A critical analysis of the spending behaviour of recreational fishing in South Africa

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ABSTRACT

The South African tourism industry is an ever-changing industry, because of the needs of tourists. This makes the tourism industry very competitive, the industry needs to provide for all these needs and change along with the tourists. Identifying new or existing trends and needs in the tourism industry are extremely important to ensure a growing and competing tourism industry. Internationally recreational fishing forms a large part of the tourism industry, contributing to the economy. Due to the lack in literature regarding the spending behaviour of recreational fishing in South Africa, a need was identified to determine the significance of recreational fishing in South Africa. The goal of the study was therefore to do a critical analysis of the spending behaviour of recreational fishing in South Africa.

An extensive literature study led to the purpose of this thesis and it revealed that very little research was conducted regarding recreational fishing in South Africa. The definitions of recreational fishing and fishing tourism were analysed as well as the distinguishing features of recreational fishing. The study indicated that different recreational fishing disciplines exist and that the technical abilities of each of these disciplines are different. Stakeholders may experience difficulty when deciding what to offer and how to ensure the sustainability and growth of each these different fishing disciplines. Furthermore, it was established that different stakeholders, including public and private stakeholders, are an essential part of recreational fishing. Literature revealed that tourists, as well as recreational anglers, are influenced by different motives when deciding and making decisions regarding their spending behaviour. Determining the spending behaviour of recreational fishing can provide a more viable management strategy, which in turn will lead to a more profitable recreational fishing industry and fishing tourism industry.

Data was collected by means of a self-administrated questionnaire, which was distributed to respondents at the Bloemhof Bonanza 2016 as well as by e-mailing the questionnaire to various members of different recreational fishing and social fishing clubs. A total of 1319 questionnaires were used during the analysis. Selected statistical techniques were employed to achieve this objective. Factor analysis was performed on the items for measuring the motives to partake in recreational fishing as well as the different fishing disciplines. From this, four motivational factors were revealed and five different fishing disciplines. An ANOVA as well as MANOVA test was completed between the motivational factors and the fishing disciplines to determine the spending behaviour of the different fishing disciplines. Finally, a Chi-squared test was used to determine the differences in the spending behaviour of the various fishing disciplines. The results of the study

confirmed that relaxation and escape are an essential part in recreational fishing when determining how and when to spend money. The study confirmed that variables such as occupation, group size, frequency of travel and home language do have an impact on the different fishing disciplines' spending behaviour.

This research makes important contributions theoretically, methodologically and practically. The critical analysis of the spending behaviour of recreational fishing in South Africa indicated what motivates anglers to take part in recreational fishing and it showed the different recreational fishing disciplines. It also indicated that recreational anglers are influenced mostly by behavioural factors rather than socio-demographic factors. Theoretically, this study is unique since it is one of the first studies to indicate the importance of the spending behaviour of recreational fishing in South Africa and provides opportunities for future research. Methodologically, this study developed a reliable and valid questionnaire for the measurement of the spending behaviour of recreational fishing in South Africa. The questionnaire can be employed to determine other aspects of recreational fishing since it had such a wide coverage of different aspects of recreational fishing. The practical contribution of this study is the identification of a new market in the tourism industry which can be used by marketers and recreational fishing stakeholders to create, maintain and increase the sustainable development of the recreational fishing and fishing tourism industry.

Keywords: recreational fishing, fishing tourism, spending behaviour, motivation for spending, recreation, consumer spending, determinants of visitor spending

ABREVIATIONS AND ACRONYMS

EEA – European Anglers' Alliance

TPB – Theory of planned behaviour

RTO – Regional tourism organisation

LTO – Local tourist organisations

TIC – Tourist information centres

TBCSA – Tourism Business Council of South Africa

CATHSSETA – Culture, Arts, Tourism, Hospitality and Sport Sector, Education and Training Authority

SRSA – Sport and Recreation South Africa

DWAF – The Department of Water Affairs

DEA – Department of Environmental Affairs

DAFF – Department of Agriculture, Forestry and Fisheries

NDT – National Department of Tourism

SASACC – The South African Sport Anglers and Casting Confederation

SAFBAF – South African Freshwater Bank Angling Federation

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INTRODUCTION AND PROBLEM STATEMENT

1.1 INTRODUCTION

Recreation, leisure and tourism are a fascinating field of study (Tribe, 2011). Tourism and leisure take place during a person's free time and this is the reason why both these areas are closely connected. The definitions of leisure time spending, leisure time, recreation, relaxation, sport and tourism overlap extensively. The blanket term of leisure time activities or leisure time spending includes all the terms already mentioned. In other words, a person can participate in leisure activities in his/her free time; he/she can also participate in recreational activities such as fishing, and/or the tourist can travel from fishing spot to fishing spot (Saayman, 2002:10). Tourism and recreation are related in the sense that both focus on people's use of leisure time. Recreation means there is a recreational effect on the state of mind of the participant because of practising the activity. It brings about physical, emotional and mental excitement in an individual of any age. The individual chooses the time selected to take part in the activity, and the individual is not obliged to do it. Recreation is thus an activity that utilises leisure time, a person participates in recreation (a specific activity such as recreational fishing) in his/her leisure time in order to experience relaxation (Saayman, 2013:23-24).

Recreational fishing is for the participation in an activity of leisure (Cooke & Cowx, 2004:857). Recreational anglers have access to most of the world's freshwater systems as well as the nearshore regions of the oceans, including estuaries, reefs, mangroves and embankment (Cooke & Cowx, 2004:858). For the purpose of this study, recreational fishing is the leisure, tourism and recreational activity of focus. A critical analysis will determine the spending behaviour of recreational anglers.

Determining the spending behaviour of recreational fishing in South Africa will also be a step closer in determining the economic impact of recreational fishing. According to Saayman (2000), the size of the economic impact depends on four factors. This includes the total number of tourists (in this case

the number of recreational anglers), the duration of their stay, average spending of tourists (recreational anglers) and the circulation of tourism expenditure throughout the area (in this case South Africa). In South Africa, there is none or very little studies determining the economic impact of recreational fishing, which can also imply that there are not any studies determining the spending behaviour of these recreational anglers. Without results of individual spending one will not be able to determine the economic impact effectively. One study done in South Africa was to estimate the willingness to pay for controlling excessive recreational fishing demand at the Sundays River Estuary (Lee, Hoskings & Du Preez, 2014:39) however, the study is not relevant for the purpose of this study. Currently little is known about the benefits and the importance of recreational fishing in South Africa from an economic point of view (McCafferty, Ellender, Weyl & Britz, 2012:327). This research study is an attempt to indicate the importance regarding the spending behaviour of recreational fishing in South Africa and attempt to increase the economic impact in order to develop effective and efficient short- and long-term management and marketing strategies for recreational fishing and fishing tourism. Such an analysis will also contribute in helping stakeholders such as the government and marketers implement and manage policies regarding recreational fishing and fishing tourism. The implication of recreational fishing and the long-term use needs to be determined to keep it sustainable. The promotion of the economic and social wellbeing of recreational fishing is very important in order to develop recreational fishing in such a manner that it will guide policies, management protocols and institutional arrangements. This will ensure equitable resource access, biological sustainability and optimisation of economic benefits for both local communities and the national economy (McCafferty *et al.*, 2012:327).

However, determining the economic impact of recreational fishing only will not be sufficient for planning and marketing purposes. More specific or detailed spending information is required. It is of the utmost importance to identify what determines the spending behaviour of these recreational anglers. To understand expenditure patterns and determining market segments is important to highlight the determinants of spending (Saayman & Saayman, 2014:814). A wide range of socio-demographic and behavioural determinants influences the spending patterns of tourists. Spending behaviour of tourists can identify the important determinants affecting recreational fishing spending and determine the high spenders of recreational fishing. Tourist/visitor (recreational angler) spending is also critical variables of analysis for tourist destinations, or in this case destinations for recreational fishing, since it directly determines the tourism sector's profitability. It is important to determine these high spenders, as well as which variables are most influential in determining the expenditure levels (Kruger, Saayman & Ellis, 2012:1205-1206).

The purpose of this chapter is to clarify the problem statement, the main aim and objectives of the study, method of research, chapter classification and the clarification of relevant concepts.

1.2 BACKGROUND TO THE STUDY

Recreational fishing or angling can be seen as fishing where the primary objective is not to produce food or generate income through the sale or trade of fishing products (Dickson, Hutton & Adams, 2009:39). Arlinghaus and Cook (2009:40) state that the origin and the cultural perception of recreational fishing can also determine the definition. Some of the definitions proposed by researchers as well as international fisheries do not describe all forms of recreational fishing. It usually refers to the motives of angling, such as fishing for "enjoyment", "sport" or "fun". The motives can be very diverse and will vary from angler to angler. Based on the latter a broad definition of recreational fishing can be: "recreational fishing is fishing for aquatic animals that do not constitute the individual's primary resource to meet essential physiological needs" (Arlinghaus & Cook, 2009:40).

Recreational fishing focuses on a wide range of marine or estuarine fish and a variety of freshwater species in rivers and dams. Not all fishing falls under tourism, but most of it incorporates the following defining elements of tourism: travel to and from a particular destination, the presence of a tourism service industry (accommodation, tour guides, attractions), the exchange of money for services, overnight stays at the destination, a service industry and aspects of leisure and recreation (Bauer & Herr, 2004:60). The types of recreational fishing can be divided into two groups: marine (including rock and surf angling, deep sea angling, ski-boat, jet-ski, fishing ski, charter boat, spearfishing and estuary fishing) and fresh water (bank angling, boat angling, bass angling, tiger fishing and fly-fishing) (Bauer & Herr, 2004:60).

Fishing is a very popular form of recreation in the United States. Thirty-four million U.S. residents 16 years and older were reported fishing in 2001. Adult anglers fished a total of 557 million days, or an average of 16.3 days per angler. This popularity translates into substantial economic, environmental and social benefits. The 2001 national survey reported that this level of participation generated nearly $40 billion in fishing-related expenditure. Each year the U.S. Federal Aid in Sport Fish Restoration program disburse millions of dollars produced by excise taxes on fishing equipment to individual states for fisheries conservation and habitat restoration programs (Floyd, Nicholas, Lee, Lee & Scott, 2006:352). In North Carolina alone, trout fishing creates major revenue streams, it

supports nearly 2000 jobs. In South Africa, Dullstroom is a great example of where the town is maintained and developed through fly-fishing and tourism (Dullstroom, 2016). The typical American angler will spend $503 a year on equipment, this is an equivalent of R6694 (Rand/Dollar rates as per 30 August 2015). During 2010, the US Nation's economy experienced a $115 billion multiplier effect as a result of recreational fishing (American Sportfishing Association, 2013).

In Sweden, there are about 6.3 million people between the ages of 16 to 74. Almost two million of these people claim to have engaged in recreational fishing at least once a year. This suggests that recreational fishing is a very important leisure time activity for Swedes (Paulrud, 2004:7). According to Arismendi and Nahuelhual (2007:312) recreational fisheries contribute significantly to annual Geographic Domestic Product around the world. For example, in Canada, New Zealand and Argentina annual economic benefits in 2005 reached nearly 2 billion US$, 800 million US$ and 150 million US$, respectively. In Chile, annual economic benefits from recreational fishing have been estimated to range from 10 to 15 million US$. Similarly, in Europe the annual expenditure by anglers is an estimated EUR 25 billion (EUR 1,000 per angler). The importance of this spend is put into perspective when compared with total EU fishery imports of EUR 24 billion and exports of EUR 13 billion (Hickley, 2007:141). In Western Australia, recreational fishing is a major social activity involving about 34% of the population and contributes more than $500 million Australian dollars annually to the economy (Raguragavan, Hailu & Burton, 2013:540).

From the above it is clear that recreational fishing contributes to the economies of the different countries, the economic contribution of recreational fishing in South Africa is unclear and the question remains what the value of the spending behaviour of recreational fishing is. Figure 1.1 summarises some of the areas or components of spending of recreational fishing. This in turn contributes to the economic impact of recreational fishing.

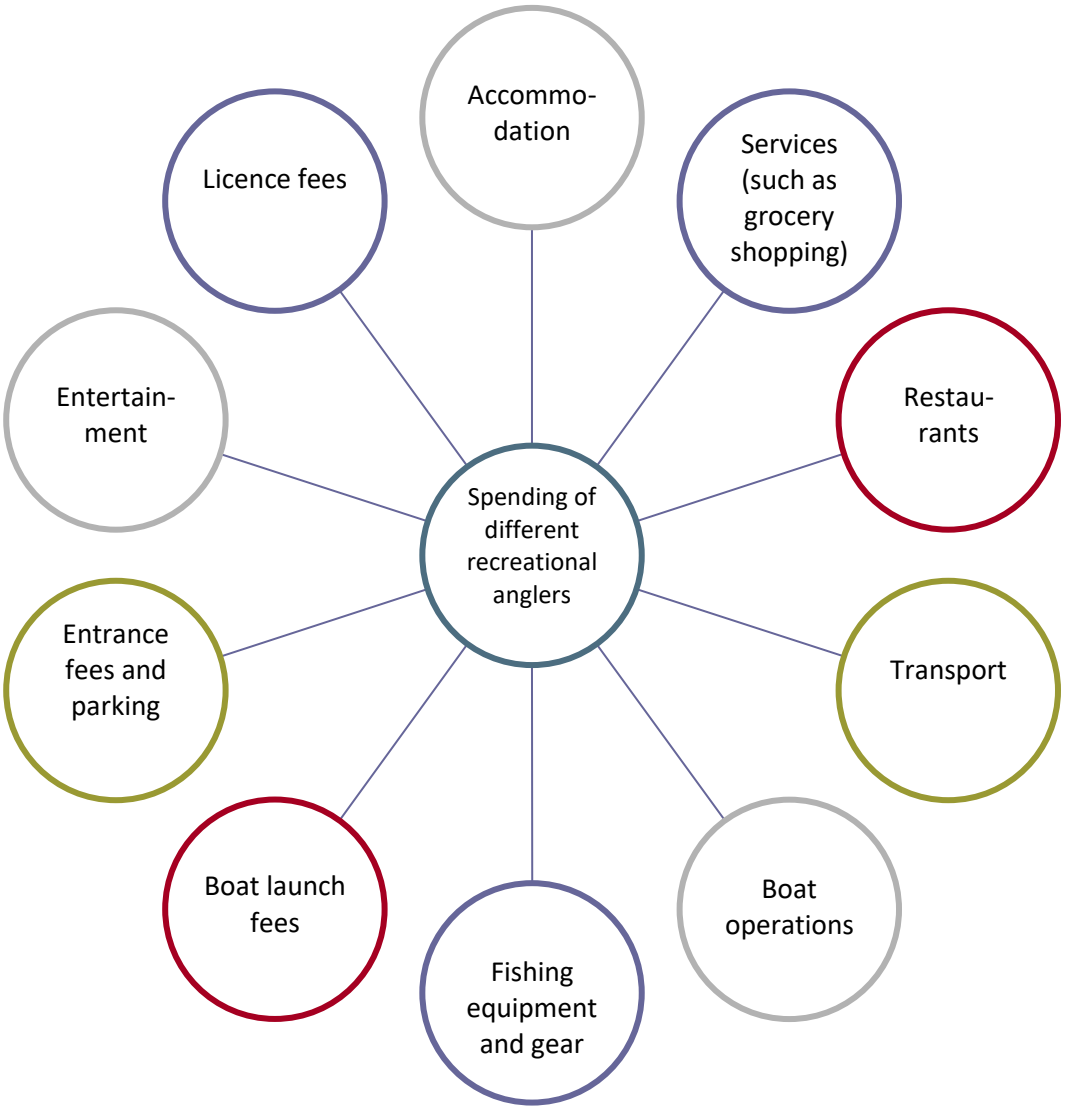

Figure 1.1: Spending of recreational anglers

(Adapted from Dalryple, Peterson, Bondell, Rodriguez, Fortney, Cobb & Sille, 2010:88-89 & Erickson, 2015:17)

To determine the economic impact, the economic values should be identified. Economic values are based on subjective individual preferences and are closely connected to individual choice. In a perfect market economy, the individual picks the basket of goods that maximises subjective utility subject to a budget constrain. Each good is considered to contribute positively to utility and the individual simply chooses the configuration of goods that allows maximum utility given the budget. One implication of this is that market price and marginal utilities are closely connected; price is in fact proportional to the marginal utility obtained (Paulrud, 2004:8). It is therefore also important to determine travel cost of recreational fishing, where and how frequently these recreational anglers

participate in recreational fishing, leisure time available, fishing opportunities and the preparation of the trip (Carson, Hanemann & Wegge, 2009:106).

The economic impact of a destination is influenced by the magnitude of visitor spending, the number of visitors travelling to the destination, the type of destination and the activities offered, the number of days spent in the area and the circulation (multiplier) of visitor spending through the economy of the area and community (Kruger, Saayman & Manners, 2012:11). If it is known why anglers spend money and on what, the spending on these items and services can be increased. An increase in the spending will result in an increase in the economic impact. The destination will also be able to use the information for economic gain, as it will be clear on what to focus on as a destination.

The study does not focus on determining the economic impact of recreational fishing, but factors and determinants of economic impact can be used to determine the spending behaviour of recreational fishing in South Africa. Spending behaviour plays a very important role in the economic impact of tourism and in this case recreational fishing, and the latter is the reason for the study. Recreational anglers spent money on accommodation, eating at restaurants, buying equipment, shopping and so forth. The purpose is to determine how anglers spent money and on what type of tourism and industry services and sectors. This will in return determine the direct and secondary economic effects of recreational fishing (Keyser, 2009:307). Figure 1.2 provides and illustration of the direct, indirect and induced economic effects of tourism (or in this case, recreational fishing).

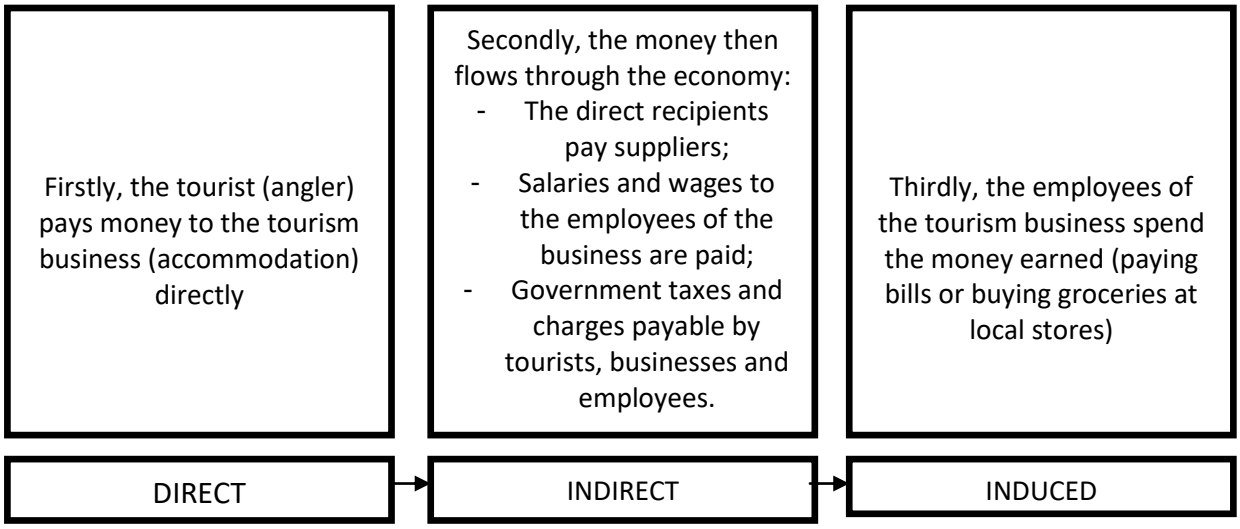

Figure 1.2: Direct, indirect and induced economic effects of tourism

(Source: Keyser, 2009:308)

Very little is known about the determinants of respondents' spending in the specific recreational activity: recreational fishing and to what extent do these anglers travel in the country or internationally for angling purposes. According to Saayman and Saayman (2012:124) understanding these determinants will provide management with a comprehensive view of the variables that influence anglers spending. Reasons why these studies were conducted is to promote South Africa's national policy goals (McCafferty *et al.*, 2012:327), managing and determining the correct types of facilities and services (Van der Merwe & Saayman, 2013:10), or to use it as a marketing tool (Saayman & Saayman, 2004:630). Managers of recreational fisheries will be able to use the information for various purposes including planning and marketing. This information is also paramount for the sustainable growth of recreational fishing.

Research regarding hunting indicated that different types of hunting markets (such as trophy, biltong, leisure, socialising, hunting by rifle, bow, hand riffle, muzzleloader) spend money on different things and the amount of money spent will also be different. It also showed the need to utilise certain markets and on which markets to focus more for economic worth (Van der Merwe & Saayman, 2008:20 – 29). Although the specific study did not focus on the determinants of spending alone, it provided information regarding these determinants. This can also be an indication that the different types of recreational fishing or fishing disciplines must be analysed to determine which types of recreational markets need to be utilised more than others to enhance the economic worth of these markets. A model to support the research in the hunting market, the hunting value chain (Van der Merwe, Saayman & Rossouw, 2014:380) can also be applied for the study. Hunting, such as recreational fishing is also consumptive of nature. The theory can also be utilised in determining the economic impact and the consumption of recreational fishing in South Africa in further research. By determining the spending of recreational anglers, it will be possible to determine which markets spent the most and on what and encourage the spending of these markets. The problem is to do a critical analysis of the spending behaviour of recreational fishing in South Africa.

