

Marine Recreational Fisheries (MRF): Implications for Development in the Caribbean

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RESUMEN

Tradicionalmente las actividades de la pesca comercial han recibido mas atención de las agencias pesqueras que la pesca deportiva marítima. Este enfoque tradicional se refleja en las áreas de estadísticas de captura, en que conocemos menos de la captura deportiva de lo que sabemos de las actividades comerciales. La pesca comercial generalmente se caracteriza como una industria, mientras que el MRF no. Un reciente informe de la Centaur Management Consultants establece la envergadura de la industria del MRF en los Estados Unidos. Es enorme. En 1975, los pescadores deportivos adquirieron un estimado de \$1,840 millones en equipos y servicios a nivel detallista. Estas ventas generan, aproximadamente, \$699 millones de valor adicional y \$343 millones en sueldos y salarios. Igualmente, mayor atención se le da a MRF dado que sus capturas a menudo exceden las capturas comerciales en algunas pesquerías, y por su relativo impacto económico en las comunidades costeras.

Este trabajo describe un programa de investigación en desarrollo por el Departamento de Parques y Recreo de la Universidad A & M de Texas. Este programa concierne al pescador deportivo, la naturaleza de su experiencia pesquera, la factibilidad del negocio pesquero en apoyo del pescador y el impacto económico de la industria de la pesca deportiva marina. Se señalará las investigaciones relativas a la industria del alquiler barco-pescador-barco en Texas, mostrando sus ventajas. El sistema de viajes y turismo, será descrito y analizado en función de sus relaciones con el MRF. Se esbozará el desarrollo de sus implicaciones para los administradores pesqueros y los inversionistas privados en el Caribe. Se examinarán y evaluarán estrategias alternantes pública/privadas.

This paper begins by addressing the significance of MRF in terms of the size of the fishing constituency, their harvest and their economic impact. Next, MRF is viewed as a part of a broader tourism fabric where there is a need to consider service communities and access linkages along with fisheries. The MRF research program in the Department of Recreation and Parks at Texas A&M University is reviewed to demonstrate the kind of work being done relevant to recreational fishing ventures, their feasibility, their markets and their local impact. Lastly, we will generalize from the previous discussions and draw implications for MRF development in the Caribbean.

The Significance of Recreational Fishing

When some people discuss recreational or sport fishing, they seem to project an image of a lone fisherman on a jetty engaged in some frivolous activity for "fun." It would seem that he comes from nowhere, he spends no money, his catch is insignificant and generally he has little impact. Such an image is hardly the basis for developmental activity in the Caribbean or for that matter, in the United States. Increasingly, however, we find that this image is a product of tradition, little available data, and a general lack of understanding.

Historically, emphasis has been placed on the commercial use of fisheries in the United States. As a result much of the available data concerning the biological, economic, and social impacts of fisheries utilization pertain only to this fishery. Usually, when people speak of "the fishing industry" they are referring to the commercial fishing and seafood products areas.

This narrow focus is beginning to change, however. In recent years, marine recreational fishing (MRF) is receiving increased recognition in fisheries research, decision-making, and development. One reason for this, as Deuel (1973) and numerous others have pointed out, is that marine recreational fishing, in terms of its numbers, harvest, and economic impact can no longer be considered an inconsequential use of fisheries resources.

First, we need to look at the size of the marine recreational fishing constituency in the United States. Fishing is one of the five most popular outdoor recreation activities in the U.S. as revealed in the recent national outdoor recreation study conducted by the Heritage Conservation and Recreation Service in June, 1977. Figure 1 shows the growth in the number of salt water fishermen and the number of fishing days for the 20-year period 1955-1975 (U.S. Fish and Wildlife Service; 1961, 1966, 1972, 1977).

The most recent increase (1970-1975) in recreational fishing clearly exceeds the growth rate evident between 1955 and 1970. The most popular method of fishing across all marine fishing regions in 1970 was from private or rented boats (3.6 million fishermen); next was bridge, pier and jetty fishing (2.3 million); third was charter and party boat fishing (2.2 million); and fourth was beach and bank fishing (1.9 million) (Deuel, 1973). Thus we can see that recreational fishermen are very evenly distributed across different methods of salt water fishing.

