

Tournament Billfishing: A Sociological Perspective

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ABSTRACT

Data from eight billfish tournaments indicate that "fishing success," as normally defined, does not seem to be a significant factor in determining participation. Participation in billfish tournaments is often the result of a progression of activities in the field of sportfishing. Insofar as social and cultural factors shape and support the progression toward billfish sportfishing, and the billfish tournament, itself, an adequate understanding of those social and cultural factors is necessary for both scientific and management purposes. Additionally, the situational and personal characteristics of the fishermen, themselves, need to be explored in order to determine their importance in regard to the way in which they match up with the sociocultural factors. Further research is needed which will focus on 1) the matchup of personal and situational characteristics and the socio-cultural milieu, and; 2) patterns of recreational participation in the billfish fishery outside of tournament settings.

INTRODUCTION

Recreational billfishing, in general, and tournament billfishing, in particular, are activities of both policy and theoretical importance. Almost all catches of billfish in U.S. waters are by rod and reel (recreational fishermen) from privately owned or chartered vessels. Sport billfishing occurs in every Gulf and Atlantic state, in Puerto Rico, and the Virgin Islands. At the turn of the decade, more than 20,000 vessels were catching upwards of 80,000 billfish within the U.S. FCZ alone (NMFS, 1979). It is estimated that 70% were released (SAFMC, 1982). It has been estimated, too, that retail sales associated with all recreational fishing, in 1980, totalled nearly four billion dollars (Radonski *et al.*, 1986:6), exclusive of assessing equipment for recreational boats! For one multi-species fishing tournament alone, it was estimated that nearly \$432,000 were spent only for the offshore division (mainly billfishing), and this figure excludes incidental boat necessities. The onshore division spent about 10% or less of the total dollars spent during the tournament (Ditton and Loomis, 1985). In 1982, the SAFMC estimated that it cost \$350 per boat day to billfish (CPUE was estimated to be 0.27 billfish per boat day).

As a sport which generates such large number of dollars each year in the United States alone, billfishing deserves a great deal of attention. Along with this, there is concern over the pressure on the resource from recreational activity, in addition to such pressure from direct or indirect commercial fishing (*e.g.*, bycatches from tuna longlining; see SAFMC, 1985).

As a leisure activity, recreational billfishing may stand alone. It is a sport which demands a considerable investment of time and money. It is glamorous from the standpoint of the vessels and gear, entertainment, skill, risk, and even specialized clothing. It is, indeed, an activity which deserves the much utilized social scientific label "subculture." All of the elements are present—specialized technologies, values, beliefs, myths, a specialized language, norms (customs)

and costumes (DeFleur *et al.*, 1981: 98-99). It is also a leisure activity where growth (until recently) under a generous set of tax laws and a favorable economy for middle to upper income Americans has occurred.

Who constitutes this growing sector of America's leisure class? What drives them into billfishing and tournament activity? What keeps them there? What allows or forces them to leave? What role does "fishing success" play?

These are the questions this paper attempts to address. In doing so, we hope to provide data which will stimulate interest in further research, be useful to policymakers, and contribute to our understanding of the sociological dimensions of recreational fishing.

RESEARCH DESIGN

East Carolina University was contracted by the South Atlantic Fishery Management Council to conduct a study of recreational billfishing. Because of funding limitations, the research was confined to tournament fishing. Funds were available to visit eight tournaments, and, as best as possible, represent the range of types of tournaments, and the regional flavor in which they were held. This was not an easy task in light of the fact that about 340 billfish tournaments are held in U.S. and nearby waters annually. In consultation with knowledgeable fishermen, scientists and managers, we chose:

1. One tournament in Florida representing the high prestige, release emphasis, sailfish oriented tournament.
2. Three tournaments in the Gulf of Mexico—one in the western gulf, one in the central region, and one in the east—with emphasis on blue and white marlin, and with calcutta (paramutal) gambling.
3. One in the Bahamas (similar to the Gulf tournaments); one in Puerto Rico (similar to the sailfish tournament).
4. One in the Mid-Atlantic with the emphasis on prize money, and white marlin oriented.
5. One in North Carolina representing an interesting mixture of release, calcutta, and species, and which is felt to be in the middle of a continuum one could construct indicating different format mixes.