1.3 PROBLEM STATEMENT

The reason for undertaking this study is to do a critical analysis of the spending behaviour of recreational fishing in South Africa.

As already mentioned very little is known about the spending behaviour of recreational fishing in South Africa. No clear set of determinants have been identified to analyse the spending behaviour of

recreational fishing. In other countries, it seems as if recreational fishing is a very important activity (Abbot & Fenichel, 2013:1190 and Arismendi & Nahuelhual, 2007:312) and this study will determine how important recreational fishing is in South Africa. In South Africa, there is none or very little studies determining the impact of recreational fishing which also implies there are not any studies determining the spending of these anglers, without results of individual spending it will not be possible to determine the economic impact effectively. Determining the spending of the different types of recreational anglers, will make it possible to determine which markets spent most and this will provide assistances to relevant stakeholders. It will also verify the pressure on the fish resources (such as fish species) and how to develop policies in order to keep this recreational activity sustainable. From the problem statement relevant research questions are evident.

The following research questions will be answered accordingly, seeing that it makes recreational fishing a complex subject:

- Do the different types of recreational fishing disciplines spend differently and if so how do we determine the spending patterns?
- What is the socio-demographic and behavioural determinants of spending of recreational fishing?
- Do recreational anglers have different behavioural and motivational factors that determine their recreational fishing activities?
- What is the tourism significance of recreational fishing based on their travel behaviour?
- Which species do they prefer to catch?

1.4 GOAL OF THE STUDY

The main goal and objectives of the study is as follows:

1.4.1 Goal

To do a critical analysis of the spending behaviour of recreational fishing in South Africa.

1.4.2 Objectives

The following objectives were set:

Objective 1:

To do an analysis of existing literature regarding recreational fishing and fishing tourism.

Objective 2:

To do an analysis of the spending behaviour of recreational fishing through different theories and motivational factors.

Objective 3:

To investigate the socio-demographic, behavioural and motivational determinants of the spending behaviour of recreational fishing in South Africa.

Objective 4:

To draw conclusions and make recommendations and indicate the implications of this research.

1.5 METHOD OF RESEARCH

This is a quantitative study, which collected secondary data on the topic from existing sources (for example published articles and textbooks) and problem-specific data (primary data) from a self-administrated questionnaire. The following methods of research were used:

1.5.1 Literature study

In formulating the literature study, relevant academic articles and tourism books were used. The internet played a vital role in searching for the most recent publications and information. Some of the journals include Annals of Tourism Research, International Journal of Tourism Research and Journal of Economic and Financial Sciences. Post-graduate studies were used in gathering information. Internet resources were used occasionally as the quality of these sources are sometimes questionable. However, Academic Internet search engines such as Science Direct, EbscoHost and Emerald were utilised. Keywords for this study include: recreational fishing, sport fishing, economic impact, consumer spending, determinants of visitor spending, spending patterns, reasons for travelling, spending behaviour and fishing tourism. This study made further use of an empirical survey which will be discussed in the next section and therefore incorporates both primary and secondary data.

1.5.2 Empirical survey

The empirical survey consists of the following aspects: the research design and method of collecting the data, the development of a random test plan and the questionnaire and lastly the discussion regarding the analysis of the data.

1.5.3 Research design and method of collecting data

Research design is the planning of the research; it is the blueprint or the outline for the research method as well as the framework (Wiid & Diggines, 2013:33). The researcher was interested in the critical analysis of the spending behaviour of the angler since this is a relatively new topic in South Africa. Therefore, the research was descriptive and explorative of nature. Researchers use descriptive studies to identify patterns and trends in a situation, this is necessary when the knowledge of a particular market is vague (Wiid & Diggines, 2013:57). For the purpose of the study, data was collected during 2015 and 2016. A structured questionnaire served as the instrument for collecting the data. The data was used to compile graphs and tables to profile the recreational angler. Data from the survey could also illustrate if different spending segments can be identified as well as the underlying determinants influencing this spending. Questionnaires was distributed at a major angling competition, the Bloemhof Bonanza of 2016, as well as an online survey was conducted.

1.5.4 Sampling

The sampling method used for the research was non-probability sampling It is unknown if a specific unit of the sample will be selected and it is based on the judgement of the researcher (Wiid & Diggines, 2013:188). The specific non-probability sampling method used was convenience sampling. The specific population was readily accessible and available to the researcher (Wiid & Diggines, 2013:189). During the Bloemhof Bonanza of 2016 only those anglers at the competition stood a chance of being selected to complete the questionnaire. In the case of the online survey, members of the angling population stood the same chance of being selected to complete the questionnaire.

- The population of the study was the members of the South Africa Fishing Tackle Agents and Distributors. The South Africa Fishing Tackle Agents and Distributors consists of different types of anglers, members of fishing clubs, members of social fishing clubs and organisers of angling competitions and events.
- Each member of the angling population has the same chance of being included in the sample and each sample of a particular size has the same probability of being chosen.
- The size of the sample stays generic.

During 2015 and 2016, 1319 respondents completed the questionnaire and indicated a valid sample size. During the Bloemhof Bonanza in 2016 a simple convenience sampling technique was applied. Trained fieldworkers followed specific guidelines as questionnaires were distributed to different non-homogeneous age groups and gender groups. Respondents were briefed about the purpose of

the research beforehand to ensure that they participated voluntarily. For the online completion of the questionnaire, the link to the questionnaire were emailed to several members of the South Africa Fishing Tackle Agents. Respondents were provided with instructions on how to complete the questionnaire and were also ensured that participation is voluntarily.

1.5.5 Development of questionnaire

A panel of experts from the University of the North West compiled the questionnaire and used the following methods:

- The questionnaire consists of questions determining the determinants of spending, factors related to economic impact and socio-demographic information of the angler.
- Design: The questionnaire is divided in different sections, Section A (Socio-demographic details and fishing discipline), B (Economic impact) and C (Fishing details and fishing motivation). Section B is subdivided into sections covering aspects such as day trip expenditure, overnight expenditure and other annual fishing-related expenditure. Questions consists of open-ended questions, close-ended questions, dichotomous questions and scale questions.
- Section C, question 6 is a five-point Likert scale, where 1 is not at all important and 5 is extremely important.
- The questionnaire was pre-tested by a panel.

1.5.6 Data analysis

Descriptive statistics were used to gain insight into the research. A factor analysis was performed on the motivational factors for partaking in recreational angling as well as a factor analysis to determine the main fishing disciplines that will influence the spending behaviour of recreational fishing, these were also included in further analyses. The Statistical Service at the North-West University, Potchefstroom Campus, assisted in the processing of the data. The Statistical Package for the Social Science (SPSS) programme Version 23 (2016), which is a statistical package used extensively by academics and for other analyses, was used for the calculations of the relationships between variables. SPSS is a world leader in e-Intelligence software and services, enabling its attendees to turn raw data into usable knowledge (SPSS, 2016).

The survey alone did provide some insight into the characteristics of the recreational anglers in South Africa, but the analyses did not describe the relative strength or the significance of the relationship between spending and its different determinants. Such an examination requires an

MANOVA analysis, ANOVA analysis and a chi-squared test. Both, or a combination of these methods, have successfully been applied in the study to distinguish the different fishing disciplines. MANOVA compares the joint distribution of the mean and it reveals differences between groups (Wang & Davidson, 2010:510).

1.6 DEFINING THE CONCEPTS

The following concepts were utilised throughout this study and therefore require clarification.

1.6.1 Recreational fishing

According to Arlinghaus and Cooke (2009:40) definitions of recreational angling can be seen differently in the cultural perception of the activity. Arlinghaus and Cooke (2009) provide a broad definition of recreational angling to include other animals beyond fish, such as lobsters and crabs. The definition according to Arlinghaus and Cooke (2009:40) is: "Recreational fishing is fishing for aquatic animals that do not constitute the individual's primary resource to meet essential physiological needs."

Recreational fishing or angling can be seen as fishing where the primary objective is not to produce food or generate income through the sale or trade of fishing products (Dickson *et al.*, 2009:39).

Fishing can be defined as the catching of fish by the use of a line and fish-hook, whether or not a rod is used (Viljoen, 2010:22).

According to the European Anglers' Alliance (EAA) (EAA, 2004a:1) recreational fishing is line fishing using the hooking method and specifically the activity of catching or attempting to catch fish, principally by rod, line and hook, pole or hand-held line for non-commercial purposes, that is, the fish is not sold. Recreation fishing is often referred to as a sport and recreational fishing, which includes all types of fishing activities, both formal in a club environment and informal as a casual activity.

In Western culture, fishing products are usually exchanged on domestic or export markets, and as a result recreational fishing can furtherly be defined as the fishing for aquatic animals that are not traded on domestic or export markets (Arlinghaus & Cooke, 2009:41).

From the definition, it is clear that recreational fishing is not commercial and fish is not sold. It is a leisure activity. The angler needs certain equipment to participate in the activity. This is important for the study because the purpose of the study is to determine how anglers spend money and on what anglers spend money to participate in the activity.

1.6.2 Visitor spending

The expenditure incurred as a direct result of a visitor travelling to a destination. It includes spending while en-route and at the places visited as well as advance outlays necessary for the preparation and undertaking of the trip and travel-related outlays made in the place of residence when returning from a trip (Saayman, 2013:111).

1.6.3 Economic impact

Economic impact is determined by an evaluation on the basis of macro- and micro-economic measures, namely employment, balance of payments, price stability and increasing national income. Certain factors that influence tourism also have implications for tourist spending, namely: the total number of tourists visiting the region, duration of stay, the average expenditure per tourist and the circulation of tourist expenditure throughout the economy (Viviers, 2005:7).

1.6.4 Recreation

Recreation is traditionally defined as an experience or activity practised during relaxation, it is voluntary and provides enjoyment, but without special aims (Saayman, 1997:99). Saayman (2002:16) defines recreation as the positive usage of one's leisure time. This definition focuses on positive leisure time activities.

Recreation is defined in Kelly (2012:29) as voluntary non-work activity that is organised to achieve personal and social benefits and this includes renewal and social cohesion.

Recreation is defined according to the subject field and may be different in different contexts, but all these definitions include the following key elements:

- Any person can participate and it is voluntary.
- That it is practised in free time.
- That it includes a variety of activities.
- That it is a positive and enjoyable experience.

Recreation is no easy concept with one final definition. It should be explained with key elements as mentioned above. It stays an important need for any human and plays a big role in the life of a person, just as eating, drinking and sleeping. Recreation is a complete science, looking at man from an all-inclusive approach. South African academics too are set on viewing and declaring recreation from a subjective point of view (Saayman, 1997:99-100).

1.6.5 Recreational angler

A person that takes part in fishing activity for either sport and/or recreational purposes, at least once a year. It takes place in a formal or informal environment and is not for commercial purposes (fish is not sold) (EAA, 2004a:1)

1.6.6 Fishing tourism

Fishing tourism can be defined as travelling with the primary reason to participate in angling or fishing activities or events (Marche, 2013:7).

According to Brainerd (2010:18) it is defined as recreational fishing conducted by anglers who may sometimes travel considerable distances from one's home and/or own fishing areas, and sometimes abroad, in order to visit other areas to fish. The tourist may be accustomed with the destination and be familiar with the species to fish. There is a gradient in the degree to which fishing tourists may have socio-cultural links to a fishing destination. The more exotic and unfamiliar a fishing destination is, the greater the socio-cultural barriers can be. In addition, motivations for fishing by such tourists may place greater emphasis on adventure and souvenirs (e.g. trophies) than is the case for fishers with closer links to the area in which they angle. This can motivate the payment of significant sums of money to intermediaries ("fishing tour operators") that organise and facilitate their fishing experiences.

Tourism improves economic development. A study done in Norwegian indicated marine recreational fishing is the fastest growing part of the tourism market. The economic value generated, when a tourist caught a fish, was 10 times higher than when caught by a commercial fisher (Mokness, Gjøsæter, Lagaillarde, Mikkelsen, Moland, Håkan, Sandersen & Vølstad, 2011:11).

In a study done by Brown, Djohari and Stolk (2012:65) regarding the social and community benefits of angling it was determined that in Scotland the economic contribution of fishing tourism was between £887,000 and £1,109,000; the gross value added was £345,840-£432,300 and the employment impact was between 25 and 31 full time equivalent jobs.

The above results are important for the study, as the specific study will indicate the importance of recreational fishing and fishing tourism for the economic benefit. The study will show that people travel for fishing and that these anglers spend large amounts of money, which contributes to the economy.

1.6.7 Determinants of spending

Determinants of spending can be described as the factors such as the socio-demographic, motivational and behavioural factors or rather determinants that influence attendees' spending at a destination or a tourism activity (Cragg & Schofield, 2006; Kruger, 2009:16; Kruger *et al.*, 2012:1204).

1.6.8 Critical analysis

The Oxford Advanced Learner's Dictionary (2010) defines critical as "incorporating a detailed and scholarly analysis and commentary, involving the objective analysis and evaluation of an issue in order to form a judgement". The Oxford Advanced Learner's Dictionary (2010) defines analysis as "detailed examination of the elements or structure of something". Therefore, a critical analysis for this study is to break down the spending behaviour of recreational fishing (for example motives to take part in fishing) and study the specific parts in detail, in order to draw conclusions and form a clear judgement with regards to the spending behaviour of recreational fishing in South Africa.

1.7 CHAPTER CLASSIFICATION

The chapter classification of the study will be formulised as follow:

Chapter 1 – Introduction and problem statement: This chapter provided a description of the problem statement, as well as the goal and objectives of the study. It provided an explanation of the empirical study, the research design and method of collecting data, the development of the questionnaire and the data analysis.

Chapter 2 – Recreational fishing and fishing tourism: The main aspects covered in this chapter is, to determine the relationship between leisure, recreation and tourism. A brief overview of the history of recreation as well as the history of recreational fishing and fishing tourism is provided. Different theories of recreation are mentioned, including the theory of planned behaviour. The chapter also covers the types of recreational activities and shows were recreational fishing fits in. The different fishing methods and fishing disciplines were identified and also the stakeholders of recreational fishing.

Chapter 3 – The spending behaviour of recreational anglers. Chapter 3 describes tourist behaviour and includes different models of tourist behaviour, such as theories and models of consumer behaviour. Tourist spending behaviour is discussed in this chapter, as well as the different motivational factors for spending. The relevance of recreational fishing and the South African economy is determined and a value chain analysis of recreational fishing is explained.

Chapter 4 – Empirical results: Chapter 4 focuses on the empirical portion of the study. The results obtained from the survey. It investigated the socio-demographic, behavioural and motivational determinants of the spending behaviour of recreational fishing.

Chapter 5 – Conclusions and recommendations. The chapter draws conclusions and makes recommendations based on the results. Different conclusions will be discussed with regard to the goal and objectives of the study and thereafter a few recommendations will be made.

CHAPTER 2

RECREATIONAL FISHING AND FISHING TOURISM

2.1 INTRODUCTION

Economists view recreation, leisure and tourism as a captivating field of study (Tribe, 2011:vii). Tourism and leisure both take place during a person's free time and this is the reason why both these areas are closely connected. The definitions of leisure time spending, leisure time, recreation, relaxation, sport and tourism overlap extensively. The blanket term of leisure time activities or leisure time spending includes all the terms already mentioned. In other words, a person can participate in leisure activities in his free time; he can also participate in recreational activities such as fishing, or he can, as a tourist, travel from fishing spot to fishing spot (Saayman, 2002:10).

A person not staying overnight at his/her usual place of residence, or in other words a traveller, can participate in a variety of leisure time activities, and this includes recreational activities. The word recreation is indirectly a re-creative effect on one's state of mind by means of participating in the activity (either actively or passively). Recreation creates a physical, emotional and mental excitement in any individual of any age. The individual is not obligated to partake in the activity and can choose a time when to participate. The state of mind or disposition of the person towards the activity at the time of participation will define whether the activity is relaxing or not. A recreational activity makes use of leisure time in order to relax and experience something (Saayman, 2002:10-11).

However, not all forms of tourism or recreation are relaxing and can be very tense or exhausting for a tourist. In other words, not all forms of tourism are part of recreation. Business activities and even sport meetings can be gruelling and exhausting and these do not always take place during a person's leisure time. People usually associate tourism with fun and enjoyable times of vacationing as part of leisure activities and this is not always the case (Saayman, 2002:10-11). The model below (Figure 2.1) illustrates the relation among leisure, recreation and tourism:

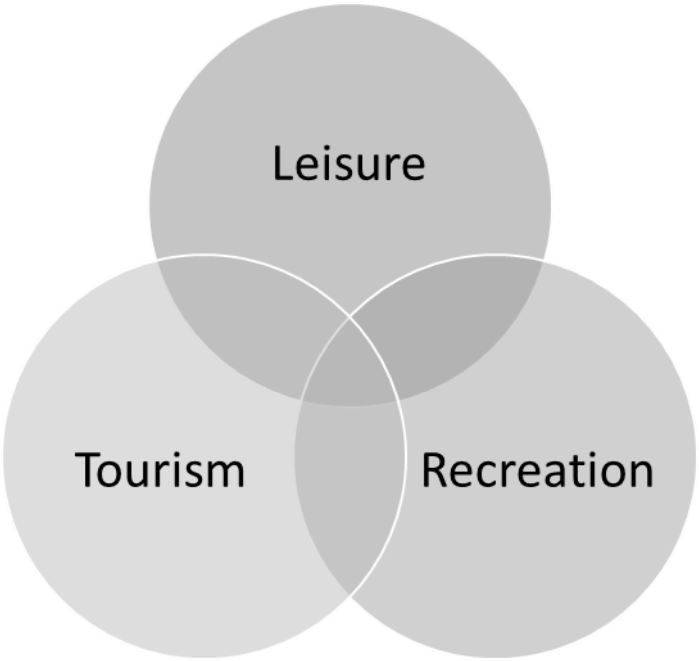

Figure 2.1: Leisure, recreation and tourism

(Adapted from Saayman, 2002:11)

According to Figure 2.1, one can argue that tourism, leisure and recreation overlap because all these aspects are a quantity of free time. For the purpose of the study, the term recreation is a leisure activity as well as a tourism activity. The study will also focus on fishing as a recreational activity as well as a tourism activity; commercial fishing is not applicable for this study.

Recreation is a diverse sector. The industry generates millions of jobs in the manufacturing, sales, and service sectors (Outdoor Industry Association, 2012:2; DEAT, 2002:7; SRSA, 2012:3). South Africans enjoy a wide variety of activities to keep fit, to add excitement to ones lives, to have fun with family and friends, to pursue solitary activities and to experience nature first hand (Goeldner & Ritchie, 2012:181). One of these activities is recreational fishing, these recreational anglers or fishing tourist travel to participate in the recreational activity.

As road networks and industrial agriculture expand, and people become more affluent, wildlife resources diminish, forcing anglers to travel further from the quarry, whether it is to the next river, or dam, or to the other side of the world. The increasing urbanisation of society, combined with the extensive range of excavations, created a demand and supply situation in which various strategies are pursued to provide clients with a desired experience, and to derive profit from the fishing industry (Bauer & Herr, 2004:77). Although this is not part of a specific case study, there is relevance in this for the study, because the study will indicate the economic worth of these travelling anglers.

Fishing or angling focuses on a wide range of marine/estuarine fish, molluscs, crustaceans and a variety of freshwater species in rivers and dams. Not all fishing falls under tourism but most of it incorporates the following defining elements of tourism:

- Travel to and from a particular destination.
- The presence of tourism service industry.
- The exchange of money for services.
- Overnight, to several months, stays at destinations.
- A service industry.
- Aspects of leisure and recreation.

It is imperative to determine the importance of the industry, how many people engage in it and what the total economic value of the fishing market is, this will provide insight on how to market recreational fishing, determine whether the industry needs policy updates and how to maximise the profit in the industry (Bauer & Herr, 2004:77).

Fishing has been an important aspect of the lives of a large part of society. Its origins, pursuit and contribution to tourism or recreation have not been questioned. There has been generally little controversy surrounding its practice. Many people spend their holiday at the coast, on islands, or by the riverside and take a fishing rod, hand line or crab basket with during the vacation. Whilst this is not seen as an independent industry, it is an essential part of holidaymaking. The uprising of a fishing tourism sectors was as a result of mobility, an increase in the number of recreational fishers and the emergence of service providers (such as guides, boat owners, land owners and resort owners). These service providers took advantage of the increase by offering special experiences, locations, and species, and constructing a price for it (Bauer & Herr, 2004:77).

The purpose of the chapter is to provide a clear understanding of the term recreational fishing and fishing tourism, who the stakeholders of recreational fishing and fishing tourism are, and why it is so important to the economy. The chapter highlights the important legislations and regulations regarding recreational fishing. A brief overview of the history of recreation, recreational fishing and fishing tourism is provided. All of these sections are interrelated with recreational fishing in order to provide a clear understanding of the importance and benefit of recreational fishing for South Africa. Understanding these concepts is important for the empirical study. The following section will provide an overview of the history of recreation, recreational fishing and fishing tourism.

2.2 HISTORY OF RECREATION

Kennedy, Singleton and Genoe, (2006:18) shows that prehistoric societies were mainly concerned with survival, hunting and gathering food and this were the major activities during this time. It was a way of sustaining life. The societies did not have free time. People "worked" to survive and rested to maintain energy levels. Tools were created in order to assist with hunting, this changed daily schedules because hunting became easier and extra time was used for rituals or ceremonies. These emerging tribes focused on playlike activities as a necessity for the evolving culture. These playlike activities were also a way to relax, recover and replenish strength after working (Kennedy *et al.,* 2006:18).