As the numbers of saltwater fishermen have increased, so too has their harvest probably increased. There is a great deal of confusion surrounding the extent of recreational harvest (Merriner, 1976). Much of this confusion can be traced to methodological problems associated with securing harvest data for recreational fishing. Unlike calculating landings for the commercial sector at identified fish houses, the task for the recreation sector is far more complex usually involving sampling large populations and creel censuses in large geographical areas. With data from Deuel and the National Marine Fisheries Service, Merriner (1976) demonstrates that marine recreational fishery landings appear to exceed commercial landings by factors ranging from 7.5 for striped bass to 27.1 for black drum. Stroud (1973) estimated that the recreational catch was approximately one-half the domestic commercial landings in 1970. In a recent presentation, Schmied (1978) indicated that the recreational

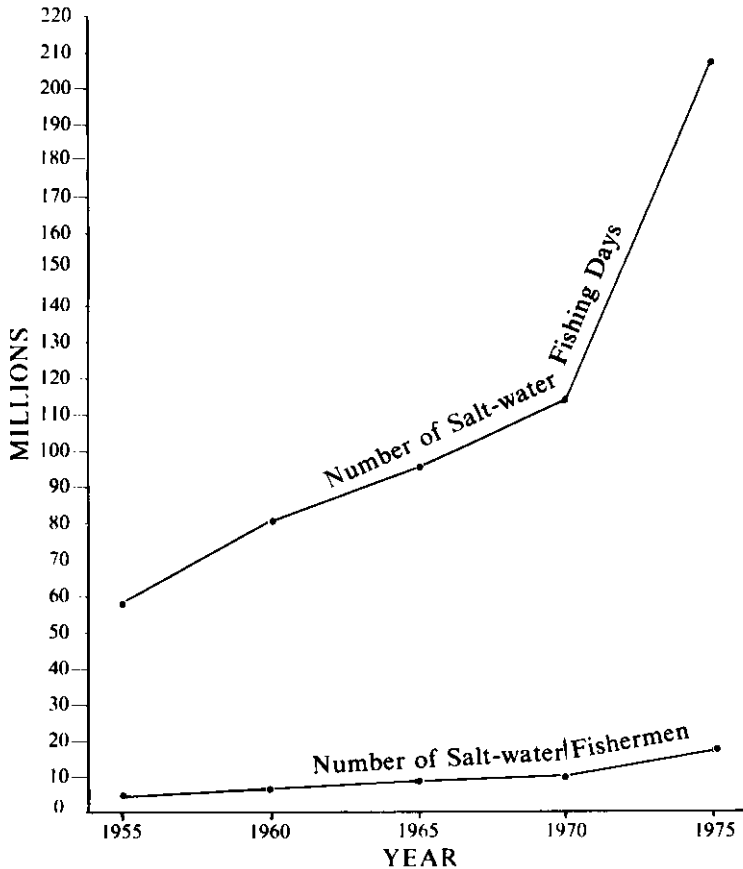


Figure 1. Number of U.S. Saltwater fishermen and the number of saltwater fishing days (in millions) 1955-1975.

and commercial harvest were nearly equal. It seems that we can have the matter of harvest nearly any way we want it. As previously mentioned, this is largely a function of the methodological problems involved in calculating recreational harvest by dispersed fishermen and of the short time and limited funds devoted to this enormous task. Our understanding of the extent of recreational harvest is imperfect at this time.

In contrast to matters of harvest, the economic impact view of MRF is quite clear. A recent report by Centaur Management Consultants (1977) established the dimensions and the impact of the MRF industry in the United States. The economic activity associated with marine recreational fishery is sizable! Clearly, the image of the "lone fisherman" is deceiving. He does travel to the coast, he does purchase gas, he does purchase fishing equipment, he eats, he drinks, he stays overnight in a motel and he pays charter and party boat fees. His activity has considerable economic impact on coastal communities. The infrastructure that has been developed in support of MRF can be