More detail on the general focus of the contracted study can be seen in Orbach *et al.* (1986).

But, before proceeding to the analysis, a further explanation of the distinction among tournaments is necessary. Many involve high financial stakes based mostly on the size of fish caught. Daily and overall prizes are awarded. In most of these same tournaments (the trend is gaining momentum), fishermen can opt for releasing fish and obtain trophies or prize money based upon points (fish caught and released). These tournaments are labelled here Mixed Format (or MF). They vary in "prestige," according to our information from key informants in the industry. Five of the tournaments we studied fit into this category.

Two of the tournaments we studied were considered to be high prestige invitationals, with constraints on entry, do not contain calcuttas, as far as we could see, and emphasize the tradition of the tournaments. One was a kill tournament, but a great deal of pressure is being exerted toward release. The other was strictly a release tournament. Both emphasized skill by awarding or deducting points on the basis of time involved in catching or releasing fish. We labeled these tournaments P1.

One tournament fell in between the other two categories. It has a great deal of history and tradition, is an invitational in the true sense of the term, has both a kill and catch/release option, and has, by comparison, a modest calcutta. We labelled this tournament as P2.

Structured interviews were conducted during the eight tournaments with 143 fishermen selected on an availability basis for reasons stated elsewhere (Orbach, *et al.*, 1986); 140 interviews were usable. Because we were not able to utilize a statistically based random sample, we could not use inferential statistics in our analysis. The study was designed as pilot research and the findings must be judged in that light.

DATA

Fishing Success

One could reasonably hypothesize that fishing success affects one's willingness to sustain participation in the billfish fishery. After all, catching fish is what it's supposed to be all about! This was the working straw man hypothesis from which we operated.

In addressing this question we asked the respondents two key questions. First we asked how they rated their previous year's fishing success (we had already asked how many fish were caught, what size, species, and so on). Then we asked how the previous year's success had affected the current year's fishing patterns. The results are rather startling and are presented in Table 1.

Notice that nearly two thirds of the 116 respondents answering the question reported that the previous year's fishing was not good. Their responses to the bad year ranged from increasing effort, changing gear and technology, or areas, or in one case, the person changed tournaments. Overall, 23% of the people who had experienced a poor year made changes. But 72% did not.

Table 1. Effects of perceptions of previous year's fishing success on current year fishing activities (row percentages in parantheses).

Previous Year Fishing Good	Current Year's Activities						Totals
	Increased Effort	Changed Technology	Changed Fishing	Changed Tournaments	Reduced Effort	No Change	
No	7 (9.3%)	6 (8.0%)	3 (4.0%)	1 (1.3%)	4 (5.3%)	54 (72.0%)	75 (99.9%)
Yes	4 (9.8%)	4 (9.8%)	2 (4.9%)	2 (4.9%)	2 (4.9%)	27 (65.9%)	41 (100.2%) 116

(Note: These are first responses only. Multiple responses were possible. Also, these distributions are based on 116 usable responses. A number of respondents had not fished during the previous year.)

Also notice that, among the third with a "good" previous year, the percentage patterns are nearly identical, or at least not very different!

To be sure, one year's data are not sufficient to warrant the conclusion that fishing success has no impact, but it does give us leads, and demands that we push farther into the data. There are two areas, too, which should be considered as to their impact on how such responses of "success" are interpreted.

The first has to do with the angler's perception of a good or bad year. When he or she reports a bad year, and then claims to have done nothing to change, is it possible that (s)he determined that nothing he or she could do would affect success? To put it another way, if an angler believes the bad year was due to bad weather, a phenomenon clearly beyond the respondent's control, why would a shift in effort or technology improve his or her chances for success? A similar line of reasoning could apply to responses in the "good year — no change" category.

Another point to ponder is this. The question we asked about "catches of billfish last year" did not address factors which affect how an angler labels catches leading to the interpretation of a "good" or "bad" year. We do not know how many hookups the respondent had, or how many billfish were seen. Also, of the three to four anglers on board fishing, even if the respondents did not catch a fish, did any of the others? Falk *et al.* (1983) have reported that group catch levels affect satisfaction with specific fishing trips. If any of these factors are positive, the angler's perception of overall success increases, if not for himself, then for billfishing in general.

