from JAPDEVA and the Chinese Mission (Taiwan) to renovate an abandoned processing plant (see Figure 4) at Cieneguita, at a creek on the south side of Limón city not far from the ruins of the old turtle slaughterhouse. The plant has been in operation since October 2001, helping bring the fishers better prices for their products. Training and financial assistance from the Chinese Mission has also enabled women's involvement by teaching and equipping them to prepare processed fish products for resale. Perhaps as a result of the improved organizational capacity unprecedented for this sector in Limón, there appears to be considerable interest by the government, foreign cooperation entities and even private interests to assist or invest in projects with the fishers.

Figure 4. View of the fish processing plant at Cieneguita (Photo: Oscar Cuevas).

In the period that we have been conducting the study presented here, the fishers organized further, forming a Chamber of Fishers (Camara de Pescadores de Limón-CAPELI), made up of ASCIENPE plus the other local fishing organizations: Asociación de Desarrollo Turístico-Pesquero de Bahía Portete (ASOTUPEP); Asociación de

Pescadores Independientes de Limón (ASOPEIL); and, Asociación de Pescadores del Caribe (PESCARIBE). The president of ASCIENPE is also the president of the new Chamber.

1.5 Project concept

Economic development projects like tourism, when properly regulated, can facilitate non-consumptive use of natural resources and can produce incomes that are greater as well as more sustainable than those from consumptive uses. The development of a successful model project for non-consumptive use of sea turtles through ecotourism by an endemic group of fishers in Limón would provide incentives for the fishers to collaborate with sea turtle conservation and protection efforts, and could also prove replicable in sister communities along the Caribbean coast where turtles are subject to considerable hunting pressure.

The project described in this document contemplates the establishment of a tourism project in Limón, Costa Rica, that would benefit turtle fishers and turtle product vendors. Although tourism is under-developed in Limón, the government of Costa Rica is promoting greater development of the area for that purpose. Affordable hospitality infrastructure and transport to the area already exist, but the range of services and attractions currently offered is not well developed. CCC has been assisting with the initiation of the project, but ultimately, its continued operations will be carried out under the auspices of ASCIENPE.

ASCIENPE and CCC suggested the following possible components for the master plan of the fishers tourism project, whose feasibility was to be analyzed and evaluated in this study:

A multi-purpose Visitors Center. This center should be strategically located in Limón to maximize tourist use. In addition to providing a base for administrative operations of the project, the Visitors Center would serve as a promotional and staging area for "turtle" and other aquatic tours, and sport fishing trips. The Visitors Center would provide interpretive exhibits about the port and fishing culture of Limón. It could include a small auditorium or presentation space, a gift shop for the sale of souvenirs and locally produced handicrafts, and a refreshment area. Revenues might be generated from Visitor Center entrance fees, gift shop and refreshment sales, admission fees to special presentations, guided tours of nearby nesting beaches as well as aquatic attractions, and sport fishing trips.

Terrestrial and aquatic transport. Anticipating the need to transport tour groups to dock facilities for boat departures, or to other nearby attractions such as the leatherback nesting beach at Doce Millas, a mini-tour van is recommended. A fleet of boats and motors appropriate for nearshore and open sea trips, for tour

and for sport fishing use will need to be acquired or leased from existing boat owners.

Docking facility. An attractive, accessible and conveniently located docking facility for the docking and security of the boat fleet will be needed. The facility should include roofing to protect the boats and the tourists from the elements, and interpretive/ informational signage to promote the services provided by the project.

Other capital equipment needs. All equipment needs for the administration, management and tour services of the project should be contemplated.

Tour and service offerings. The range of tour services that could be provided by the project should be determined and evaluated for financial feasibility. In addition to activities mentioned for the Visitors Center (above), these might include: nearshore marine tours to see mating turtles during turtle nesting season (May to August); offshore marine tours to view sargassum driftlines for hatchling turtles, predatory fish and seabirds (September to December); coastal boat rides to view seascape attractions of Limón, Cahuita, Puerto Viejo, Gandoca-Manzanillo, etc. (year-round); visits to nearby nesting beaches at Doce Millas, Pacuare and others; dive trips; and sport fishing trips. Equipment and training needs for these services must also be determined.

Training needs. The beneficiaries of the project already possess many skills that are transferable to this project: small business operation; boat operation and maintenance; navigation; knowledge of local culture and history; and knowledge of local wildlife (fish, turtles, plants, etc.). Many speak English and Spanish. Supplementary training needs should be determined, e.g. business/project administration; interpretive/educational skills and tour group management; handicraft production; etc.

Promotion needs. To ensure the financial success of the project, a marketing and promotion plan should be contemplated. Opportunities through the Costa Rican Tourism Institute (ICT) and area tourism chambers as well as independent efforts should be explored.

1.6 Objectives

The objectives for the Phase I planning stage of this project were:

Determine the feasibility of the development of an ecotourism project to be operated by former sea turtle fishers of Limón, Costa Rica, that would foster non-consumptive use of marine turtles and other biological resources and replace incomes formerly provided by local commerce in turtle meat and eggs.

Garner support and acquire feedback for the project concept from fishers, vendors and other stakeholders through consultative meetings.

Prepare a pre-proposal for the project's required infrastructure, technical assistance and training needs for the purpose of fundraising by the lead organizations.

1.7 Methodology

ASCIENPE and CCC hired the design firm Concepto Visual Integrado to prepare the feasibility study and pre-proposal for the project after conducting a competitive private bid process based on a jointly determined scope of work.

Concepto Visual Integrado had the primary responsibility of acquiring all the information needed to prepare the study and a project master plan, with assistance, when appropriate, from CCC and ASCIENPE.

A research plan was created for each aspect of the diagnosis to acquire information and process results. The opinion of the stakeholder groups was fundamental for the optimization of observations as well as for the conclusions and proposals. In consulting and interaction processes with the stakeholders, the short and long term planning objectives and visions were detailed. A process of informational and consultative meetings was followed.

In the study we tried to involve and take into consideration the majority of social and institutional groups, governmental as well as private. Meetings were held with involved entities in order to present the basic ideas of the project and to establish relationships with them, seeking their participation and integration into the dynamic of the project. The idea was to harmonize and facilitate the sound development of all stages and components of the fishers' tourism project.

Several marine and terrestrial field trips were also conducted during the research phase of the study, with coordination and assistance from CCC and ASCIENPE. The purpose of these trips was to experience possible tour activity options first-hand to analyze their feasibility, and/or to gather information regarding the tourism industry in the zone.

The feasibility study analyzes factors and situations that would affect the successful development of the fishers tourism project. Master plan recommendations and a detailed budget required for the successful implementation of the full project have been determined and described according to a format requested by ASCIENPE and CCC. The document is to be distributed to the partner organizations, donors, beneficiary group members, and other stakeholder entities and individuals with an interest in the project.

Four phases are contemplated for the overall project, with the following objectives:

Phase I:

Planning and Fundraising. To fully plan the project and determine the amount of funding required for implementation.

Phase II:

Construction and Training. (1) To provide the infrastructure and equipment required for the ecotourism project. (2) To provide training to target group members necessary for the successful operation of the ecotourism project.

Phase III:

Operations and Evaluation Ensure the financial and conservation success of the project. This will involve the ongoing monitoring of various indicators of success and making improvements where necessary.

Phase IV:

Outreach and Replication Disseminate experiences and promote similar or adapted projects for other turtle-dependent stakeholder groups in other range states where turtles are over-exploited**.**

ASCIENPE has indicated its interest in promoting and developing the ecotourism project and will collaborate with turtle conservation initiatives. CCC and ASCIENPE coordinated and implemented Phase I of this project, the results of which are reported herein. ASCIENPE will then take the lead to implement Phases II and III, with an economic development organization partner if necessary. Phase IV will depend on additional collaboration with conservation groups in the future.

2.0 PROJECT TECHNICAL STUDY

The project beneficiaries live around and work out of areas near the city of Limón. The proposed project will be developed in this area and all study and analysis pertains to the city and its immediate vicinity, unless otherwise noted.

2.1 Physical-climatic and environmental analysis

Rainfall.

In Limón province rainfall has been measured from 3000 mm/year in the coastal region to 4500 mm/year in the mountainous sector. In the coastal zone there are no distinct dry seasons although rainfall tends to be less from February to March, and in September-October. The rainiest months in the coastal and mountainous regions are July and December. In the North Caribbean Zone, rainfall can exceed 6500 mm/year. Minimums in precipitation there occur between March and April.

Relative Humidity.

The entire Caribbean region is Costa Rica's most humid area due to the constant entry of moisture transported by the trade winds coming in from the Caribbean Sea. As in the rest of the country relative humidity shows little annual variation. In Limón province it varies from 86 to 88%.

Wind.

Year-round, along the coast, the behavior of the wind is characterized by two systems: offshore breezes at night and onshore breezes during the day with the trade winds from the north, northeast and east and average speeds of 12 km/h. Port Limón has a local wind that blows in persistently from the southwest and west at around 5 km/hour (Coen 1983).

Hours of sunlight.

Values for the hours of effective sunlight in this region fluctuate between 4 and 6 hours on the average during the months of January to May. July is the month with greatest cloud cover and fewest hours of sunlight per day.

Temperature.

The average temperature of the region varies during the year from 25 to 27° C (77 to 80.6° F) on the whole coast. Minimum temperatures occur from December to February with average values of 20° C (68° F). Thermometers reach maximum values of 31° C (87.8° F) in the hottest months.

Hurricanes.

The Caribbean coast of Costa Rica is not prone to hits by hurricanes. The only hurricane to hit Costa Rica during the 120 years for which there are records was Hurricane Martha of 1969 (Coen 1983).

Landscapes.

Limón city is in Costa Rica's southeastern lowlands, a relatively narrow strip of land extending southeast from from Siquirres to the Panama border, between the foothills of the Cordillera de Talamanca and the Caribbean Sea. The Limón area was once covered with tropical lowland rainforest but the region was cleared some time ago for cacao and then banana plantations. Other land uses today include palm oil plantations, rice fields and cattle pastures (Sekerak 1996).

The urbanized tropical landscape of Limón center and the suburbs, and the agricultural systems of the environs do not offer many opportunities for visitors to appreciate natural and terrestrial ecosystems and wildlife. The Limón area itself cannot compete with the jungles, beaches and mountains and the wildlife of the zones to the north and south of the city, but it does provide access to those areas for tourists.

Coastal zone.

The Caribbean coast of the nation is fairly straight for most of its length. The beaches are steep and sandy, backed by scrub and coconut palms (see Figure 5). There are limestone outcrops and promontories around Port Limón and Cahuita and south of Puerto Viejo. There are only three small, isolated mangrove swamps, one of them near Limón city just north of Moín (Stiles & Skutch 1991). The coastal zone north of Limón city is made up of a complex of deltas, freshwater swamps and canals protected by a series of barrier beaches. There are fewer swamps and no canals to the south of the city (Mack et al in Foer & Olsen 1992).

The coral reefs of the Caribbean coast are located around the city of Limón and between the mouths of the Estrella and Sixaola Rivers, stretching from Punta Cahuita south to Punta Mona (Mack et al in Foer & Olsen 1992) (Sullivan Sealey

Figure 5. Section of coastline north of Limón (Photo: Oscar Cuevas).

& Bustamante 1999). An earthquake measuring 7.4 on the Richter Scale hit Limón province in April 1991, raising the coastline as much as 1.5 meters in some points. As a result, dead coral is exposed along the shore near the city and at other points along the coast (see Figure 6).

The continental shelf on the Caribbean side is quite narrow, with a fairly constant width of about 10 kilometers. There is very little tidal variation on the Caribbean coast (Mack et al in Foer & Olsen 1992).

Figure 6. The seawall at the eastern end of Limón city and exposed coral raised by the earthquake of 1991 (Photo: Oscar Cuevas).

Marine wildlife.

The seas around Limón city are still habitat for wildlife. Given the narrowness of the continental shelf along Costa Rica's Caribbean coast, the shallower, near shore waters are within 10 km of the coastline. In this area, the fishers pursue the following marine organisms: spiny lobster, shrimp, mackerel, Spanish mackerel, kingfish, snappers, groupers, jacks, tarpon, snook, fat snook, sharks, croakers or grunts, dolphin (mahi mahi), tuna, and barracuda.

Of the aforementioned species, the most commercially valuable are the spiny lobster, shrimp and the reef fish (snappers and groupers). Tarpon is not usually sold in the market but is a very important sport fishing species, along with the snooks. Shrimp are not exploited much in the area because rough seas and depth are problematical, along with difficult weather. When it was permitted, green turtle fishing was a fairly lucrative industry, particularly for the intermediaries. But turtle fishing was always abandoned as soon as the lobster started to appear. Spiny lobsters are not resident in the region but rather migrate in during December and January. Although the season is short, it is usually very lucrative. However, the last two lobster seasons were both very poor, for reasons unknown.

Green turtles, hawksbills and loggerheads are seen in the nearshore waters of Limón, especially around Uvita Island. Adult green turtles spend most of the year at their seagrass feeding grounds around the Miskito Cays, Nicaragua, but they migrate down to Costa Rica for the nesting season. Most nesting females deposit their eggs on Tortuguero beach, north of Limón. From June through August-September, green turtles are particularly abundant in the waters around Uvita where copulating pairs are often seen (see Figure 7). Traditionally, the fishers from Limón would hunt the green turtles using hand-thrust harpoons. Upon successfully striking a male turtle, they would sometimes get the female in his grasp as well. Because the weather in the area is particularly bad during the June-September period, the green turtles provided the only viable fishery for the local fishers. This is because the turtles frequent the near shore waters and tend to bob near the surface where they can be quickly harpooned. Hawksbills were long exploited for their shell, which was used to make jewelry and other trinkets for local sale, or exported to Japan for use by tortoiseshell artisans. Once abundant, hawksbills are now on the verge of extinction as a result of this use. All sea turtles are protected along the Caribbean coast of the nation, although some illegal use still occurs.

Due to lack of adequate vessels and equipment, pelagic species are rarely exploited in the region at present, but include: tuna, swordfish, sailfish, pelagic sharks, dolphin (mahi mahi) and barricuda.

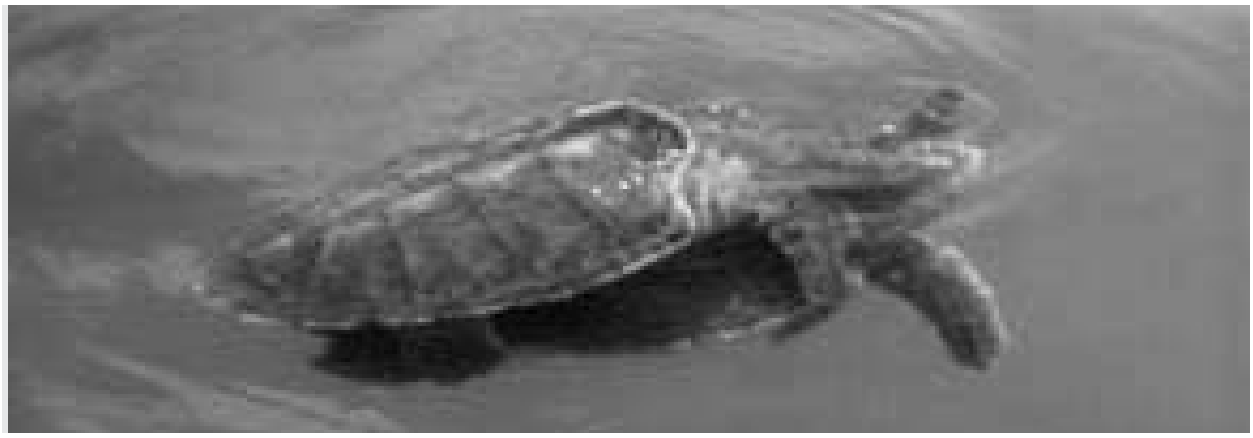


Figure 7. Pair of mating sea turtles. The male clasps the female from behind.