characterized as an industry—the MRF industry. It is more fragmented than the commercial fishing industry but nevertheless its economic impact is felt just the same. As the Centaur report points out, there is no one MRF industry as such. Rather purchases made in conjunction with the fisherman's participation in MRF contribute to economic activity in a variety of sectors. Centaur analyzed economic activity in the following sectors where marine recreational fishermen spend money: (1) fishing tackle, (2) boats, (3) motors, (4) trailers, (5) marinas/boatyards, (6) commercial sport fishing vessels, (7) boat fuel, (8) food, (9) lodging, (10) travel, (11) boat insurance, and (12) bait. As fishermen make purchases in these sectors, there are impacts in terms of employment, wages, salaries, and other economic measures. Centaur (1977) estimated the total sales at the retail level of goods and services associated with MRF to be \$1,333 million in 1972. These sales generated an estimated \$510 million of value added and \$285 million in wages and salaries in business sectors where direct expenditures took place. In 1975 consumers purchased an estimated \$1,840 million worth of goods and services at the retail level. These MRF-related sales generated approximately \$699 million of value added and \$343 million of wages and salaries. More than one-third of the direct expenditures made for MRF in 1975 were due to fishing in the Gulf of Mexico. These figures should help to dispel the "lone fisherman" or "fishing for fun" notions. Increased attention is being paid to MRF because of the value and impact of associated economic activity. Clearly, there are commercial aspects to recreational fishing. The dichotomy that has existed for so long between commercial and recreational fishing has begun to blur and become meaningless.

Another reason for the emerging interest in MRF is the Federal Fisheries Management and Conservation Act of 1976 (P.L. 94-265) which mandates "comprehensive" fisheries management. Such management involves the concept of optimum sustainable yield, which is sensitive to social, economic, and political considerations as well as the traditional biological aspects of fisheries management. Before MRF can be accurately and fully considered in fisheries allocations and management plans, there will need to be a greater understanding of fishermen, their motivations for fishing, catch per unit effort, fishing demand, and much more.

Since 1972 there have been considerable efforts to improve our awareness and understanding of MRF. The Sport Fishing Institute with other fisheries groups initiated a conference series on MRF to explore in a comprehensive and interrelated manner its social, economic, biological, and institutional aspects. The National Marine Fisheries Services has built a small but effective MRF staff who are engaged in research and liaison activities. Sea Grant Institutions have focused on MRF. Likewise, the Regional Fisheries Councils created under P.L. 94-265 have recognized that MRF is a critical component of their decision-making and that their present knowledge of MRF is imperfect.

In summary, we find that increasing numbers of people are participating in MRF. While the harvest question is as yet unresolved, there is good reason to expect harvest to be significant and worthy of closer managerial scrutiny. In

terms of economic impact, the fragmented industry that supports MRF is highly significant in the U.S. economy. Lastly, we find that the traditional fisheries management focus on commercial fishing is broadening to recognize MRF and its values.

The MRF—Tourism Linkage

Aside from economic impact studies like that conducted by Centaur, we often focus only on the on-site harvest aspects of MRF. It is easy to view numbers of fishermen, and their catch and effort as if they occur in a vacuum. It is possible to forget that MRF is often a part of a larger integrated tourism fabric. Marine recreational fishing cannot exist simply with an abundance of fish but rather there must be a means of access for fishermen and the necessary communities of service and infrastructure to support their activity. As Gunn (1972) points out in his book *Vacationscape* the relationships between attractions (in this case, marine recreational fishing), communities of service, and access linkages must be recognized if attractions are to function successfully. Thus, if we are to effectively develop MRF in the Caribbean, we must broaden the usual limited focus on fisheries to one that deals with people and the attraction—community—linkage tourism model discussed by Gunn. From past experience, we find numerous situations where fishing is excellent but private investment is precarious because necessary support facilities are lacking in the community or access to tourists is largely undeveloped. It appears that the functioning of MRF development is limited by that essential element of the system or combination of elements present to the least favorable extent.