However, we did as a series of questions, in a very general way, to allow the respondents to tell us the factors which would either force them to cut back billfishing, tournament billfishing, or cut those activities out altogether. The results are shown in Table 2. Notice how few respondents consistently indicate that poor fishing would affect their activities (including 0 in the first category). Also note that some respondents persisted in a stance of reporting "nothing" could make them reduce or quit fishing. In such cases, we raised the possibility of death and they would respond "that would be the only reason" (some gave death initially and we categorized such responses under health/personal problems). Financial and work related problems revealed the highest percentages in four out of the six categories.

Our next step in the analysis was to examine the progression of fishing activities, from general recreational to tournament billfishing. In this way, we could again allow the respondents to assess fishing success as a factor, or report other influences.

Fishing Practices Progression

We may begin by breaking the concept of "progression" into three parts:

1. The length of time a respondent has been recreationally fishing in general.
2. Length of time fishing for billfish.
3. The year when the first tournament was entered by the largest number of respondents.

Because billfishing tends to be a form of specialization of recreational fishing, and tournaments a further refinement of billfishing, one would predict that the billfishermen fished recreationally long before they entered a tournament. One might also hypothesize that the individuals in P1 tournaments

Table 2. Respondents' self-defined reasons for reducing or eliminating fishing activities* (row percentages).

Self-Defined Reasons	Health/Personal Problems	Financial/Work Related	Poor** Fishing	Nothing***
Reduce Recreational Fishing Generally	25%	39%	0	16%
Reduce Billfishing Outside of Tournaments	23%	39%	8%	16%
Reduce Tournament Billfishing	17%	47%	12%	2%
Stop Recreational Fishing Generally	35%	23%	10%	24%
Stop Billfishing Outside of Tournaments	29%	27%	9%	16%
Stop Tournament Billfishing	17%	33%	10%	10%

* First reasons given only. Multiple reasons could be given. Rows will not total 100% since all responses are not presented.

** For some, this literally meant —no fish at all.

*** These respondents could not conceive of anything to prompt reduction or quitting except death (when the interviewer prompted them with such a possibility).

comparatively have the most fishing experience. One way to have achieved prestige—or be recognized by a prestigious tournament committee that issues an invitation—is to fish consistently, and successfully, for a long time. The results of the data analysis support such predictions and are seen in Table 3.

A definite increase occurs in experience (by years) as one moves from grouping MF to P1. It is also interesting to observe that the groups of P1 and P2 enter fewer tournaments per year (means equal 3 and 4, respectively) than the grouping MF. This may very well indicate changing perceptions of what is a satisfying tournament for the two groups. It may only be that more “prestigious” tournaments give more satisfaction to anglers than others. Or another reasonable hypothesis, born out of conversations with anglers in the field, is that as one fishes a longer time, an angler begins to add in a yearly, or biannual, billfish “fix.” That is, an angler may only enter three tournaments per year but he is also traveling to Venezuela or the Great Barrier Reef where he is almost assured of catching good quantities of fish. We found this to be true among some anglers in each of the other types of tournaments as well. Most indicated that Venezuela was the area where they preferred to fish, just to catch fish. In light of the papers

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Table 3. Number of years respondents have fished recreationally, have billfished, and year when most respondents entered their first tournament.

	P1	P2	MF
Years Recreational Fishing	Mean: 31 Mode: 30	29 15	26 20
Years Billfishing	Mean: 23 Mode: 30	16 7	13 10
Year When Most Respondents Entered First Tournament	Mode: *	1979-80	1979-80

*P1 does not exhibit such a mode. Respondents entered on an incredibly even basis from 1936 to 1977.

given in the session entitled "Marine Recreational Fisheries: Linking Fisheries and Tourism in the Caribbean," we will discuss alternative fishing contexts further below.

Four other questions related to fishing practices progression are addressed in Table 4. These are:

1. How did the angler become interested in billfishing?
2. How did the angler become interested in billfish tournaments?
3. Why did he or she enter that specific tournament (the one we were visiting at the time)?
4. Similar response patterns are seen over and over again: friends/kin, serendipitous association, and natural progression, and, to some extent, sport and recreation.