2.2 Consultative meetings results

Below we present a brief description of the activities and conclusions of some of the visits carried out under the framework of investigation.

Fishers groups - Three formal meetings and countless individual informal interviews were conducted with local fishers regarding the project concept, tourism development and specific project proposals (see Figure 8). Response from the fishers was pos-

itive and enthusiastic, particularly with respect to the possibility of their offering marine tours to see mating turtles. This is one service they can offer that is most familiar to them, and in a sense, it will give them an opportunity to "rescue" a bit of their culture that is presently denied them, out of necessity to protect the turtle populations. Given problems with weather in the area, they expressed concern that their judgment be respected should they decide that a particular tour not be made due to bad weather considerations. This concern is valid and in any future operations, they will have to have a means of reimbursing tourists, at least partially, for excursions that are canceled under these circumstances. They also suggested that an inland river from Limón to Westfalia (a village south of Limón on the edge of a large wetland area) be investigated as a possible route for aquatic tours. This river has been closed to navigation and fishing for some time, and would have to be cleared to be made navigable, but this might be an option for the future. It would transit an area where there is interest in creating a private wildlife refuge and should be of interest for nature observation.

We also reiterate here that the fishers indeed already possess some skills that will suit them in a tourism project. They are knowledgeable about the coast and landscapes, local culture, sea life, boat operations and repair, and navigation. Many are of Afro-Caribbean descent and as such, speak English as their first language. Their association has already begun organizing training programs for them in small business administration to support the operations of the fish processing plant. A small number are already involved in tourism operations as a sideline, through involvement in family ventures. They are providing services to visitors from the cruise ships and other tourists at Moín dock, giving tours in the canals nearby or transporting groups to Tortuguero or Barra del Colorado. These fishers have benefited from guide training courses, courses in first aid, and besides being a training resource for the other fishers, they have contacts in the industry that can help provide specific training sessions.

Figure 8. Oscar Cuevas presenting the fishers tourism project plan to fishers at the Cieneguita processing plant (Photo: Lucinda Taft).

Limón Development Association - Contact person - Edwin Patterson. This institution is comprised of merchants, entrepreneurs and other collaborators in the zone. We discussed the project concept with them and noted their interest in cooperation, logistically and in activities. They are in the process of developing a tourism activity that may further integrate Port Limon in the industry. They are in the process of preparing a regulatory (zoning) plan for the coast between the Cieneguita and Tuba Rivers. Along the 26 kilometers of coast, a series of local activities are being planned that include the establishment of a wildlife refuge with an area of 1056 hectares that will serve as a center for biological observation in the coastal zone between the two rivers.

Puerto Viejo Chamber of Tourism - Contact person -Ms. Aurora Gámez - Most of the tour operators and hoteliers of the province of Limon are members of this organization. The Chamber seeks to integrate all development activities for the zone, unifying the diverse institutions involved with local tourism. Their position with respect to the project proposed here is a bit skeptical given the countless empty promises that governmental organizations have made for the zone, as products of political campaign strategies and that have not been implemented in posterior administrative periods. In any case, the Chamber appears to be active and open to collaboration with the project. Presently, they are seeking funding for the construction of shelters along the seawall in Limón that will house artisans and refreshment vendors, as part of the project described in section 2.4.5 of this document.

Costa Rican Tourism Institute (ICT) - Contact person -Ms. Nuria Gutiérrez, architect. - This governmental institution is in charge of the planning and administration of tourism activities and infrastructure in the entire nation, as well as promotion of the industry internationally. Within ICT's plans for 2002, there appears to be high interest in the development of the Costa Rican Caribbean zone. ICT's institutional planning documents for the nation and the region are commented upon later in this document. They also expressed interest in the integration of the fishers project into the tourism development plans that the government has begun implementing in the Caribbean zone. These projects are the Fishery Multi-Service Terminal at Portete Bay and the Tourist Walk along the boardwalk by Vargas Park (see the information in section 2.4.5). The intentions of the fishers project have also been proposed to ICT unofficially and they are considering the proposal.

Atlantic Coast Port Authority and Economic Development Board (JAPDEVA), - Contact person - Mr. Juan Ramón Rivera - This multi-disciplinary institution is in charge of the design and implementation of most of the economic development projects in the zone. Excellent technical collaboration is available from this agency, specifically with respect to engineering and knowledge about the characteristics of the zone for eventual constructions. From the personnel we received complete assistance with resources regarding topographic information, characteristics of tides, and information on development plans in process. The agency also controls funds for certain projects. It should also be noted that the fish processing plant renovated and now operated by ASCIENPE at Cieneguita was acquired as a concession from JAPDEVA and JAPDEVA

is currently providing considerable technical assistance to the fishers other projects in development.

Economic and Labor Reactivation Plan for the Province of Limón (PRELL). The PRELL is an initiative of the Government of Costa Rica, JAPDEVA, Instituto Mixto de Ayuda Social, and the Movimiento Limón en Lucha. This agency helps develop projects for various economic sectors in the region and facilitate their relationship with the department of development and promotion of JAPDEVA. PRELL is coordinating various economic projects for the region and seeking complementary financial resources for them. A PRELL representative attended meetings regarding this project and indicated interest in becoming involved.

2.3 Field trip results

The first marine trip in late September investigated the marine section south of Port Limón (Moín) to Sixaola, Panama with stops at Cahuita and Puerto Viejo and Manzanillo and the section north of Port Limón to Tortuguero. The second field trip explored the Tortuguero area and the canal system connecting it with Moín. The third field trip in mid-October looked into the attractions on land in the section south of Limón and allowed meetings with stakeholder groups. The fourth field trip in early December was a marine trip to the zone in the open sea where currents traveling in opposite directions occur. The seaweed rafts that accumulate in this zone have an interesting fauna that accompany them and tours there could prove to be a unique ecotourism or scientific tourism opportunity.

FIELD TRIP ONE -- South Caribbean Zone

At the end of September 2001, ASCIENPE and CCC organized a marine trip along almost the entire Caribbean coast of Costa Rica for CVI consultants. The objectives of the trip were to: a) obtain a broad vision of the natural and cultural resources of Costa Rica's Caribbean coastal and marine zone; b) identify elements in neighboring zones that might be integrated into or compete with the fisher's tourism project in development; c) become acquainted with key actors and their activities in the tourism and natural resource management sectors; and, d) acquaint the consultants with the project's partner organizations (ASCIENPE and CCC) capacities and limitations.

Boat transport for the trip was arranged by ASCIENPE. The trip was conducted in an 8-meter fiberglass skiff with a 115HP outboard motor ordinarily used for fishing. The weather was sunny and clear and the sea moderately choppy, representative of conditions under which one might want to make an ocean excursion.

The boat left from Moín port in the morning, headed out to sea and traveled around the seaward side of Uvita Island (see Figure 9). The first half of the day was spent traveling from Moín to the Gandoca-Manzanillo National Wildlife Refuge area, near the Panama border and back to Limón. Along the way, the boat approached, but did not make land, at points such as Cahuita and Puerto Viejo. Landings could be tricky at these sites if seas are rough, so future plans may need to include docking facilities at these sites.

In the waters in the immediate vicinity of Limón city, and throughout the trip, green and hawksbill turtles were frequently seen surfacing for air. Copulating turtle pairs were not observed as it was too late in the season, but these are abundant in the nearshore waters by Limón city and Uvita Island and predictably seen from June to August. Dolphins were often seen breaching the waves, individually or in small groups. The skill of our local fisher guides at spotting wildlife was impressive. The natural landscapes of the coastline, the mountains beyond, the cityscape of Limón and the villages along the way, present ample opportunities for interesting interpretation by guides. We also approached a fisherman in a dugout using a hand-line offshore from Puerto Viejo and it occurred to us that excursions could include visits to fishers in their boats, plying their

Figure 9. View of Uvita Island from Limón city (Photo: Oscar Cuevas).

trade using this and other techniques. The time required to travel by boat from Limón to any of the points to the south is not excessive so there are opportunities for excursions as short as a half-day or even a few hours.

The second half of the day was spent traveling from Limón to Tortuguero some 80 km north, by open sea. In contrast with the trip to the region south of Limón, this segment was neither interesting nor comfortable. Surfacing turtles and dolphins were observed along the way, but little else. Just offshore in the area between the mouth of

the Tortuguero river and the village we spent a long time enjoying many turtle sightings. But during the journey there, the coastal landscapes along the way are not as scenic if not downright monotonous and the journey requires three to four hours to complete. The long stretch of black sand beach along the north coast is not appealing to those who would come for surf and sun and the currents there are very dangerous to swimmers. The few villages along the way are mostly small and usually set back a bit from the wave-thrashed shore.

Travel between Tortuguero and Limón is almost always carried out via the inland waterway, a canal that was opened in 1975. The trip via canal offers opportunities to see abundant wildlife in the tropical rain forest and palm swamps that it traverses and is a much more interesting route for visitors. Plus, the trip by canal can usually be made even when the weather is bad. We do not see any potential for marine excursions to the zone north of Limón. To the extent there might be potential for the fishers to fulfill a need for transport between Limón and Tortuguero or other points north, this should be effected via the canal route that also departs from Moín port. In fact, a few fishermen are already involved in providing boat transport and tours to points north of Moín and as far away as Tortuguero and Barra del Colorado.

FIELD TRIP TWO -- North Caribbean Zone

In Tortuguero, we had opportunity to see the local tourism infrastructure, nesting green turtles on the beach at night, and the National Park. Most of the nesting beach and rainforest is within the park and off-limits to development, thus the ecosystems and wildlife that draw visitors will be protected in perpetuity. The area developed for tourism is just north of the park boundary and includes the village. Development there has been unregulated and haphazard, particularly in the vicinity of the village and as such, the area has lost much of its former cultural charm.

Despite the problems with development, regulation of tours on the beach at night to see the nesting turtles is very good. Guides must be certified and for this they must participate in a training course that is offered by the Conservation Area, with assistance from CCC. Guides must get tickets from the park for their tour groups as only a certain number of visitors are permitted in an evening. Tours are limited to the hours of 8-10 pm and group size may not exceed 10. The visitors are not allowed to use flashlights under any circumstances as these are highly disturbing to the turtles. Fishers from Limón could benefit from the Tortuguero training course on sea turtles, by either arranging to attend the course when it is offered, or arranging with the park and CCC to offer a special course in Limón for them.

Apparently there is sufficient lodging for visitors to Tortuguero during the turtle nesting season (July to September) but the hospitality facilities are under-utilized during much of the rest of the year even though visitors could enjoy other natural attractions. It

would benefit the area to encourage more visitation during the non-turtle months rather than expand infrastructure further to accommodate more visitors in the high season only. Most visitors arrive in Tortuguero by air taxi or by bus/boat combination through Caño Blanco (an inland port on the Parismina River). Either way, during the high season the transport cost one-way is approximately $50/person. Neither of these options requires passing through Limón. If Limón itself were better developed as an attraction in itself, and if the fishers could offer competitive prices, there might be an opportunity for the fishers to provide transport services to Tortuguero.

Our return trip to Limón from Tortuguero was in a typical tour boat through the canals that took three hours. The rainy weather underscored the need to have roofs on the boats. Other comfort considerations for passengers include seats with backs, cushions that serve as seats as well as flotation devices in case of emergency, waterproof ponchos, and possibly a cooler with water and liquid refreshment.

Once back in Limón, we toured the city to find potential sites for locating the base of operations for the fishers tourism project. Anywhere in the city center near the municipal park, the central market, the seawall, and/or the boulevard would be advantageous in that visitors to the city would be likely to walk past the site. Unfortunately, there do not appear to be suitable sites available and if there were, cost is likely to be very high compared to other locations. In a section north of the city center and west of the hospital, a very beautiful complex is under construction as a tourist facility and there may be a building available at this site. However, the site is not on the regular route walked by visitors and is far enough away that vehicular transport would be necessary to take visitors there and to other places from where they would depart for excursions.

We also visited the fish processing plant now renovated and functioning near the Cieneguita River bridge on the main road out of the city to the southern Caribbean zone. The plant site itself may have possibility for the tourism project, as it is only a few blocks from the city center and has plenty of space for the development of new infrastructure. Also, it is on the Cieneguita River near the river mouth such that docking facilities for the tour services as well as the fishing operations could be provided at the same site.

FIELD TRIP THREE -- Limón City and South Caribbean Zone

In mid-October, CVI consultants traveled to Limón to investigate the terrestrial resources of the southern Caribbean zone of Costa Rica and the existing infrastructure for possible integration in the project. ASCIENPE assisted with logistical coordination. Limón's Carnival celebrations were underway during this visit. This annual event provides much cultural richness to the attractions in the zone.

We also had an opportunity to witness the inauguration of the vessel "Solidaridad". This fishing/research vessel is being used for a project by the National

Apprenticeship Institute (INA) to assess the feasibility of pelagic fishing. Financial assistance for this study has been provided by the Chinese Mission (Taiwan) and JAPDEVA. The vessel will be spending up to eight days fishing at sea on each trip, and will make perhaps two trips to sea per month from January to June 2002. The fish that are caught will be sold at auction when the ship returns to port. The results from this study, when available, may indicate additional fishing opportunities for the area, if proper equipment and vessels can be acquired. During the official inauguration of the boat, the two other projects that are being developed to help fishers were also presented to the community--the Portete Fishery Multi-Service Terminal and the Tourism Plaza Project "Crucible of Dreams". These projects are described in section 2.4.5 of this document.

Later, we attended the official inauguration of the newly renovated fish processing plant on the Cieneguita River that ASCIENPE now has in operation. We reviewed the facilities there, giving thought to the possibility of this site serving as the base for the tourism project.

For the rest of the trip, the southern zone of the province was toured for the purpose of identifying infrastructure resources for tourism activity and also possible sites for secondary docking areas to support transit and tour activities and others that would depart from our center. The roadways all the way to Puerto Viejo were in very good condition and travel time was relatively short. There are many hospitality services (lodging, restaurants, bars, managed attractions) in the area and improvements are underway.

Cahuita, Puerto Viejo and Manzanillo offer the greatest variety of attractions, however none offer public docking facilities at present. Some hotels have their own dock installations that according to the maritime-terrestrial zone law must be accessible to the public. In practice, this is not always the case, so it may be necessary to make arrangements with hotel owners if the use of these facilities is deemed necessary. Otherwise, it may be necessary to work with JAPDEVA for the establishment of docking facilities at these villages.

We also noted that despite the variety of attractions, no one is offering activities and services such as those contemplated for this project. This should present an advantage in the competitiveness of this pioneer project.

FIELD TRIP FOUR -- "Two Waters"

In early December, we made a trip two hours offshore from Limón to a spot the locals call "Two Waters". This is a place in the open sea where opposing currents meet and great rafts of sargassum seaweed accumulate at the interface of the two currents in driftlines (see Figure 10). Dr. Archie Carr III, eldest son of the late Dr. Archie Carr, Jr. who pioneered study and conservation of the green turtles at Tortuguero, recalled his father's trips to the sargassum driftlines to search for newly hatched turtles. Struck by

the marine and avian faunas associated with these huge seaweed mats, Dr. Carr III suggested that they might make interesting tourist attractions and provided the impetus for our trip.

The senior Dr. Carr's interest in the driftlines stemmed from his hypothesis that the rafts were developmental habitat for sea turtles during the first years of their lives. Baby turtles, after making their way out of the nest on the beach, cross the sand, enter the sea, swim frantically out past the breakers, and disappear. Little turtles are rarely seen again until they show up on feeding grounds the size of dinner plates. Dr. Carr called this period of their lives "The Lost Year" although it probably corresponds to several years. Sporadic data and anecdotes suggested the little turtles were spending this time passively floating around the seas in the sargassum rafts that accumulate at convergence zones of adjacent currents and Archie Carr believed that the early stages of sea turtle life were pelagic.