During the ancient period travel was slow, costly and risky (Saayman, 2007:50). Ancient Greece (1200-500 B.C.) is an example on how societal structure influenced the development of leisure. The Greeks embraced the Athenian ideal (becoming a soldier, athlete, political leader, artist and a philosopher) rather than one area of expertise (Kennedy *et al.*, 2006:19). Plato and Aristotle believed that virtuous and constructive leisure activities were important for contentment and accomplishment. It was essential for children to play to grow up healthy, for both physical and social development. The Greek culture had a passion for games. Athletic games were held and the Olympic Games were born during this period. The Olympic Games honoured the god Zeus (Saayman, 2007:60).

The Romans on the other hand saw leisure as a rest from work. Romans were constantly on crusades to dominate foreign cultures, so to rest was very necessary and allowed for recovery before the next battle. Play was functional and not artistic or spiritual (Kennedy *et al.*, 2006:20). It was also during this period that an appreciation for nature was established, the Seven Wonders of the World were identified and the modern tourism industry was established (Saayman, 2007:62).

After the fall of the Roman Empire, the Catholic Church became the dominant structure in Europe during the middle ages. The church influenced what were acceptable and unacceptable leisure activities. These rules were very strict and the church went through a period of renaissance (Kennedy *et al.*, 2006:20). The renaissance time period perceived play as a form of education, a need for physical exercise and games for emphasised and the distinction between play and recreation emerged. Recreation was not being workshy; it provided a specific benefit by easing and helping to recover the people drained by work (Kennedy *et al.*, 2006:21).

During the industrialisation of Western Europe and America during the nineteenth century, modern patterns of leisure were noticed. Today, one cannot imagine a nine to five workday without the opportunity to participate in leisure activities at the end of the day. Even weekends, the annual vacation and retirement all need leisure activities. In the nineteenth century, the economy transformed in such a way that it made it possible for many new and modern leisure activities. This indirectly contributed to a new personal and independent pattern of leisure (Graefe & Parker, 1987:25).

Leisure was commonly associated with religion, but some popular activities were often unruly and usually sex-segregated. These activities included gambling, drinking and prostitution. In America, carnivals or Election Day provided an opportunity for emotional relief. These leisure activities also confirmed the primacy of the community and often the legitimacy of the local elites who usually patronised such festivities (Graefe & Parker, 1987:25).

The annual vacation became a widespread entitlement in Europe in the 1930's and since World War II has extended from one or two weeks to three or even five weeks. While vacations have become a legal right in Europe, employers were originally less reluctant to grant the vacation than the forty-hour work week, in part because of its relatively low cost of labour time. Simultaneously, the vacation became perhaps the most popular of the new blocks of leisure time for employees because it offered the opportunity to vacate the work environment for an extended period (Graefe & Parker, 1987:27).

The study focus on recreational fishing and fishing tourism this is why a brief overview of the history of fishing tourism will also be provided and be discussed in the following section.

2.2.1 Overview of fishing tourism

The history of fishing tourism is related to the history of tourism. As seen in the previous section, tourists demanded relaxation activities and entertainment for leisure time. Over time, fishing became a leisure time activity for tourists. Types of fishing (like fly-fishing), certain types of fish species (tiger fish) and some destinations (such as Dullstroom) led to the development of fishing tourism (Aas, 2008:270-272).

Probably the greatest influences in defining fishing tourism was the British Empire and the playground it established for 'sportsmen' across the world. Foreign lands have had a special power

of attraction for the British. The Australian barramundi, the Mahseers of Asia, and the transfer and establishment of brown trout fisheries in New Zealand, North America or Argentina, all have some linkage to the Victorian period. Later, international angling writers, such as Zane Grey, S. Kip Farrington Jr (1953) and Ernest Hemingway boosted the interest for different types of fishing tourism. Hemingway introduced the reading public to offshore big-game fishing (The Government of the Bahamas, 2011). However, it is argued that ocean sport fishing started when Dr Charles Frederick Holder landed an 84-kilogram Bluefin tuna on a rod and reel in 1898 at Avalon on Santa Catalina Island, California (Farrington, 1953). This was also the start of the world's first game-fishing club, complete with the first fishing rules and fishing ethics (Aas, 2008:270-272).

Fishing tourism can consist out of two groups, special-interest fishing tourism (a tourist who purchased a trip or an arrangement focusing only on fishing) or tourist who combines fishing with other recreational activities such as snorkelling, surfing or visiting museums and water parks. While most fishing tourism products target specialists, fishing may also be one of several activities offered to non-specialists. For example, in Juneau, Alaska a small but distinct angling tourism industry has arisen to take cruise-ship passengers for half-day fishing trips by aeroplane. In some cases, tour operators outside the fishing destination market arrange fishing trips (Aas, 2008:270-272).

In South Africa today there are many fishing activities. Fishing equals positive and enjoyable recreational activities. Hundreds of tour operators (Fishing Directory, 2016) offer some form of sport fishing, be it in the deep blue seas around the country, standing knee-deep in the water and casting a fly into the dams in Dullstroom, or just being at one with a flowing river in the hope of outwitting trout, catfish or carp. Each fish species has its own traits, spawning habits, feeding preferences and level of awareness when it comes to being caught. "Catch and release" is the latest mantra in South African fishing circles, and for some species that is the way to go. Fishing must be sustainable and maintained for future generations (South African Tourism, 2017).

South Africa is so diverse in terms of its fishing resources. There are many angling venues in South Africa all depending on what the angler wants to catch. It is very difficult to narrow the fishing areas down, as there are hundreds of high quality venues where fishing is brilliant (Fish the Sea, 2012). According to South African Tourism (2017) the top ten fishing spots include:

- Dullstroom, Mpumalanga. A prime country fly-fishing spot and a great weekend getaway.
- Du Toit's Kloof, Western Cape with icy mountain streams for excellent freshwater angling.

- The Rhodes District, Southern Drakensberg provides cool, clear streams and fantastic trout fishing.
- Jonkershoek Valley, Stellenbosch is the home to the oldest trout hatchery in Southern Africa.
- Elephant Coast, Cape Vidal and Sodwana are excellent game fishing destinations. St Lucia and Kosi Bay lakes offer a rare semi-saline environment in which to test the angler's skills.
- Cape Point is home of deep-sea fishing off the southern tip of Africa.
- Shelley Beach, KwaZulu-Natal South Coast is a firm favourite known for excellent game fishing.
- Wild Coast, Eastern Cape provides rugged shorelines with not a soul in sight. It is an excellent place for those who enjoy bottom-fishing and kite-fishing.
- Jozini Dam, Pongola is the home of the fearless tiger fish.
- KwaZulu-Natal's North Coast is the area for game fishing and surface-feeders.

To determine the theoretical background of recreation the different theories of play, needs to be evaluated. The following section focus on the theoretical foundations of recreation.

2.3 THEORETICAL FOUNDATIONS

To determine the theoretical background of recreation one needs to start at the bottom, the play theories. Recreation and leisure is based on play. Throughout the history, one can find evidence of people playing. Anthropologists found evidence of dolls, hoops and rattles and not only implements for work and survival. Playing musical instruments, dressing up in costume, pageantry and dancing may have resulted from, initially, just playing, or having fun. Scientific discoveries and inventions can also be the result of playing with a hobby, with intense and absorbing enthusiasm. It is human nature to play (Meeras, 2010:7). There is no logical or specific category for recreational theories. Elements covered in most of the theories include, need-serving, satisfying experiences, value to the community and it is associated with an activity (Meeras, 2010:11). In the study, an attempt is made to highlight some of the main theories.

Meeras (2010:12) points out that the need serving theoretical approach is the most common approach. Whatever the choice of recreation may be, it is usually so that individuals can please some sort of inner need. To participate in recreation is for individuals to fulfil a desire for pleasure. This is a description of what recreation does and not what it is.

As from the definition, recreation is a leisure-time activity. In other words, recreation is an activity in which people participate during leisure time. Service providers see this description of recreation as the most acceptable. The problem with this traditional view of recreation as activity is that it is seriously biased in certain fixed directions. Recreation is seen as synonymous with a physical activity and sport and not always as a relaxing and enjoyable activity. Service providers offer recreational activities, but do not know which activities are appropriate and whether these activities meet the needs of people. Recreation should be valuable to the community and the individual. Recreation creates feelings of welfare, fulfilment, pertaining to positive identity, development, innovativeness and coping attitude (Meeras, 2010:12).

Another way of describing the concept is that recreation is as a re-creation. Most theorists have concentrated on the value of recreation, and the outcomes of recreation. Recreation creates unity and synchronization within the individual. Recreation classifies a variety of human interests and welfare. The status and meaning of these activities or events are determined by the individual value. Recreation can be seen as an activity and/or experience. The individual determines the type of satisfaction it provides and each individual will experience it differently (Meeras, 2010:13).

A variety of theoretical approaches have been applied for the study of recreation participation, with the objective to identify the factors that facilitate or limit participation in recreational activities. In this study, early theories of recreation will be discussed as well as the extended version of the Theory of Planned Behaviour (TPB) (Kouthouris & Spontis, 2005). The following section will cover these theories.

2.3.1 Early theories of recreation

During the first three decades of the twentieth century, a number of psychologists and educators examined different theories. These theories are briefly discussed in Table 2.1.

Table 2.1: Timeline of the early theories of recreation

Theory	Creator	Description
Surplus-energy theory	Schiller (1873) and Spencer (1875)	The English philosopher, Herbert Spencer, encouraged the surplus-energy theory. Recreation, in the form of play, is the aimless expenditure of exuberant energy. It is a way of burning energy that was not used in a productive activity

Recreation theory	Mitchell and Mason (1948)	Lord Kames indicated in his theory that one needs recreation to restore energy. It helps an individual to recharge the physical or psychic for further work
Catharsis theory	Freud (1908)	The Catharsis theory can be traced back to the times of Aristotle. The theory explains that recreation is an aid to remove energy that can be seen as anti-social. The American psychologist, Carr, said the following about recreations in the catharsis theory: "Catharsis implies the idea of purging or draining of that energy which has anti-social possibilities. The value of football, boxing, and other physical contests in relieving the pugnacious tendencies of boys is readily available as examples. Without the numberless well-organised set forms of play possessed by society which give a harmless outlet to the mischievous and unapplied energy of the young the task of the teacher and parent would be appalling."
Self-expression theory	Mitchell and Mason (1948) Goffman (1959)	During the twentieth-century the self-expression theory came about. Elmer Mitchell and Bernard Mason were the leaders in the theory. Each individual wants to express themselves in order to meet universal wishes. These wishes can be new experiences, group experiences, security, self-fulfilment and the wish for aesthetic. Recreation can cater for these wishes

(Adapted from McLean & Hurd, 2004:28 and Ngcobo, 1998:24-25)

These theories brought about a new fold to the understanding of recreation. Recreation is a peak experience in self-satisfaction that comes from successful participation in any sort of personal enterprise. It is an emotional condition within an individual, that flows from a feeling of mastery, achievement, exhilaration, acceptance, success, personal worth and pleasure. It reinforces a positive self-image. It is a response to aesthetic experience, achievement of a person's goals, or positive feedback from others. It is independent of activity, leisure or social acceptance (Ngcobo, 1998:24-25).

2.3.2 Theory of Planned Behaviour (TPB)

According to the TPB, human behaviour is a function of an individual's intention to perform the behaviour in question. Intention is a combination of three conceptually independent factors (Hrubes, Ajzen & Daigle, 2001:166):

- attitude toward the specific behaviour.
- subjective norms.
- perceived behavioural control.

Behaviour is a function of beliefs which are connected to the behaviour. An attitude is a learned predisposition to behave in a consistently favourable or unfavourable way towards a given object or behaviour. On the other hand, subjective norm expresses the social pressure that is placed on the individual too perform the specific behaviour. Perceived behavioural control has been introduced to enhance the prediction of behaviours in which volitional control may be incomplete. Irrespectively of a person's intention, there may be some obstacles. These obstacles include internal factors such as skills, abilities, knowledge, and adequate planning, as well as, external factors such as, time, opportunity and cooperation with other people. It expresses individual beliefs about the ease or difficulty in performing a specific behaviour. The TPB assumes that perceived behaviour control influences behaviour both directly and indirectly through an independent effect on behavioural intention. The more it is perceived that the behaviour in question is not under control, the more it is expected that a direct link, between perceived behavioural control and behaviour, not mediated by intention, will be present (Hrubes, Ajzen & Daigle, 2001:1668).

In the context of recreation, the more positive attitude an individual hold, the higher the societal pressure placed on him. Furthermore, when the behaviour is perceived to be controllable, behavioural intentions are more likely to be positive. Participation in recreation programs has unique characteristics. It requires an individual to invest time, effort and energy into the activity. Furthermore, there are many internal and external factors that limit choice and make perceived behavioural control an important variable (Hrubes, Ajzen & Daigle, 2001:166).

The theory of planned behaviour can be directly applied to recreational activities. This makes the theory important for the study and one of the reasons why behaviour is also discussed in Chapter 3. Intentions to perform an activity such as fishing can be predicted from attitudes, subjective norms, and perceived behavioural control with respect to the activity and the performance of the behaviour can be predicted from intentions and perceptions of behavioural control.

From these theories, recreation is both an active and passive activity that is socially constructive to a person, and engages a person during leisure time and time when one is free from work. Recreation and all its related activities cannot be related to work (Ngcobo, 1998:24-25). The following section will further explain these recreational activities.

2.4 TYPES OF RECREATIONAL ACTIVITIES

Recreational activities contribute to numerous forms and settings as seen in Figure 2.2. Each of these forms are discussed below.

Figure 2.2: Forms and settings of recreation

(Source: Fourie, 2006:24)

2.4.1 Coastal / marine recreation

Coastal and marine zone include all resources and activities between the seaward reaches of the continental slope and upland limits of the coastal watershed. The coastal or marine zone is vital for humanity. Large numbers of people are attracted to these areas and it provides valuable resources. Facilities include restaurants, clubs, theme parks, aquaria, resorts and other tourism attractions. Some of the recreational activities in this zone include fishing, scuba diving, sunbathing and sailing (Fourie, 2006:24). Marine tourism includes recreational activities, such as fishing, scuba diving,

snorkelling, surfing, shark cage diving and kayaking, in a marine environment (the marine environment is defined as those waters that are saline and tide affected) (Orams, 1999:9; Signh, 2008:261).

2.4.2 Commercial recreation

Commercial recreation is the supply and distribution of recreational services by privately owned businesses. These recreation services include shopping centres, dance studios and small campgrounds. Commercial recreation can be divided into businesses that cater for local residents (country clubs, driving ranges, tennis clubs) and businesses which focus on tourists and excursionists (resorts, lodges, hotels) (Fourie, 2006:24).

2.4.3 Urban recreation

The industrialisation that started in Europe had an enormous effect on leisure and recreation. It changed from outdoor to indoor, from participation to observation. There was more reliance on entertainment, mass media and reading. Recreation became more commercial. People were willing to pay for entertainment. A lot of specialised activities were created and also organised events. Industrialisation has had an enormous effect on urbanisation. People moved away from rural areas to the city, because of the wider diversity of opportunities and a better economy. It is evident that urban recreation is a growing industry. The growing technology has influenced recreation and leisure. The urban culture is technology driven and is becoming more important, especially with the youth of the urban areas (Fourie, 2006:24).

2.4.4 Wildlife and outdoor recreation

Outdoor recreation includes not only activities in a natural surrounding it can also take place on city sidewalks, playgrounds and backyards. Activities such as camping, hiking, canoeing, rafting, fishing and rock climbing are all forms of outdoor and wildlife recreation.

Wildlife recreation is synonymous with limited facilities and remote locations. Each individual will participate differently in wildlife recreation. Most wildlife recreation takes place in small groups from three to four persons, most wildlife visits are short and respondents in wildlife recreation engage in more than one activity (Fourie, 2006:24).

According to the City of Cape Town Recreation Study Research Report (2011:19), recreational activities can also be divided into two groups; it can either be active (the participant does the activity) or passive (the participant watch others involved in the activity) as indicated in Table 2.2.

Table 2.2: Examples of both active and passive activities

Activity	Group	Example
Active recreation	Sport (physical activity with rules, an element of competition and an organised structure)	Currie Cup Rugby, World Cup Soccer, Wimbledon, Club Rugby Game, recreational fishing competitions such as Bloemhof Bonanza
	Informal sporting activity ("fun" physical activities where no competition is organises)	Touch rugby in the garden, putt-putt, recreational fishing
	Outdoor recreation (physical activities that use the natural physical environment)	Walking, mountain biking, surfing, fishing
	Indoor recreation (activities that are organised at indoor recreation facilities and require at least an increase in normal body movement)	Indoor cricket
Passive recreation		Watching live sport, attending concerts, theatre, cinemas and cultural events, board games

(Adapted from City of Cape Town Recreation Study Research Report, 2011)

From the above table (Table 2.2) it is clear that fishing is also a recreational activity. For the purpose of this study, the next section will focus on fishing as a recreational activity.

2.5 FISHING AS A RECREATIONAL ACTIVITY

Recreational fishing is a social sport attracting respondents from the entire South African population (Parker, Winter, Dicken & Attwood, 2015:6). Although South Africa is classified as having a temperate, subtropical climate, it is often regarded as a country with low and variable water resources. There are, nevertheless, ample fresh water locations for recreational fishing ranging from rivers and streams to small, privately owned dams, as well as large dams and reservoirs. The sustainable use of these resources regularly comes under scrutiny as water quality nationally deteriorates, and justifies being investigated. This has important implications from a management

point of view since existing stakeholder involvement could be failing in its strategy and the execution thereof.

The fishing industry traditionally comprised a multitude of recreational anglers who mainly used domestically acquired fishing skills, and techniques and products locally developed over many years. Competitive fishing, different and new products and techniques, the international exposure through the internet and television programmes changed the traditional face of fishing which was portrayed in fishing magazines, television reality programmes and outdoor exhibitions (Van Zyl, 2010:1).

2.5.1 Fishing methods and techniques

Many people think there is one way to do fishing: “Put the bait in the hook, sink it and fish will bite and get hooked”, this is only one-way of fishing, there are many other techniques used for different types of fishing. Each angler has his/her own favourite type of fishing (Abdullah, 2015).

Some of the fishing techniques used all over the world for recreational fishing are (Abdullah, 2015):

- Bottom fishing: This is the most common and simple way to fish. In this technique, fish that lives in the bottom of the sea are targeted, such as snappers, sea bream and groupers. There are two ways to do bottom fishing, either with a rod or handline. Handline fishing is still very common in developing countries (Asia, Africa and the Middle East). Some use it because one can better feel the bite and others because it is cheaper.
- Trolling: Trolling is used to target big fish that mostly swim in the top surface of the water. Trolling is when the boat is moving while having the rods in the water on the back with lures/bait hooked (artificial lures, dead bait or live bait) on these rods. Trolling is used to target big game fish such as Bill Fish (Marlin, Sailfish, Swordfish), Kingfish, Tuna and many other types of fish that feed on other smaller fish and swim in the surface.
- Fly-fishing: Fly-fishing is more a technique used in fresh water fishing such as rivers. In this technique a fly is used as bait as well as a special type of rod and reel. The most common fish to be caught is Salmon and Trout.
- Jigging: Jigging is a bit new fishing technique invented by Japanese anglers. A jig is a metal lure that is dropped to the water until it reaches the bottom; it is reeled up in a special rhythm targeting fish in the bottom or mid surface.
- Casting or spinning (with lures, poppers or stick baits): Spinning or casting have the same meaning and can be either done from shore or a boat. The idea is to cast a rod while using a lure. The lure can differ based on the fish targeted.

In addition, recreational fishing can also be categorised by the location and tools used in the activity. There are four basic groupings: *pêche à pied*, shore-based, boat-based and underwater fishing, with multiple further sub divisions (Gaudin & De Young, 2007:7).

For the study fishing disciplines are divided into the following categories (Gaudin & De Young, 2007:7), refer to Figure 2.3:

- Marine fishing: Leisure time fishing and is considered a non-gainful activity.
- Estuary fishing: fishing in sheltered water, often with grass bottom or grassy shorelines, where juvenile fish have shelter, food and a chance to grow.
- Freshwater fishing: freshwater fishing is a term used for waters such as rivers and dams as opposed to saltwater (the sea).
- Fly-fishing: a technique for fishing where the weight of the line is used to cast a very light weight fly that would not be heavy enough to be cast with a conventional spinning or casting rod. Usually pertaining to trout and salmon fishing.

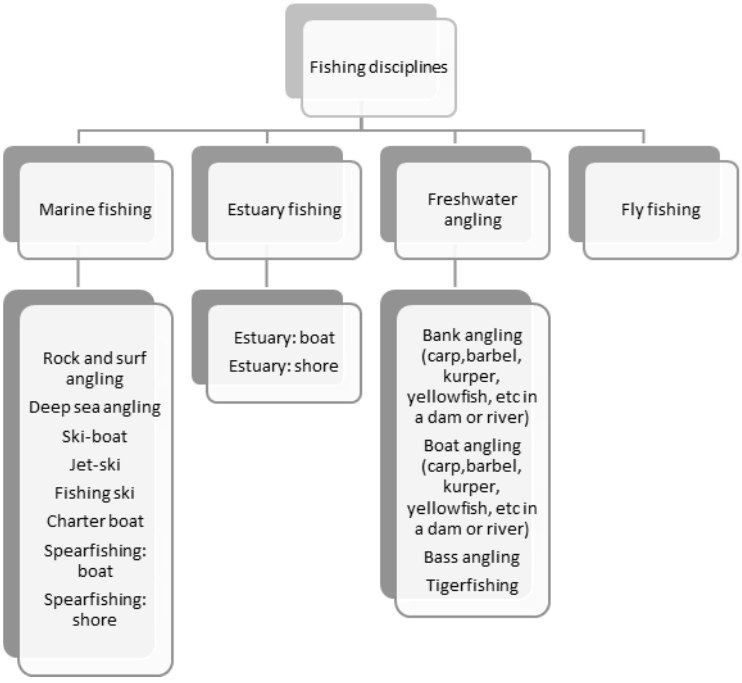

Figure 2.3: Fishing disciplines

(Adapted from Gaudin & De Young, 2007:7)

2.6 RECREATIONAL FISHING STAKEHOLDERS

In this section, the behaviour of organisations in the recreation, leisure and tourism sector will be analysed. Further in the section the stakeholders in the South African freshwater recreational fishing industry are introduced with evidence about the scope of activities. Figure 2.4 is a representation of the organisations in the recreation, leisure and tourism sector.