The category of "natural progression" may be seen as describing a more individualistic decision by the angler, whereas the other reasons cited are more situational and environmental. Natural progression is an active decision (self-defined by the anglers), as are sport and recreation. On the other hand, friendship groups, kinship groups and serendipity are types of cultural contexts in which the angler is embedded as a person.

The anglers appear to have, more or less, "fallen into" billfishing by association with certain people and specific situations. While natural progression accounts for approximately 12 to 30% of the reasons cited for interest in billfishing, it does not stand alone. Rather, it is the multiplicity of factors working in conjunction that induce the angler to first go billfishing. Interestingly, sport does not appear as a factor for developing interest in billfishing in any of the tournament categories.

Sport is still not an important response when the angler was asked how he or she first became interested in tournament billfishing. The percentages reflecting such an answer are low in all groups. Instead, friendship, serendipity and natural progression are the most notable response categories.

The slightly different question of "Why do you enter billfish tournaments?" is where the response "sport" finally appears with a noticeable percentage. In

Table 4. Responses to questions indicating sportfishing progression categorized by type of tournament (column percentages).

Tournament Types			
How Anglers Developed Interest in Billfishing*			
	P1	P2	MF
Friends	18%	43%	20%
Kinship	14%	5%	23%
Serendipity	25%	5%	26%
Natural Progression	14%	29%	12%
How Anglers Developed Interest in Billfish Tournaments*			
	P1	P2	MF
Friends	20%	35%	19%
Kinship	8%	0%	14%
Serendipity	16%	5%	18%
Natural Progression	12%	5%	13%
Sport	4%	2%	8%
Why Anglers Enter Billfish Tournaments*			
	P1	P2	MF
Sport	27%	43%	42%
Recreation	15%	10%	21%
Financial	8%	10%	10%
Friends	15%	14%	7%
Social	15%	10%	3%
Tournament Prestige	0%	5%	0%
Why Anglers Entered Specific Tournament*			
	P1	P2	MF
Friends	23%	10%	11%
Serendipity	19%	10%	21%
Club	39%	29%	5%
Tournament Prestige	4%	14%	6%
Sport	0%	14%	8%
Recreation	4%	14%	8%

*First response given. Multiple responses were possible. Percentages do not total 100 because not all categories are represented.

fact it was first in all tournament categories. Groups P2 and MF respond with "sport" as a reason to enter tournaments at higher percentages than for the P1 grouping. This discrepancy may be considered to be a result of the "mellowing of the billfish angler." As the anglers of P1 have been participating

in all types of fishing for a longer time than the others, one might reasonably expect some sort of relaxation of zealousness for the sport. On the other hand, as noted previously, more of the anglers of P1 may be getting their sport "fix" elsewhere, and so are entering tournaments for more socially gratifying reasons.

Finally, as one might expect, those in P1 entered the specific tournament we visited primarily because of "friends" and "club affiliation." "Sport" was not mentioned at all. Conversely, the P2 and MF groupings answered in more diverse ways.

Financial Considerations

Billfishing is expensive, as we noted in the opening statement. It is a sport in which few can participate. It is an active and strenuous sport, hardly fishing in the sense one social scientist has labelled as a "passive" leisure activity (Strauss, 1974).

Tournament billfishing can add a great deal of expense, even if entry fees are comparatively low. Respondents reported to us that costs for all recreational fishing can range from ten to three hundred thousand dollars per year. Net costs for tournaments for a year can range from \$1,500 to \$300,000.

In addition to amortized vessel costs, maintenance and operation, costs accrue from ice, bait, tackle, and food expense. In one location ice was \$8 per bag (c.10 lb). One boat owner had installed a desalinization plant and three icemakers on board for convenience and cost savings.

Food and drinks are made available to virtually anyone connected with the billfishing scene. Owners are extremely generous and enjoy entertaining. One must keep in mind that these are successful professionals and businessmen, and entertainment is a very routine part of their work/leisure patterns. What one sees at these tournaments is the dockside version of "tailgating."