The sargassum rafts or mats often form at the shoreward walls of major currents. They appear seasonally in predictable places and are later broken up by wind and wave action. They may reach four feet thick. Some of the rafts in major currents may float around the seas on global circuits. Others may remain in local gyres.

A lot of biological activity is seen at these mats, probably because there are usually vertical currents associated with them. Upwelling would bring nutrients and animals to the surface and attract sea birds. Downwelling would gather bouyant materials like the sargassum as well as planktonic life forms and other food organisms/items that could attract other marine animals. As such, the driftline habitats have a rich biota and it does appear that the little sea turtles enter the mats and remain in them for some time along with other pelagic species, littoral fishes and the eggs and larvae of other marine organisms. The convergence zones with sargassum driftlines also appear to be important to birds that migrate across the ocean and to pelagic fish such as tuna and billfish. Unfortunately, debris also tends to accumulate in these zones, bringing the organisms living there into intimate contact with marine pollution (Carr 1986).

We were fortunate to have beautiful weather and relatively calm seas the day of our trip. We headed straight offshore from Moín port for two hours (approximately 40-50 miles). The first clue that we were nearing the "Two Waters" was the reappearance of sea birds. Several species of gulls and terns were flying about, along with some brown boobies. We soon came upon large mats of sargassum, somewhat broken up by the wind and waves. The largest mats we saw were oblong, some 30-50 feet long, and probably a couple of feet thick.

As we drifted close to one large mat, the first creatures we saw were saucer-sized green turtles in the water that darted under the mat as we approached. Indeed, the first creature we saw atop the mat was a recently hatched green turtle. We were able to approach and capture it for a closer look before releasing it back to the mat.

There is a striking visible difference in the waters of the two currents, thus the name "Two Waters". The water in the current on the shore side appeared dark and murky, whereas the water on the offshore side was bright blue and clear. Many species

Figure 10. View of sargassum mats at "Two Waters" (Photo: Sebastian Troëng).

of small fish (unidentified) hovered under and about the mats. An aquascope (dark box with a glass bottom) would have been handy to get a better look at the fish under the mats. We could see schools of larger fish, such as yellowtail snappers, swimming at deeper levels below the mats. The sudden appearance of a shark scared off all the fish for a while. We did not see the sea birds approaching the sargassum mats while we were there, but they were definitely active in this zone. Undoubtedly, diving around these mats would be fascinating but the presence of sharks prevents this option.

Another impressive feature of the sargassum mats is the amount of rubbish and other man-made items that get caught up in the floating seaweed. Plastic and rubber items are common as they do not break down easily and probably spend many years floating around the seas on these mats. Tar balls were also seen. At varying depths under the mats, plastic bag and paper fragments can be seen in the water, dragged along by the current along with the sargassum on the surface. The experience is an effective environmental education lesson on the importance of not contaminating the oceans. Little additional explanation is required after viewing the situation at the "Two Waters".

We were fascinated by the wildlife associated with the mats and spent a couple of hours exploring the life on various mats before heading back. Good weather held for the return trip and the mountains of Costa Rica provided a beautiful back drop as we returned to shore.

Comments on the suitability of "Two Waters" as a tourist attraction

The trip to see Two Waters would probably have limited appeal to the average tourist. The journey out and back is long without much to do or see. The gasoline needed to power a seaworthy boat cost nearly US$300 making the trip quite expensive. Although our luck with weather was good, weather and sea conditions could often make the trip impossible. Some thought should also be given to the possibility of fast approaching squalls striking while a boat is that far out. Good regional maritime weather information is not currently available in the area.

Weather conditions aside, the trip might have more appeal for the average tourist if it could be made in a rapid sailboat or catamaran, with refreshments served on the return trip. It should be noted however that sailing vessels are rarely seen along this coast, for which there might be good reason. Furthermore, although sailing trips might present an option for some adventurous entrepreneur, this is probably not an activity that the Limón fishers would want to offer.

We do envision one option to develop Two Waters as an attraction that the fishers could offer, as a scientific tourism opportunity. Little is known about the driftline habitats and their importance to the developmental ecology of sea turtles during this stage of their lives. Little, if any research has been conducted in Costa Rica's Caribbean waters and studies in this area could provide insight about commercially important fish and crustacean stocks. If an association with a marine ecologist or graduate student interested in conducting a thorough study of this phenomenon could be established, tour packages could be developed whereby visitors would participate in the research program with the scientist for a day (or longer). The scientist would give an introductory talk about the driftline habitats and orient the participants on the research and sampling activities they would assist. Fishers would provide the boat transport to the zone, and the revenues generated from the package fees would cover the high cost of travel to the zone. Given the potential for viewing pelagic birds not otherwise seen on shore, the packages could also be promoted to life-listers and other birders.

2.4 Analysis of tourism in the nation and the region

2.4.1 The tourism industry in Costa Rica

According to the Costa Rican Tourism Institute's (ICT) institutional planning document for 2002, the national tourism industry can be characterized as follows:

Tourism is a growing industry in Costa Rica. In 1999, Costa Rica had growth in tourist arrivals greater than the world average and the nation was consolidated as a world leader in receptive tourism. Visitors exceed one million for the year and revenues surpassed one billion dollars. Preliminary data for 2000 show growth of 7.6%, a little lower than growth in 1999 (9%) but still double the global average of 4.5%. Revenues

showed similar growth -- 20.8% for 1999 and 14.2% for 2000. All indicators of tourism for recent years show sustained growth, particularly in international tourist arrivals.

Investment in tourism is also growing. Average growth in tourism investment (lodging, eateries, tour agencies and operators, aquatic transport and rental cars) for the last six years was 39.3%. For the year 2000, tourism investment was $38 million (50.3% growth). There was participation in all the provinces, except Limón.

Costa Rica is one of the leaders in the world tourism market. Costa Rica receives more visitors than any other Central American nation. It was number 19 in the world market in 1990 and moved to position 15 in 1997 and 1998. For the "beach" market, its main competitors are: the Dominican Republic, Cuba, the insular Caribbean, Cancun and Hawaii. For the "nature" market competitors include: other Central American nations, Africa, South America (especially the Galapagos islands, Peru and Brazil), and some U.S. destination.

Most foreign visitors come from North America. In 2000, 46.6% of tourists to Costa Rica were North American, with 38.8% from the United States. Central American tourists are 27.4% of the market, Europeans 13.8%, South Americans 8.6%, and Asians 1.9%.

Cost and stay. In terms of cost, Costa Rica is one of the more expensive nations to visit on the continent. Average tourist stay has been approximately 10 days (1994-2000) while average daily expenditures increased from $84/day in 1994 to $103.50 in 2000.

Tourism is one of the most important sectors of the Costa Rican economy. Since 1997, revenues generated by tourism have exceeded those from export products such as coffee, beef, sugar, banana, farm products and seafood. Tourism revenues represented 15-19% of Costa Rica's export total. In 2000, the industry was providing some 140,000 jobs (10.6% of Costa Rica's work force).

Security is comparatively high. Generally, Costa Rica has one of the lowest crime rates of the American nations. However, violence and crime increased from 28.7 incidents per 100,000 inhabitants in 1983 to 136.8 incidents per 100,000 inhabitants in 1997. Costa Rica has a better image with respect to security and safety than other Central American nations.

Future projections for the industry through 2010. Globally, international tourism arrivals are expected to double by 2010 over 1990 levels. For Costa Rica, projections show that by 2010, the nation will be receiving between 2 and 3.1 million visitors, depending upon what happens with the industry in the nation, competitors, economy, etc.

ICT's recommendations for the future development of the industry. Based on the analyses presented in their study, ICT recommends, among other things, that Costa Rica:

- seek more sophisticated diversification of the nature tourism market, a sector in which it is a global leader.

- seek to improve quality in services and visitor experiences, in the nature market sector.

- promote the use of other destinations in the nation, especially in under developed areas, and along with this, stimulate different and innovative concepts that can strengthen the diversification of the product.

- ensure that tourism growth responds to the interests of the local as well as tourist populations with respect to its effect on the environment, local culture and economy.

- give priority attention to encouraging and providing incentive to small businesses, cultural manifestations, handicrafts, community customs and ways of life, in order to guarantee local participation and increase the quality of life for Costa Ricans.

2.4.2 Tourism on Costa Rica's Caribbean coast

ICT's tourism development plan for Limón province analyzes tourism of Costa Rica's Caribbean coast with respect to attractions, hospitality facilities and services, visitor profile, infrastructure status, limitations and potential. Based on the analysis, recommendations are made and an action plan proposed. The plan encompasses six major sites along the coast, listed here from north to south: Barra del Colorado, Tortuguero, Parismina, Cahuita, Puerto Viejo, and Gandoca-Manzanillo (see Figure 11). These are described in more detail below. Curiously, the plan does not include Limón city as a tourism attraction. ICT's plan considers the city as simply a "center of distribution", that is, a departure point for the other destinations. As such, it is not included in either the analysis or the plan.

We describe the tourism industry of the Caribbean coast here and take into consideration how existing and potential attractions, services and infrastructure might affect the proposed fishers tourism project.

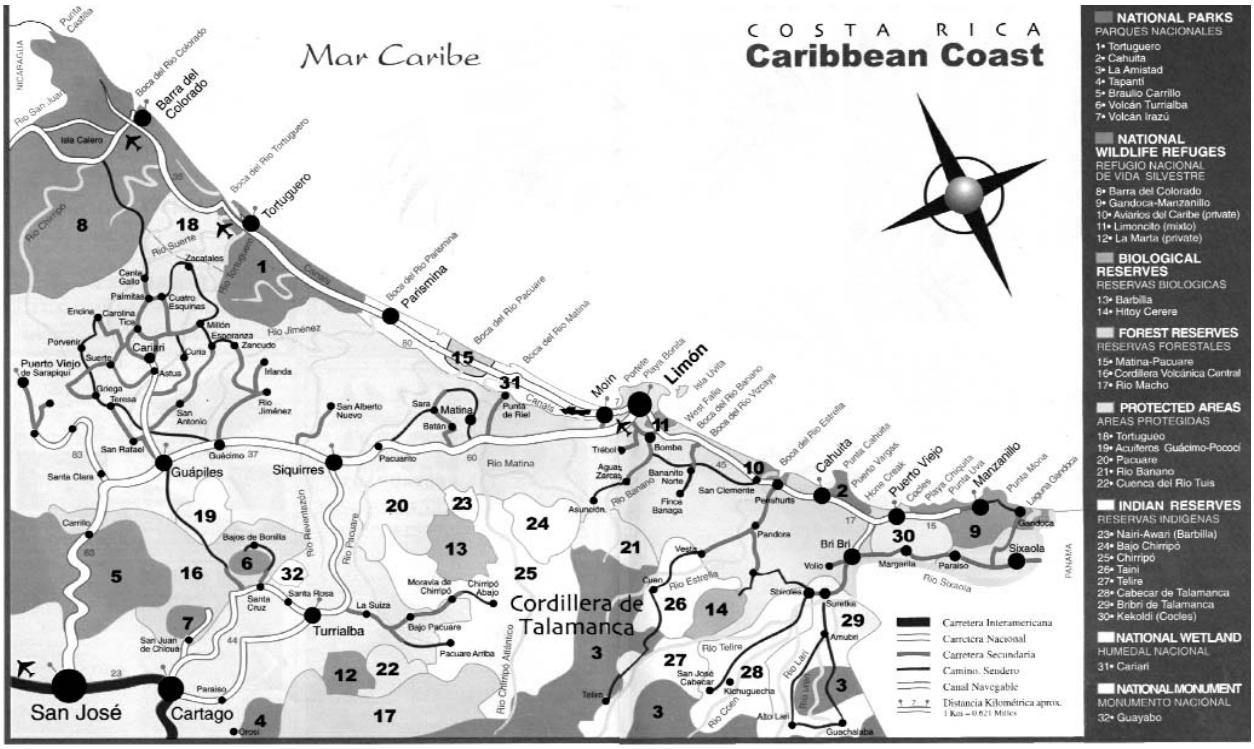


Figure 11. Map of the Caribbean coast of Costa Rica showing protected areas and tourism attractions.

2.4.2.1 North Caribbean zone -- Barra del Colorado and Tortuguero

Barra del Colorado. In the northeastern-most tip of Costa Rica, along the Nicaraguan border, is the Barra del Colorado National Wildlife Refuge (92,000 ha). The village of the same name has an airstrip and a general store but little else. Several local lodges cater to sport fishers, mostly from North America, who come for the world-famous tarpon and snook fishing. Tarpon season is from January to June and September to December. Although wildlife can be enjoyed here, nature tourists tend to go to Tortuguero leaving "Barra" to the fishers. The refuge links important wildlands in Nicaragua with the rainforests of Tortuguero National Park and other protected areas to the south, forming one of the largest intact expanses of natural vegetation in Central America and a very important section of the Mesoamerican Biological Corridor. Visitors to the area seldom arrive from Limón although it is possible to get there on the inland waterways. Most tourists fly in on half-hour flights in air-taxis or charters from San Jose. Apart from sport fishing, the area has not developed any other attractions, so visitors tend to come solely for this. Some tourists come up from Tortuguero by boat to visit the area for a day.

Tortuguero. The beach at Tortuguero, 83 km north-west of Limón, acquired a measure of fame in the 1950s when zoologist Dr. Archie Carr began to study the green turtles that nest there. He wrote and published widely, in both scientific and popular articles about the work he, his students and colleagues, and the villagers of Tortuguero were

carrying out to learn more about these large reptiles and to save them from extinction. As such, the area is well known and well visited--some 50,000 tourists visit the site annually.

The green turtle nesting population at Tortuguero is the largest remaining in the western hemisphere and the organization that Dr. Carr helped found, the Caribbean Conservation Corporation (CCC), continues monitoring the nesting turtles and working for their protection with the Costa Rican government, the local people and many international volunteers and students.

Tortuguero National Park (18,950 ha), created in 1975, protects the turtle nesting beach, lowland tropical rainforest and palm swamps, and abundant wildlife including large "charismatic" species such as jaguars, pumas, tapirs, peccaries, howler monkeys, spider monkeys, white-faced capuchins, sloths, and possibly giant anteaters, among others. Night tours to sea the nesting sea turtles are conducted by guides that are trained and licensed by the park with assistance from the CCC. Group size is limited, flashlights are not allowed and the great care is taken not to disturb the turtles on the beach.

There are several hotels, and many cabins, bars and restaurants, to the extent that the village is becoming rather overcrowded with these establishments. Most visitors come for the green turtle nesting season (July to September) or the Caribbean high season (December to April), and some come for the leatherback nesting season (March to May). In contrast to other attractions in the region, most visitors to Tortuguero do arrive in tour packages (61.6%). May, June, and October to January are slow months for tourism at Tortuguero even though there are other activities to enjoy in the absence of the nesting sea turtles. However the beach is not suitable for bathing as there are dangerous currents and sharks.

Visitors arrive by air or by bus-boat combination through Siquirres. Some travel by boat to the area from Limón. Travel to the area by this route is not as common as it used to be. The 1991 earthquake in Limón raised the coastline 1.5 meters in some places and there are still areas of the canal near Parismina that are difficult to pass. A few boat operators offer transport to Tortuguero from Moín dock in Limón to any comers.

Parismina. Parismina is a small fishing village half-way between Limón and Tortuguero village, near the southern end of Tortuguero National Park. It is known for tarpon fishing. Access is via inland waterway from Moín or from inland ports near Siquirres on the Parismina River. Siquirres can be reached by bus or taxi. The beach has nesting sea turtles as well, but until recently, these were heavily harvested. In 2001, the Costa Rican Coast Guard began to patrol the area and work with the local population to run a turtle hatchery and protect the turtles.