The current tourism situation in the Caribbean and Mexico is mixed. According to the ASTA Annual Report (1977) the decline in tourism traffic to the Caribbean seems to have bottomed out. The total traffic to the region remains at about the same level as 1973. With operating costs up approximately 70% and many new resort developments, "the Caribbean tourism picture appears particularly dark." The visitor statistics for 1976 shown in Table I are down slightly from 1975. The Caribbean Tourism Research Center estimates that 90% of the hotels in the Caribbean may now be losing money. However, over a period of time they expect resort and tourist traffic to stabilize after the elimination of non-competitive properties. There appears to be a good understanding of the factors responsible for the stagnation of tourism in the Caribbean and generally there is optimism that certain problems will be eliminated so that the region will begin once again to enjoy the benefits produced previously. There do not appear to be many alternatives to tourism. In 1977 U.S. tourists spent about \$600 million in all the non-U.S. Caribbean islands (ASTA, 1977).

In Mexico, the picture is brighter. While foreign visitor traffic to Mexico has remained flat, domestic travel on the part of the growing middle class has helped to maintain traffic to resort areas. The administration of Jose Lopez Portillo seems to understand the importance of tourism—both in terms of enhancing foreign exchange and in creating jobs. Tourism spending in

Table 1. Total visitations to the Caribbean for 1976*

<u>Method of Arrival</u>	
By Air	4,096,237
By Sea	119,255
By Cruise Ship	2,185,390
By Land Routes (Columbia)	181,146
Returning Surinamese	14,594
Total	6,596,622†

* Data for Venezuela, S.A. and the Dominican Republic were not available.

† Data for the following countries are tallied here: Antigua, W.I. Aruba, N.A.; Barbados, W.I.; Bonaire, N.A.; British Virgin Islands; Cayman Islands, B.W.I.; Columbia, S.A.; Curacao, N.A.; Dominica, W.I.; Grenada, W.I.; Guadeloupe, F.W.I.; Haiti, W.I.; Jamaica, W.I.; Martinique, F.W.I.; Montserrat, W.I.; Puerto Rico; St. Kitts-Nevis-Anguilla, W.I.; St. Lucia, W.I.; St. Maarten/Saba/St. Eustatius, N.A.; St. Vincent, W.I.; Surinam, S.A.; Trinidad and Tobago; Turks and Caicos Islands; and the U.S. Virgin Islands.

Source: Caribbean Tourism Association, 1976.

Mexico is sizable—nearly \$1.8 billion (ASTA, 1977). This is a slight increase over 1975. With the devaluation of the peso, foreign travel to Mexico (and associated spending) is likely to increase greatly.

The new government in Mexico is giving high priority to increasing its tourist traffic and has set a goal of doubling the number of foreign visitors by 1982. This would mean an increase from 3 million to 6 million in six years requiring an average annual growth rate of 12 percent (ASTA, 1977).

The Mexican government has invested in a number of large resort developments and has increased its participation in many facets of the tourism industry — hotels, airlines, and various elements of the needed infrastructure.

Although we know how many tourists travel to the Caribbean and how much they spend, we have little understanding of their trip motivations or what attracted them to the region. We have limited data on how many people travel to the Caribbean expressly to fish or who, while touring, engage in fishing. The National Survey of Fishing and Hunting (U.S. Fish and Wildlife Service: 1972, 1966, 1961) presented the data in Table 2.

The data collected by the U.S. Fish and Wildlife Service can hardly be described as a longitudinal data set. However, we might expect between 100-200,000 U.S. fishermen to be among the 3 million visitors to Mexico each year. Also, despite only one observation, we might expect saltwater fishing currently to be more of an attraction than freshwater fishing in Mexico. No data is available on U.S. fishermen who visit the Caribbean.

Several enterprises provide access and support services to U.S. fishermen desiring to fish in Mexico and the Caribbean. When we contacted the various airlines to find which were involved in promoting fishing packages in the study region, we found only one — Braniff International. They promote package plans to Walkers Cay in the Bahamas; Ciudad del Carmen, Boca

Table 2.