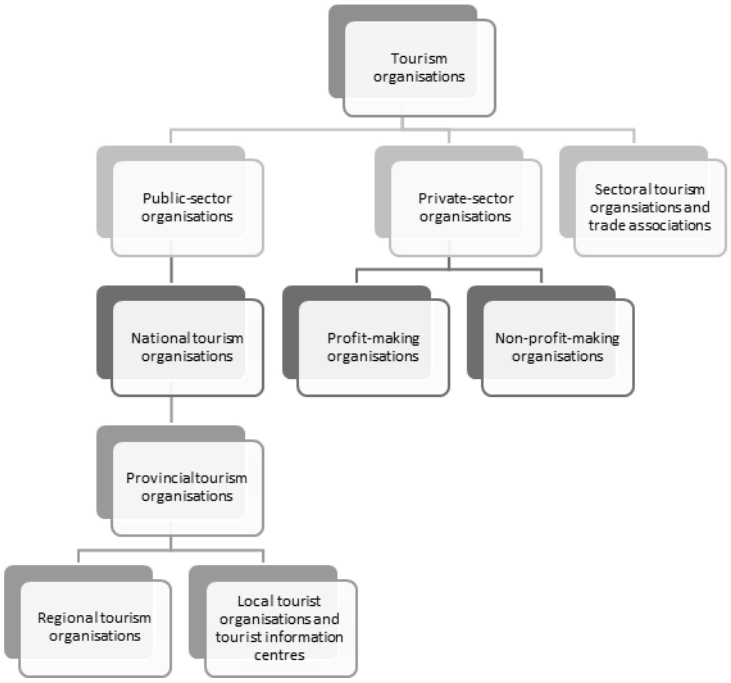

Figure 2.4: Recreation, leisure and tourism organisations

(Adapted from George, 2012:148-165 and Bennet, Jooste & Strydom, 2006:38-40)

2.6.1 Recreational organisations

Public-sector organisations are those owned by the government. This can be the national government or local government. Private-sector organisations are those which are non-governmental-owned. They can be further subdivided into profit-making organisations and non-profit-making organisations (Tribe, 2011: 28&33). Each of these organisations will be individually discussed.

2.6.1.1 Public-sector organisations

Public-sector organisations can be grouped into local government organisations and national government organisations.

a) National tourism organisations

South African Tourism (SA Tourism) is the national tourism organisation and reports directly to the Ministry of Tourism, the National Department of Tourism. SA Tourism plays an important role in influencing tourists and potential tourists to visit the country. The main function is to market South Africa as a tourist destination internationally and domestically. National tourism organisations are

responsible for making tourists aware of the offerings, activities and destinations which South Africa offers (George, 2012:164).

National government organisations in the public sector are financed in the main from:

- Taxes.
- Trading income.

The dependence on tax funding can mean that public-sector organisations are very sensitive to the changing priorities of the government. Equally, if the state of the economy as a whole is unhealthy, spending cuts will generally be imposed through the public sector (Tribe, 2011:34).

b) Provincial tourism organisations

According to George (2012:164) these authorities are responsible for marketing and promoting the unique selling points of an area as a tourism destination, they are also responsible for aligning themselves with policies and strategies devised at national level by the National Department of Tourism and SA Tourism. Examples of provincial tourism organisations include Free State Department of Tourism, Environmental and Economic Affairs and The Western Cape's Department of Economic Development and Tourism.

c) Regional tourism organisations (RTO)

Regional tourism organisations need to promote tourism in the respective regions. For example, in Limpopo province there are five regional tourism organisations namely Waterberg, Capricorn, Vhembe, Mopane and Sekhukhune. These government agencies rely on funding from membership fees. Sources for these fees include local authorities, private businesses and provincial tourism authorities. Businesses need to pay a fee to join and in return, the RTO will market and promote offerings, information dissemination and support (George, 2012:164).

d) Local tourist organisations (LTOs) and tourist information centres (TICs)

These organisations manage services for visitors through the tourist information centres. TICs must provide up to date information about accommodation, events, attractions, activities and transport (George, 2012:165).

2.6.1.2 Private-sector organisations

Private-sector organisations are those which are non-government-owned. They can be further subdivided into profit-making organisations and non-profit-making organisations.

a) Profit-making organisations

These consist of those with unlimited liability and those with limited liability. Unlimited liability means that the owners of such companies face no limit to their contribution should the organisation become indebted. Limited liability company in contrast enables its owners to create a separate legal

identity and this enables them to limit their exposure and liability in the case of company failure (Tribe, 2011:34).

b) Non-profit making organisations

Non-profit organisations in the private sector vary considerably in size and in purpose. They span national organisations with large turnovers, smaller special interest groups, professional associations and local clubs and societies. The aims and missions of voluntary groups are generally not profit driven. They include the protection of special interests, promotion of ideas and ideals, regulation of sports and the provision of goods and services which are not catered for by the free market (Tribe, 2011:41-42).

2.6.1.3 Sectoral tourism organisations and trade associations

These bodies represent the private and public sector bodies of the South African tourism industry. They are usually non-profit making. The aim is to ensure that national and provincial tourism policy and strategic directions will be a cooperative undertaking. Organisations include the Tourism Business Council of South Africa (TBCSA) and CATHSSETA (Culture, Arts, Tourism, Hospitality & Sport Sector, Education and Training Authority) (George, 2012:165-166).

In recreational fishing the organisations and stakeholders associated with the activity can also be divided into the public sector and the private sector. Both will be discussed in the following section. In South Africa the Department of Sport and Recreation (SRSA) is the national government department responsible for sport and recreation in South Africa. Its primary focuses are providing opportunities for all South Africans to participate in sport and recreation; managing the regulatory framework thereof, and providing funding for different codes of sport (Department of Sport and Recreation:2017). The current organisational structure of the Department of Sport and Recreation can be seen in Figure 2.5. Fishing falls under the Department of Sport and Recreation as seen in Figure 2.6.

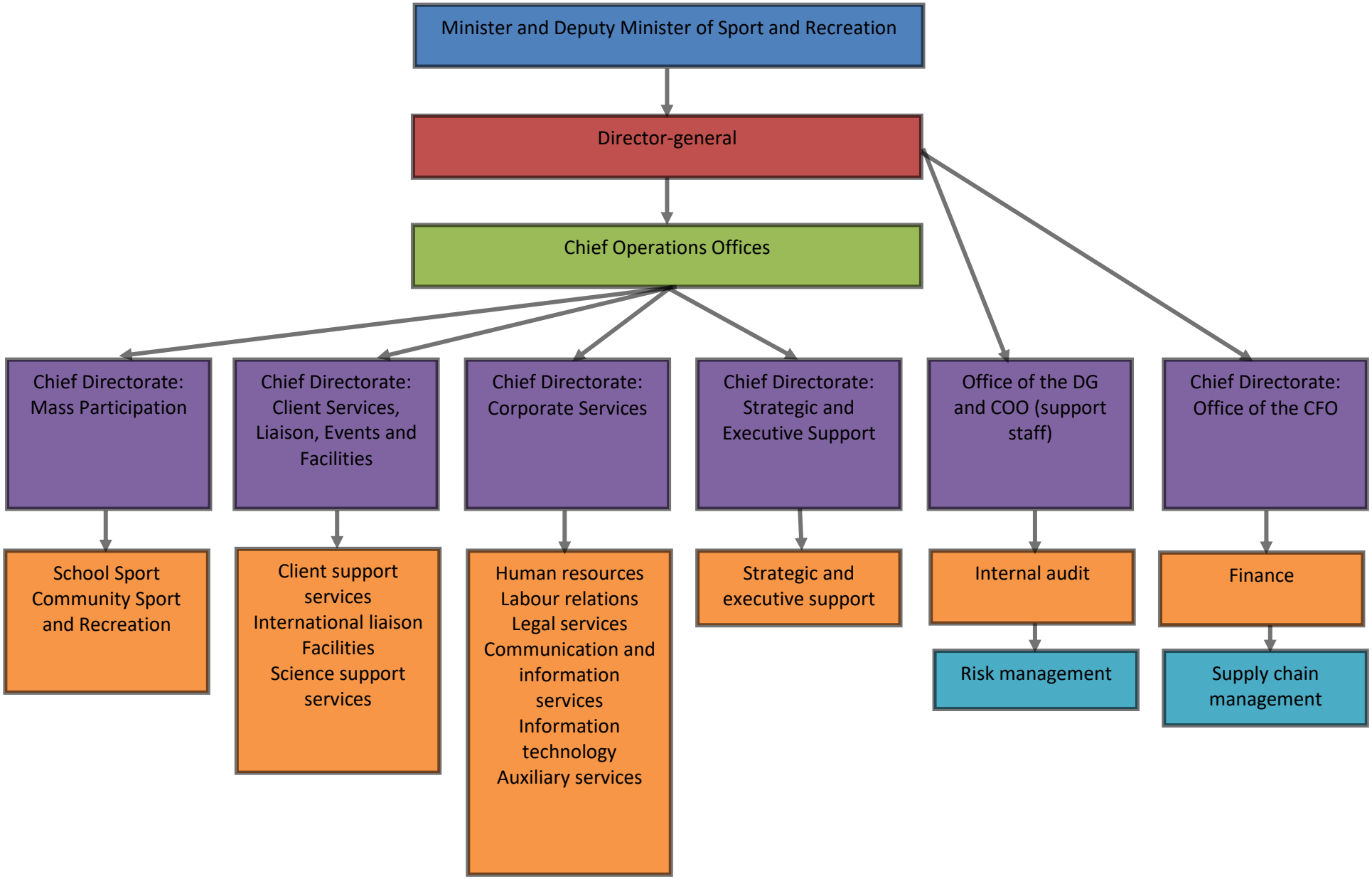

Figure 2.5: Organisational structure of the Department of Sport and Recreation

(Source: SRSA, 2012:17)

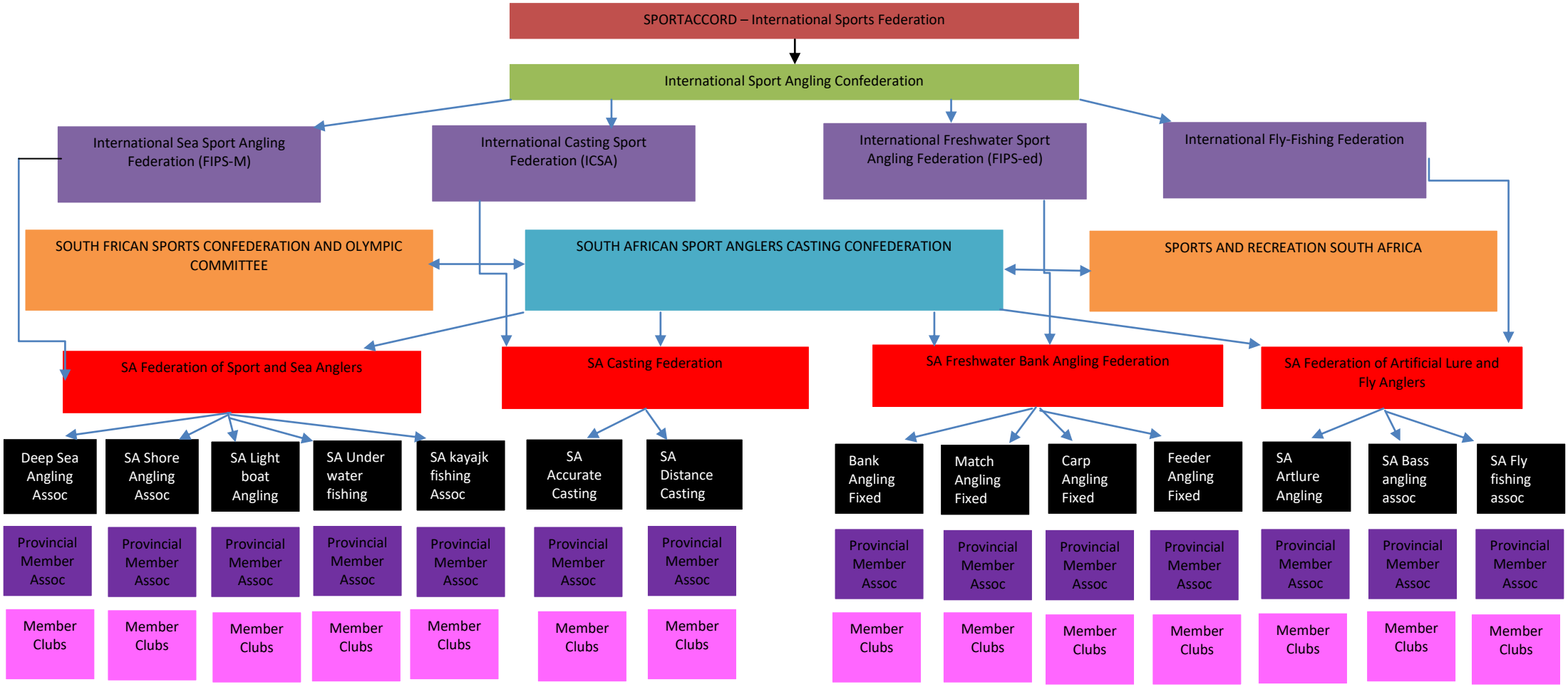

Figure 2.6: South African Sport Anglers and Casting Confederation Organisation of Organised Angling in South Africa

(Source: SASACC, 2014)

2.6.2 Recreational fishing stakeholders

The stakeholders for recreational fishing are grouped in two, the public sector consisting of various government departments and the private sector. These will be discussed in the following section.

2.6.2.1 Public sector

Some of the major public sector stakeholders can include the following (Van Zyl, 2010:29-31):

a) The Department of Water Affairs (DWAF) is the custodian of South Africa's water resources. It is primarily responsible for the formulation and implementation of policy governing this sector. It also has the overriding responsibility for water services provided by local government (DWAF, 2010c). While striving to ensure that all South Africans have access to clean water and safe sanitation, the water sector also promotes effective and efficient water resources management to ensure sustainable economic and social development. The water resources management responsibility of DWAF is a combined function with the Department of Environmental Affairs (DEA), with DWAF focused more on the development thereof as an economic resource and DEA on the sustainability from the environmental perspective. The challenges of addressing freshwater shortages in several regions of South Africa reside with DWAF. Given the cyclical drought periods experienced in various South African provinces, this government department has to implement a water provision strategy which will also consider population and industrial growth rates.

b) The Department of Environmental Affairs' (DEA) vision is: "A prosperous and equitable society living in harmony with our natural resources." Its mission is: "To create a prosperous and equitable society that lives in harmony with our environment" (DEA, 2010). The DEA has the following strategic objectives: a) To protect, conserve and enhance our environment, natural and heritage assets and resources. b) Proactively plan, manage and prevent pollution and environmental degradation to ensure a sustainable and healthy environment. c) Provide leadership on climate change adaptation and mitigation. d) Contribute to sustainable development, livelihood, green and inclusive economic growth through facilitating skills development and employment creation. Contribute to a better Africa and a better world by advancing national environmental interests through a global sustainable development agenda. The majority of the environmental and nature conservation issues are the responsibility of the DEA while liaison exists with DWAF and the Department of Agriculture, Forestry and Fisheries (DAFF). The threats to natural resources and their challenges that fall under the DEA jurisdiction are primarily water pollution and habitat and community modification. Issues having overlapping responsibility are overfishing and environmental issues arising from agricultural and mining activities. DAFF and the

Department of Mineral Resources thus have prominent roles to play in support of the DEA strategic objectives. The DEA works with the DAFF and the policy regarding recreational fishing is discussed under DAFF.

c) The Department of Agriculture, Forestry and Fisheries (DAFF) strives towards a united and prosperous agricultural sector, with the aim of supporting sustainable agricultural development (DAFF, 2010). The agricultural sector has formal and informal activities to be managed by DAFF. Rural and informal agricultural activities are difficult to manage, similar to recreational fishing activities, as both are vast in numbers and area. Each recreational fisher and certain other user groups must pay for the right to use marine resources by buying a recreational permit/fishing permit. These funds will be used for research, compliance and management.

d) The vision of the Department of Sport and Recreation South Africa (SRSA) is: “An active and winning nation” (SRSA, 2010). In striving to create an active and winning nation, SRSA not only indicates the core focus of current endeavours, but also expresses a firm commitment to keep on doing whatever it takes to have a significant and positive impact on the entire South African nation. The responsibilities of SRSA are directed towards the organised fishing bodies.

e) The National Department of Tourism’s (NDT) vision is: “To be globally celebrated as a leader in tourism excellence” and its mission: “Collectively and boldly promoting responsible and sustainable tourism for the benefit of all South Africans” (NDT 2010). The development potential of sport and recreational fishing and the accompanying tourism are substantial with indirect and induced economic effects also potentially significant in terms of jobs, wages and supplying industries. Particularly eco-tourism relating to recreational fishing is bound to benefit increasingly. The requirement, though, is for a cohesiveness to be developed among stakeholders, which has not yet been initiated.

f) District and local municipalities are the lowest level of democratically elected government authority and have a shared responsibility over natural resources relevant to fishing in conjunction with the provincial departments. Local authorities have to execute national management strategies as directed by DWAF, DEA and DAFF.

The Department of Agriculture, Forestry and Fisheries (DAFF) compiled a pamphlet which summarizes the regulations for recreational fishing (DAFF, 2010). The pamphlet only covers the marine and estuarine environments in South Africa. The pamphlet also states for full details of the Marine Living Resources Act (Act No.18 of 1998) one should contact local fishery control officer. According to the Marine Living Resources Act (Act 18 of 1998) DAFF is only responsible for the management of marine living resources

and their environment, the freshwater environment is not mentioned in this Act. Part of this function is also delegated to provincial authorities and statutory bodies. According to the South African Government (2013/14) the reason for managing recreational fishing according to these regulations is to make sure it is undertaken with a valid permit, one can only do it during certain times of the fishing season and to protect stocks during breeding periods. Recreational fishers are also subject to bag limits of fish on a per-day basis.

According to Viljoen (2010) who did extensive research regarding the current legislation governing South African Freshwater fishing, is that freshwater angling in South Africa is currently being governed by an overabundance of pre- 1993 provincial, homeland and Bantustan legislation, two post-1993 provincial acts, as well as post-1993 national legislation. Viljoen provided a summary of these acts as seen in Table 2.3 (Viljoen, 2010:5-7):

Table 2.3: Summary of legislation for South African Freshwater fishing

Province	Applicable Legislation
Gauteng	• Transvaal Nature Conservation Ordinance • Transvaal Nature Conservation Regulations • National Environmental Management: Biodiversity Act • Threatened or Protected Species Regulations
Limpopo	• Limpopo Environmental Management Act • Limpopo Environmental Management Regulations • National Environmental Management: Biodiversity Act • Threatened or Protected Species Regulations
Mpumalanga	• Mpumalanga Nature Conservation Act • Mpumalanga Nature Conservation Regulations • National Environmental Management: Biodiversity Act • Threatened or Protected Species Regulations
Free State	• Free State Nature Conservation Ordinance • Free State Nature Conservation Regulations • National Environmental Management: Biodiversity Act • Threatened or Protected Species Regulations

Northern Cape	• Cape of Good Hope Nature and Environmental Conservation Ordinance • Cape of Good Hope Nature and Environmental Conservation Regulations • National Environmental Management: Biodiversity Act • Threatened or Protected Species Regulations
Western Cape	• Cape of Good Hope Nature and Environmental Conservation Ordinance • Cape of Good Hope Nature and Environmental Conservation Regulations • National Environmental Management: Biodiversity Act • Threatened or Protected Species Regulations
Eastern Cape	Areas formerly part of Cape Province • Cape of Good Hope Nature and Environmental Conservation Ordinance • Cape of Good Nature and Environmental Conservation Regulations • National Environmental Management: Biodiversity Act • Threatened or Protected Species Regulations Areas formerly part of Ciskei • Ciskei Nature Conservation Act • National Environmental Management: Biodiversity Act • Threatened or Protected Species Regulations Areas formerly part of Transkei • Transkei Decree 9 (Environmental conservation) of 1992 • National Environmental Management: Biodiversity Act • Threatened or Protected Species Regulations
North-West	Areas formerly part of Cape Province • Cape of Good Hope Nature and Environmental Conservation Ordinance • Cape of Good Hope Nature and Environmental Conservation Regulations • National Environmental Management: Biodiversity Act • Threatened or Protected Species Regulations Areas formerly part of Transvaal • Transvaal Nature Conservation Ordinance • Transvaal Nature Conservation Regulations • National Environmental Management: Biodiversity Act

	• Threatened or Protected Species Regulations Areas formerly part of Bophuthatswana • Bophuthatswana Nature Conservation Act • National Environmental Management: Biodiversity Act • Threatened or Protected Species Regulations
KwaZulu-Natal	Areas formerly part of Natal • Natal Nature Conservation Ordinance • Natal Freshwater Fish Regulations • National Environmental Management: Biodiversity Act • Threatened or Protected Species Regulations Areas formerly part of Transkei • Transkei Decree • National Environmental Management: Biodiversity Act • Threatened or Protected Species Regulations Areas formerly part of KwaZulu • KwaZulu Nature Conservation Ordinance 8 of 1975 • National Environmental Management: Biodiversity Act • Threatened or Protected Species Regulations

(Source: Viljoen, 2010:5-7)

The average angler can find the volume and complexity of legislation confusing. Each province view fishing and fishing permits, conservation and management of its freshwater resources differently. Differences in angling issues such as bag and size limits for specific species are identified in the different legislations. It is not clear whether one need a fishing licence or not or which types of bait may be used (Viljoen, 2010:8-9).