2.4.2.2 South Caribbean zone - Cahuita, Puerto Viejo, Gandoca-Manzanillo

Cahuita. Cahuita is 43 km south of Limón on a paved highway in fairly good condition. Bus services from Limón and San Jose run regularly. The predominantly Afro-Caribbean village and the beaches there have attracted tourists for some time, even when access was poor. North of Cahuita National Park, the beaches (see Figures 12 & 13), have black (volcanic) sand. Many lodging, bar and eating facilities exist here, along with other attractions such as a sloth sanctuary, orchid garden, organic fruit farm, horse and bike rentals, artisans and glass-bottom boat tours. Cahuita National Park is co-managed by the government and the villagers. The park protects white sandy beaches, wildlife that includes monkeys, sloths and many birds, and a coral reef. The reef is in poor condition as it was subjected to siltation and contamination from banana plantations for many years. Uplifting of the coast during the 1991 earthquake also damaged the reef. There are trails around the coastal forest in the park and a camping area.

Puerto Viejo. The fishing village of Puerto Viejo is 18 km south of Cahuita. There is regular bus service from Limón and San Jose. The beaches here and other beaches to the south (Cocles, Chiquita and Uva) are the main attraction. Inland communities are influenced by the culture of the indigenous Bribri and Cabecar people of the Talamanca mountains. This area also has many lodging, bar and restaurant facilities and offers a few other attractions such as botanical and butterfly gardens, nature tours, dolphin tours, birding, bike and horse rentals, surfing, snorkeling and sea kayaking, and trips to the indigenous reserve. As in Cahuita, there are occasional programmed events and festivals any many people come to enjoy the Reggae and Calypso music that pervades the area.

Gandoca-Manzanillo. Another fishing village 13 km south of Puerto Viejo, Manzanillo is associated with the Gandoca-Manzanillo National Wildlife Refuge. Tourists can enjoy beaches and wilderness in the area. Attractions there are similar to those of

Figures 12 & 13. The white sand beach of Cahuita National Park and information center (Photos: Oscar Cuevas).

Puerto Viejo. The area also has coral formations offshore, and four species of sea turtle nest here. A leatherback monitoring project has been functioning here for many years and volunteer tourists assist the project with its functions.

2.4.2.3 Puerto Limón - city center

The steamy tropical port city of Limón has a number of cultural attractions that are not well-developed and have not been exploited much to date (see Figure 14). Limón city is usually considered a mere departure point for the other "beach" and "nature" tourist attractions to the north and south. Tour guidebooks often describe the city as run down, shabby and characterized by neglect. There are problems with housing, sanitation, and crime, but changes are underway and the city is slowly become more secure and aesthetically appealing, perhaps stimulated by the increasing numbers of cruise ship arrivals there. ICT says that 255 boats (500,000 visitors) will arrive in Costa Rica this year, most of them docking in Limón. Cruise ships remain in port for 6 to 12 hours, and there are opportunities to provide services to these visitors. At present, most entertain themselves for a few hours strolling about the city center. A few have time to take advantage of short tours in the canal near Moín, and some have bought pre-paid packages for this purpose. Many more could be accommodated if promotion and services were more available.

Despite plans for tourism improvement that have been in the works for a long time, ICT does not include Limón city in its institutional planning document as a tourist destination. As it would be the location for the fishers' tourism project, we describe its potential here.

The region is culturally diverse with multi-ethnic groups and rich local history. Christopher Columbus landed at **Uvita Island** on his fourth and last voyage to the Americas in 1502. Uvita is a forested island just offshore next to the city. Until the mid-eighteenth century, the coast was plied only by merchants and pirates. It did not begin to develop until the late 1800s when a railroad was constructed to take coffee beans from the central highlands to Limón for export to Europe. Banana plantations were established to finance the cost of laying the track. Many groups came to work the railroad and banana plantations--Costa Ricans, Chinese, East Indians, Italians, Jamaicans and other Caribbean islanders. Many Afro-Caribbeans stayed to work the banana plantations and today make up about 30% of Limón's population.

In recent years, the old train was used to carry tourists between San Jose and Limón until the earthquake of 1991 damaged sections of rail. Attempts to revive the **"jungle train"** route have not borne fruit yet, but occasionally the locomotive and one car are used to ferry tourists around the city center in Limón.

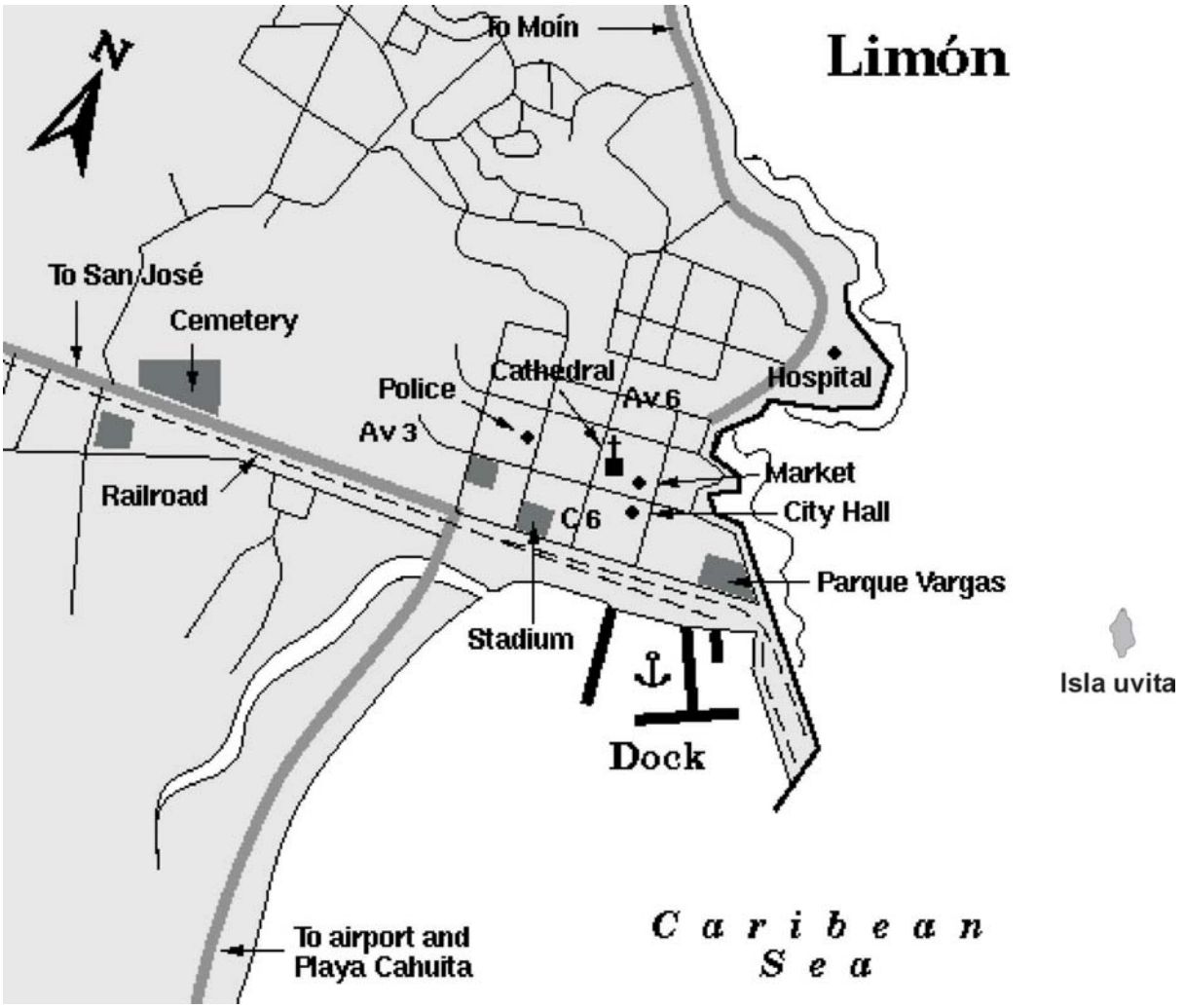


Figure 14. Map of the features and attractions of Limón city.

The eastern part of the city juts out into the sea where it is protected from the wind and waves by a **cement seawall**. This section is convenient to the cruise ship dock and the bus terminal. By the seawall is an **amphitheatre** where concerts are occasionally held. Nearby is **Vargas Park**, a quaint and beautiful municipal park with a bandstand kiosk, various sculptures and a stunning but deteriorating mural about the history of the city. Along the north side of Vargas Park is the **Boulevard,** where pedestrians can seek out bars, restaurants, hotels and souvenir shops. Walking down the Boulevard toward the city center takes one to the ***Market*** and from there to the **Post Office** where the **Ethnohistoric Museum of Limón** is temporarily housed. Unfortunately, the museum does not keep regular hours, is seldom if ever open to the public at present, and is not marked with signs. Rumor has it that plans to prepare a permanent museum are underway. The Post Office and a number of other buildings about town were built in the late nineteenth century so there are interesting **architectural styles** to view.

Each October, Limón hosts **Carnival celebrations** around October 12, the "Day of the Races". Dances, parades and other cultural activities show off the cultural richness of Limón and draw international visitors and Costa Ricans. There are many bars, discos, **restaurants** and sodas in the city, but few appear to appeal to international visitors. Local **cuisine** includes wonderful Afro-Caribbean dishes, many prepared with coconut milk -- rice-and-beans, rundown, pati, pan bon.

City **infrastructure** is fairly good although roads are poorly marked. There are abundant **lodging** facilities with a wide range of prices and quality, including resort tourist lodges on the road along the shore from from Playa Bonita to Moín, just north of city. Two nearby beaches, **Playa Bonita** and **Playa Portete**, are used by locals and surfers, but the currents are dangerous.

Moín, 8 km outside the city center, is the main port. Containers full of bananas are loaded onto huge ships at the docks there and tourist boats departing for Tortuguero and other points north leave from a dock in Moin bay. Some tour operators and a local guide association are offering boat tours in the canals near Moín to visitors from the cruise ships and others. These aquatic excursions take visitors around the local canals and waterways to look for wildlife, sometimes going as far as Matina, around 25 km up the coast.

2.4.3 Status of the tourism industry of the Caribbean coast

ICT's development plan for Limón analyzes the status of tourism development for each of the sites listed above with the exception of the city of Limón. It is not necessary to provide details of the analysis for each site for the purpose of the study presented here, but a general characterization of the status in the region is of interest because it will help us to understand the region's image and how that affects visitation, what kinds of tourists are visiting the region, and how the proposed project might be designed to overcome deficiencies in or complement the existing tourism products of the area.

ICT's analysis of the tourism industry in Limón province characterized other factors that affect the industry as follows:

Infrastructure

Highway system. The region has 604 km of roadway of which 52% are paved and 48% are gravel. Of these, 70% are in regular condition with the remainder varying from regular to poor condition. Secondary and tertiary roads have problems with deterioration and upkeep. Signage and signals tend to be quite poor in the region, notably so in the city of Limón, compared to other areas of the nation.

Air transport. Our of 64 airfields in the province, four provide access: Pandora, Barra del Colorado, Barra del Tortuguero and Limón. The airfields at both Barras are paved and are the most heavily used, particularly by tourists.

Health services. Medical services in Costa Rica are generally known for their excellence. The region has 24 clinics and two hospitals. Of these, three clinics and two hospitals are in the tourism areas.

Telecommunications. There are nearly 26,000 lines installed in the province and telecommunications are much improved in the region. Some outlying areas have few lines (Cahuita central - 228; Puerto Viejo-Talamanca central - 397) but most lodging facilities probably have lines or public phones.

Potable water. In general, water quality is good in many areas. Tortuguero and Manzanillo have potable water, but in Cahuita and Puerto Viejo, quality is variable and precautions should be taken.

Territorial management

The Maritime-Terrestrial Zone (MTZ) Law regulates development in the first 200 meters above the mean high tide line. The first 50 meters above mean high tide are the Public Zone and no development is allowed there except in special cases. There can be no private holdings in this zone and public access is guaranteed. The remaining 150 meters are the Restricted Zone. Development is allowed on properties in this zone when a concession for its use has been obtained from the government, and a Regulatory Plan (a kind of zoning plan) has been prepared and approved by ICT, the National Housing and Urbanization Institute (INVU) and the Municipality.

Along the entire Caribbean coast of Costa Rica, only Tortuguero has an approved Regulatory Plan. However, this plan has never been enforced since it was approved in 1993. The Boca del Rio Estrella and Parismina have partial approval of their Regulatory Plans.

Security

The region has problems with security but these might not be any worse than elsewhere in the nation. There is, however, a growing problem with the perception that the region is more insecure because it has vast under-populated areas, poverty, human immigration and displacement, confused immigration status of many individuals, and possible drug-trafficking. Particularly in the south Caribbean zone, problems may have become aggravated in recent years due to tolerance of drug use (which was also attractive to some visitors). Actions need to be taken to change the region's image in this respect. It appears that police actions to curtail drug use are on the rise.

2.4.4 Profile of visitors to the Caribbean coast

During the 1998 high season, ICT conducted surveys and compared responses from visitors interviewed at the international airport in San Jose with responses from visitors to the Caribbean attractions revealed the following:

Origin. At the airport, 53.3% of visitors were from the United States while in the Caribbean, only 27% were from the United States and 21.3% were from Spain. Combining all European countries yielded a percentage of 53.1 for European visitors to the Costa Rican Caribbean, a higher percentage than that for North Americans distinct from the national tendency.

With whom they travel. Most (38.6%) travel with friends, 28.5% travel with a partner, 12,6% with family, and only 17.1% travel alone to the coast. In contrast, the national trend is for visitors to arrive alone (30.2%), with friends (26.5%), or with family (26.4%).

How they organize their travel. In the Caribbean region, 62.3% traveled independently to the region, not making use of a travel agency or a tour package. (Tortuguero is an exception to this trend, where 61.6% of the visitors arrive in tour packages.) Nationally, 46.9% made use of tour packages and 36.9% traveled independently within the country.

Means of transport. A high percentage, 46.4%, made use of the public bus system to travel to the Caribbean zone. Others used travel agency buses (14.7%) and rental cars (12.8%).

Lodging. Nationally, 69.4% of the visitors make use of hotels while 17.9% stay with friends or family. In the Caribbean zone, 93.1% use hotels and only 4.9% stay with friends or family. The wide variety of hotels and the wide range of prices, generally low in the Caribbean, probably favor this situation.

Activities. The majority of visitors to the Caribbean (78.2%) stated that they went for sun and sand, the same as the percentage of visitors surveyed at the airport. Other visitors went to observe wildlife (17.5%), birdwatching (11%), to see villages (10.9%) and to visit national parks (8.9%). Traditional beach tourism visitation appears to exceed that of ecotourism in the zone.

Visits to other sites in the Caribbean. About half of the respondents visiting the region indicated they would visit another site in the region during their stay.

Average stay. Average length of stay in the Caribbean zone is 6.9 nights, with most people staying from 4-6 nights. Average length of stay in the country for respondents at the airport was 11 nights.

Average expenditure. Daily expenditures ranged from less than $15/day to $85/day in the Caribbean zone. Average daily expenditure was $48.10. This is markedly different from the rest of the country where daily tourist expenditures averaged $96.76 (in 1998).

Figure 15. Tourists from cruise ships walking along the Boulevard near the Market in the center of Limón city.

2.4.5 Pending projects for Limón that affect the fishing community

"Crucible of Dreams" Tourism Plaza Project Limón 2001

Responding to the need to give Limón a unifying tourism attraction and at the same time be a facilitator of departure points, the Costa Rican Tourism Institute (ICT) conducted a competitive bid in urban design and planning for the creation of a tourism plaza in the vicinity of Vargas Park along the seawall at the eastern end of the city. The bid was awarded to designer/architectural student Oscar Cuevas in July 2001 (see Figure 16).

