

IX.

Fishermen and operators of fishing

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Introduction

Tourism has been identified as a phenomenon that impacts both cultures and societies (Hall & Lew, 2009). Because of its importance, the impacts of tourism on host communities is an area of academic extensively studied in the so-called first world countries. Although it has been suggested that the number of research in developing countries is very limited (Harrill, 2004;

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Dyer *et al.*, 2007), it must be recognized that in recent studies have been present since the early 80s (see for example Ap *et al.*, 1991; Husbands, 1989; Lepp, 2007; Schluter & Var, 1988). Research has revealed that tourism is an important generator of socio-cultural, environmental and economic impacts affecting socio-cultural structures of host communities (Wall & Mathieson, 2006). Tourism can be an enhancer of change, but the direction of this change is uncertain (Ryan, 2003). This circumstance is a practical challenge for tourism management, especially when the intention is to encourage local or regional development and, even more, when there is a dependence on tourism in tourist arrival sites.

Since 1980, the World Conservation Strategy emphasized the need to conserve marine environments identified as an urgent global priority, the protection of coral reefs (White *et al.*, 1994). Some of the activities practiced on coral reefs involve resource extraction, such as commercial fisheries and subsistence catch species for ornamental and sport fishing. Others are non-extractive nature, such as recreation, education, research and conservation. Consequently, many of these uses negative impact on the system.

Moreover, government policies implemented in the nineties show the change of approach in the fisheries sector productivist to a conservationist approach (Valdéz Gardea, 2008; Breton, 2001). Faced with a poorly developed fishing industry and the irrational exploitation of fishery resources, it became necessary to revitalize the sector through tourism development. In the following years the Mexican government promoted tourism development in the com-

nity through investment megaprojects that have displaced fishermen space that had been occupied traditionally for its activity and residents of areas for recreation and relaxation, the beach, now closed to public access. In addition, in its latest attempt to dismantle the fisheries sector and transform the community into a tourist, it is where fishing becomes part of the stage. Thus, fishermen are excluded beaches, some of which have been able to enter the sport fishing in tourist areas.

For Mexico, the main market for sport fishing is North America. It is estimated that 10.3 million American fishermen have fished outside their country at least once over a period of five years (16% of the 64.3 million US fishermen) (Southwick Associates Inc., 2009). This percentage 43.0% chose Canada and the

Mexico 16.3% in salt water being the second choice Americans only after Canada, to ask these fishermen if they had traveled to these countries had not been sport fishing the

71.80% 70.80% responded and they would not have traveled to Canada and Mexico respectively not for sport fishing (Southwick Associates, Inc., 2009).

Sport and recreational fishing in Mexico, is mostly done by people of national origin who have an income level from medium to high, plus most of the fishermen are concentrated in freshwater areas or inland waters. The average spending per trip for each fisherman is estimated at \$ 2,263 pesos. Currently, the economic flow generated this activity has increased spending 0.2% more than 0.5% of GDP (SECTUR, 2007, 2011) and in some states of the country can represent up to 24% of tourism GDP. The most sought after species for fishing, vary depending on the area. In the study

who performed SECTUR (2011), the characteristics of sports-recreational fishermen in coastal of Mexico and estimated economic impact were encouraging (Table 1).

Table 1. Main characteristics of sport fishing market
in coasts of Mexico

Sex	96% of fishermen are man.
Age range	60% of the total, is between the age group of 36 to 56 years.
Origin	79.6% of anglers are of domestic origin.
Socioeconomic level	38.9% has a medium-low income and 25.5% is located in a high income.
Frequency	71% of that activity fishermen performed occasionally.
Fish species	The species most sought after by fishermen are mainly, Dorado (27.5%), Marlin (23.3%), Sailfish (18.3%), tuna (15.8%)
Fishing spots	Mostly frequented places in the country and preferred for sport fishing are: La Paz with 30.4%, Acapulco 29.5% 26.9% Los Cabos, Espiritu Santo Island, 4.3%, Manzanillo, 4.3%, 3.7% Puerto Vallarta, Cancun 0.6% and finally Barra de Navidad with 0.3%
Practice expenses	45.5% spent less than \$ 500 pesos, 26.7% between \$ 501 and \$ 1,000 pesos, 8.3% erogó between \$ 1,001 to \$ 2,000 pesos, 13.3% between \$ 2,001 and \$ 5,000 pesos, 5.1% disbursed between \$ 5,001 and \$ 10,000 pesos and 8.8% of \$ 10,001 weights more.
Equipment costs	41.2% spent less than \$ 500 pesos, 13.3% between \$ 501 and \$ 1,000 pesos, 13.3% erogó between \$ 1,001 to \$ 2,000 pesos, 21.2% between \$ 2,001 and \$ 5,000 pesos, 9.8% disbursed between \$ 5,001 and \$ 10,000 and 1.2% weights over 10,001 \$ weights.