2.6.2.2 Private sector

Some of the most important private sector stakeholders or organisations include (Van Zyl, 2010):

a) The South African Sport Anglers and Casting Confederation (SASACC), the South African Freshwater Bank Angling Federation (SAFBAF) and provincial fishing bodies. As the primary private sector stakeholders of recreational fishing and the core of organised fishing structures, they assume important

responsibilities regarding industry coordination. Functions include that of serving as a link between the private and public sectors and being the mouthpiece of recreational fishing.

b) The formal business sector consists of suppliers, manufacturers, importers and wholesalers, and retailers. c) The media as a stakeholder is growing in importance. To most anglers' media remain in the form of fishing magazines. The Internet has not yet caught up with magazines as a source of information, but an increasing number of anglers are turning to television as a source of technical information. Together with retailers, media as a point of marketing and information provider are the only other direct contact point to anglers. This is of particular importance to the fishing communication network as there is a continuous challenge to promote product and technology information down the supply chain to anglers.

d) Fishing venues are either, privately owned and managed, or fall under the management of a provincial Department of Nature Conservation. Venues vary significantly in the facilities provided and are often criticised by anglers for the lack of facilities or poor maintenance. The enforcing of fishing regulations is generally not considered the responsibility of venue owners and management unless managed by a provincial department.

e) The angler as stakeholder, unless affiliated into organised fishing, is an isolated participant. While this might be a preferred status of anglers for the sake of peace in leisure and recreation, it presents challenges to industry communication and stakeholder integration.

Public and private sector stakeholders benefit financially in different ways from the recreational fishing industry, but the overall contribution to the economy is an important aspect of the combined stakeholder activities. Recreational economics as well as the benefits of recreational fishing will be discussed in the following chapter.

2.7 SUMMARY

Recreational fishing is not commercial; fish is not sold. It is a leisure or recreational activity. The angler needs certain equipment to participate in the activity. The chapter showed a relationship between recreational fishing and fishing tourism. From the history, it is clear that recreational fishing formed part of tourism. Anglers travelled large distances from their area of origin in order to visit areas to fish.

Certain factors will lead to participation or limit participation in a recreational activity such as fishing.

An identification of the factors that facilitate or limit participation in recreational activities was made. The theory of planned behaviour is important for the study because recreational can serve as the criterion to be accounted for by reliance on the model's theoretical constructs. A person will engage himself or herself to partake in recreational fishing during leisure time. It attracts respondents from the entire South African population; it is popular among every socio-economic class, age-group, race-group and gender, the questionnaire focused on these demographic aspects of recreational anglers.

From the chapter it is also clear that different stakeholders are responsible for recreational fishing in South Africa, whether it be public organisations or private organisations. It is important for these stakeholders to find a way of a central coordinating function between these stakeholders. This will also improve the business appropriate approach to managing the industry.

The sustainability of the sport has not been accorded a high priority by government. There is a perception that recreational fishing is a nonthreatening activity. Government needs to ensure that legislation and regulations is consistent for all provinces, this will ensure the sustainability of recreational fishing and will diminish any uncertainty for recreational anglers when fishing in different provinces.

The South African recreational fishing economic value is totally undervalued. Respondents, government and businesses should develop the strategic value of the industry which must address aspects such as resources, capabilities, costs, benefits and long-term development of the industry. However, it is also necessary to realise the social and economic benefits generated for recreational fishing and the important capacity of these stakeholders to contribute resources and human capital to successful management and to fish and wildlife conservation.

The angler spends large amounts of money that contributes to the economy. The questionnaire will determine these aspects of spending behaviour. Chapter 3 will provide an overview of the spending behaviour of recreational fishing.

3 CHAPTER

THE SPENDING BEHAVIOUR OF RECREATIONAL ANGLERS

3.1 INTRODUCTION

Tourism is regarded as the fastest-growing industry world-wide, with economies benefiting from its positive impacts. With its strong forward and backward linkages, tourism promotes external economies by providing and improving, among other things, local and regional infrastructure (Saayman, Saayman & Rhodes, 2001:443). As a result of these indirect effects, tourism impacts on the majority of the productive sectors in the economy and most countries are implementing macroeconomic tourism development policies. Tourism's relative economic contribution is therefore greater than it seems at first, since all the other economic sectors contain tourism-related activities in their estimates. This is particularly so for the retail, catering and accommodation, transport, storage and communication sectors. The underestimation of the complex nature of the tourism industry means that the contribution of tourism is not always seen as an important area of potential economic growth and development. As indicated in Chapter 2 tourism, leisure and recreation overlap. Recreational fishing is seen as a recreational activity and a tourism activity. This is the reason why it is important to determine the spending behaviour of recreational fishing as part of tourism.

This study will argue that recreational fishing can make a significant contribution to the economic and tourism growth and development in South Africa and that it should therefore be an integral part of any development plan. The aim of this chapter is twofold: first to determine the motivation, behaviour and spending patterns of tourists and, secondly, to indicate the possible implications of recreational anglers spending on the economy and the development of South Africa (Saayman *et al*., 2001:444). A true

understanding of visitor spending and the factors that influence the amount that certain tourists spend are essential input in any economic impact study (Saayman, Saayman & Du Plessis, 2005:212).

Before examining what motivates tourists to purchase specific offerings or how tourists spend money one needs to understand the behaviour involved when purchasing a tourism product, which is a complex process of different issues and different aspects (Bennett, Jooste & Strydom, 2006:64). Determining the determinants or variables of spending will stimulate the increase in spending for recreational anglers and this can be managed by a specific model.

In developing a spending model for the recreational fishing industry, it is important to determine the characteristics that influence anglers' expenditure as well as their behaviour (Hong, Kim & Lee, 1999:44; Warren, 2011:3). Tourist expenditure is one of the most critical variables of analysis of tourist destinations, since it directly determines the specific tourism sector's profitability (Kastenholz, 2005:557). Kruger and Saayman (2010:97) indicated that a variety of socio-demographic, behavioural and motivational variables determine expenditure. These researchers also indicated that expenditure patterns differ from one sector to another.

Saayman (2017) compiled a marine tourism framework to explain the potential economic impact of marine tourism. Figure 3.1 indicates this framework. From the framework it is clear that there are certain investors or stakeholders (discussed in chapter 2, section 2.7). The spenders and / or investors contribute to the marine tourism industry. Governments use taxes to fund the industry, create legislation and policies (Viljoen, 2010:5-7) for the industry and to provide tourism products such as suprastructures, infrastructure and parks or nature reserves in order for the tourist to partake in marine tourism. The different governmental sectors, such as the local, provincial and national organisations (George, 2012:164), need to ensure they align themselves according to these policies and use funds received responsibly and to manage the products the government supplies. Private businesses create and supply the necessary tourism products and services (Tribe, 2011:34) for the use of the tourist; these may include accommodation, restaurants, activities (fishing, scuba diving and surfing). The tourist or visitor invests time and money in preparing for a specific marine holiday (Van Zyl, 2010:26). The tourist is influenced by socio-demographic, behavioural and external factors (Warren, 2011:4; Labuschagne, 2014:28; Kruger, 2009:18) (these different factors are discussed in chapter 3, section 3.3 and section 3.4). The tourist will spend time and money on the product or services provided according to these

influences (Cant, Brink & Brijball, 2006:23), this is also part of the tourism decision making process (Bennett *et al.*, 2006:86). The other stakeholders must consider these influences of the tourists in order to provide the correct market and to develop appropriate products and services which will align with the policies and sustainable use of the environment.

Determining the influences of the tourist or visitor will leave the stakeholders with the opportunity to determine certain outcomes (Kruger, 2009:17) (chapter 3, section 3.4), which will then lead to appropriate products and services. Tourists will use these products and services either for consumptive use or non-consumptive use (Van der Merwe & Saayman, 2013:9). Consumptive tourism includes killing or capturing of wildlife such as hunting, shooting or fishing and non-consumptive tourism include interacting in various ways such as snorkelling, surfing, visiting water parks and photography (Van der Merwe & Saayman, 2013:9). Reasons for the importance of establishing the determinants or influences can lead to strategic planning of facilities (such as suprastructures) and amenities (such as marine parks), marketing, budgeting and management, policy formulation and to determine niche markets for the specific tourism offering (Kruger, 2009:17; Van Wyk, 2011:7) (chapter 3, section 3.4 and 3.5, recommendations applicable to the study according to these outcomes will be covered in chapter 5).

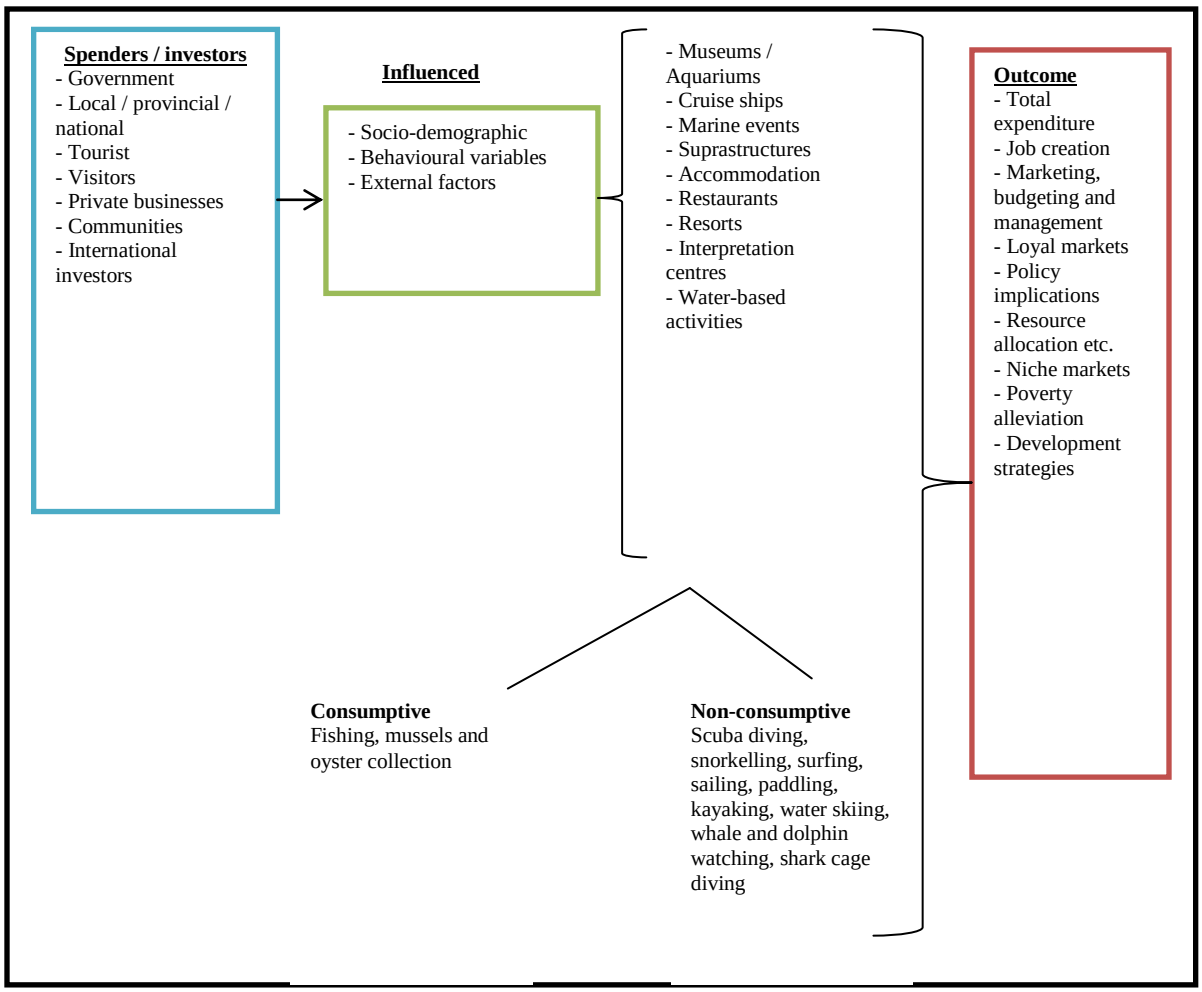

Figure 3.1: Marine tourism framework

(Source: Saayman, 2017)

This information in the chapter can provide a more viable management strategy which could lead to a more profitable product.

3.2 TOURIST BEHAVIOUR

Tourist behaviour is important for two reasons. Firstly, it is important for the tourist to understand life experiences. Tourists are concerned with experiences and how to maximise each one, whether it be a

short regional visit or an extended international holiday. Secondly, it is important for the industries or managers of tourism businesses to understand tourist behaviour (Pearce, 2005:6).

The latter can be divided in subdivisions: public decision makers, marketers (for joint public-private cooperative endeavours) and business decision makers. It is important for public decision makers (such as government) to determine tourist behaviour in order to make either policy or management decisions about on-site behaviour (Pearce, 2005:6) for instance, whether an angler needs a permit to fish in a certain area. Public and private marketers need to influence fishing tourists to visit a place of interest. The financial and design success of a tourism product is in the interest of the business decision makers and these groups need to determine why tourists make travel choices and purchases.

For the fishing tourism industry or the recreational fishing industry to improve its status it is dependent on determining travel behaviour of anglers. Van Vuuren and Slabbert (2011:295) state travel motives forms an integral part of travel behaviour and has been widely researched and applied in tourism marketing strategies. It is important for the recreational fishing industry to understand the travel behaviour of anglers, as it may assist in product development, improved marketing strategies, enhanced service delivery approaches and policy formulation. Tourist behaviour demands investigation since it plays an integral role in the tourism concept, industry and economy (Van Vuuren & Slabbert, 2011:296). Tourist behaviour is the behaviour of a person before, during and after travelling. There is an interaction between certain personal and environmental variables and researchers need to determine the variables for both these sides. It is important to determine the choice a tourist makes in order to travel to a destination or for a specific reason and this will help to predict tourist behaviour (March & Woodside, 2005:6; Laws, Scott & Parfitt, 2002:39; George, 2012:195). Behaviour is considered a process of internal psychological factors such as needs, wants, goals and values (Van der Merwe & Saayman, 2013:10).

Variables such as the motivation to travel, the attitude of the tourist, situational factors and environmental factors which influence the reason for travel have been identified (Van Vuuren & Slabbert, 2011:297). People tend to travel because the need or want cannot be met at home. The need or want turns into the motivation to travel in order to satisfy the need or want. According to George (2004:190) as well as March and Woodside (2005:6) travel motivations can be considered as one of the most important psychological influences of tourist behaviour (Crompton & Keown, 2009:44; Kruger &

Saayman, 2010:94). Motivations are the inner state of a person, or certain needs and wants of a person, which forces them to act or behave in a specific way and thus sustaining human behaviour and energy levels of the human body (Kruger & Saayman, 2010:94; George, 2004:192). By having adequate knowledge and understanding of tourist behaviour, one can determine the tourist spending and this can be used to develop and implement strategies and policies to increase the demand for fishing tourism.

3.3 MODELS OF TOURIST BEHAVIOUR

The study of tourist behaviour involves different processes when individuals or even groups choose, buy, use or dispose of products or services to satisfy their needs (Solomon, 2004:39). It is important to determine the need and behaviour of a tourist in order to appeal to these tourists; this will then lead to a better spending behaviour in the specific tourism industry (Cant, Brink & Brinjball, 2006:6).

It is important to understand how and why tourists make their decision to buy a tourism offering (George, 2008:191). Therefore, different models of the tourism purchase decision-making process will be analysed to better understand how tourists decide to purchase certain products. The model of consumer behaviour and the different factors affecting consumer behaviour are found in different theories and studies (Cant *et al*., 2006:6). Many factors (internal and external) play a role in the way tourists behave in certain ways. It is important to understand why and how tourists behave, because this behaviour influences the spending patterns of tourists (Botha, 2011:36). The purchase decision-making process and the consumer behaviour models will be discussed in the following section.

3.3.1 The purchase decision-making models

A number of variations (models) for purchase decision making have been documented. The earliest version of this model dates back to 1958 (Clark, 1958:100). Others include those of Weaver and Lawton (2006); Middleton and Clarke (2001) and Blackwell, Miniard and Engel (2006). Wahab, Crampon and Rothfield (1976) work was one of the first attempts to understand the consumer behaviour in the "tourism decision-making process". This provided the basis for understanding the complex process. The model is divided into five stages (Figure 3.2).

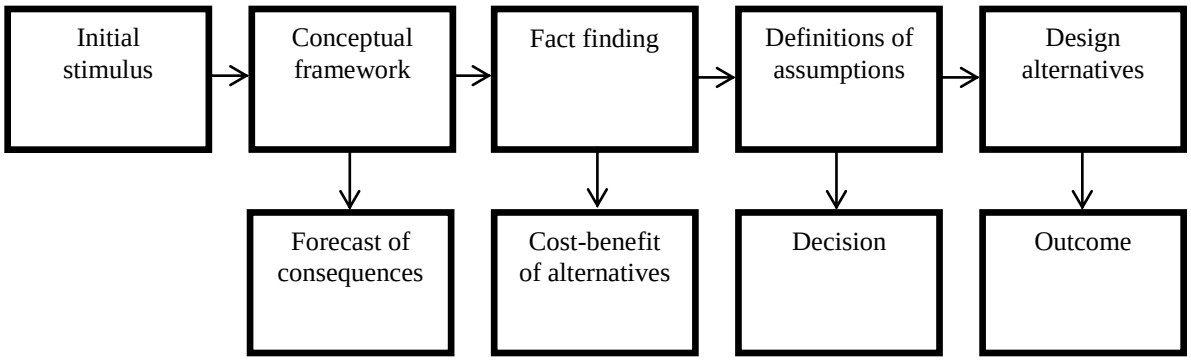

Figure 3.2 Decision-making process

(Source: Wahab *et al.*, 1976)

From Figure 3.2 the five stages are as follows: (i) the initial stimulus – the person of tourist becomes aware of a need, (ii) conceptual framework where consequences are calculated, (iii) fact-finding, the tourist gathers information and calculates the different options cost-benefits, (iv) the definitions of assumptions (when decisions/choices are evaluated), (v) design of alternatives (the outcome of the decision is evaluated) (Wahab *et al.*, 1976).

A more recent model of the purchase decision-making process is divided into six stages, one more that the original model by Wahab *et al*. (1976). Bennett *et al.*, (2006:86) added an additional phase, the action or buying phase. Figure 3.3 illustrates this model and the model will be discussed in order to gain a better understanding of how the tourism “decision-making process” occurs.

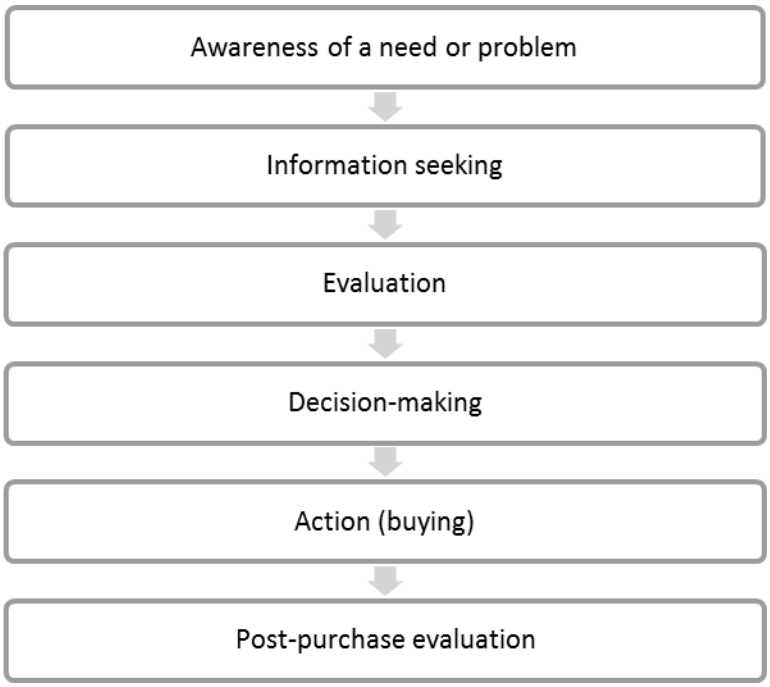

Figure 3.3: The purchase decision-making process

(Source: Bennett *et al.*, 2006:86)

Both models are based on the assumption that consumers shift through various push and pull factors prior to and after the purchase of a service or product. The factors affection tourist behaviour have a direct impact on the tourist's decision-making process and therefore on the spending behaviour of the tourist (Botha, 2011:20).

The different stages of the purchase decision-making process as seen in Figure 3.3 are:

- **Stage 1: Awareness of need**

The process begins with the recognition of a need or desire to go on a holiday or to travel, such as a recreational fishing trip. A tourist is knowingly or unknowingly, implicitly or explicitly influenced by a variation of motivations (Saayman, 2006:49).