The calcutta is a form of gambling as familiar to billfish tournaments as the marlin itself. These are the principal features:

1. It is voluntary.
2. Entries can be made either on the basis of individual anglers, or, more commonly, by boats or fishing teams, depending upon the tournament format.
3. There are daily prizes and overall tournament prizes, and for a variety of fish — largest marlin (blue/white), largest sailfish, tuna, dolphin, etc. Some calcuttas are narrow, others large in scope, in regard to species.
4. The prize money is determined by the number of entries and size of entry fee. It is, in essence, a sort of paramutual betting system.
5. "Daily's" can range from about \$1,000 to \$10,000 or more; overall prizes range from about \$25,000 to a reported but unconfirmed winner-take-all \$750,000 (the entry fee in such a tournament was reported to be \$5,000 per boat X 150 boats). Many tournaments will manifest a \$1,000 entry fee; \$10,000 daily first prize; and an overall prize of 50 to \$100,000 for the largest blue marlin, followed by second and third places for blue marlin; first, second, and third places for white marlin; and, in some cases, prizes for sailfish and tuna.
6. The fish must be brought to the dock and weighed in order to qualify.

Tournament officials and fishermen are reluctant to discuss calcuttas. They are defined as separate from prize money and/or trophies which are based upon points. The "mainstream" of billfish tournaments, from what we've been able to

determine, focus on points per fish, with a minimum number of points awarded, regardless of the size of the fish, *e.g.*, 200 points for a blue marlin, if it is released. Otherwise, the points awarded are usually one point per pound. For white marlin or sailfish, the points for release are normally less.

Calcutta's, however, complicate the mix of kills and releases. One may be faced with a 175 pound blue marlin, worth 175 points if killed, versus 200 or more if released, against a daily or overall (first, second, or third) calcutta only if the fish is brought to the dock.

A member of the research team was on a boat in a tournament during the study, and witnessed a hookup with a blue marlin. The captain owner and anglers were very experienced, and had had plenty of marlin fishing success. As the fish was brought nearer the boat, the angler yelled up to the researcher on the bridge — "How big is he?" The answer was, "Holy —, he's big! His length is the size of transom." "Bring him on," yelled the captain. He's money in the bank." The fish was brought aboard and all of us knew he had to place in the calcutta. He was at least 15 feet long. The blue weighed in at 373 pounds, just barely placing third in the overall calcutta (fishing was very good in this particular tournament). The prize — \$7,500, more than enough to cover tournament expenses, including a costly boat repair, and about \$1,500 per angler. As we departed, one angler, who was keenly interested in our research paused, looked at the marlin, gently grabbed his arm and pointed (to the fish) while he exclaimed, almost with sadness, "The calcutta killed that fish."

He was right. Had there been no calcutta, or had it been based on points, similar to the trophies, that particular fish would not have been brought to the dock that day.

At one tournament, an ECU researcher interviewed a person who had recently won over \$100,000 in a calcutta. "I'm fixed for at least four to five years in tournament fishing," he said. Quite an incentive. The fishermen in our sample are not unfamiliar to winning; 61% have at least one first place, 59% at least one second, 58% one third.

When we separate the data by P1, P2, and MF categories, we see some different results. The P2 and MF tournaments differ slightly in regard to first and second places, and a bit greater in regards to thirds (Table 5). Tournament structured prize money shows some differences among the categories. However, large differences appear in regard to calcutta money.

The P1 category shows noticeably higher percentages of first and seconds. Note, too, the drops in percentages winning prize and especially calcutta money. Again, this confirms the fact that these tournaments select out on fishermen with interests other than prize and calcutta money.

It should be stated that, overall, regardless of type of tournament, winning translates itself into prize and calcutta money. Fifty two percent of the sample responding to the questions on these matters have won tournament structured prize money (68 fishermen). And, as seen in Table 5, the percentage is notable in all three categories. Over half have won calcutta money.

For 19% of the sample, money offered in tournaments (prize money and calcutta's) affects which tournaments are entered. For one of the high prestige tournaments, only one respondent did so.

Of the total sample, 16% choose fishing companions on the basis of prize money potential. This was accounted for by the respondents in the five MF tournaments. Eight percent select a vessel on the basis of potential winnings,

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Table 5. Winnings data by tournament classified by P1, P2, mixed.