Continuation Table 1.

Transportation expenses	34.1% spent less than \$ 500 pesos, 35.3% between \$ 501 and \$ 1,000 pesos, 10.6% erogó between \$ 1,001 to \$ 2,000 pesos, 9.0% between \$ 2001 and \$ 5,000 pesos, 9.0% disbursed between \$ 5,001 and \$ 10,000 pesos and 2.0% more than \$ 10,001 pesos.
Accommodation expenses	75.7% spent less than \$ 500 pesos, 2.7% between \$ 501 and \$ 1,000 pesos, 3.9% erogó between \$ 1,001 to \$ 2,000 pesos, 7.5% between \$ 2,001 and \$ 5,000 pesos, 9.4% disbursed between \$ 5,001 and \$ 10,000 pesos and 0.8% over \$ 10,001 pesos.
Food expenses	63.5% spent less than \$ 500 pesos, 18.0% between \$ 501 and \$ 1,000 pesos, 4.3% erogó between \$ 1,001 to \$ 2,000 pesos, 10.2% between \$ 2,001 and \$ 5,000 pesos, 3.9% disbursed between \$ 5,001 and \$ 10,000 weights.

Source: Ibáñez, 2011.

Fishing in the municipalities of Puerto Vallarta and Banderas Bay has declined for various reasons, the main ones are the fisherman no longer spends his time only to fishing but makes tourist activities and on the other hand the displacement of fishing cooperatives tourism infrastructure . Tourism impacts on fishing cooperatives in the region are: market diversification; 40% impact modified, 40% and 20% transition slightly altered cultural landscape; displacement of the primary sector and dominant activity; and inserting the fishing tertiary (Andrade *et al.*, 2009). Species of interest to sport fishing in the existing outer region of the Bay of Banderas are sailfish, black marlin, striped marlin, blue marlin, swordfish, dorado and rooster. Although gold, candle and blue marlin are species reserved for sport fishing, they are constantly in the market, under pretext of bycatch, it also not officially recorded. The main

capture zones are Corbeteña and Morro Bay northwest (Municipality of Banderas Bay, 2006).

In this context and on the question of the features and benefits of sport fishing in the Bay of Banderas, the aim of this chapter is to identify and characterize the profile of sport fishermen engaged in fishing tournaments in the Bay of Banderas as well as providers of tourist services that offered.

Methodology

To characterize the profile of visitors and tourism service providers direct method based on the information provided by the target population (survey) as interested in knowing what are the main characteristics of respondents was selected. Participants sport fishers who agreed to answer the survey after your fishing trip that took part in a fishing tournament in the Bay of Banderas (Los Muertos, Puerto Vallarta, Nuevo Vallarta or Cruz de Huanacastle) surveys were applied, including July 2015 and November 2016.

a survey for fishermen and other service providers is designed sport fishing. In the first case an average (2014-2017) of 720 registered fishermen in the four annual tournaments held in the area was considered. In the second case 68 service providers average participating in tournaments were considered. Thus, it was calculated (with a confidence level of 90% and statistical margin of error of $\pm 6\%$) A sample of 94 for the first case and 53 for the second (Cochran, 1977).

The surveys were conducted in English or Spanish, during the tournament once handed catch contenders. Thus, the

surveys were conducted with fishermen who were fishing lucky that day because the rest did not have my catch, he did not return to the table of the jury.