ICT and JAPDEVA (the Atlantic Port Authority Board) will be providing funding for a make-over of the cruise-ship pier and the walkways. Plans include the creation of a new boardwalk along the seawall, a tourist information center, a children's playground and a new park with an adjoining boulevard. The cruise-ship pier will have a docking station for small boats that will be used to transport tourists to nearby Uvita Island. Christopher Columbus dropped anchor at Uvita on his fourth voyage to the New World

in 1502 and this year marks the 500th anniversary of that historic event. Structures on Uvita Island will also be revamped to receive tourists who will be able to enjoy hiking around the lushly vegetated island or resting in the visitor's center.

Parque Vargas, Limón's quaint and scenic municipal park and national heritage site, will undergo considerable restoration. The new boardwalk area will feature benches and a series of wavy-roofed shelters that will house vendors of souvenirs, handicrafts and refreshments.

Currently the project is in the administrative preparation phase seeking construction permits and the assignation of a builder. It has been catalogued as a project of high impact in the economic activity of the zone, and assigned a larger budget by the General Controller of the Republic. Construction will begin later in 2002. Also, the community of merchants in the zone have become interested in implementing the project such that they have coordinated to finance part of the structures where the sale of handicrafts will be based.

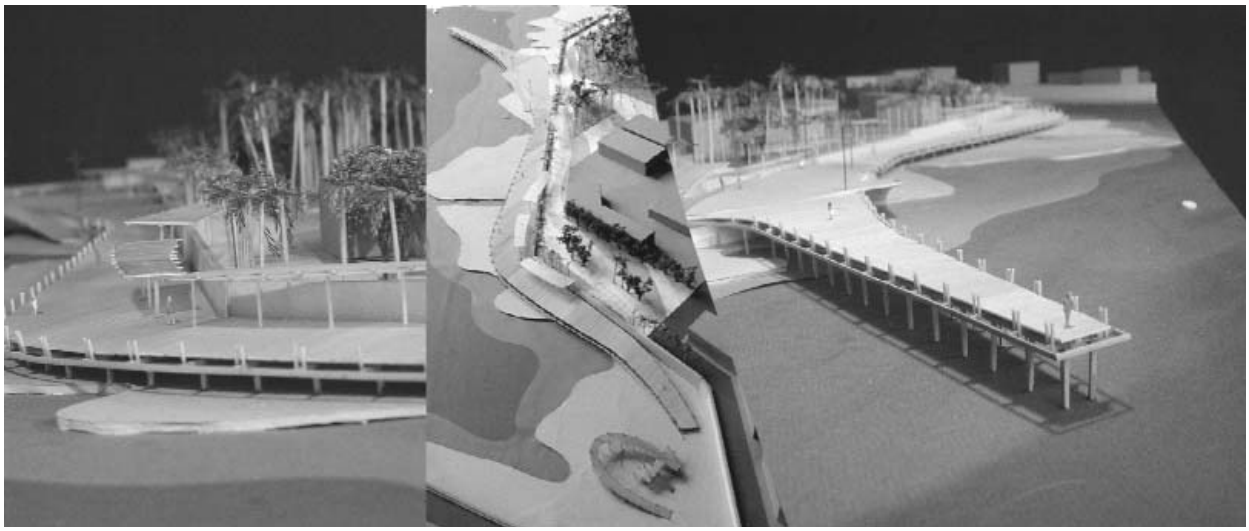


Figure 16. Model of the planned tourism plaza project showing, from left to right, the shelters for artisans and vendors, an aerial view of the project, and the ocean viewing platform (Model and photos: Oscar Cuevas).

Fishery Multi-Service Terminal in Portete Bay

In the Limón area, there has long been a need for a specialized wharf facility with appropriate conditions to transform the artisanal fishery into a competitive modern fishery capable of competing in the global market and providing employment for the growing population of Limón.

Perhaps in response to the improved organizational capacity of the local fishers, JAPDEVA (Atlantic Port Authority Board) and INCOPESCA (Costa Rican Fishery Institute), in September 2001, presented a pre-proposal for the construction of a Multi-Service Fishery Terminal at Portete Bay.

Portete Bay is just a few kilometers north of the city of Limón, on the road between the city and the port of Moín. The beach nearby is used by tourists, mainly local folks, and is enjoyed by surfers. Portete Bay once had a dock, a functioning fish processing plant, and some bar-restaurants but the place became a shambles after the earthquake of 1991 raised the coastline. Local fishers still use the area to moor their boats and tend their equipment among the ruins.

According to the JAPDEVA-INCOPESCA pre-proposal, the project, to be implemented in two stages consists of:

> **"A physical infrastructure complex,** comprised of a main building and complementary buildings, parking areas, loading and unloading areas, dock service area, that would house the functional parts of the Fishery Multi-Service Terminal.
>
> **A platform for fishery services** that would help the administration of the process of procurement, processing (gutting, washing, selecting, weighing) and storage of the fishery product, as well as the purchase and sale of inputs, equipment and fish products.
>
> **A strategy for the wholesale commercialization** of the products that operate via the conditioning/improvement of the fish product, quality assurance, commercialization and marketing through direct sales, auction and cold storage."

JAPDEVA and INCOPESCA approved funding for the first stage of the project and are awaiting final approval from the central government to proceed. They are also seeking foreign cooperation to help finance the project.

Relationship between parallel projects and proposed project

As we understand it, the motivation behind both the new projects to be implemented in Limón, the Tourism Plaza project of ICT and JAPDEVA and the Portete Multi-service Fishery Terminal of JAPDEVA and INCOPESCA, was to assist the under-developed, under-capitalized fishery sector. The tourism project is meant to provide opportunities for the fishers to offer marine excursions to Uvita Island and other coastal attractions. And the Fishery Terminal is clearly meant to modernize the fishery and provide multiple benefits to the industry, the fishers and the consumers of the fishery products. Both projects will help to diversity the economic opportunities available to the fishing community and reduce dependence on a single unpredictable activity for income.

The tourism project is completely compatible with project we are proposing, and if realized, will eliminate the need for us to contemplate construction of infrastructure for marine tour excursions. The project should keep abreast of and support all developments related to the implementation of the ICT-JAPDEVA tourism project to avoid duplication of efforts.

3.0 SYNTHESIS AND CONCLUSIONS

3.1 Tourism in Costa Rica

Tourism is still a growth industry in Costa Rica and is expected to remain so for some time. Likewise, investment in tourism in Costa Rica is growing concomitantly. Tourism is a very important economic activity in terms of its contribution to the gross national product and the direct and indirect employment it provides. The main tourism products offered by Costa Rica are "beach" and "nature", both of which prevail along the nation's Caribbean coast. Costa Rica is an internationally recognized leader in the ecotourism sector. This is still an opportune time to develop tourism projects in the nation.

It is recommended by ICT and others that Costa Rica continue to exploit its dominant position as an ecotourism destination for the future. But it should seek to diversify this sector, and improve quality in services and visitor experiences. The proposed fishers tourism project would provide innovative ecotourism experiences that are not currently offered elsewhere, helping to diversity the product. The project also fits other recommendations that destinations in under-developed parts of the nation be promoted; that their effects on local environment, culture and economy respond to local interests; and that local participation be guaranteed.

3.2 Insertion into regional tourism industry

Limón city is the gateway to the North and South Caribbean zones, but is underdeveloped and under-utilized as a tourist destination itself. It has potential that could be developed and promoted. This should be pursued because of increasing tourist flow through area, and increasing cruise ship arrivals. Visitors from the cruise ships don't have much time in port to take advantage of longer tours to areas outside the city, so more attractions/activities are needed in and near the city. Cultural attractions and events (e.g. Carnival, music festivals) in the city should also be taken advantage of and developed to diversify the tourism product and draw more visitors.

The area has adequate infrastructure although improvements would be welcome. Roadways and air transport to the zone are functional. Health services and telecommunications are good. Water is potable in most places though precautions must be taken in some areas.

Coastal zone development is regulated in national law but largely unenforced. The fishers should respect this legislation even though it might not affect them directly. Fragile coastal zones are threatened in many areas, mostly in the southern zone.

Rectification of this situation should be encouraged so that fragile resources are not damaged. Mangroves, estuaries and swamps are important spawning areas or nurseries for many marine species, including the commercially important ones, so it is in the fishers' direct interest to encourage protection and management of the coastal zone.

Security may be a problem in the area. The region is perceived to be less secure than other areas of the nation, whether or not it is in fact. This year, greater presence of police has been noted in tourist-transited areas. This helps somewhat but other solutions to social problems must be sought.

3.3 Attractions to develop

Limón city, as an urban landscape, does not provide for nature tourism. Neither are the beaches or coral reefs nearest the city adequate for most visitors. Many tourists would prefer to explore these options in the zones to the north and south of the city. The sea is the one area accessible to the city where natural history tourism activities can be carried out and at present, no one is taking advantage of this opportunity. The mating green turtles to be seen around nearby Uvita Island during the months of June to September provide an opportunity that the fishers are uniquely positioned to exploit. And earning revenues from this activity would replace or even exceed the income lost from the now prohibited hunt. Dolphins, and other sea turtles can be seen during any month of the year, and the coastal landscapes from Limón south provide a beautiful backdrop for the sea trips.

Excursions with landings on Uvita Island are another possibility, but landing is tricky and a docking facility will probably be required. Fortunately, this, along with other facilities on Uvita Island, are among the plans that ICT and JAPDEVA are presumably about to implement.

Popular sport fish (e.g. tarpon, snook) occur in the area that would permit convenient sport fishing trips. Shorter sport fishing excursions, more accessibly priced, could provide an alternative to the expensive sport fishing lodge packages available in other areas (i.e. Barra del Colorado). With adequate vessels and equipment, sportfishing for billfish in the open sea could be another possibility.

Given the fishers experience with boat operation and navigation, they can also offer transport services to other sites and attractions in the region. Travel times to Cahuita and Puerto Viejo areas do not take too long and there are diverse attractions in these areas. The ocean route is very scenic with excellent possibilities of seeing turtles and dolphins, not to mention the fishers working the waters along the way. The Southern Zone also has road access that provides opportunities to combine a sea excursion on one leg of the journey with overland travel for the return.

On the other hand, ocean trips to points north (i.e. Tortuguero) do not seem feasible for tourist excursions or transport. The coast is less scenic along here as the broad coastal plain behind the coast does not offer much relief. The canal route is much more pleasant and scenic. Moín has a secure dock facility used by boats that provide transport to the northern zone. With increasing numbers of tourist arrivals, demand for canal trips to points north may increase, and the fishers should keep an eye to opportunities here, if demand warrants.

Organizing package tours that offer visitors opportunities to participate in research programs should be explored with universities or non-governmental conservation organizations. Studies at "Two Waters" is one possibility, and others could be developed with marine ecology experts that would benefit academic endeavors, coastal zone and marine conservation management concerns and the fishery industry.

Although some of the fishers have boats that could be used for tourist trips, most do not fit this category. The project will need to acquire boats that will provide security, comfort for tourists, including communication and navigation equipment. A micro-bus to transport tourist groups to the Cieneguita or Moín docks, or to provide overland transport to or from the southern zone, is also recommended. From an operational standpoint, the fishers association would manage all tourism services to be offered, and contract interested fishers to operate the vehicles and provide tours. The availability of restaurant, sales shop, informational, and exhibit services at the home base of the fishers tourism project would provide other attractions to draw visitors and generate revenues, even when weather might prohibit outings.

With respect to restaurant functions, it is recommended that an experienced outfit be contracted to run the restaurant, through a concession or lease arrangement. The arrangement should include a stipulation that promotes hiring of interested fishers family members as personnel, when possible. The restaurant can feature fresh seafood "straight from the sea"; offer the processed products that are prepared at the adjacent fish plant; and offer the distinctive Afro-Caribbean cuisine of the region in a quality setting.

3.4 Limitations

The hot, humid climate is to be expected in a tropical, lowland region and is part of the attraction for tourists seeking beach tourism. Although reduced precipitation is seen during some months of the year, rain can be expected at any time. Excursions or transport on inland waterways can be conducted during rainy weather but tourist boats should have cover and carry along ponchos for tourists that are not equipped. Cover is also recommended to protect against excessive sun and for this, water and possibly other refreshments should be carried aboard, especially during extended outings.

For sea excursions, even mild weather might create wave conditions that would make these trips dangerous and uncomfortable. Furthermore, weather can change rapidly along the coast. The fishers should acquire means of obtaining the most recent weather information available in the region from national and regional weather sources, as well as from the internet. Boats should also be equipped with radio equipment to maintain contact with their base, for weather advisories and for any other emergencies.

3.5 Stakeholder acceptance

Formal consultative meetings with the target beneficiaries for the project reinforced what had already been learned from informal discussions, that the local fishers support the idea of supplementing their income through the development of a tourism project that will provide employment for some of them and their family members. The tourism industry is familiar to them as the Caribbean zone has been undergoing a tourism boom since the early 1990s. They already possess some skills that will be transferable to a tourism project. For other areas of the business where their skills might be weak, free or low-cost training programs are available within the country. Not surprisingly, the fishers are most enthusiastic about the possibility of offering sea trips to show tourists the mating green turtles. Once in possession of the equipment and know-how for working with tourists to provide the turtle tours, they will also be prepared to offer other transport and tour services. Development of alternate activities is recommended as the mating turtle tours have a limited season.

There are resource people in Tortuguero who could fulfill some of the training needs anticipated for the fishers in their tourism project -- park personnel, non-governmental organization staff (CCC and others), and local entrepreneurs and guides. Lessons similar to those learned from regulating tours to see nesting sea turtles on the beach at Tortuguero might one day need to be applied at Limón, should tours to view the mating turtles become extensive and potentially disturbing to the turtles. The fishers should be encouraged to be mindful of minimizing their own impact on the area's environment and wildlife.

3.6 Collaboration

The fishers tourism project should become integrated into the regional tourism associations to coordinate efforts and jointly promote area for tourism. Activism on the part of these organizations could be instrumental in overcoming some of the area's weaker points (e.g. sanitation, security, quality control). These organizations are not sources of funding per se, but coordinated collaborative efforts could be more attractive to donors and/or financing entities.

JAPDEVA plans, promotes, and regulates development along Caribbean coast. It is an excellent technical resource and a possible financial resource. This agency is

already working closely with fishers to strengthen the industry. Technical collaboration is expected, and possibly partial financing for developing the Cieneguita site as a tourist project. The fishers should request assistance from the PRELL in seeking other financial resources. It should also be noted that the newly elected government that will take power in May appears disposed to prioritize Limón for support. The fishers should promote the project with decision-makers as soon as possible.

Long talked about plans to improve Limón appear to be underway at last. JAPDEVA, ICT and INCOPESCA are all concerned about improving the plight of the local fishermen, and all see possibilities for the fishers to become involved in tourism. ICT and JAPDEVA are in process of developing projects to improve Limón city as a tourist attraction including construction of a dock facility for excursions to Uvita Island; and improvements at Vargas Park, and the seawall and Boulevard areas. JAPDEVA is now seeking funds for the Portete Fishery Multi-Service Terminal from the government and through foreign cooperation. If realized, this project will also enhance opportunities for the fishers.

3.7 Visitor potential

The information provided by ICT was very interesting in providing an institutional overview of the tourism industry in Costa Rica. It would appear that technical support for project development, endorsement for funding, and assistance with promotion can be expected from this agency. Although some information was available, the studies of visitor profiles to the nation and to the Caribbean region left much to be desired. From the information available, it appears that most tourists go for the region's "beach" tourism. However, the survey techniques used were not very thorough. It is recommended that the fishers coordinate with other local tourism chambers and ICT to find funding for the design and implementation of more comprehensive studies to characterize visitors to the area and their expectations, ultimately for the improvement of the regional tourism industry.

North Americans are the predominant clients to the country. But in the Caribbean region, almost equal numbers of Europeans are arriving, higher than the national average. Many are from Spain. Fewer visitors travel alone to the Caribbean coast than elsewhere in the country. Activities should be appealing to those traveling as couples, with friends or with family. Most are traveling into the region independently, without benefit of a package tour. This means that their decisions about destinations in the region could be influenced after they are in country, and even after they are in the region. Promotional materials need to be available near points of entry and places tourists frequent and at strategic points in Limón and the region.