- **Stage 2: Information gathering**

The information search and comprehension stage is when the tourist wants to learn more about the destination. Information is gathered in an attempt to gain knowledge about a product/service, thereby assessing the benefits it might offer. This step might include the gathering of information of numerous

brands or destinations, which is thereafter processed accordingly. Information can be supplied through two channels, namely the formal communication channel such as television, brochures, sales promotions and the Internet or informal communication such as family, friends or other reference groups, recreational anglers refer to magazines or the internet (Bennett *et al.*, 2006:86).

Attitude development depends on the stimuli received in the previous stage and is also influenced by the level of involvement. Since perception is to a large extent determined by an individual's characteristics and attitudes, consumers tend to consult others, check out information and draw on previous experiences to form an attitude and opinion when having to evaluate the different travel options at hand. Therefore, the attitude with which a consumer makes a decision influences the buying process (Bennett *et al.*, 2006:86).

- **Stage 3: Evaluation (pre-purchase)**

The evaluation stage involves making detailed comparisons between competing offerings by considering different evaluation criteria. The criteria can include product criteria (cost, quality, aesthetic qualities) or psychological criteria (satisfaction of social or ego needs, image or contribution to lifestyle). Only after considering the various criteria will a consumer be able to match the benefits offered to their needs. If the match is suitable, the consumer will proceed to purchase if convinced about the potential benefits. This process can be seen as a filtering process whereby all information and stimuli move through a series of mental filters during which available information is measured against previous experiences. Knowledge as to how information is evaluated will assist tourism suppliers in terms of communicating the benefits of their offerings. What complicates this process even further is the fact that evaluation takes place in the mind of the consumer, and it can therefore be assumed that no simple or single evaluation process can be used (Bennett *et al.*, 2006:86).

- **Stage 4: Decision making**

Decision making is a personal mental process which is extremely difficult to measure. Some decisions are easier to make than others. With business travel, it is easier to make a decision since the traveller has a specific goal and agenda in mind, while when planning a holiday trip, decision making becomes much more difficult. Aspects that should be kept in mind when planning a holiday trip include decisions regarding payment and value for money, budget allocation, product, destination, type/mode of travel, time of travel and many others (Bennett *et al.*, 2006:86).

- **Stage 5: Consumption**

Given time and money, the consumer will purchase the tourism offering that he/she regards as the best value for money. In the case of a lack of time and/or money, the consumer still has the choice to refuse to purchase (Bennett *et al.*, 2006:86).

- **Stage 6: Post-purchase evaluation**

During the last phase, adoption and post-purchase evaluation, the customer evaluates the actual experience in the light of the benefits derived and expectations met. This experience of consumption will affect future attitudes and decision making. If the consumer perceived the experience as satisfactory, the possibility of repeat purchases will be good (Bennett *et al.*, 2006:86).

According to Saayman (2006:5) there are different choices which will affect the tourist during the decision-making process. The factors play a major role in the decision-making process and are as follow:

- **Destination**

A tourist decides which destination to visit. When choosing a destination, the tourist would have to consider which types of attractions to include, as well as the facilities to cater for their needs. These are included in the 'destination mix' as explained by Saayman (2006:56-57).

- **Type of travel**

According to Rodgers (2001:7) the tourist needs to decide whether it will be an adventure holiday or a short city break. The tourist will decide if it will be an exclusive fishing trip or if he/she will visit other types of attractions as well.

- **Time and duration**

The tourist will consider in which season he/she would like to take the trip, as well as decide on how long he/she would like to stay. The leisure time available to travel and the distance of the trip would also influence the duration of stay (Hayward, Marvell, Reynolds & Stewart, 2005:125).

- **Mode of transport**

Some trips might require a flight on an aeroplane or other public transport, and others might be suitable for the tourist's personal vehicle such as a domestic camping trip at a fishing destination (Slabbert & Saayman, 2003:4).

- **Type of accommodation**

The tourist will decide on the type of accommodation such as guesthouses, hotels, farmhouses, timeshare, vacation resorts and caravan or camping sites (Slabbert & Saayman, 2003:4).

- **Tour/travel organisation**

The tourist will have to decide whether a tour/travel organisation will be used in planning a vacation or a fishing trip (Saayman, 2006:24).

These factors are also considered during the spending behaviour of a tourist and will be discussed later in the chapter. This will indicate that there is correlation between the tourist behaviour and the spending patterns of tourists.

3.3.2 A model of consumer behaviour

The theory of planned behaviour to predict human behavioural intention and actual behaviour was first introduced by Fishbein and Ajzen (1975). The model takes various elements into account such as a person's beliefs regarding different subjects, and their behaviour towards these beliefs. Iso-Ahola's (1982) theory states that tourist and leisure behaviour takes place within a framework of optimal arousal. The importance of consumer's feelings of independence and capability to ensure satisfaction is emphasised in the theory.

Consumer behaviour or tourist behaviour consists of two important factors (George, 2008:169):

(i) the factors affecting consumer behaviour which can be seen in the model of consumer behaviour (Figure 3.4)
(ii) the consumer decision-making process (previously discussed).

The model of consumer behaviour (Figure 3.4) outlines the important aspects regarding consumer behaviour as well as the factors affecting the purchase decision-making process.

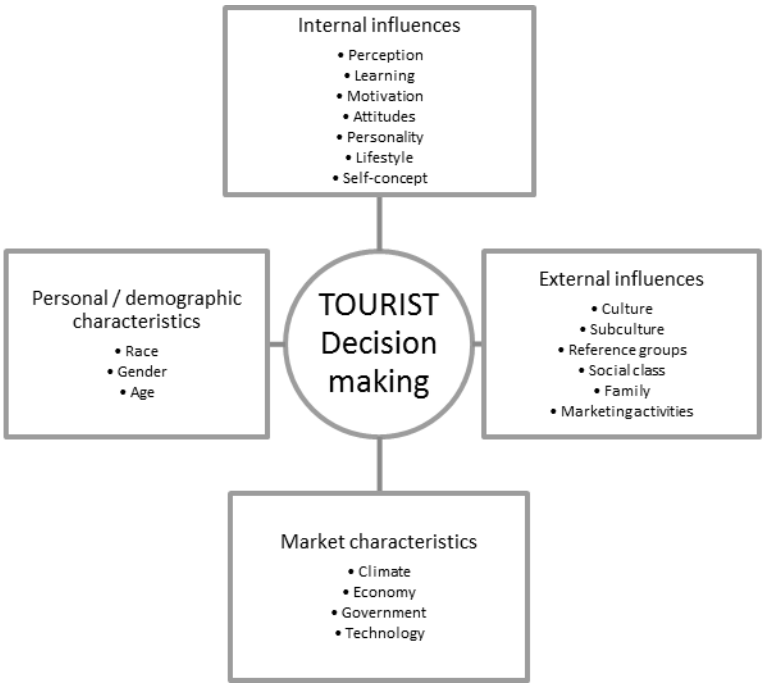

Figure 3.4: A model of consumer behaviour

(Source: Cant *et al.*, 2006:23)

The following section is based on the consumer behaviour model and the factors affection tourist behaviour.

3.3.2.1 Internal influences

The internal or individual factors can be described as the psychological or internal characteristics of the individual that influence tourist behaviour (George, 2008:170; Bennett *et al.*, 2006:86). The factors are as follow:

- **Perception**

Perception is the process by which individuals select, organise, and interpret stimuli into a meaningful and coherent picture of the world (Schiffman & Wisenblit, 2015:114). The tourist will perceive that a specific destination offering will satisfy their wants and needs (George, 2008:172).

- **Learning**

Learning is applying your knowledge and past experience to present circumstances (Schiffman & Wisenblit, 2015:148). After experiencing a tourism product or offering, a person will thus learn about it. These memories of the particular tourism product will be recalled when making future travelling decisions (George, 2008:171).

- **Motivation / motives**

According to Schiffman and Wisenblit (2015:83), motivation is the driving force that impels people to act. It represents the reasons one has for acting or behaving in a particular way. The motive to travel refers to a set of needs that cause and individual to take part in a tourism-based activity (Park & Yoon, 2008:100). A person may have a need for a recreational fishing trip.

- **Attitude**

An attitude is a learned predisposition to behave in a consistently favourable or unfavourable way toward a given product or service (Schiffman & Wisenblit, 2015:172). According to Bennett, Jooste and Strydom (2006:73) attitudes are ingrained feelings about a range of subjects and fit into an overall framework of thinking about the world so therefore, involve a set of interrelated thoughts. If an individual does not like camping or the outdoors, he/she will not consider an outdoor getaway as his/her destination of choice (Bennet & Strydom, 2001:37).

- **Personality**

Personality consists of the inner psychological characteristics that both determine and reflect how we think and act, which together form an individual's distinctive character (Schiffman & Wisenblit, 2015:83). Personality influences a tourists buying behaviour in that it will affect they type of holiday the person will choose (George, 2008:171).

- **Self-concept and lifestyle**

As a result of these factors and variables, a person develops a self-concept, which ultimately reflects his/her lifestyle (Botha, 2011:29). Self-concept can also be explained as the totality of a person's thoughts and feelings about himself/herself, and his/her lifestyle is simply how the person lives (Cant *et al*., 2006:23). This is very important since it will influence the tourist's attitude towards products and brands as well as their spending behaviour (Kardes, Cline & Cronley, 2011:152).

3.3.2.2 External (social) influence

Bennett *et al*., (2006:87) refers to the external or social influences as group factors. These factors are as follow:

- **Culture and subculture**

Culture is the collective values, customs, norms, arts, social institutions and intellectual achievements of a particular society. Cultural values express the collective principles, standards, and priorities of a

community (Schiffman & Wisenblit, 2015:294). Subculture refers to a group that shares certain beliefs, values, and customs and exists within a larger society (Schiffman & Wisenblit, 2015:319). For example, there is a tourism culture but within the tourism culture there is a subculture of recreational fishing tourists.

- **Reference group**

Groups that serve as a source of comparison, and influence people's opinions, values and behaviours (Schiffman & Wisenblit, 2015:234). These groups include friends, family, universities and churches to name a few (George, 2008:173). A person who prefers to go on a recreational fishing trip with friends rather than family (Bennet & Strydom, 2001:38).

- **Social class**

Social class can be determined by factors such as occupation, income and education, and is a powerful factor influencing buying behaviour. Higher social classes will most likely visit different destinations to lower social classes and spend more (George, 2008:173).

- **Family life cycle**

Traditionally, a family can be defined as two or more people related by blood or marriage or adoption and who live together (Cant *et al*., 2006:211). Depending on the family life cycle stage a person is currently in, a tourist will make certain travel decisions (for instance how much a tourist is to spend) (George, 2008:175).

- **Marketing activities**

These marketing activities would include market segmentation, customer loyalty, relationship-based buying and e-commerce (Cant *et al*., 2006:211).

3.3.2.3 Personal/demographic characteristics

Cant *et al*., (2006:24) describe the personal factors as biological or physiological characteristics that a person is born with and identified three, race, gender and age:

- **Race**

The idea that people's racial and ethnic differences should be openly take into account when determining the spending behaviour of tourists might make some feel uncomfortable, the reality is that belonging to different cultures and subcultures are frequently dominant when determining people's wants and needs (Solomon, 2004:474).

- **Gender**

Male or female is important when determining behaviour, as this influences a person's values and preferences. Men and women are perceived to have different roles in particular social contexts (Cant *et al*., 2006:95).

- **Age**

The age of a person would play a role in determining the person's need for comfort, economy, excitement and safety. The person's age ultimately has a major influence on his/her tourism buying behaviour. People with different ages have different priorities (Burke & Resnick, 2000:41).

3.3.2.4 Market characteristics

Market characteristics influence what consumers or tourists need, the way they behave, who will be involved in the purchase decision-making process and how that decision will be made in the end (Cant *et al*., 2006:42). The following market characteristics have been identified:

- **Climate**

Tourists travel to certain destinations to enjoy the climate as well as the offering included at these destinations. Recreation activities (such as fishing) are also undertaken according to climate (in combination with natural resources) (Saayman, 2006:58).

- **Economy**

Bennett *et al*. (2006:86) state that economic factors have an influence on the consumer's behaviour and the decision-making process. These factors include aspects such as disposable income, purchasing power and the willingness to purchase a tourism product.

- **Government**

Legislation and political ideologies can affect travel and tourism businesses in many ways. A tourism destination should have a stable economic environment to increase tourism (Bennett & Strydom, 2001:49). A fishing tourism destination should make sure about laws and regulations regarding recreational fishing in order to have a sustainable fishing destination.

- **Technology**

Technology influence the purchase process of tourists (it can take place over the internet or using credit card technology) and tourists can now purchase anything from anywhere in the world, for instance fishing gear can be purchased online (Cant *et al*., 2006).

The various factors discussed show that the decision-making process is definitely a complex process and that many factors influence this process in different ways (Weaver & Lawton, 2006:173). It is important to understand consumer behaviour and how it will affect the spending behaviour of a tourist. The spending behaviour of tourists will be discussed in the following section.

3.4 TOURIST SPENDING BEHAVIOUR

It is important that marketers understand the spending behaviour of tourists in order to attract the correct market and to develop appropriate products and services (Saayman & Saayman, 2009:2). An understanding of the spending behaviour of fishing tourists will assist marketers and product developers in order to attract the fishing tourist market and to develop products and services that satisfy their needs. In today's competitive business environment, it is imperative for destination and product marketers to seek tourists that will spend money on products and services (Saayman, Saayman & Slabbert, 2011:9).

According to Kruger (2009:17) reasons for the importance of establishing the determinants of spending include the following:

- It leads to strategic planning of facilities and amenities.
- Tourism products can be developed in a sustainable and profitable way.
- It leads to strategic marketing.
- A market profile can be developed.
- Niche markets can be identified.
- Policies can be formulated.
- It leads to retail merchandising.
- It leads to customer service.
- It provides a better understanding of tourist spending behaviour and the underlying factors affecting such behaviour.

According to Swarbrooke and Horner (2001:62) there are two types of determinants, namely:

- Those factors which determine whether or not someone will be able to take a holiday.
- Those factors which determine the type of trip, if the first set of determinants allow a holiday to be taken.

Various variables can determine the type of trip taken and can include (Swarbrooke & Horner, 2001:62):

- The destination for the trip.
- When the trip will be taken.
- The mode of travel to be used.
- The duration of the trip.
- Who will comprise the holiday party or group.
- The type of accommodation that will be used.
- The activities undertaken by the tourist during the holiday.
- How much will be spent on the trip.

A method to ensure that recreational anglers spend more is to determine and manage the determinants of spending which can be managed within a specific model (Warren, 2011:2). Various studies focus on the determinants of spending of tourist on different products (Saayman *et al.*, 2001; Saayman *et al.*, 2005; Kruger, 2009; Saayman & Saayman, 2009; Saayman, Saayman & Ferreira, 2009; Saayman *et al.*, 2011; Kurger & Saayman, 2014) and this study will focus on the spending behaviour of recreational fishing.

As seen from the previous discussed sections, Lamb, Hair, McDanlie, Boshoff, Terblanche, Elliot and Klopper (2015:83) indicates that tourists or consumers do not make a purchase decision in isolation. Factors such as cultural, social, personal (socio-demographic factors), psychological and previous experience will affect this decision. Saayman and Saayman (2009:2) state that according to researchers socio-demographic factors have an effect on activity, participation and travel behaviour.

Tourism literature segment markets according to the purpose of the study and the variables are dependent on the purpose (Saayman *et al.*, 2011:9). Segmentation variables can be categorised into different bases, for example:

- Socio-demographic (occupation, income, age and gender).
- Geographic (nationality, province, region).
- Psychographic (social class and personality characteristics).
- Behavioural (travel motivation, group size, frequency of visits).

From the above, it was clear according to the researchers that composed a model for the spending behaviour of biltong hunters (Warren, 2011) that a spending model should include the socio-demographic, travel behaviour and geographic characteristics of tourists. The researcher suggested that these aspects will assist in defining hunters' profiles according to expenditure levels at the hunting destination (Warren, 2011:2). The model can also be applied to determine the spending behaviour of recreational anglers.

Warren (2011:3) motivated in her study that a spending model could assist researchers as well as the stakeholders of tourism products and services to do more effective marketing and to fit it to the needs of the specific market. Understanding the spending behaviour of tourists will assist destinations and the stakeholders of tourism products to enhance income and ensure tourist satisfaction (Dixon, Backman, Backman & Norman, 2012:6). Using models to determine tourist expenditure contributed extensively to tourism research and spending behaviour of tourists (Warren, 2011:3; Wang & Davidson, 2010:510; Van Vuuren & Slabbert, 2011:295).

The number of days spent at a destination, the size of a travel group, the frequency of visits and catering preferences are behavioural indicators of spending behaviour (Saayman & Saayman, 2009:9). These factors are important for the study and will determine the significance of these factors during the spending behaviour of fishing tourists. Questions relating to these factors are found in the questionnaire. The results will determine whether or not the size of the group will lead to increased spending and if repeat fishing tourists spend more than first-time fishing tourists.

The reason for, or purpose of travel has a definite impact on expenditure. Attracting high spenders instead of crowds is desirable not only from an economic-impact point of view but also from an environmental point of view (Saayman & Saayman, 2009:9). It is also important for the areas or destinations for fishing tourists because it is important for these areas to create income in order to assist with the protection or conservation of the area or destination, but the environmental impact must be as little as possible.

Indicators or variables for spending behaviour include income, length of stay, distance to travel, group size, etc. Kruger (2009:18) indicates that previous research on tourism expenditure has revealed many determinants that positively influence visitor expenditure. Table 3.1 is a summary of these indicators and studies that support this. Determinants of spending can be used to segment the market into smaller groups if it is known what tourist spend their money on and what influences their decisions (Labuschagne, 2014:28).

This study can assist stakeholders in recreational fishing with segmentation of the market regarding patterns of spending. Market segmentation makes it possible to find homogeneous smaller markets, thereby helping marketers to identify marketing opportunities and to develop products and services in a more tailor-made manner which in turn will contribute to the economic wellbeing of recreational fishing (Warren, 2011:21).

The key factors which will influence the spending behaviour of recreational anglers are socio-demographics, travel behaviour, travel motivation and geographic location. This is illustrated in a conceptual framework (Figure 3.5) imitative from Warren (2011:4). The Figure can also be linked to Figure 3.1 the marine tourism framework, because figure 3.5 is an indication of the influences a tourist experiences.

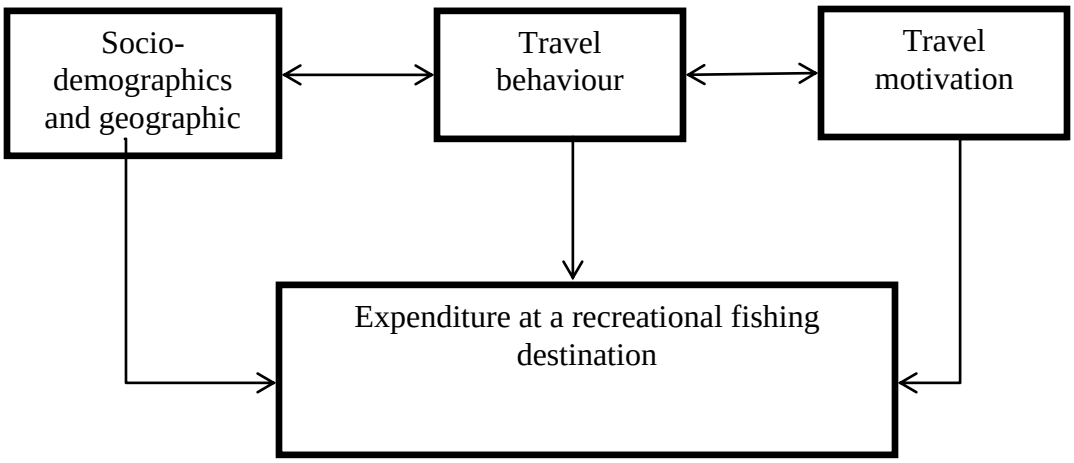

Figure 3.5: Conceptual framework illustrating key factors influencing recreational anglers' expenditure (Source: Warren, 2011:4).

Socio-demographic and geographic characteristics and travel behaviour

It is important to determine the demographics and trends of the target market when developing the spending behaviour of recreational anglers. Tourism research indicated that travel experience is influenced by the benefits people expect from the experience as well as other socio-demographic characteristics (Crompton & Keown, 2006:44). Socio-demographic characteristics include age, gender and ethnicity (Sato, Jordan, Kaplanidou & Funk, 2014:764; Dixon, Backman, Backman & Norman, 2012:6-7). According to Crompton and Keown (2006:44) people want to escape everyday life, feel rejuvenated, for status and prestige, socialisation, the scenery of the environment or to learn something new. These behavioural characteristics are also influenced by the tourist expenditure as well as an individual's attitudinal connection to a recreational activity (Sato, Jordan, Kaplanidou & Funk, 2014:764). Brown and Stahura (2014:2) indicated in their study that tourist want to experiences and excitement. A tourist will evaluate the experience in terms of value for money and how much they spend. Saayman, Saayman and Slabbert (2011:9-10) indicated that occupation, income, age and gender are significant socio-demographic variables in spending and travel behaviour is influenced by travel motivation, length of stay and group size. Warren (2011:5) explained in her study that researchers indicated that language, culture, income, age and occupation are variables of tourist expenditure. These variables are used to create a profile of a tourist and how it influence tourism expenditure as well as behaviour (Saayman *et al.,* 2011:10). Researcher such as Brown and Stahura (2014:2) also indicated that behaviour variables

such as activity participation, personal needs, mode of transport and number of nights' influence tourist expenditure (Warren, 2011:5)

Determining the expenditure of tourist should not only consider the socio-demographic variables but also travel behaviour and travel motivation (Dixon *et al.,* 2012:6; Warren, 2011:5). As mentioned above these variables include aspects such as escaping everyday life, status and prestige, being close to nature and to experience the recreational activity. These factors are not experienced in isolation but the mix of cultural, social, personal and psychological factors as well as previous experiences all influence behaviour. This behaviour will in turn influence the buying patterns of the tourist and it is essential to understand how these factors interact and how it will influence the decisions (Saayman & Saayman, 2009:2).