Year		Number of Fishermen	Recreational	
			Days of Fishing	
1955	Number of Fishermen who fished in the U.S. and in Mexico	160,000		
1965	Number of Fishermen 12 years old and older who fished both in the U.S. and in Mexico	138,000		
1970	Fishing in Mexico	201,000		742,000
	Freshwater Fishing	18,000		55,000
	Saltwater Fishing	184,000		687,000
1975	No data collected on number of U.S. Fishermen fishing in Mexico			

Paila, Lake Guerrero, Pez Maya in Mexico; Turneffe Island in Belize; Nicaragua; Rio Colorado, Rio Parismina, Pez Vela, and Isla de Pesca in Costa Rica; and the San Blas Islands in Panama. Most of the packages include all food and accommodations at the fishing camps visited, local transportation to and from fishing camps, boat, motor, and guide. Package costs are on a per person basis and party size varies from 2 to 4 persons. Reservations for fishing packages are handled through either Braniff or specified tour operators.

We were unable to secure any data from Braniff as to how many people booked fishing-related flights to the Caribbean. However, one of the largest travel agencies in the midwest provided us with some information. Representatives of this agency estimated they had 500-800 fishermen per year visit Mexico. They also booked 300 per year to Belize and 1000-1200 to Costa Rica. The groups they booked were primarily singles and couples. The fishing seasons utilized for Mexico, Belize, and Costa Rica were January-June, January-May and May-October, respectively. Further investigation revealed that in Nicaragua a tarpon camp is visited by 160-200 fishermen per year. During the 5-6 month season, this averages 8 fishermen per week. We also learned about a hotel complex in the Baja California Sur that is visited by 175 fishermen per month during its 8-month season. Another hotel in the same region served 75 fishermen per month during the same period.

Few conclusions can be reached from the previous discussion. U.S. markets of an apparently sufficient size are now being served in the Caribbean and Mexico by airlines, tour package operators and on site fishing camps. Data on numbers of fishermen served are difficult to come by. One limited measure of whether these fishing tour packages to the Caribbean and Mexico are successful ventures is to compare the number of tours offered by Braniff in 1978 (11) with those offered in 1975 (5) (Braniff International; 1975, 1978).

MRF Research Emerges

To complement the national studies of fishing conducted by the National Marine Fisheries Service (1962, 1968, 1973) and the Fish and Wildlife Service (1961, 1966, 1972, 1977), a research program was initiated in the Department of Recreation and Parks at Texas A&M University in 1974. The program was oriented toward recreational fishing on the Texas coast. The major research task was to predict the nature and extent of sport fishing behavior and related expenditures in the Texas coastal zone. Public-related goals were to provide economic impact data to support state management and local development decision-making. Private sector goals were to collect and analyze marketing data to optimize and guide coastal fishing and related industries. The following coastal fishing sectors were delineated and prioritized for study: (1) bay fishing [charter and party boat], (2) gulf fishing [charter and party boat], (3) pier fishing, (4) gulf fishing [private boat], (5) bay fishing [private boat], and (6) surf and jetty fishing. For each of these fishing sectors, research goals were as stated in the following example of gulf fishing (charter boat):

- A. Operators
 - identify and describe operators and industry organization
 - feasibility of business
 - secure charter financial information — gross revenue, expenses, net profit before interest and taxes, initial investment and yearly break-even
 - identify problems encountered with other marine sectors
- B. Fishermen
 - secure socioeconomic description of participants for marketing purposes
 - identify market segments of the population based on participation variables
 - identify motives for marine recreational fishing
- C. Economic Impacts
 - estimate expenditure associated with charter fishing
 - calculate total direct and indirect economic impact of charter fishing expenditures
 - establish economic importance of charter fishing businesses to coastal communities
- D. Spatial Studies
 - establish area patterns of fishing as input to artificial reef location decisions

We identified 88 charter fishing businesses on the Texas coast in 1975. The study revealed that the Texas charter industry lacked a formal industry organization, was composed of small independent businesses which yielded insufficient cash to keep operators in business full time, involved operators who were primarily concerned with the life style afforded by charter fishing and was an integral part of the state's tourism industry particularly at the local level (Ditton, Jarman, and Woods, 1978). Next we identified the

characteristics and motivations of Texas charter boat fishermen. Profiles were compiled for the following: (1) the socio-demographic characteristics of place of residence, age, income and occupation of charter fishermen, (2) their participation in charter fishing, (3) reasons for participating in charter fishing, and (4) opinions fishermen had about their charter experiences. Thirteen motives, indicative of some of the reasons fishermen go charter fishing, were identified using factor analysis. Implications of understanding fishing motivations were drawn for the entrepreneur to make changes in his operation. If a charter operator knows the type of fishing group in advance of the charter and has an understanding of the reasons why people go charter fishing (i.e. fishing challenge, escape, social experiences) he could better seek to provide for these particular needs (Ditton, Mertens and Schwartz, 1978).