The surveys were divided into three sections: general data, experience and economic data, a total of 28 questions for fishermen and 20 for providers, mostly closed. To answer the questions Likert scale 1 using 5 ie 1) Strongly Disagree 2) Disagree 3) Neutral 4) Agree 5) Strongly agree. Results processed using descriptive statistics.

results

78.6% of respondents were of domestic origin, which coincides with the 79.6% of the study by SECTUR in 2011 (Fig. 1). Regarding age 43.8% are in the range of 20 to 29 years and 25% between 30 and 39 years. 62.5% have incomes between 1000 and 2000 dollars, while 37.5% have higher monthly income of \$ 2000. The vast majority (87.5%) had participated at least in a fishing tournament (the international tournament in Puerto Vallarta or Nuevo Vallarta). Every year new fishermen (newbies) (12.5%), which could continue fishing in the future are recorded. 75% of respondents has made more than 10 trips to Puerto Vallarta, so it follows that are regular visitors to these sporting events, in addition to the 37.

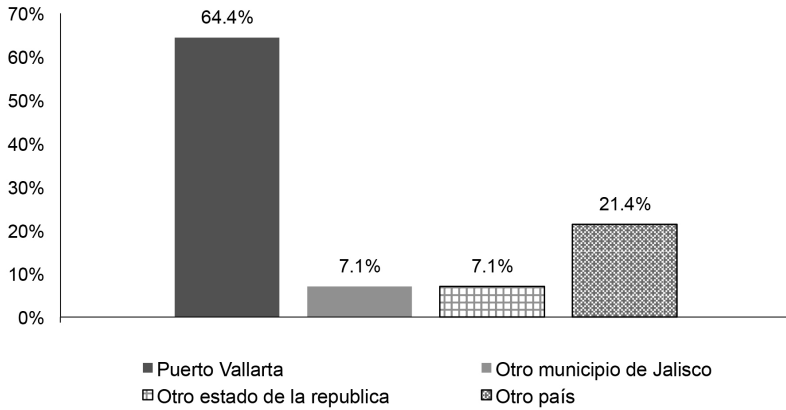


Figure 1. Location of origin of respondents.

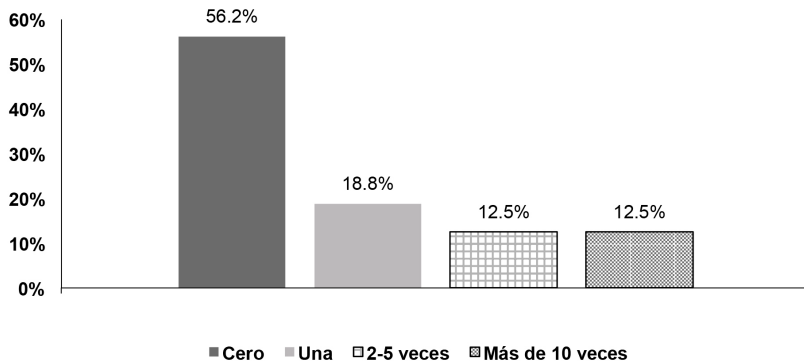


Figure 2. Participation in fishing trips in another country.

56.2% have made fishing trips and multi-activity holidays in this regard, although not the main activity performed on your trip, they perform the activity of sport fishing in Puerto Vallarta. However, nearly 7 out of 10 people have gone on a journey where the primary purpose is fishing (Fig. 3).

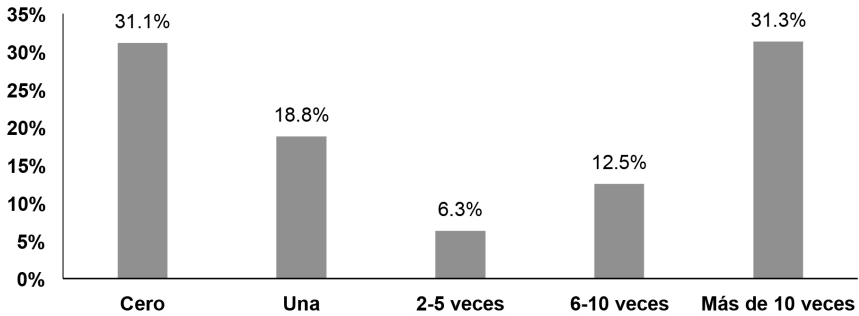


Figure 3. Travel where the primary purpose is fishing.