The average length of stay in the region is nearly seven nights and average expenses per day per tourist are about half what they are elsewhere in the country.

Emphasizing the lower cost of tourism in the region could help increase tourist volume, particularly with national tourists.

3.8 Project feasibility

Based on the recommendations above resulting from the research and analysis process, and given adequate start-up and operational funding, the fishers tourism project appears feasible. The analysis also included determination of an appropriate site where the project could be based, described in section 3.9 below. A master plan for the site and for the project services has also been prepared and is described in section 4.0.

3.9 Recommended project site

Concerns about the optimal location for the development of facilities where the fishers tourism project could be based, if feasible were considered from the outset. Ideally, the facilities would be strategically located where tourists tend to pass or congregate in Limón city, would have or allow easy access to the site from where marine excursions would depart, and would not have excessive costs for the acquisition of land and/or the rental or construction of infrastructure.

Upon conclusion of the research, it has been determined that the most appropriate site for the implementation of the project is in the vicinity of the ASCIENPE facility at Cieneguita where the newly renovated and reactivated fish processing plant and docking area currently used by the fishers is located. The site presents the advantages/characteristics explained below.

Geographic Location. The processing plant is in a strategic part of Limón city. It is only 100 meters off the main road (Highway 32) at the entrance of the city, on the highway that connects Limón with all the tourist attractions in Costa Rica's South Caribbean Zone (Highway 36). The plant is also situated on the banks of the Cieneguita River near the river mouth, where the docking area is protected from strong wind and wave action from the ocean, but still allows quick and convenient travel to open sea by boat (see Figure 17). The Cieneguita River has a navigation capacity for boats with beams up to 12 meters and is strategically located to be departure point for diverse sites of tourist interest in the zone.

Access. The access road to Limón, as well as that which connects to the beaches of the southern zone are in fairly good condition. Rental cars and taxi services are readily available nationally. Two large bus companies offer regular service between San Jose and Limón all day long every day. The direct route on the highway through Braullio Carrillo National Park is very scenic and takes 2.5 - 3 hours. On occasions when this route is closed due to landslides, vehicular traffic can still reach Limón using the old road through Turrialba. This route is also very scenic but takes at least 4.5 to 5 hours.

Locale. The processing plant itself is only 400 meters from the center of Limón city, and only 200 meters from the main bus terminal there. It is also only 300 meters from cruise ship dock and as such is within walking distance of all other features of interest to tourists in the city.

Strategic functioning. Given that fishing has been conducted out of this site for a number of years, the area is locally known for this activity by the people of Limón. This provides an advantage in that the locals can easily provide information and references for the project to tourists.

Cost. Because some of the infrastructure and facilities existing at the site can be used in the project, construction costs would be reduced.

Presence of living culture. Integration of the fishers tourism project with the installations used by the fishers in their daily activities to provide, process and sell fish will convert the fishery industry into a living culture attraction for the visitors, who, besides enjoying the services offered by the fishers tourist center, can also learn about the daily way of life of the fishers.

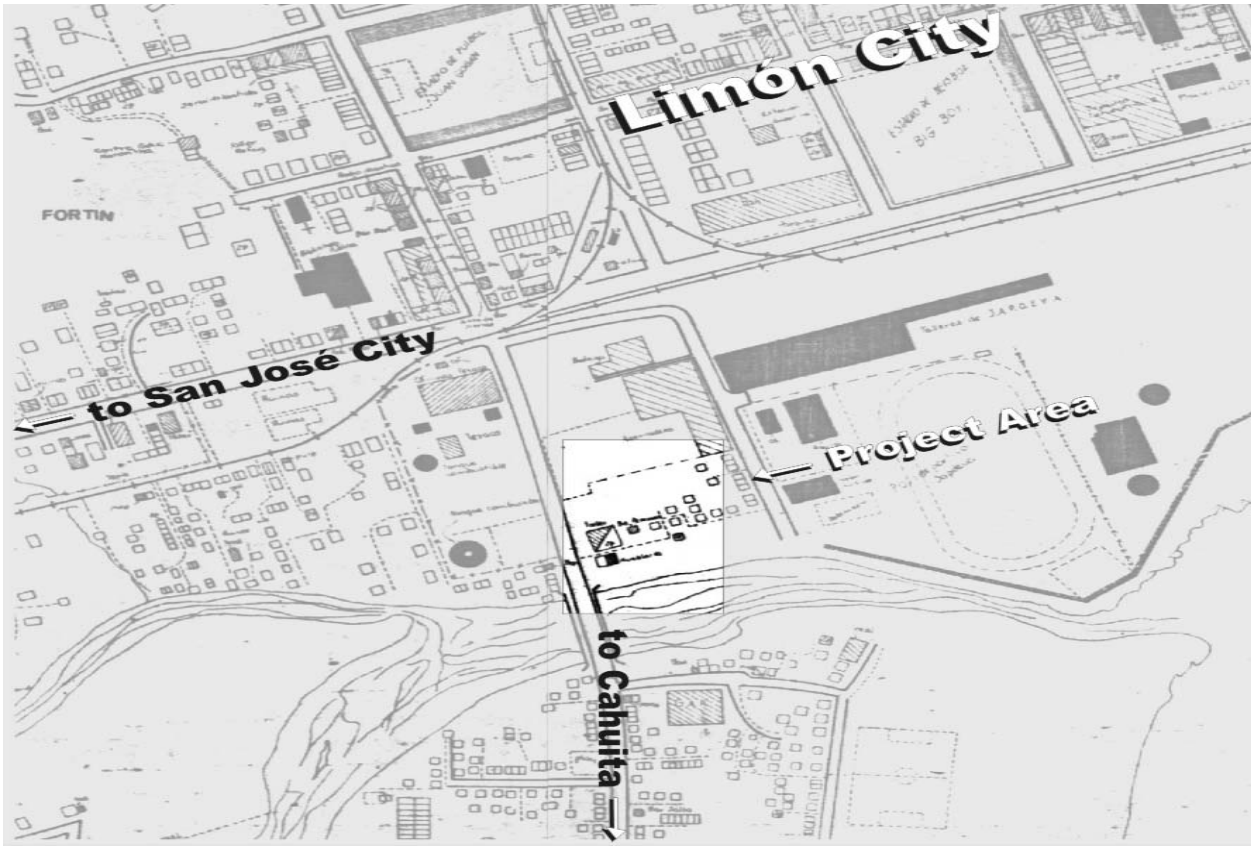


Figure 17. Map showing the location of the fish processing plant and proposed tourism project in Limón city.

Space available. The processing plant's surroundings have large open areas available for the construction of the facilities required by the tourism project. The facilities and land around the processing plant are within the nation's Maritime-Terrestrial Zone (MTZ) and thus are owned by the Costa Rican government. ASCIENPE has use of the property and facilities through a long-term concession with JAPDEVA. JAPDEVA is responsible for promoting and regulating economic development on the Atlantic coast, and given their current interest in benefiting and strengthening Limón's fishery sector, their full cooperation in the development of this project is expected. JAPDEVA's technical and (partial) financial collaboration would be sought to develop the project components and they can ensure that the project complies legally with the requirements for development in the MTZ.

Administrative convenience. It is recommended that all the functions to be coordinated by the fisher's association be united in one locality to reduce management needs and costs that would be incurred by having to run a separate site. Centralizing activities at one site will reduce the need to contract additional personnel. Constant activity will also provide more security.

4.0 PROJECT MASTER PLAN RECOMMENDATIONS

4.1 Plan of tourism activities and services to offer

In summary, and largely in keeping with the initial recommendations for the project as proposed by the partner organizations, the Fishers Tourism Project should have the following components:

A multi-use tourism complex, based at the Cieneguita Fish Plant site on the south side of the center of Limón city, on the north bank of the Cieneguita River.

A new facility, to be constructed, would include: a covered **tourist dock** with **ticket sales office, rest rooms, waiting area** and benches; and, a **restaurant/snack bar** (plus appropriate kitchen and pantry installations) with public rest rooms. Preliminary designs for the architectural elements are described in more detail in section 4.2.

A multi-use salon in an existing structure will house, on the first floor, a tourist **information desk, sales shop,** and an **exhibit area;** and, on the second floor, a **meeting room** for talks, video presentations, etc.

A **parking area**, suitable for buses, and appropriate **landscaping** around the structures for shade and aesthetic appeal.

Improvements to the existing Fish Plant so that it fulfills all the functions required, including: plant and tourism complex administration and management; fish purchase and sale; preparation of processed fish products for re-sale; provision of support services to fishers (e.g. provision of equipment and supplies, boat and motor maintenance and repair); and, coordination with and capacity-building of fishers. It should also be noted that the fishers are still in need of a pick-up truck for the transport of their products.

Tourist services to include: marine excursions to see mating turtles, coastal landscapes, nearby coastal zone attractions in the South Caribbean Zone, and the activities of the fishers plying their trade in the sea; aquatic/terrestrial transport combinations to destinations in the South Caribbean Zone, sport fishing, and if demand merits, to the North Caribbean Zone; restaurant/snack bar services emphasizing "fresh from the dock" seafood specialties; tourism information for the region; interpre-

tation of the natural and cultural elements of the project through exhibits, talks and videos; and, possible research program tour packages to conduct research on relevant aspects of marine ecology. At least two **covered boats** for tourists and one **mini-tour bus** are needed for these functions.

A **training program**, in coordination with the National Apprenticeship Institute (INA) and other locally available expertise, to complement the training needs of the fishers for the implementation of the tourism project. The training program is described further in section 4.3.

A **promotion plan**, in coordination with other tourism entrepreneurs and tourism chambers in the region, targetting both inbound and in-country audiences, using a variety of media (print, on-line, broadcast, etc.). Marketing and promotion is described further in section 4.4.

4.2 Architectural plan

The following texts describe preliminary architectural recommendations for the fish plant and tourism complex at the Cieneguita site. Annex 1-Plan A shows all the proposed facilities and Plan B shows which facilities will be modified and which will be constructed.

4.2.1 Existing facilities at the site

Entry to the site is off the east side of the main road. A slightly downsloping unpaved driveway, runs south and parallel to the highway for some 40 meters. The driveway then turns sharply to the left to arrive at the entrance of the main building on the property, the fish processing plant. See the existing site plan in Annex 1-Plan C. Plan D shows the facilities to be eliminated.

The site has ample open space for new construction and parking. Four structures currently exist on the site and three of them would be incorporated into the new project, as follows:

Multi-use Salon. This is the first building encountered on the east side of the driveway as one enters the site. This wooden building with a galvanized metal roof has two stories, the first story of which is used at present as a small motorcycle repair shop.

Fish processing plant. This is a large, solid warehouse of concrete block and iron beams with a galvanized iron roof. This building is used by the fishers as their processing plant. It is located off the southeast corner of the Multi-Use Salon.

- Workshop. A small warehouse of concrete block and galvanized iron roof. This building is off the southeast corner of the processing plant, between it and the river. It is used by the fishermen for the maintenance of their fishing vessels. It is in poor condition and will need to be rebuilt.

- Shed. A dilapidated shed, on the river bank in the corner of the site closest to the road. This building is no longer serviceable and will need to be demolished.

4.2.2 Recommended improvements to the existing facilities

Driveway and parking lot. Due east of the entryway from the road, a large open space would be converted into a parking lot, occupying a space of up to 1000 square meters Access at the entry to the parking lot would be controlled by a small security kiosk. The parking lot and driveway surfaces would be upgraded to open frame blocks and trees would be planted to provide shade for parts of the lot. There would be a covered walkway from the parking lot to the multi-use salon (below).

Multi-use Salon. This building is to be remodeled. The first floor will contain the **Tourist Information Center** and a **Sales Shop,** plus the **exhibits** with interpretive information about the history, culture and biology of the Limón fishery and the lifestyle and traditions of Caribbean Costa Rica. There will be an **entrance** established on the north side to provide access to the building from the parking lot. The second floor will have a **meeting room**, to be used for meetings and presentations (talk, videos, etc.). With respect to the exhibits, funding will be needed to contract an exhibit designer/fabricator to prepare the panels and articles for installation. A process should be established whereby the fishers are involved in the planning of the material to be interpreted in these exhibits.

Fish processing plant. This installation currently has basic equipment for its functions, such as freezers, cold box, large plastic coolers to store and transport fish products, stainless steel work tables, scales (mechanical and digital), small closed office area for administration with telephone access, and rest rooms. Proposed improvements include: the creation of a closed, air-conditioned work room for the preparation of processed food products, according to Ministry of Health regulations; and, an entryway at the rear of the plant on the southeast side to provide access to the boat workshop area and a new service dock for the fishers (to be constructed, see

below). A second story will be added over the northern half of the plant area to provide space for an administration office for the complex. This second story will have access to the second story of the Multi-Use Salon via a porch/walkway. The plant also needs a cold box and air-conditioning, and more work tables.

4.2.3 Facilities proposed for construction or improvements

Tourism Complex with covered tourist dock, ticket sales office, rest rooms, waiting area and benches; and, a restaurant/snack bar. Annex 1-Plan H details the plan for the construction of this complex. Cross-sectional elevations for this plan are shown in Annex 1 - Plan F.

The Tourism Complex is located along the river bank just east of the Cieneguita Bridge, in the southern half of the site, just southeast of the processing plant. The main entrance to the complex is at the western end of the facility, off the access road to the plant.

Upon entering the complex through the main entrance, there are public rest rooms to the right and the entrance to the **restaurant dining hall** is on the left. At the back of the dining hall are kitchen, storage and service entrance facilities. Further down the corridor from the entryway, are **storage closets** for cleaning supplies on the right past the rest rooms. The corridor continues on toward the river arriving at the **dock facility** from where the marine transport and tour excursions will be offered. This area is comprised of three small docks, each with their respective built-in furnishings (benches), and waiting areas with galvanized roofing. The docks are in position perpendicular to the river bed. Near the end of the walkway along the docks is the **ticket sales office** and another set of **public rest rooms.**

The structural components of the complex "walls" will be hardwood (Caribbean pine) frames with screens and security bannisters of a wood-metal combination. All materials used will be appropriate for the climatic conditions of the zone. The terrain around the complex will be landscaped with ornamental plants of the zone to give a comforting environment and beauty to the project.

Parking lot, on the north side of the complex, with access from the driveway off the main road will be a parking area of up to 1000 square meters, with a control kiosk for security (see Annex 1-Plan F for a model of the parking area entrance). The location of this park-

ing lot is such that it does not block view of the tourist complex from the road. The site and the driveway entry will have signs to identify the project and the parking area.

Workshop. The workshop will need to be rebuilt for use as a workshop for the fishers' boats and motors. From the workshop, a service dock for the fishers' use in loading and unloading their boats will be constructed. Access between the workshop and the main plant will also be made.

Service dock for fishers, for loading boats and unloading cargo. The service dock will be built east (down river) of the tourist docks, and will connect with the workshop on the southeast corner of the processing plant. It will be used by the fishers to load their boats before they depart for the sea and for unloading their catch when they return. Basic design and materials for this dock are the same as those for the tourist dock facility. Annex 1-Plan G shows a plan for the service dock and a sectional elevation of the dock from the east side. It also shows views of a model of the dock from the river end and from the plant access end, respectively.

4.3 Training plan

The community of fishers and their families are a group with a particular identity, with capacity for adaptation to new challenges. This was evaluated in discussions with their representatives and in the observation of the activities that they carry out at the Cieneguita fish processing plant. The need for training in various disciplines required for the proper development and function of the project were determined.

The potential and interests of the members of the project's target community have been expressed through their leaders who have presented marked enthusiasm for the proposal. They have indicated the economic hardship confronted by the fishers and their families due to the limited and inconsistent resources from fishing. This is the basis, in great measure, of their intention to seek the implementation of parallel economic activities.