Trophies Sample	Tournament Types			Total
	P1	P2	MF	
Percent Winning at least one first	67%	55%	60%	61%
At least one second	71%	53%	58%	59%
At least one third	60%	63%	55%	58%
Tournament Prize money	44%	55%	54%	52%
Calcutta Money	29%	76%	56%	54%

again mostly accounted for by the respondents in the tournaments noted above. Thus, one can infer that the cost/return ratio is important from the standpoint of tournaments entered for some and, therefore, how the resource is pressured.

There are many aspects of calcuttas we could not formally pursue, partly because of time constraints, but mostly because of the sensitivity of the issue. Anglers are very reluctant to discuss it. In-depth information can be gathered only through key informant research.

It is our belief that the recreational fishing community is split on the question of calcutta's, as currently formatted, in tournaments. A significant number want them formatted on some kind of point system, for conservation purposes. Others want to keep things as they are. That posture is suggested by the fact that 14 respondents (10% of the sample) indicated that they entered tournaments for financial reasons, i.e., to make money, as a first response to a question on the subject. Some of our respondents reported moving through a regular, annual circuit of fishing tournaments, based on where the best chances of financial success were located. Some fishermen who do not enter calcuttas feel the same way in regard to "regular" prize money and/or trophies.

Note, too, how this translates into fishing "success." It is not a question of catching X amount of fish, at certain sizes. It means catching "whatever it takes to win," even if it is only one fish, not matter the size. Recalling we found that most respondents (more than two-thirds) did not intend to change their annual fishing format, even when they reported that the previous year's fishing was not good, that response pattern is better understood with the calcutta concept in mind. This is not to mean that other factors are not involved. They are, as we have already discussed, and will do so again below. It does mean that a number of billfishermen define success, and pattern their fishing years, in terms of winnings rather than in terms of a specific number of fish — "whatever it takes to win."

A SOCIOLOGICAL PERSPECTIVE

We have presented evidence to indicate that fishing success, as traditionally defined in terms of catches (size, quantity, species) does not impact participation in the recreational billfish fishery in a way we might intuitively expect. We recognize that we are dealing with one point in time, and poor success (as matched with expectations) over time might produce different results, that is, more in an expected direction. Nevertheless, we would argue that factors other than fishing success in the traditional sense need to be recognized as crucial variables in creating participation levels, i.e., directions and levels of participation. We have cast these variables in subcultural terms. This is not to denigrate the value of the catch. Indeed, it is very important, as Johnson *et al.* (1986) have illustrated in their research. It is to locate the catch within a broader context.

Our findings are not inconsistent with those of Fedler (1984) who focuses on the issues at more of a social physiological level. He surveyed 13 research reports and publications, and also conducted a study of charter customers in Maryland. In discussing motives for fishing, he notes, "The relatively low priority marine recreational fishermen place on catching fish as an outcome from the experience . . . confirms what had been reported in previous literature (p. 81)." But, when discussing satisfaction, he notes, ". . . when all factors are considered simultaneously, the number and kinds of fish caught played a major role in determining satisfaction (p. 81)." This seemingly contradictory set of statements is clarified by the conclusion, ". . . the importance of the number of fish caught seems to be a subjective evaluation . . . since neither differences in the number of fish caught . . . nor the groups in which they fished . . . had any relation to overall satisfaction . . ." (Italics mine, p. 81).

Jeffrey Johnson of East Carolina University (Institute for Coastal and Marine Resources) recently commented to the senior author on the role of motivation and satisfaction, as they relate to fishing choices over time. He hypothesized that angler motivation is probably influenced by long term fishing successes, while satisfaction is influenced by more discreet periods of time, such as a specific fishing trip. He then argued that the motivation to fish can remain stable so long as average catch rates, over time, do not drop below some threshold. The exact level of such a threshold may vary among individual fishermen.

Another fruitful way of discussing the catch rate issue is to compare it with commercial fishing. Study after study has confirmed that that occupation is understood best in subcultural terms (Acheson, 1981; Maiolo *et al.*, 1981). The elements which attach to and surround the harvesting exercise, and the social psychological and cultural supports within the fishing community anchor it as a way of life, not just a way of making money. And, of course, this is clearly recognized in management regulations, such as the Magnuson Act, which call for cultural data in the development of fishery management plans. It is also the case, we suspect, why impact studies must be done before fishery management plans are implemented.