The level of participation of respondents in sport fishing tournaments is high, since 68.8% has participated in at least one, plus the 42.9% said that the main purpose of his trip was to participate in the fishing tournament, 8 out of 10 people said they carried out fishing activities in their home, 53.3% carry out this activity from 21 to 30 times a year their place of origin, although only 18.8% is done in salt water; 4 out of 10 have their own and of these 50% boat has panga type boat and yacht 50%; 56.3% participate very often in fishing tournaments in their place of origin, plus 80% invest their time learning about fishing week, almost 90% invest time learning about biological and ecological aspects of fish.

To 87.5% is important or essential to learn about the rules of sport fishing in Puerto Vallarta, indicating they do not want to violate the law, and 93.8% want to learn to identify the type of species caught, as well as the biology, inclusive 80% consider it important or essential to learn about

different types of fish and marine ecosystem conservation of the marine system of Puerto Vallarta.

The main complementary activities in which respondents participate when they come to the region are: hiking, wildlife watching, wildlife photography and hunting.

Regarding the importance of the particular fish in a given species, 64.3% consider it important or essential, besides the species they would most like to capture is the marlins (Fig. 4). 81.3% for important or essential catch a big fish during their activity, but only 43.8% consider it important or essential to capture at least one fish during his visit. While for the

56.3% is important or essential to capture a large number of fish, for 73.3% it is important or essential to go fishing trip with friends and family and 75.1% consider it important to take photos of fish caught.

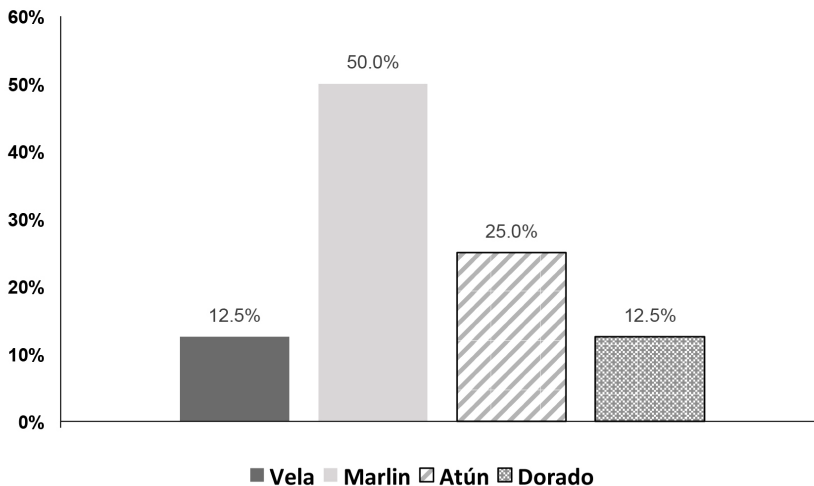


Figure 4. Species would like to capture.

Regarding how much you agree they are to pay a sport fishing trip with the guarantee of getting a catch, 46.7% said they strongly disagree, in counterpart 42.9% said they strongly agree to maintain any catch can achieved during the activity, the same percentage is strongly agree to maintain any catch that is not endangered, a direct question about whether threatened fish species must be captured and then release the 57.1% strongly agree (Fig . 5). Much of those who were in this proportion (70%) scored or said they were not even to be captured, as well as those who were in total disagreement was his main argument.

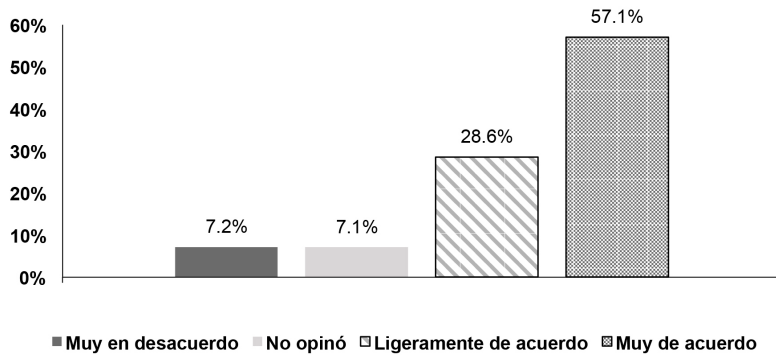


Figure 5. The status of threatened fish must catch and release. 50% strongly disagree or slightly disagree that all fish that are caught must be released, 64.3% agree or strongly agree that there should be a limit on the number of boats in the fishing area, the same percentage refers to a portion of the cost of fishing trips must be for conservation.