With a knowledge of how many charter fishermen there are and how much they spend, we established the economic impact of charter fishing on the Texas coast. Charter fishermen spent approximately \$4,209,058 in coastal communities while charter fishing in 1978. This resulted in a total impact on the State of Texas of \$13,767,169. Port Aransas, Texas was the major fishing community on the coast where \$1,792,596 was spent, 43% of all charter spending. Since 96% of all charter fishermen came from outside Texas coastal communities, charter fishing is an export commodity and all monies injected are new monies. The Texas charter fishing industry is supported by approximately 10,776 fishermen who each spent about \$391 in 1976 in pursuit of their sport (Ditton et al., 1977).

Offshore reef areas used by Gulf charter/party boat operators were studied by Ditton and Graefe (1978). Of the 100 Gulf charter/party boat vessels studied, 72 used the Liberty Ship reefs deployed in offshore waters. These reef using operations reported a yearly average of 188 trips into the Gulf. However, of the 4,895 trips made into the Gulf by the reef using operations, they reportedly made only 600 trips or 12% of their trips to the Liberty Ship reefs. Another related sub-project sought to identify the extent to which oil platforms offshore from Freeport and Galveston, Texas were used in 1977 as reefs by charter/party operators working from these two ports. The 11 operators who responded (of 13) made an estimated 2,400 trips into the Gulf and of these, 545 were to offshore oil platforms. This was approximately 23% of their total fishing trips (Ditton and Graefe, 1978).

These study findings reported here are intended solely to serve as examples of the kind of research completed at Texas A&M. Other work has focused on party boat fishing (Woods, 1977) and private boat bay and Gulf fishing (Ditton and Graefe, 1978). Much other work on these topics has been completed in other regions of the U.S. and are reported in the technical literature (Brown and Holemo, 1975; Ditton and Strang, 1976; Strang and Ditton, 1976; Graefe and Ditton, 1976; Murray, 1975; Murray, Sutherland and Gratzner, 1976; Prochaska and Cato, 1975; Groene, 1973; Etzold et al., 1977; Frazer et al., 1977; Coastal Zone Resources Corporation, 1972; Ditton, 1977; Bryan, 1976).

From the previous discussion, we can conclude that there is a growing research base upon which to base MRF development decisions both in the U.S. and abroad. Those seeking to develop MRF in the Caribbean will find

that there is considerable literature on commercialized recreational fishing ventures, their feasibility, their markets and their local impacts. These provide a good basis upon which to make generalizations if one desires to do so.

IMPLICATIONS FOR MRF DEVELOPMENT IN THE CARIBBEAN

There appears to be sufficient numbers of fishermen traveling to the Caribbean and sufficient available information on commercialized MRF enterprises for development to proceed. Development efforts can be enhanced by governmental action, by private investment, and by the combined interaction of public and private sectors.

First, Caribbean governments who are actively involved in financing and/or promoting tourism in their countries need to recognize the systemness of this tourism. Not only must markets be identified, visitor perceptions understood, access provided, accommodations developed, and communities of service available, there must also be access to the sea for those who wish to pursue MRF. Once this system is recognized and developed in a coordinated fashion it may induce a tourism demand that did not exist previously.