The commercial fisherman's cognitive map contains more than elements of the sea, the bottom, and it's resources. So, too, with the recreational fishermen we would argue. Clothing manufacturers know as much or more than many of us about these phenomena. Notice the kinds of shoes, sunglasses, raingear, and shorts among those who participate in the billfish scene. Notice, too, the

ethnometeorology and ethnoceanography—the folk beliefs about weather, water temperatures, the contour of the bottom and “good fishing.” Notice the ethnoichthyology, as the anthropologists have labelled the folk beliefs about fish. Anyone who has participated in fisheries management knows plenty of fishermen who believe they can tell us, with a great deal of certainty, in their own minds at least, why fish stocks are abundant, or on the decline; why this year’s stock has big fish, last year’s small ones, and so on.

The cognitive map of the recreational billfishermen, too, reaches far and deep. Catching fish is but one element. The social supports to keep going are strong for many.

But why, then, would some leave the sport? And, captains with whom we have talked say there are quite a few who do so. Is fishing success, or lack of it, the answer for them? We would argue, no. The answer is speculative at this point, but we would hypothesize that it rests with the nature of the fisherman, himself.

Consider this line of reasoning. Some enter and stay because of the convenience of their residences, opportunities, and/or successful social relationships. They like to fish and the ambience is supportive. They are fully satisfied. But, some leave in spite of satisfaction, not because of it. They move on to other forms of high powered leisure (*e.g.*, big game hunting). Motives stay the same; as do the elements of satisfaction in a theoretical sense. But the empirical referents shift to another area. The fish have little or nothing to do with it. Indeed, we have interviewed people who have stated that the fishing for them has been great, but they are not sure how long they will continue. Just as a set of fortuitous circumstances led to billfishing in the first place (serendipity), similar circumstances could take them to other activities after a certain period of billfishing without shifts in motivational and satisfaction variables in a conceptual sense.

Thus, we would argue that a thorough understanding of billfishing, as a recreational activity, must rest with the understanding of the personal circumstances of the fishermen, in combination with the subcultural supports within the industry, itself.

POLICY IMPLICATIONS

Management, then, cannot rest solely upon the belief that catches alone will determine the nature of fishing patterns in the industry. To be sure, there will be plenty of activity from the fishermen to affect catches—*e.g.*, the trend toward release in the hopes of increasing the CPUE. But, the presence of the calcutta, as much from the bragging rights associated with winning as the dollar value, will affect fishing, at least as much in our estimation. And, if not the calcutta, something else. That is, whatever becomes cherished, scarce, and valuable to these high powered individuals will sustain the activity for some. For others, situational, and even serendipitous factors, will move them on to other activities. Those who devise policies will need to know how activity vectors are created and sustained. Further, at this point the limited information we have is from a relatively small number of tournaments. Data obtained from fishermen outside of tournament settings, it seems, is a necessity, and from both private vessel and charter boat fishermen.

This study also has implications for recreational fishing initiatives discussed during the session of this conference entitled “Marine Recreational Fisheries:

Linking Fisheries and Tourism Development in the Caribbean." Locations mentioned in the presentations are offered as possible areas of good sportfishing alternatives to current areas, and as depending upon infrastructure developments such as marinas, hotels, lodges, transportation, etc. Our study would indicate that, to the extent that fishing is perceived as good (or better than current locations), the attraction of sportfishermen to the areas is a seasonable and attainable goal. These are the places where the sportfishing "fixes" are obtained.

Over the long run, however, subcultural supports, including social network development, would seem to be necessary if the goal is to maintain an attraction to the area(s) when low points in the fishing harvest sector appear. Venezuela, for example, was viewed as a fruitful alternative during 1984 and 1985. The perception we have picked up during the interviewing phase was that fishing success has declined and other areas are being sought as alternatives. How should this be interpreted vis-a-vis our data?

We would argue that the social structural supports had not had time nor opportunity to build up in Venezuela, e.g., tournaments, social networks. Thus, when the fishing successes dropped off, other reasons for visiting there were not strong enough to sustain the pattern.

If Caribbean countries wish to maintain a stream of tourist fishermen over time, our suggestion is that a high level of fishing success must be maintained until and if subcultural supports develop. Should the latter occur, tourist participation probably would not fluctuate with perceptions and/or the reality of fishing success.

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