With regard to the environmental values of fishermen, 56.3% believe that we are approaching the limit of people the Earth can support; 68.8% disagree or very disagree that humans have the right to modify the natural environment according to their needs; 80% agree or agree that when human interfere in nature, often produce disastrous consequences, this leads to 75% opinion that humans are severely abusing nature.

Experience fishing activity in Puerto Vallarta

61.5% carry out the activity of fishing with a partner, 50% relate generally ranging from three to four anglers per boat, only 22.2% said they succeeded in capturing and of these 75% Angled sailfish, so that only 60% expressed satisfaction with the capture of the particular species that day, the same percentage said very satisfied by catching a big fish, only 40% expressed satisfaction with the capture a large number of fish in relation to shooting capture 60% were satisfied or very satisfied he said.

40% said he was satisfied to learn about fishing regulations in the area, plus 27.8% considered satisfactory learn about how to identify the species caught and learn about the biology of these as well as the different types of fish local marine ecosystem. In addition, 80% they considered satisfactory or very satisfactory learn about marine conservation system in the region, however, 66.7% would have liked to learn more about marine species.

With regard to what was the best of your fishing trip, 22% said getting the catch. The least liked of their activity was the distance traveled and waiting.

Regarding how to contact the service provider for the activity, 50% said that the phone, while only 25% did so online. 50% of participants have an annual license, while the other 50 only acquires a license per day and purchase online, 50% of participants spent 3001 to \$ 4000 for your holidays in which they came to fish . 100% of participants said willing to keep coming to fish even if you prohibit wearing his capture. 66.7% of respondents said the cost of the fishing trip ranged from 601 to 800 dollars and 100% felt that the price corresponds to the travel experience and of these 66.7% considered that for good fishing and rest for good service (Fig. 6).

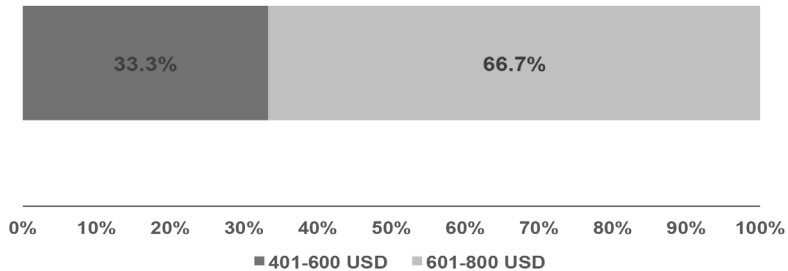


Figure 6. Price paid for the fishing tour.

*Tourism service providers in sport fishing in
Puerto Vallarta*

As for tourism service providers that offer fishing activity sports 85.2% have one to two boats, while only 3.7% have more than five, in relation to the type of boat 58.3% have boat and other fishing yacht, generally, most of them made sport fishing (84.0%) and the rest use it for private boats, 92.3% of providers participating in fishing tournaments bay, where the most recurrent is the Puerto Vallarta International tournament (Fig. 7).

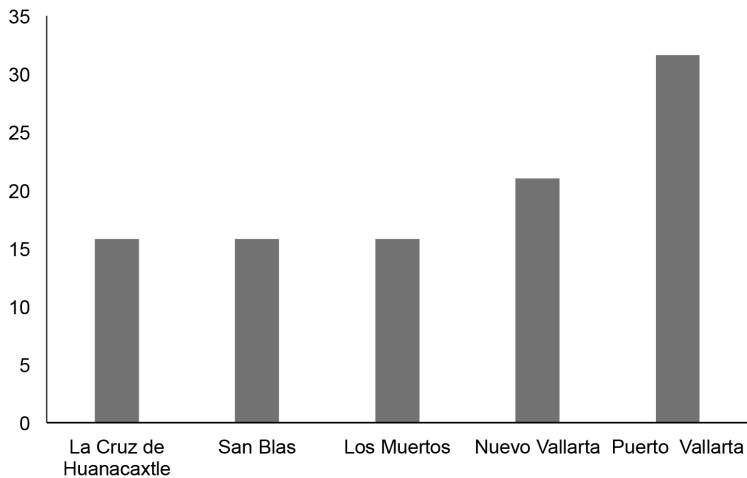


Figure 7. tournament involved.