Studies completed indicated that the distance that a tourist needs to travel will play a role in tourist spending (Brida & Scuderi, 2013:36; Abbruzzo, Brida & Scuderi, 2014:38; Wang & Davidson, 2010:509). According to Van der Merwe & Saayman (2008:21), transport is also a component in tourist spending.

Studies completed regarding sportfishing trips examined several geographic variables that played a role. Road-accessibility played a role as well as species available (Hamel, Herrmann, Lee, Criddle & Geier, 2002:248; Johnston, Arlinghaus, Dieckmann, 2010:1509). Transport, including the fuel price and type of vehicle, was one of the geographic variables indicated in different studies (Van der Merwe & Saayman, 2008:21; Hung, Shang & Wang, 2013:613). According to Warren (2011:7) distance is an important aspect in tourist decision making. Anglers or recreational anglers who travel further to a fishing destination may spend less at the destination or on other expenses because of a higher fuel spend. Socio-demographic and geographical factors will influence travel motivation (Van der Merwe & Saayman, 2013:10) and help in understanding why people travel (Van der Merwe & Saayman, 2013:10)

Travel motivation

People tend to travel because the need or want cannot be fulfilled at home (Van Vuuren & Slabbert, 2011:297), understanding why people travel can lead to higher levels of tourist satisfaction and in turn add to higher spending of these tourists (Warren, 2011:6). Travel motivations will influence the destination choice of a tourist (Musa, Thirumoorthi & Doshi, 2012:529). According to Greiner, Franklin

and Gregg (2013:161) fishing tourism or recreational fishing form part of nature-based tourism and the aspects of nature play a key role in personal experience of the angler or tourist and is one of the motivations for the recreational activity, the angler can also interact with the fish in a natural environment. Greiner *et al.* (2013:162) also indicated destinations should ensure the quality of the angling experience that these tourists are looking for, this will in turn maximise the economic benefit of the tourist destination. Motivational variables can be affected by specific variables such as destination image, type of destination, the activities and amenities the destination has to offer as well as the price of the trip (Saayman & Saayman, 2014:3)

By summarising the research of previous studies regarding the four mentioned determinants of spending behaviour the following table (Table 3.1) can be used to indicate the key factors and their aspects of importance for developing a spending model. The above mentioned studies indicate that there is a relationship between the socio-demographic behaviour, the travel motivation, the tourist behaviour and the spending of these tourist. Gaining knowledge of the angler behaviour and travel motivation of these anglers will be of great assistance to the stakeholders of recreational fishingKruger (2009:18) indicates that previous research on tourism expenditure has revealed many determinants that positively influence visitor expenditure.

Table 3.1: Determinants of travel expenditure

Determinants	Variables	Author(s)
Socio-demographic	• Income (high income spend more) • Age (older spend more) • Level of education (higher education spend more) • Occupation (manager/professionals spend more)	Mak, Moncur & Yonamine (1977) Taylor, Fletcher and Clabaugh (1993:33) Crouch (1994:12) Fish and Waggle (1996:70) Cannon and Ford (2002:264) Thrane (2002:281) Mehmetoglu (2007:213) Mak *et al*. (1997:6) Gokovali, Bahar and Kozak

		(2007:743) Saayman, Krugell and Van der Merwe (2007:190) Kastenholz (2005) Jang, Bai, Hong and O'Leary (2004) Leeworthy *et al*. (2001) Perez and Sampol (2000) Hong *et al*. (1999) Agarwal and Yochum (1999) Lim (1997)
Travel behaviour	• Activity participation • Length of stay (shorter stay spend more) • Group size (larger group spend more) • Mode of transport	Saayman *et al.* (2007:191) Long and Perdue (1990:12) Lee (2001:663) Cannon & Ford (2002:263) Saayman *et al*. (2007:185) Mak *et al*. (1977:6) Lee (2001:663) Seiler *et al*. (2002:56) Jang *et al*. (2007) Kastenholz (2005) Richards (2002) Perez and Sampol (2000) Mok and Iverson (2000) Flogenfeldt (1999) Agarwal and Yochum (1999) Mules (1998)
Travel motivation	• Exchange rate in destination • Destination attributes & characteristics • Price	Saayman *et al*. (2007:18) Saayman and Saayman (2008) Campo and Garau (2008) Dolnicar and Huybers (2007)

		Murphy, Benckendorff and Moscardo (2007) Nicolau and Más (2006) Kastenholz (2005) Richards (2002) Perez and Sampol (2000) Lim (1997)
Geographic	• Nationality (foreign tourist spend more) • Location of destination	Saayman *et al*. (2007:18) Slabbert *et al*. (2008:11) Saayman and Saayman (2008) Andriotis *et al*. (2007) Jang *et al*. (2007) Kastenholz (2005) Beerli and Martin (2004) Richards (2002) Perez and Sampol (2000) Buhalis (2000) Kozak (2002) Song, Romilly and Liu (2000) Flogenfeldt (1999) Lim (1997)

(Source: Kruger, 2009:18)

From the above table it is clear that many studies have been done on using the socio-demographic and travel characteristics to identify the important determinants affecting spending behaviour. These types of studies, however, have been limitedly applied to recreational fishing in South Africa. This research will significantly assist stakeholders in recreational fishing to attract the correct target market and to increase the spending behaviour of recreational fishers. The purpose of this study is therefore to critically analyse the spending behaviour of recreational anglers. If marketers can determine the variables and indicators for tourist spending they will be able to receive the preferred action during the tourist buying process (Bennett, Jooste & Stydom, 2006:89).

3.5 ECONOMIC IMPACTS OF TOURIST SPENDING

One of the first areas of study in the emerging discipline of environmental economics in the 1960s was that of outdoor recreation. Why? It seems to us that there are several possible reasons. Outdoor recreation was a fast-growing activity in the 1960s and remains so today. The great outdoors became more accessible as incomes grew, allowing households more leisure time, or at least easier access by automobiles. Accompanying this were interests in fitness and special activities such as fishing and hunting. This increasing demand for recreation brought with it its own pressures, such as congestion and potential environmental impacts. In addition, recreational activities were often in direct conflict with other demands on natural areas, such as mining, hydro-electric developments, farming, property development and afforestation. Economists were naturally interested in the relative costs and benefits of these different, often mutually-exclusive, land uses. Much early work on the economics of outdoor recreation demands could be brought within the paradigm of neo-classical welfare economics and demand theory with few modifications to the basic ideas (Hanley, Shaw & Wright, 2003:1-2).

Finally, recreation modelling offered a productive link between people (their preferences and behaviour) and the environment, which was a useful coincidence during a period when government initiatives were rising environmental quality levels or at least reducing environmental degradation in most countries (Hanley *et al.,*2003:2).

The purpose of economics is to increase the well-being of the individuals in society, and each individual is the best judge of how well-off he or she is in a given situation. Both of these propositions follow the predominant Western moral tradition of recent centuries, which regards the individual as the ultimate objective of public policy. To economists, outdoor recreation is a part of the overall economic problem of how to manage our activities so as to meet our needs and wants with scarce resources (Loomis & Walsh, 1997:4).

Recreation experiences are produced by visitors combining the natural resources and facilities provided by managers and the visitors' own time, skill and equipment. Figure 3.6 illustrates the production inputs to a recreation experience that managers must provide the visitor, these include land resource (fish),

labour (maintenance and capital (facilities). Some or all of these can be provided by the private sector or government agencies or some combination (Loomish & Walsh, 1997:14).

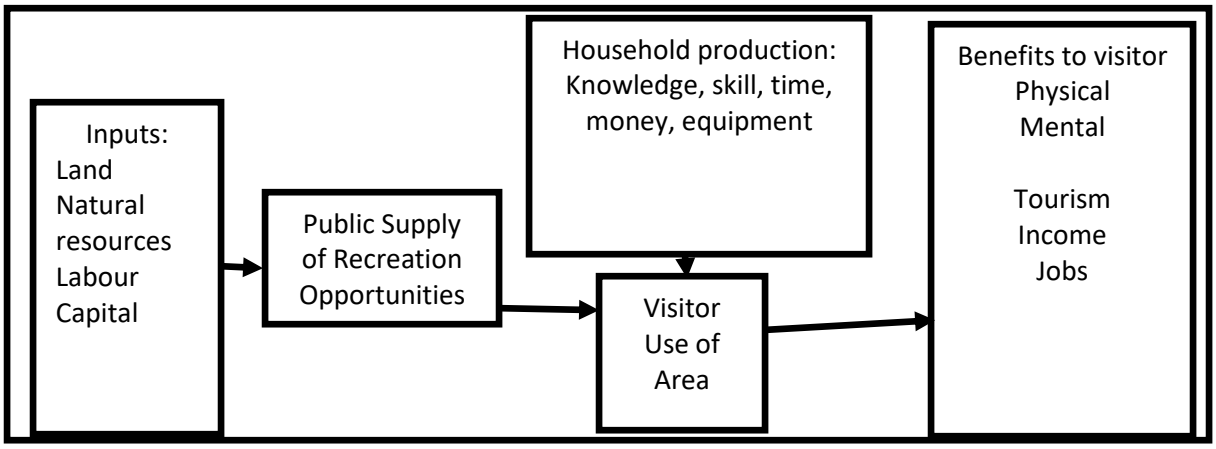

Figure 3.6 Production inputs to a recreation experience

(Source: Loomis & Walsh, 1997)

The combination of the above mentioned, produce a supply of recreational opportunities and capacity. For the opportunities to be demanded or used, visitors must engage in their own "household" production process. Individuals, families or groups must combine their knowledge of the site (for example type of equipment needed for the activity at the site) with purchases of both durable and nondurable supplies (example bait for fishing) with their time and income (in the form of travel expenses, accommodation, entrance fees). If individuals decide to commit their time and money to visiting the site, then visitor use will be observed, resulting in consumption of recreation. This consumption will lead to certain effects; these effects will likely be considered benefits, such as relaxation, exercise and stimulation. These benefits may not stop at the recreationist. The community that provides the accommodation, restaurants and support services also gains from the presence of recreation sites and visitors. These tourism effects are of a different kind than the benefits the visitor receives. Tourism benefits include community income and employment (Loomish & Walsh, 1997:14).

In his study regarding the Critical assessment of economic impact analyses at selected national festivals, Van Wyk (2011:7) illustrated the flow of money within in a local economy during an event. The model can also be used for this study in order to illustrate how money will flow. The model will be adapted in relation to the study. It is imperative to have a clear understanding of the basic flow of money (Van Wyk, 2011:7). Figure 3.7 portrays an overview of money flow within a local economy during tourism activities.

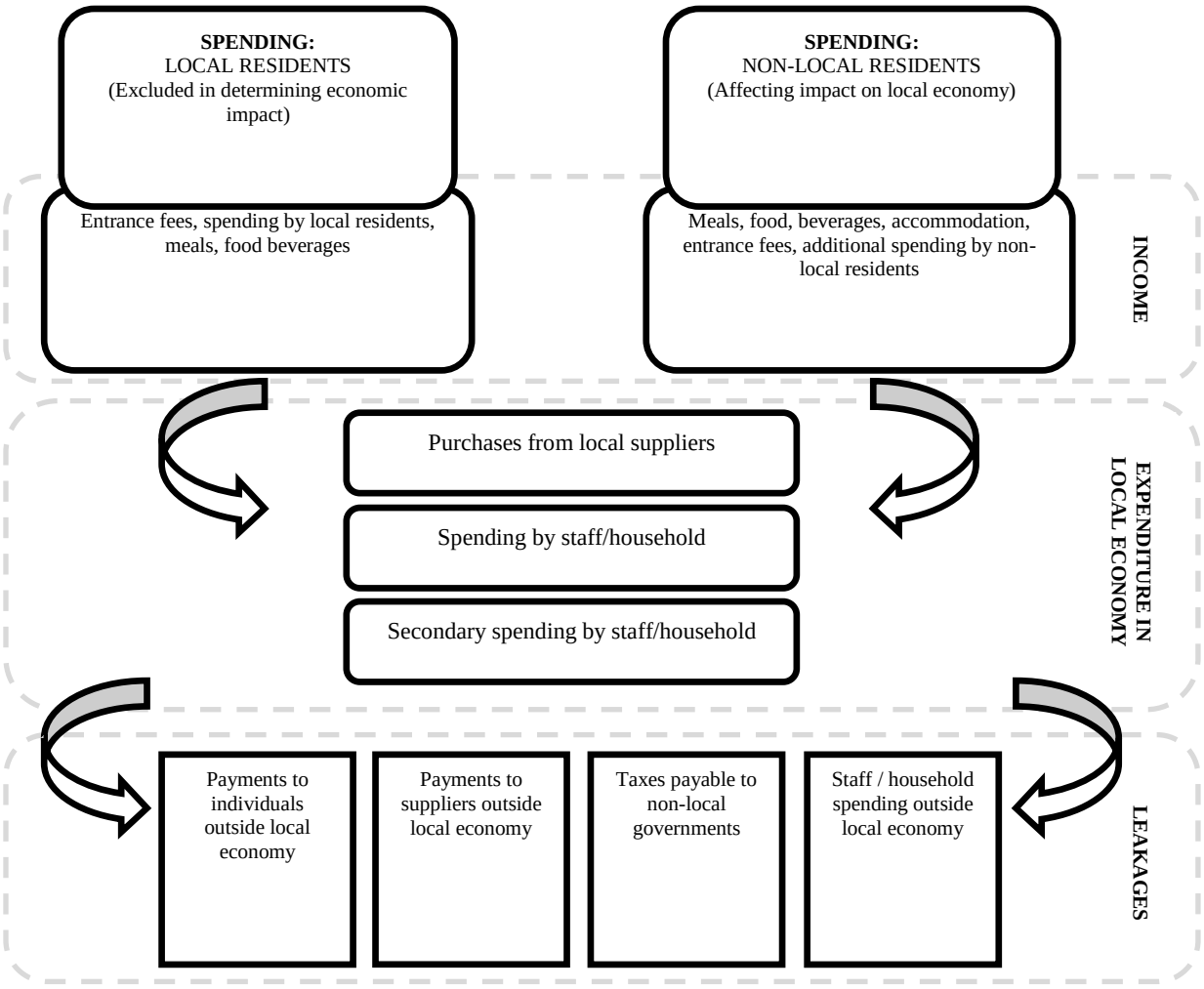

Figure 3.7: The flow of money in a local economy

(Adapted from Van Wyk, 2011:7)

From the above it is clear that public and private sector stakeholders benefit financially in different ways. These sectors will also benefit financially in different ways from the recreational fishing industry, but the overall contribution to the economy is an important aspect of the combined stakeholder's activities.

Based on the quantity and quality of publications available from Australian authorities on recreational fisheries through its Department of Agriculture, Fisheries and Forestry, it would appear that Australia is probably at the forefront of knowledge in this regard. The Australian Fisheries Research and Development Corporation (Aslin & Byron, 2003:9) reported their national recreational fishing

participation rate at 25-30% of the population and estimated the number of respondents in 2002 at 3,4 million, contributing $1,9 billion to the economy. This equated to 20,6 million days of fishing and the harvesting of 138 million aquatic animals (Campbell & Murphy, 2005:9).

In the United Kingdom (Environment Agency, 2009) fishing was described as showing "a dramatic resurgence" despite the recession with tackle trade doing very well and licence sales approaching 1,5 million (not needed for sea fishing), generating £24 million to fund most of the Environment Agency's fisheries service (Environment Agency, 2010). Labelled as Britain's most popular pastime, fishing was worth over £3 billion by 2004 and had it followed similar trends to the United States during the recession it would be exceeding £5 billion in 2010 (McCarthy, 2004). Even the comparatively modest Northern Ireland economy benefits by £22,5 million per year from recreational fishing including £1,8 billion form tourism (Gratton & Kokolakakis, 2013:12).

In the United States (US) 14 million anglers undertook 82 million recreational fishing trips. These trips generated $34 billion in total economic activity and supported 360 000 jobs. The study also indicated that 60 million anglers contributed $45 billion in sales and this resulted in a $125 billion economic impact, employing more than one million people. Although not pertinent stated in the report the interpretation was that data included marine and freshwater recreational fishing activities (American Sportfishing Association, 2013). In 2015, 45.7 million Americans took at leas one fishing trip, the average U.S. consumer unit spend reached $33.6 dollors. More than 28 million paid license holders were accounted for in 2015 and the gross fishing licenses fees exceed $686 million (Statista, 2017).

During 2002 The European Anglers' Alliance (EAA) estimated 25 million recreational anglers to be active in the European economy with an estimated value of €25 billion (EAA, 2002b). Fishing supported 2 900 companies and 60 000 jobs. Almost 39 000 people were employed by 12 900 tackle shops. Tourism in Europe generated 12% of the gross domestic product providing 6% employment. Kappel (2017) indicated that there is a lack of strong and representative recreational fishing associations and this is hampering research and initiatives in the management of marine and recreational fisheries in southern Europe.

As the world's most popular pastime recreational fishing has an enormous financial impact on national economies and necessitates appropriate stakeholder management of resources. It is important to determine the how and where recreational anglers or fishing tourists spend money in order to utilise these areas to benefit the economy. The empirical study of this study will indicate where South African anglers spend their money and how they spend it. From previous international studies the following was found regarding spending of recreational angling:

In 2010 in America the fishing license fees of anglers contributed to $657 million in the economy. The money was used in effort to conserve the fisheries and areas or destinations for fishing (American Sport Fishing Association, 2013:3). From direct product and service provides such as marinas, fishing guides and tackle shops to businesses that help anglers enjoy their experience on the water such as restaurants, filling stations and hotels, the $1,441 spent annually by the average American angler in 2011 supported jobs that generated $35 billion in salaries and wages. Over half of the expenditure went to purchase food, accommodation, transportation and other travel items. The money spent by companies and employees supporting anglers created and economic multiplier effect with a $115 billion impact on America's economy in 2011 (American Sport Fishing Association, 2013:4). The School of Hotel and Tourism Management at the Hong Kong Polytechnic University (2011:59-60) indicated that the average spending for buying fishing equipment could be as high as HK$5 000 (with the current rate is approximately R9 000) for leisure fishing and up to HK$10,000 (with the current rate it is approximately R18 000) for buying some more high quality equipment for deep sea fishing. In Western Australia, recreational fishing is a major social activity involving about 34 per cent of the population and contributes more than $500 million annually to the economy (Raguragaran, Hailu & Burton, 2013:540). According to this study done by the American Sport Fishing Association (2013:11) anglers spend money on the following (Table 3.2):

Table 3.2: Money spend by anglers

Category	Examples
Travel expenditures	• Food • Accommodation (Moksness, Gjøsœter, Lagaillarde, Mikeken, Olsen, Sandersen and Vølstad, 2011)

	• Airfare • Public transportation • Private transportation • Boat fuel • Guides (School of Hotel & Tourism Management, 2011:59) • Public land use fees • Private land use fees • Boat launching • Boat mooring • Equipment rental • Bait (live, cut, prepared) • Ice • Heating and cooking fuel
Fishing Equipment Expenditures	• Rods, reels and components • Lines and leaders • Lures, flies and artificial bait • Hooks, sinkers and other terminal tackle • Tackle boxes • Creels, stringers and landing nets • Bait buckets and minnow traps • Depth finder, fish finder and other electronics • Ice fishing equipment • Other fishing equipment
Auxiliary purchases for fishing	• Camping gear • Binoculars • Special fishing clothing and foul weather gear
Special equipment purchased for fishing	• Bass boats • Other motorised boats (Moksness *et al.*, 2011; School of Hotel & Tourism Management, 2011:59) • Canoes and non-motorised boats

	• Boat motors, trailers and hitches • Pick-ups, campers and motor homes • Cabins • 4x4 and off-road vehicles • Other special equipment
Other miscellaneous fishing expenses	• Taxidermy and processing • Books and magazines • Dues and contributions • Fishing licenses • Tags, permits and other special licenses • Land purchased for fishing • Land leased for fishing • Other miscellaneous fishing expenses

(Source: American Sport Fishing Association, 2013:11)

3.5.1 Fishing and the South African economy

At the request of the South African Deep Sea Angling Association (SADSAA) Leibold and Van Zyl (2008:4) produced an extensive report on the overall economic impact of sport and recreational fishing in South Africa. The total number of anglers was reported as 2,5 million, including both marine and freshwater, of which less than 30 000 had formal membership whole the rest had no affiliation. The report was not clear on how these numbers were determined. Approximately 1,5 million anglers, 60% of the total, were associated with the freshwater discipline of bank fishing with carp and match fishing adding a minor number to the total. The annual overall economic impact of recreational fishing was determined at R18,8 billion, which consisted of a R15,9 billion direct impact, a R3,3 billion indirect impact and an induced impact of R1,2 billion less R1,6 billion in outflows. The estimated percentage contribution to the GDP was 0.97%.

The purpose of doing economic impact studies is to measure the changes within an economy as ascribed to activities (TRCP, 2006). The expression of measurements is usually in income, retail expenditures, tax revenues and jobs and the impact can be divided into components of the direct, indirect and induced impact for most economic models.