The following functions and/or positions will be required in the project:

- Management and guiding of tourists
- Administrative assistant
- Personnel assistant
- Small business administration

- Marketing/Sales supervisor
- Office management technician
- Computer operator
- Tourist information management
- Regional tour guide
- Restaurant manager*
- Table service and client attention*
- Cuisine for small tourism businesses*
- Food & beverage preparation on recreational boats

*Overall administration of the tourism complex would be handled by the fishers association management. Specific restaurant functions would most likely be leased to a outfit with experience in this business.

Training for these positions/areas is available through the National Apprenticeship Institute (INA). This technical educational unit is responsible for the investigation of needs for professional preparation, design and evaluation of educational and training program, as well as the implementation of training actions and technology transfer, for the goal of contributing to an increase in productivity and competitiveness in the respective production sector.

INA' s objective is to provide the nation's businesses with transfer of technology, technological information and assistance, project development, prototypes, offer professional information and training specialized for the production sectors, attempting to raise the quality, productivity and competitiveness. Besides being a non-profit institution, all the workshops and courses that they provide are completely free. Coordination with the seminar planning secretary has been initiated to contribute the respective professionals for each one of the required courses. This process can take some time, so specific requests should be made as soon as possible.

Besides the general functions and positions mentioned above, training for the specific services the fishers will offer (marine guide, sport fishing guide, local natural and cultural interpretive guide) is available from local experts. Some funding should be sought to cover the costs of including training in these areas.

4.4 Marketing and promotion plan

In order to implement an efficient marketing plan, the following levels and types of target clients need to be taken into consideration. The fishers tourism project will need to have at least one full or part-time individual to oversee the implementation of the actions described below, with administrative support from the project leadership.

4.4.1 Marketing abroad to potential international visitors

Information about the products and services offered by the Fishers' Tourism Project needs to be incorporated into tourism information sources that travelers are using to make decisions about the destinations they will visit and the activities they will engage in after selecting Costa Rica as their destination. These travelers get most of their information from published travel guides, travel agencies and tour operators, on-line sources and from recommendations by other persons that have visited the country.

Recommended actions:

- Coordinate with tour operators and travel agencies to sell tour packages or promote the product to inbound travelers. Besides coordinating with tourism industry agencies to sell packages, the fishers project should try to participate in international fairs to market tourism products, such as the annual Expotour Fair in Miami. Needs: graphic information packages (brochures or booklets) in English and Spanish about products, services, prices and commissions; web page (bilingual) prepared for this purpose; contact list of travel agencies and tour operators (national and international), especially those that specialize on Costa Rica; capacity to travel and participate annually in international venues to sell/promote tour packages.

- Insert information about the project, products and services into Tour Guide books about Costa Rica and Central America. Needs: letter or promotional material with comprehensive information about the tourism project; list of contacts (publisher, author, other) for the wide selection of published Tour Guides.

- Prepare and maintain an up-to-date web site with project information, and if possible, reservation and booking ability online. Ensure project has a high profile on search engines and establish links with web sites of travel and tour agencies and conservation organizations. Needs: funds to contract a web site designer to prepare and up-date web site; funds for the domain and server costs; digital photos/graphics; equipment (computer, printer, scanner, digital camera, film camera, etc.); supplies (printer cartridges, paper, batteries for cameras, film and processing, diskettes, etc.).

4.4.2 Marketing within Costa Rica to international visitors

Information about the project needs to be made available to international visitors who have already arrived in the country but who are not relying on tour packages to organize their activities. Many travelers to the Caribbean region of Costa Rica travel independently and do not use tour packages, and many make use of the public bus system. Many cruise ships are currently docking at Limón and the number is increasing. International visitors acquire information about in-country destinations from web sites,

tour guide books, and information they acquire once they are in-country. Special attention should be given to getting information to visitors as they depart the cruise ships and the buses.

Recommended actions:

· Have promotional/informational materials available where international visitors circulate (airports, cruise ship docks, overland border crossings, lodging facilities, restaurants, tour operators, travel agencies, rental car agencies, bus stations, souvenir shops, bookstores, museums and visitor centers, national parks and other protected areas, coffee shops, internet cafes, etc.). Print materials such as flyers or brochures, and possibly posters, would need to be produced for visitors to take. Care should be taken in the design to help keep printing costs low. Bilingual or separate Spanish and English versions will be needed. Needs: funds to contract a graphic designer to prepare the materials for production; funds for printing and periodic re-printing; stands/holders to display materials; travel funds and per diems for the individual who would secure permission to display the materials in the various places and distribute them.

· Prepare and produce materials in other languages (French, German, Dutch, Japanese, etc.) as funding allows and demand dictates.

· Coordinate with other tour operators in the region to promote regional attractions and reduce marketing costs. Visitor's perception that there are many attractions to pick from in the Caribbean region should stimulate more tourist arrivals there. The fishers should become integrated into the local tourism chambers and coordinate with them and other tour operators to develop, produce and distribute materials that promote all the region's attractions. Needs: capacity to meet with other appropriate entities in the region; funds to contribute to the implementation of joint promotional activities; funds to buy ads in regional and national tourism publications (i.e. the magazine *Caribbean Way*).

4.4.3 Marketing to Costa Rican and regional tourists

The Costa Rican public is more disposed to travel both abroad and within their own country. ICT is promoting in-country tourism to nationals in the wake of the events of 11 September 2001. Many who live outside Limón province are not familiar with the Caribbean coast and although many have a particularly negative perception of it, many others would like to visit. Actions to promote the Caribbean for the national and regional sectors are the same as those above, ensuring that materials are available in Spanish. Broadcast media are also effective means of reaching the national audience. Television ads would be prohibitively expensive but radio announcements are affordable.

Other recommended actions:

- Develop and promote educational tour packages for groups, such as university and school groups, business organizations, social clubs, etc. The strong cultural and environmental characteristics of fishers tourism project could be of special interest to many groups, and such experiences could help establish a more positive profile of the region with travelers.

- Ensure that project promotional/information materials are available at other tourist attractions throughout the province, and particularly in establishments of the Southern Caribbean Zone.

- Prepare radio announcements and buy time for broadcast from national stations.

4.4.4 Signage

The project will require signs to identify the locale and its entrance, as well as to direct motorists and pedestrians to the locale from the main road into town. Illumination of these signs should be considered in the final design, if appropriate. The possibility of establishing an information panel or kiosk along the Boulevard in the city center and/or near the bus terminal should be investigated, to orient visitors to the location of the project and what is offered.

Recommended actions:

- Plan, build and install sign at project entrance to identify project. Needs: funds for sign construction and installation.

- Plan, build and install signs to identify and orient visitors to the various components of the complex (parking, restaurant, dock, etc.). Needs: funds for sign construction and installation.

- Plan, secure permission for, build and install signs on both directions of the main road into Limón indicating the project location on the road to Cieneguita. Needs: capacity to acquire permission; funds for sign construction and installation.

- Investigate possibility of erecting promotional panels at strategic points in the city center to direct visitors to the project. If feasible, prepare plans to build them using low maintenance, durable materials such as fiberglass embedded panels. Needs: capacity to acquire permission; funds to contract an architect to plan construction and a designer to prepare graphic materials; funds to contract a builder/fabricator to construct the panel and its housing; funds for the graphic panel preparation.

4.4.5 Image

Fish are among the last wildlife species that are used widely by man. All over the world, fisheries are in trouble due to overfishing of stocks and the use of fishing practices that are destructive to more species than those that are harvested (shrimp trawls, long-line fishing). The tiny fishery out of Limón is limited in its ability to exploit marine resources wholesale by inadequate gear, lack of financing, information gaps regarding the status of fish stocks, and rough weather. To protect its own future in the fishery industry, the fishers should promote studies and regulations to guarantee sustainable production. The studies currently being conducted on the pelagic fish potential by INA are the first to be conducted in quite some time. More collaboration with universities and non-governmental organizations, in addition to the appropriate government agencies should be encouraged. Given that environmentally-aware tourists are apt to be sensitive to fishing issues, the fishers should take care to present an image that demonstrates their concern for proper management of the fish stocks and other coastal zone resources.

4.4.6 Improving marketing and promotion in the future

More information is needed about international visitors regarding age, gender, educational background, geographic origin, language, income levels, employment, interests, their expectations (reasons for visiting Costa Rica, reasons for visiting the Caribbean coast or the site in question) and whether or not their expectations were met, how they receive information, how they arrive in the Caribbean zones (public transport, rental car, air, cruise ship, etc.), whether or not they travel independently or in a package deal, whether or not they would recommend the region or a site to others. ASCIENPE should coordinate with other projects, businesses and agencies, and with ICT, to propose and acquire funding for a more in-depth study of the clientele to better plan programs and their promotion.

4.5 Financial management and notes on operations

To complete Phase I of this project, "Planning and Fundraising", ASCIENPE should coordinate with JAPDEVA to review the plans presented here, finalize plans and establish priorities, define organizational commitments and assign responsibilities in the process to raise funds to implement the project. The budget in the following section describes funding levels needed to implement all components of the project recommended herein, including components that will improve the fishery operations that are not directly related to the tourism project components.

It is hoped that JAPDEVA will have access to or recommendations for funding sources for the fishery operations components. Other foreign assistance and private investment entities that are already collaborating with the fishers may be interested in financing

these aspects as well. The tourism project should be attractive to foreign cooperation agencies working in Costa Rica as well as to private international foundations and other donors, and ASCIENPE is advised to work closely with JAPDEVA in approaching these funding sources for the tourism project. It is possible that support to the fishery operations projects may be viewed as counterpart contribution for the tourism project, helping to leverage funds for the latter.

Depending upon the amounts and the timing of funds raised for the implementation of the project, it might become necessary to program implementation into two or more stages. For example, if funding is limited, the dock-restaurant facility could be built first, making use of the restaurant area temporarily as the space for the information desk, sales shop, exhibit area and meeting room functions. Later, when funding is available, the multi-use salon would be improved to serve the latter functions and restaurant operations could begin in the space intended to serve that purpose. We will leave this to ASCIENPE and JAPDEVA to program as they see fit. Once the funds have been raised, the following general project activities envisioned under for the project phases described in section 1.7 would be implemented according the following timetable.

	Year One				Year Two				Year Three			
	Q 1	Q 2	Q 3	Q 4	Q 1	Q 2	Q 3	Q 4	Q 1	Q 2	Q 3	Q 4
Phase II. Construction & Training.												
Contract Tourism Project Director.												
Construction of & improvements to facilities.												
Form ad hoc commission for exhibit planning.												
Plan exhibit themes and content.												
Contract exhibit specialists to fabricate & install.												
Finalize products and services to offer.												
Coordinate & implement training program for fishers.												
Phase III. Operations & Evaluation.												
Contract personnel to staff facilities, offer services.												
Ongoing evaluation of demand, contracting of staff as needed.												
Contract Marketing Specialist to promote products & services.												
Sales & marketing of products & services.												
Semi-annual evaluation (financial, social, environmental).												
Phase IV. Outreach & Replication.												
Initiate investigation of areas to replicate experience.												

With respect to evaluation of the project, the following indicators should be monitored to determine the effectiveness of the project:

- extent of stakeholder participation in implementation phases - via employment records.

- balance sheets - the project will keep books according to generally-recognized-as-acceptable accounting practices in Costa Rica that will be reviewed by a certified accountant on a regular basis.

- numbers of tourists served-record-keeping procedures will be established for this purpose.

- tourist surveys-surveys to assess visitor expectations, level of satisfaction, problems and recommendations, and how they heard about the project will be developed, administered and evaluated.

- extent of marketing and promotion - records on promotional materials for comparison with information from tourist surveys.

- results of annual government turtle protection program - via an annual report on the numbers of charges, arrests, confiscations of equipment and turtles.

- extent of turtle product presence in markets-informal surveys of area marketplaces during sea turtle nesting months.

- ongoing nesting beach monitoring-by CCC at Tortuguero, and at other nesting beach projects along the Caribbean shore.

4.6 Budget

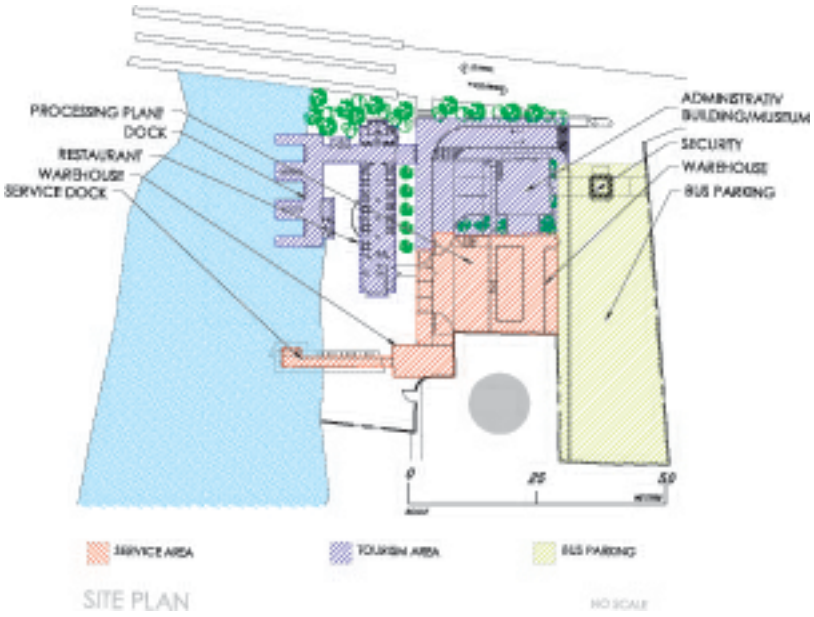
A. PROJECT COSTS	Item Total	Category Total
TOURISM AREA		
New construction at $400/m2:		
Docks 117 m2	$ 46,800	
Waiting areas 78 m2	$ 31,200	
Ticket sales office 6.5 m2	$ 2,600	
Rest rooms 6.5 m2	$ 2,600	
Restaurant dining hall 130 m2	$ 52,000	
Kitchen area 56 m2	$ 22,400	
Rest rooms 30 m2	$ 12,000	
Access/corridors/cleaning 70 m2	$ 28,000	
Green area 63 m2	$ 25,200	
Security kiosk 16 m2	$ 6,400	
Covered walkway 35 m2	$ 14,000	
Remodel at $200/m2:		
Multi-use salon--Info.Ctr., sales shop, exhibits.100 m2	$ 20,000	
Multi-use salon, 2nd fl., mtg. rm. & admin. area. 60 m2	$ 12,000	
New construction at $100/ m2:		
Parking lot, zacate block, 1000 m2	$ 100,000	
Sub-total:	**$ 375,200**	
Design & construction oversight (10.5%)*	$ 39,400	
TOURISM AREA TOTAL:		**$ 414,600**
INDUSTRIAL AREA		
New construction at $400/ m2:		
Service dock 56 m2	$ 22,400	
Station/Workshop 80 m2	$ 32,000	
Loading/unloading area 60 m2	$ 24,000	
Expansion of plant 24 m2	$ 9,600	
Processing 132 m2		
Cold storage (freezer) 30 m2		
Packing (new), stairs, Personnel area 70 m2	$ 28,000	
Improvements to area at $100/ m2:		
Warehouse 48 m2	$ 4,800	
Patio 88 m2	$ 8,800	
Plant loading/unloading area 85 m2	$ 8,500	
Driveway to plant 312 m2	$ 31,200	
Sidewalks around plant 312 m2	$ 31,200	
Green areas around plant 88 m2	$ 8,800	
Sub-total:	**$ 209,300**	
Design & construction oversight (10.5%)*	$ 22,000	
INDUSTRIAL AREA TOTAL:		**$ 231,300**
VEHICLES		
Toyota commuter bus, 15 passenger, + registration	$ 28,000	
Boat, 21', 10 passenger, taxes & fees included x 2	$ 50,000	
Outboard motors, 150HP, 6-cyl. x 3	$ 27,500	
Safety equip. for boats (life jackets, first aid kits)	$ 1,300	
Ponchos for boats-44, 2 large coolers	$ 860	
2-way radios (base station, 5 mobile units)	$ 7,500	
Binoculars, GPS units, coolers--2 sets for boats	$ 600	
Sub-total:		**$ 115,760**
FURNISHINGS, EQUIPMENT & SUPPLIES		
Restaurant:		
Industrial stove	$ 11,200	
Cold storage	$ 5,000	