Within government, efforts need to be made to coordinate activities between tourism and fisheries agencies. In Mexico, for example, President Lopez Portillo reorganized several tourist departments, merging them into one agency under the joint directorship of the Consejo (The National Tourist Council) and the Ministry of Tourism. The reorganized Ministry of Tourism supervises such government-operated tourist development trusts as Ixtapa, Cancún, Fonatur, Somex, National Hotelera, Aeromexico (which moved from the Ministry of Communicators), the government-owned stock of Mexicana Airlines, airports, and other government-controlled tourist services (ASTA, 1977). Hopefully, there is a good liaison with the Department of Fisheries. In this way, matters besides fisheries protection (namely, MRF development aspects) can be considered as an integral part of tourism development.

With regard to private sector MRF development efforts, most relate to private investment. Although our knowledge of MRF markets (those fishermen who desire to fish in the Caribbean) is partial, there is a sufficient number of on-going MRF-related enterprises in the Caribbean that appear to be successful and that can be studied for transfer of knowledge elsewhere. From our studies in Texas and elsewhere, we have a good understanding of MRF business feasibility. For each type of charter/party boat business in Texas, we have an understanding of the investment needed and the earnings before interest and taxes (Woods, 1977). Gulf charter boat operations, for example, require a sizable investment (\$25,554) and produce the smallest earnings before interest and taxes of any of the five charter/party boat types studied (\$4,265). Similarly, few marina developments in Texas today show a return on investment. Most of the marinas being built in Texas are associated with real estate developments and serve as a "loss leader" to attract property buyers to the resort. The marinas help to create an image and assist in marketing the total development. The cost of the marina is underwritten by all of the other components in

the resort complex (Crompton and Ditton, 1975). So too, many MRF enterprises may have to be developed as loss leaders at major resort areas in the Caribbean if they are to be developed at all. To ignore this strategy is to accept no return on investment and/or the lifestyle benefits associated with MRF enterprises as sufficient. This is hardly the basis for lasting MRF development in either the Caribbean or the United States.

While MRF enterprises are often less than a financial success to their investors, they have sizable economic impacts on shoreland communities and their peoples. These impacts are particularly important in those areas where unemployment is high and where there is limited potential for alternative export industries. Perhaps one of the most outstanding examples of public/private sector cooperation in MRF development is provided by the Northern Ireland Tourist Board in their decision to subsidize their nation's "sea angling" enterprises (Northern Ireland Tourist Board, 1972). Their goal was to exploit "sea angling" as a tourist attraction and to be able to compete for European markets that previously might take advantage of fishing packages in Norway, Iceland and Portugal. A fisheries reconnaissance revealed that there were sufficient quantities and varieties of fish in Northern Ireland's coastal waters to attract European fishermen on a "packaged holiday basis." However, the Tourist Board found that there were no modern and well-equipped boats available to provide access to coastal waters. Further, their studies concluded that there was no prospect of interesting private investment in the full time operation of charter boats given the high cost of initial investment. Accordingly, the Northern Ireland Tourist Board recommended a grant-in-aid program to provide private investors with reasonably attractive returns and at the same time to help to develop a small but nonetheless valuable new tourist attraction. Policies established by the Board speak to the nature of the grants available, criteria for boats and equipment, and other related financial matters. The policies of the Northern Ireland Tourist Board recognize that the attendant secondary spending benefits more than justify financial assistance to the charter operators and that by raising the rate of return on capital invested, they help to stimulate private investment. Irish tourist authorities recognize that the poor financial returns to operators must be overcome if economic impact (local and national) potentials are to be realized. Similarly, the Fishing Vessel Capital Construction Fund Program in the United States, authorized by Section 607 of the Merchant Marine Act of 1936, as amended, provides some tax incentives for constructing, reconditioning and/or acquiring charter and party boats (National Marine Fisheries Service, 1978).

In conclusion, we need to place MRF development in some perspective. In international fisheries development work, priorities appear to be as follows: First, develop local subsistence fisheries; second, develop the nation's seafood industry; and third, create jobs and economic impacts through indirect spending associated with recreational fisheries development. This paper addresses this third priority area because few efforts have previously addressed the development potentials of MRF and because it seems appropriate for the Caribbean region.

ACKNOWLEDGMENTS

I want to thank all of my present and former graduate students whose work on MRF problems and topics has assisted me to write this paper. Special thanks are due to M. Macintire for his assistance in data collection and contacts with private sector operators.

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