The tourist service offered and sold in the year is the sport fishing with 92%, with 7 out of 10 companies only have one or two employees, while only 7.7% have more than 11 employees. Some of these same companies hire extra staff but only in high season, plus 50% of these only engage in sport fishing.

Regarding the drawbacks faced in the activity 69.2% mentioned that climate, 19.2% reported that the small influx of tourists, the month with the greatest impediment is September (33.3%) for 81.5% of employers is not likely to catch large fish and the species most commonly catch is horse mackerel (Fig. 8), however, tourists want to capture sailfish (46.2%).

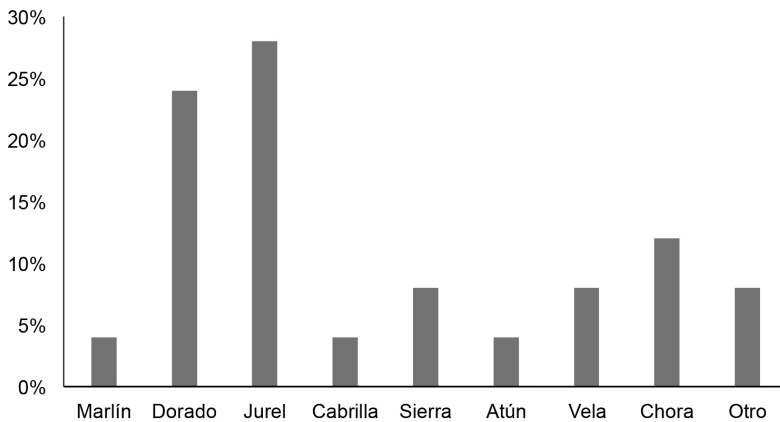


Figure 8. Species most catches tourists. During the *tour* fishing tourists also perform other activities such as diving and snorkeling (Fig. 9).

77.3% of providers only receive income from tourism. Regarding the reason why tourists choose to travel with a lender, 91.3% felt that the service they provide their customers.

Meanwhile, for providers, the three main experiences that would like their customers to have are: to capture the desired fish, visiting new places and observe wildlife.

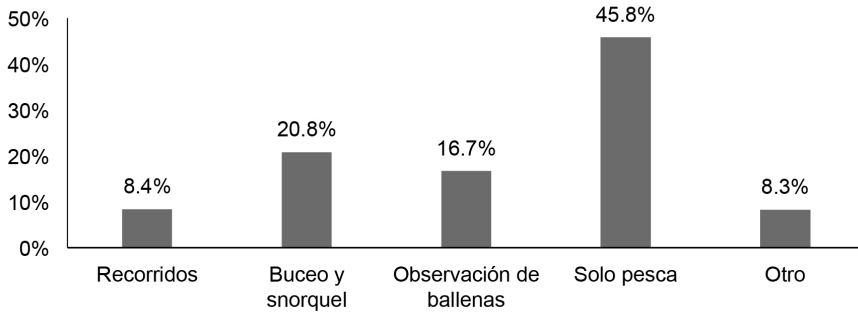


Figure 9. activities carried out during the fishing tour.

As for the price of the fishing activity 52.4% said ranges (Fig. 10).