Kitchenware	$ 6,000	
Cash register	$ 300	
12 tables & 48 chairs, servers	$ 3,000	
Sub-total:		**$ 25,500**
Dock/Ticket sales area:		
Cash register	$ 300	
Sub-total:		**$ 300**
Information desk/sales shop area/exhibits:		
Sales item showcase	$ 400	
Brochure racks	$ 150	
Cash register	$ 300	
Design, fabricate install (8) 4 x 8" exhibit panels	$ 38,400	
Sub-total:		**$ 39,250**
Meeting room:		
50 folding chairs & 6 folding tables	$ 1,100	
Lectern	$ 100	
Projection equipment	$ 600	
Video monitor and VCR	$ 800	
Sound system (amplifier, microphone)	$ 3.500	
Sub-total:		**$ 6,100**
Administration area:		
4 desks, chairs		
2 computers, monitors, desks	$ 600	
1 laser printer	$ 2,500	
5 phones	$ 400	
Public address/intercom system for plant	$ 150	
Sub-total:	$ 1,500	**$ 5,150**
TRAINING PROGRAM		
Short courses with specialists		
Travel costs for short course specialists	$ 3,000	
Materials costs for INA courses	$ 500	
Resource/library materials for plant	$ 1,000	
Sub-total:	$ 1,000	**$ 5,500**
PROMOTION AND SALES		
Website design & programming		
Signs for buildings, off roadway, off main highway	$ 1,500	
2 kiosks (bus station, boulevard)	$ 1,500	
Funds for various print materials	$ 9,200	
Funds to buy print ads and radio spots	$ 10,000	
Sub-total:	$ 5,000	**$ 27,200**
B. PROJECT PERSONNEL COSTS		
Tourism Project Director, full-time, 2.5 yrs.		
Marketing Specialist, full-time, 2 years	$ 36,000	
Benefits (@44%)	$ 19,200	
Travel/transportation @ $50/mo. X 2 pax	$ 24,300	
Sub-total:	$ 2,700	**$ 82,200**
C. EVALUATION COSTS		
Semi-annual internal audit & evaluation (2 yrs)		
Annual external evaluation, consultancy (optional)	$ 1,000	
Sub-total:	$ 3,000	**$ 4,000**
TOTAL:		**$ 956,860**

*Fees for design and construction oversight are established by the Colegio Federado de Ingenieros y Arquitectos de Costa Rica, as percentages of the construction costs as follows: preliminary studies (0.5%); pre-project plans (0.5%); construction plans (4%); and, technical direction (5%).

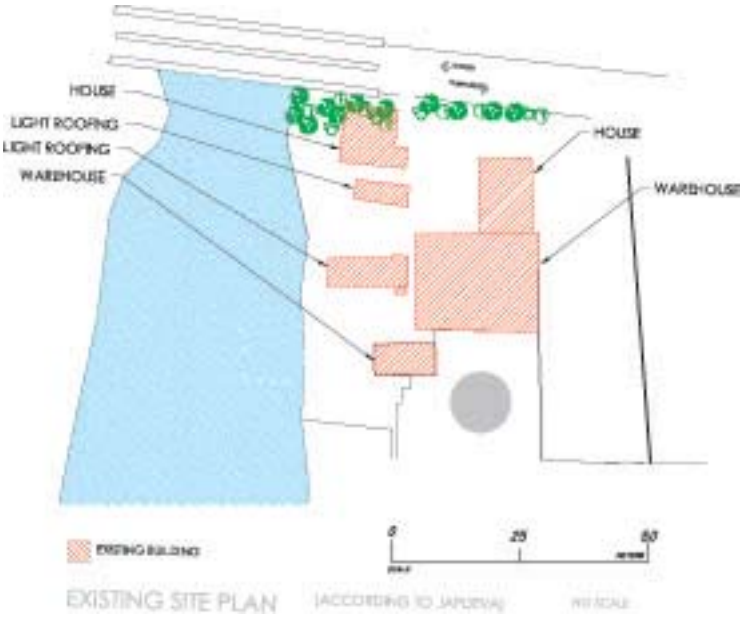
In addition to the above project costs, the project must be prepared to assume the following administrative or operational costs: rent (potentially none, as part of the concession from JAPDEVA), utilities, telecommunications, internet server ($125/month), office supplies, printing of receipts and tickets, liability insurance, gas and oil for vehicles, regular maintenance for vehicles, wages/stipends/contracts for fishers tourism services, and sales shop inventory.

Annex 1. Preliminary architectural plans for the fishers tourism project

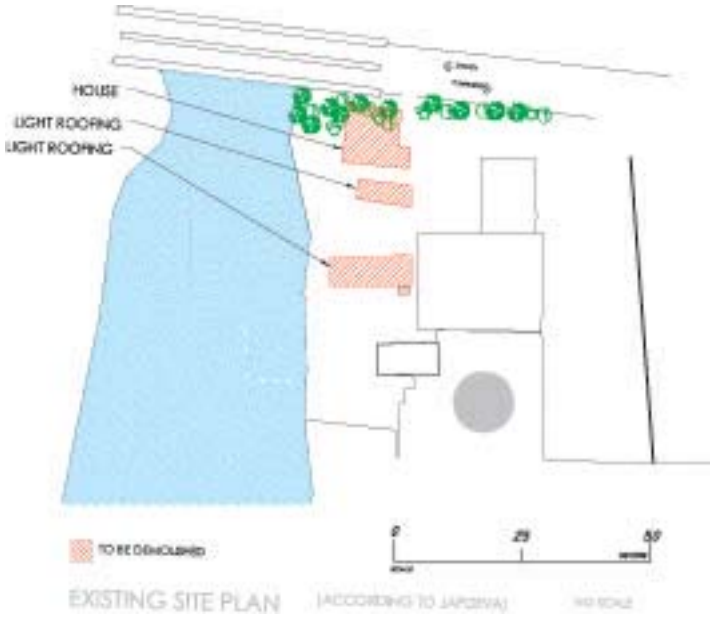


PLAN A. Complex plan showing division of space by function.

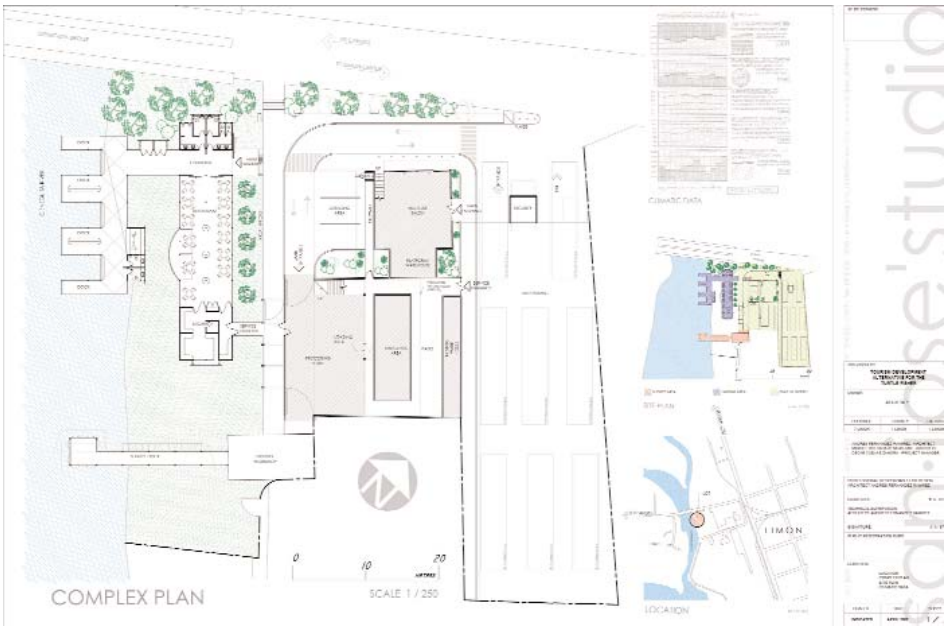
PLAN B. Complex plan showing structures to be built and/or modified.



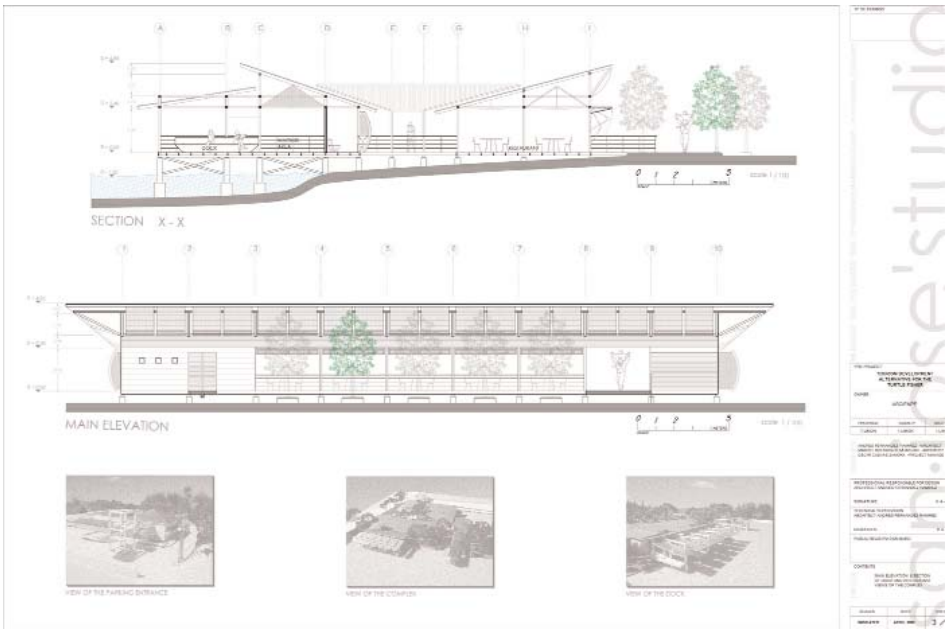
PLAN C. Existing structures at the complex site.



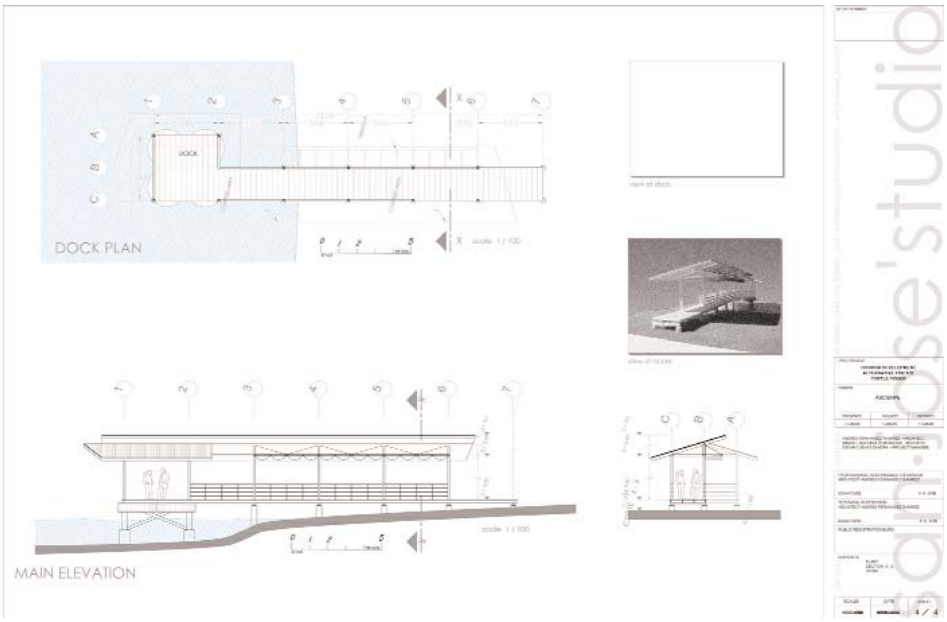
PLAN D. Structures to be eliminated from the complex site.



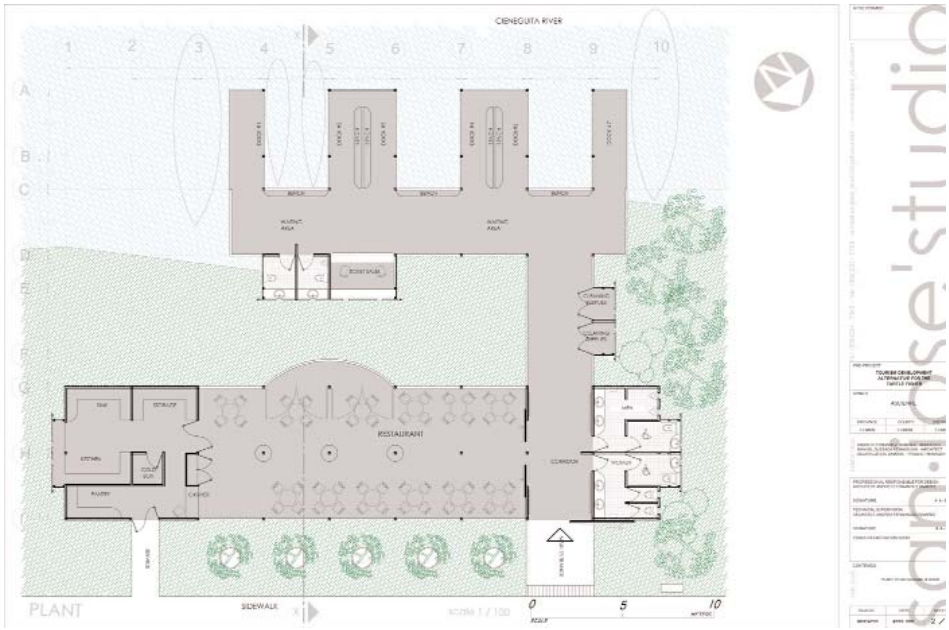
PLAN E. Complex master plan.
Larger format plans are available in a separate PDF file.



PLAN F. Sectional and elevation of tourism complex.
Larger format plans are available in a separate PDF file.



PLAN G. Plan for service dock. Sectionals and elevations. Larger format plans are available in a separate PDF file.



PLAN H. Plan for tourism complex with restaurant and dock. Larger format plans are available in a separate PDF file.

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Annex 3. List of Acronyms.

Spanish	Acronym	English
Asociación de Pescadores de Cieneguita y Portete	**ASCIENPE**	Association of Fishers of Cieneguita and Portete
Corporación para la Conservación del Caribe	**CCC**	Caribbean Conservation Corporation
Concepto Visual Integrado	**CVI**	Integrated Visual Concept
Instituto Costarricense de Turismo	**ICT**	Costa Rican Tourism Institute
Instituto Mixto de Ayuda Social	**IMAS**	Social Assistance Institute
Instituto Nacional de Aprendizaje	**INA**	National Apprenticeship Institute
Instituto Costarricense de Pesca	**INCOPESCA**	Costa Rican Fishery Institute
Instituto Nacional de Vivienda y Urbanización	**INVU**	National Housing and Urbanization Institute
Junta de Administración Portuaria y de Desarrollo Económico de la Vertiente Atlántica	**JAPDEVA**	Atlantic Port Authority Development Board
Ministerio del Ambiente y Energía	**MINAE**	Ministry of the Environment and Energy
Zona Marítimo-Terrestre	**MTZ**	Maritime-Terrestrial Zone
Plan de Reactivación Económica y Laboral de la Provincia de Limón	**PRELL**	Economic and Labor Reactivation Plan for the Province of Limón
Zona Marítimo-Terrestre	**ZMT**	Maritime-Terrestrial Zone