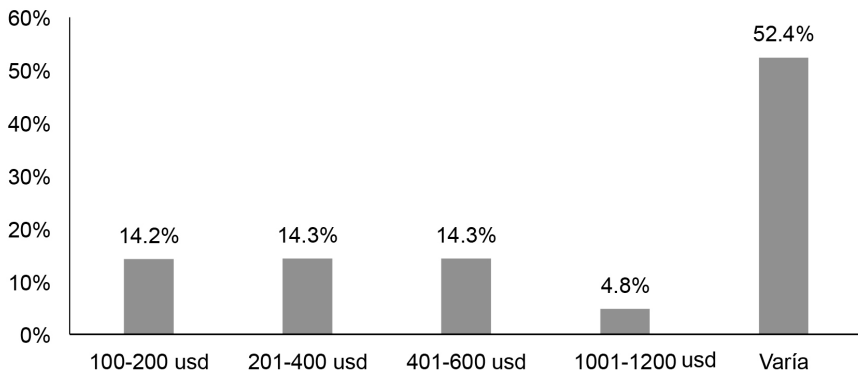
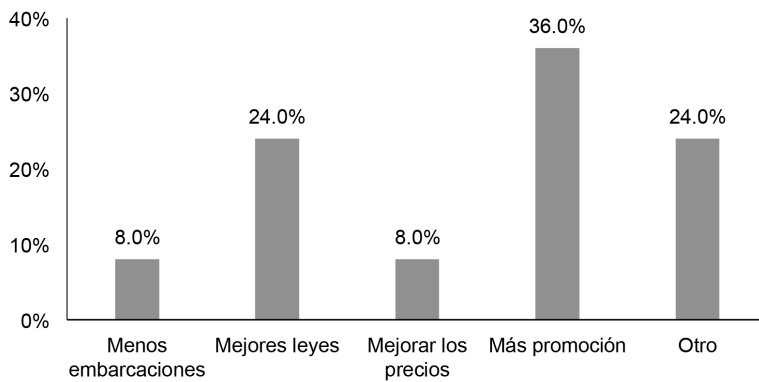


Figure 10. Price of service for sport fishing activity. Lenders believe that sport fishing activity is currently regulate (61.5%), while only 23.1% consider it good, besides that 64% believe that five years ago was better than now 57.7% believe that in five years will be worse than now, which is very worrying for both providers and tourists.

However, lenders consider the strategy to improve sport fishing is promoting and enforcing laws and monitoring (Fig. 11).

The primary means used by providers to advertise their services are brochures (43.5%), followed by the internet with 39.1%, 72% think that the more expensive input for the activity is fuel.



Strategies to improve sport fishing. obtained more customers (33.3%) to 22.2% it was a better reputation. Figure 11. previous fishing tournaments, and the benefit brought his company was that Finally, 76.9% of providers has had among its clients a winner in any edition of

final Thoughts

fishermen

Fishermen mostly are of domestic origin, young people (under 40 years) and higher than the monthly \$ 1,000 income, are experienced with several previous appearances in a tournament prior fishing, however, each year new fishermen are recorded which can become regulars fishermen in the future, and at least 4 out of 10 fishermen have international experience, which coincides with the number of fishermen whose main purpose in making the trip is to conduct fishing activity.

With regard to learning, 9 out of 10 fishermen are interested in learning about fish biological and ecological aspects, the most prized by fishermen species is the Marlin and most report that is important or essential catch a big fish.

Fishermen agree on the importance of considering the carrying capacity of vessels that must be present in addition to be careful with the distance between them. With regard to environmental issues fishermen agree that humans are severely abusing nature.

Fishermen satisfaction is low, since only 4 in 10 say they are satisfied with the activity, the greatest satisfaction is catching a fish and the biggest problem is the distance traveled and waiting.

Service providers

They are mostly small businesses with one or two employees and only one or two vessels. Generally considered that the main drawbacks for the activity is the climate, as well

season that the tournament is done, the species most commonly catch is horse mackerel and visitors want to catch sailfish.

The main way to promote activity is the booklet, so it is already outdated by new technology trends, so it is recommended to use the internet for greater market penetration.

The main strategy proposed to improve sport fishing is the dissemination and promotion of events, however, warn downward capture suitable species, so when referring to best laws also includes monitoring. Clearly fishermen relate this with malpractices low "others" but not the "own" regarding the capture during and outside tournaments.

It is recommended to continue the assessment of fishing tournaments in order to assess the impacts on specific social, economic and environmental terms for each tournament and related to the market, in this case, due to the characteristics of the sample and the difficulty of get data during tournaments, especially fishermen, no differences between tournaments and between national and foreign fishermen are.

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