Direct impact refers to the economic impact made by the initial purchase by a customer, such as the money spent at a retailer to buy tackle. Indirect impact measures the effect direct impact sales have on supporting and supplying industries to re-stock the sold item. Induced impact represents jobs created and the salaries and wages paid to employees, who in turn will spend their income to complete the economic cycle. Induced economic impact thus relates to second round expenditure effects of local income derived from the indirect variable cost impact.

The multiplier used for this effect was based on international norms for this type of activity and applied only to the variable cost figure incorporating indirect effects. The total impact is obtained from the sum of the direct, indirect and induced impacts and the total economic impact will be multiplied as the process repeats itself. Outflows to be accounted for will be items like cross-border events and outward fishing tourism (TRCP, 2006). The calculation of the total economic impact from the individual impacts was done and is depicted in Figure 3.8.

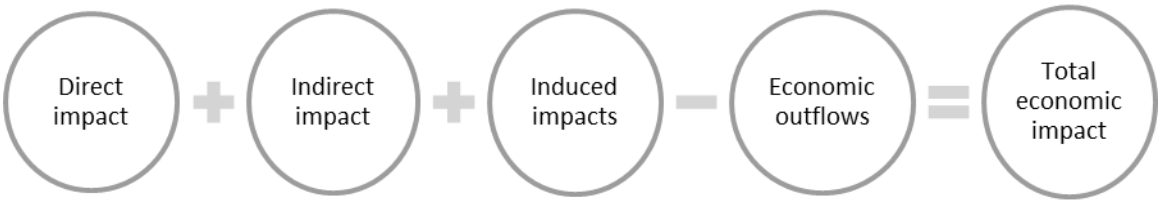

Figure 3.8: Schematic representation of calculation of total economic impact
(Source: Leibold & Van Zyl, 2008)

The surprising finding about South African sport and recreational fishing was that there was a low appreciation and little knowledge of its significant economic impact on the GDP among public and private sector organisations. The fishing industry is undervalued and less regarded (has a relative poorer overall image) among policy makers and resource oriented managers relative to comparative sports such as big game hunting (Leibold & Van Zyl, 2008:26).

3.5.2 The angler's value chain

The angler's value chain is not classified along that of contemporary business models. The value chain is defined as the angler's transformation of secondary sequential fishing trip planning activities (inputs) into the primary goal of an optimal value-added recreational experience (outputs). Setting out on a fishing trip takes the angler through a decision - making cycle and expenditure processes to prepare for the execution and completion of the trip. All of these input activities remain secondary to what is the primary output and measure of the value-added experience, and that is fish in the bag. Ultimately, the angler would like to return home from a trip with a feeling of value for money, having enjoyed the outdoors and the activity for its pleasure, relaxation and satisfaction. Expenses include those directly related to fishing and associated or non-fishing expenses. Non-fishing expenses start with the choice of venue and subsequent entrance and day fees. Depending on the duration of the trip day fees will accumulate accordingly. Likewise, the decision to camp in a tent or caravan or stay in accommodation at the venue adds to the expenses. This is generally the first and only mental budget an angler produces simply because many additional expenses are regarded as obvious and are not taken into account. Lodging expenses, however, are likely to constitute only 10% of the total fishing trip budget (Lechner & Pustejovsky, 1993:3).

The angler's normal thought process is that getting there and back costs nothing because "we're going in any case", but in reality travelling expenses, depending on the distance, can be 10-30% of the total cost of a trip (EAA, 2002c). In a similar fashion, the bait and tackle and food expenses are not always taken into account beforehand because these are a given expense. Food and drinks were determined to account for about 40% of the total expenses, while 25% of costs (direct fishing expenses) will normally be spread across bait, tackle and various accessories likely to be purchased at a local tackle shop and outdoor retailer (Lechner & Pustejovsky, 1993:3). The psychology of direct fishing expenses is that purchases often follow the trend of shopping with children. Anglers tend to return with some necessities and with many extras, be it at the advice of the tackle shop sales assistant, an article read in a magazine or the endorsement of a friend or professional angler.

On the round trip the angler is likely to spend a considerable amount on refreshments, forgotten items and sundries, often from a venue tuck-shop at inflated prices. In the process the proportion of the 75%

non-fishing expenses grows as the trip progresses. This type of value chain analysis of the South African recreational angler would be extremely beneficial to stakeholders. Overall, the recreational angler has very little direct contact with industry stakeholders other than retailers, perhaps the Department of Nature Conservation or local municipality and venue management, and for the rest is exposed to the electronic and written media.

One can also use the hunting value chain to also represent the value chain for recreational fishing. Figure 3.9 represents the value chain, the chain shows the activities involved and where transactions between the various role players take place.

Firstly, information regarding the fishing spot should be provided. In other words, the tourism board, municipality or the fishing spot itself should do marketing. Secondly, the angler will make a booking and will prepare for the fishing trip. This can involve permits for fishing, purchasing fishing equipment and making sure the vehicle and the boat is in good condition. Thirdly, the angler arranges the transport to get to the fishing spot. Once there the angler would receive information on where to fish, what species are available in the specific area and any other activities that the fishing spot offers. After the fishing trip the angler will make final transactions, such as servicing the boat, printing photographs.

Higher spending and demand by anglers will lead to an increase in business activities in a province or area, which, in turn, will create more employment and income for members of a community or a specific province. A greater demand by anglers means more services and products will be supplied, which in turn will lead to improved infrastructure, including water, electricity, roads, shops and transport (Van der Merwe *et al.,* 2014:381).

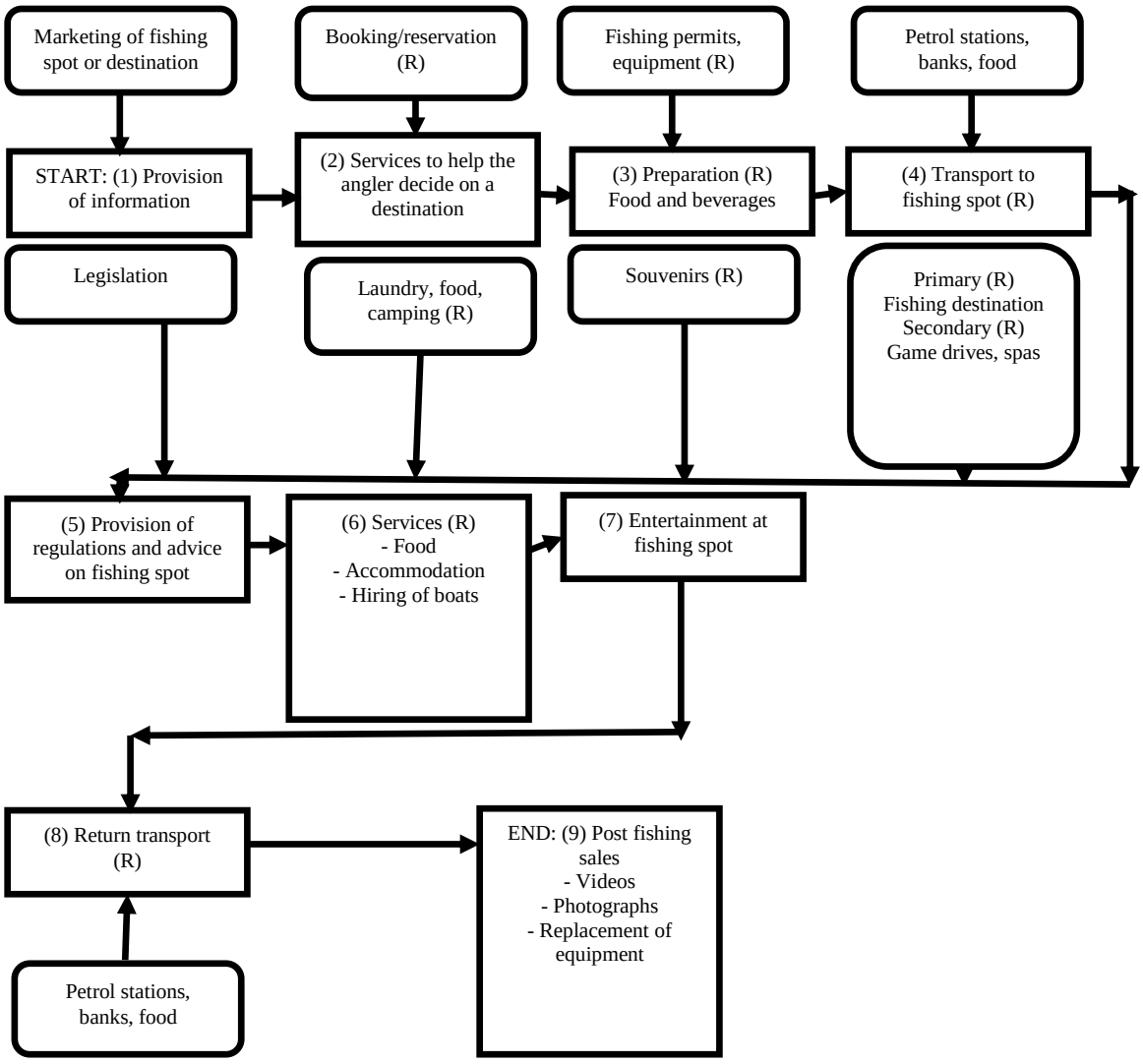

Figure 3.9: Value chain for recreational fishing

(Source: Van der Merwe, Saayman & Rossouw, 2014:381)

3.6 CONCLUSION

The purpose of the chapter was to review the literature and different theories regarding the tourist behaviour. It came to light that many factors (internal and external) play a role in the way tourists behave in a certain way. Determining tourist behaviour is important in order for the tourist to understand life experiences and it is also important for the different stakeholders in order to make either policy or management decisions. The tourist will make a holiday decision according to certain

steps, or the tourist decision making process, it includes becoming aware of a need or problem, seeking information, evaluation of the information gathered, making a decision on whether or not to purchase the holiday, an action of buying the actual holiday and the post-holiday evaluation. The decision-making process is influenced by internal factors (perception, learning, motivation, attitudes, personality, lifestyle and self-concept), external factors (culture, subculture, reference groups, social class, family and marketing activities), market characteristics (climate, economy, government and technology) and personal or demographic characteristics (race, gender and age).

By determining the behaviour of a tourist the following aim of the chapter is discussed, to determine the spending behaviour of a tourist. This information can provide a more viable management strategy which could lead to a more profitable product. The spending behaviour of tourists is important in order to establish strategic planning of facilities and amenities, developing tourism products in a profitable and sustainable way, strategic marketing of the tourism product, developing a marketing profile of the tourist, identifying niche markets, policies can be formulated and it provides an understanding of tourist spending behaviour and the factors affecting behaviour. In order to determine the spending behaviour of tourists one needs to include the socio-demographics of tourists, travel behaviour of a tourist and the geographic behaviour of a tourist. Variables of spending behaviour include income, length of stay, distance to travel, group size, etc. Determinants that positively influenced visitor expenditure where revealed by various researchers as indicated in table 3.1.

Once the spending behaviour of tourists is determined, the economic impact of tourist spending can be determined. Economics increase the well-being of individuals and the community within a society. Private and public sector stakeholders will benefit financially in different ways. From being able to create infrastructure to creation accommodation at fishing destinations. In South Africa it was reported that there were 2.5 million anglers for both marine and freshwater disciplines and the overall economic contribution was determined at R18,8 billion.

The hunting value chain can also be applied to fishing in order to show the activities involved and where transactions between the various role players take place. Higher spending and demand by anglers will

lead to an increase in business activities in an area, which in turn will create more employment and income for members of a community. A greater demand means more services and products which in turn will lead to improved infrastructures.

The importance of the above mentioned, led to the creation of a questionnaire for the study. The questionnaire includes important aspects of socio-demographics, behaviour of tourists and the geographical behaviour of tourists. Questions include gender, home language, occupation, fishing discipline, group size, days of fishing, spending on different aspects of fishing and favourite fishing destinations. The empirical results of the questionnaire will be discussed in the following chapter.

CHAPTER 4

EMPIRICAL STUDY

4.1 INTRODUCTION

The aim of the chapter is to provide evidence to support the feeling that recreational fishing is important to the South African economy, the empirical results will be discussed in this chapter. Similar research from other countries such as Australia, the USA and Mexico, has led to the formal recognition of recreational fishing as a valuable industry and has had positive outcomes for recreational fishing interests. The research will also assist fisheries managers to understand the consequences of changes to regulations and improve the planning and management of recreational fisheries and enhance the fishing tourism opportunities.

According to Motta, Mendonça and Moro (2016:291) 10.6% of people take part in recreational fishing, this is equal to 700 million people all over the world involved in recreational fishing. The specific study also focused on recreational fishing in Brazil and according to the study the number of anglers in Brazil are approximately 10 million people. A study done by Fisheries and Oceans Canada (2010) indicated that there are 3.3 million adult anglers in Canada. In Australia 3.36 million people engaged in recreational angling during the year Yamazaki, Rust, Jennings, Lyle and Frijlink (2013) undertook their research regarding valuing recreational fishing in Tasmania. In South Africa the total number of recreational anglers are 1.4 million people and generates R52 billion (TREES, 2017). Over the years' different studies in different countries were conducted to determine certain aspects of recreational anglers. These studies also indicated certain socio-demographic aspects and economic impacts of the recreational anglers.

Studies from Teisl and Boyle (1997) and, Schramm and Gerard (2004) showed that the majority of respondents were male (92% and 97%, respectively). According to a study done by Prayaga, Rolfe and Stoeckl (2009) in the Great Barrier Reef, the average age of a recreational angler was 44.16

years and the average income is $76993.40. The average age according to other studies was 40 years and 45 years (Teisl & Boyle, 1997; National Survey US, 2001). The study from Fisheries and Oceans Canada (2010) showed that 55% of anglers were between the ages of 45 – 65 years. The average group size according to Prayage *et al*. (2009) is 2.31 people. Teisl and Boyle (1997) found the average group size to be three people. According to Schramm and Gerard (2004), anglers spend an average of 44.3 days fishing. Schramm and Gerard (2004) indicated that respondents spend an average of $549.10 on fishing equipment and $451.67 on fuel. The study done by Fisheries and Oceans Canada to determine the economic and social importance of recreational fisheries to Canada's provinces and territories (2010) showed that transport, food and accommodation were the main spending areas for recreational fishing in Canada. Transport averaged at $281, while food and accommodation averaged at $240. The study done by Schramm & Gerard (2004) indicated the following motives for fishing: fishing for relaxation (73.7%), to be outdoors (60.4%), to get away from the regular routine (59.3%), for the experience of the catch (54.1%)

A study completed by Brown (2012) to help inform the development of a new national strategy for angling in England and Wales showed the following results:

- 97% of respondents were male.
- Average age was 51 years.
- 65% were employed or self-employed.
- 87% of anglers began fishing between the ages of four and 16 years.
- 38% of anglers were introduced to fishing by their parents.
- Almost all anglers want to go fishing more often (94.2%) but lack of time due to work and family commitments was the biggest barrier for 59.5% of anglers.

The results from a study conducted by Nguyen, Rudd, Hinch and Cooke (2013) at the Fraser River, British Columbia indicated the following socio-demographic and other covariates results from recreational anglers:

- Male respondents accounted for 93% of the results.
- 21.2% of respondents were between the ages of 40 – 49 years.
- 40.5% had a diploma or degree.
- The income based on Canadian $ were less than $50 000 per year (23.5%).
- 89.7% were not part of a fishing club.
- Respondents fished less than 10 days during the year.

The results of this study are compared with the above studies results. Although there are differences, the socio-demographic profile of recreational anglers is consistent with each of the studies.

In the following sections, the empirical results for the study will be discussed.

4.2 RESULTS

The research results of this survey will be discussed in the following sections.

4.2.1 Gender

Studies from Teisl and Boyle (1997), and Schramm and Gerard (2004) showed that the majority of respondents were male (92% and 97%, respectively). A study completed by Brown (2012) showed 97% of respondents were male. Male respondents accounted for 93% of the results in the Fraser River study completed by Nguyen *et al.* (2013). According to Ormsby (2004) for the development of a Recreational Fishing Information System done by the Queensland fisheries management authority and the Great Barrier Reef Marine Park Authority 79% of respondents were male. Figure 4.1 below indicates that 90% of the respondents were male and 10% were female.

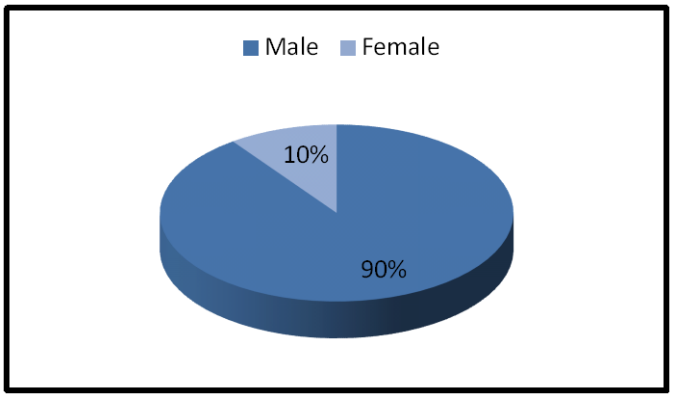

Figure 4.1: Gender

It is clear that males account for most of the respondents in different studies.

4.2.2 Age

The largest group of respondents (30%) were between the ages of 40 to 49 years' age range, followed by those between the ages of 30 and 39 (24%) and those between the ages of 50 and 59 (21%) as seen in Figure 4.2. The average age of respondents was 44.88 years.

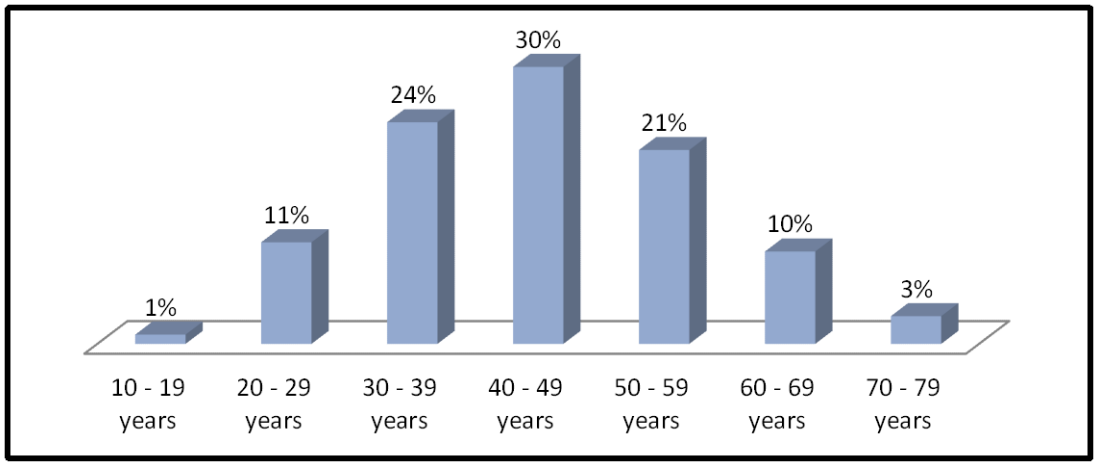

Figure 4.2: Age

According to a study done by Prayaga *et al.* (2009) in the Great Barrier Reef, the average age of a recreational angler was 44.16 years. The average age according to other studies was 40 years and 45 years (Teisl & Boyle, 1997; National Survey US, 2001). The study form Fisheries and Oceans Canada (2010) showed that 55% of anglers were between the age of 45 – 65 years. Brown (2012) showed and average age of 51 years and Nguyen *et al*. (2013) indicated respondents were between the ages of 40 – 49 years. Ormsby (2004) indicated that 53% of respondents were between 30 – 39 years and 40 – 49 years. There is a comparison regarding age of respondents throughout the different studies.

4.2.3 Language

The respondents were Afrikaans speaking (49%) while 50% were English speaking (Figure 4.3). Some of the other ethnical groups also indicated English or Afrikaans. These results cannot be compared to other studies, there are no other South African studies with the relevant language results.

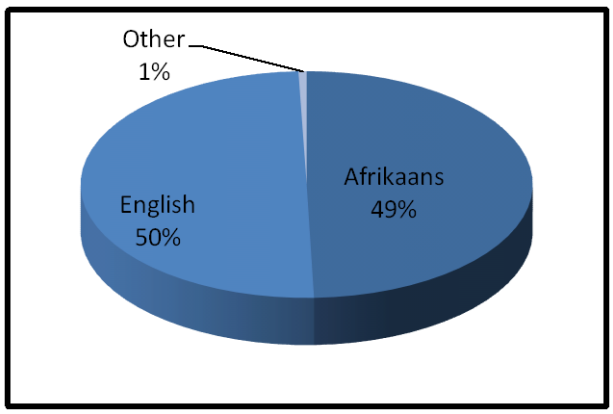

Figure 4.3: Language

4.2.4 Education

The results from a study conducted by Nguyen *et al.* (2013) at the Fraser River, British Columbia indicated that 40.5% of anglers had a diploma or degree. The study completed in Queensland and the Great Barrier Reef showed that 49% of respondents completed secondary level of schooling (Ormsby, 2004). Figure 4.4 below indicates that 37% of respondents obtained a matric qualification, while 38% obtained a diploma or a degree. Nine percent (9%) indicated that they obtained a professional qualification. The survey was a little biased in terms of the illiterate anglers, the study did not include respondents who exited school at a different level such as grade 10, respondents with grade 10 had some form of school-education.

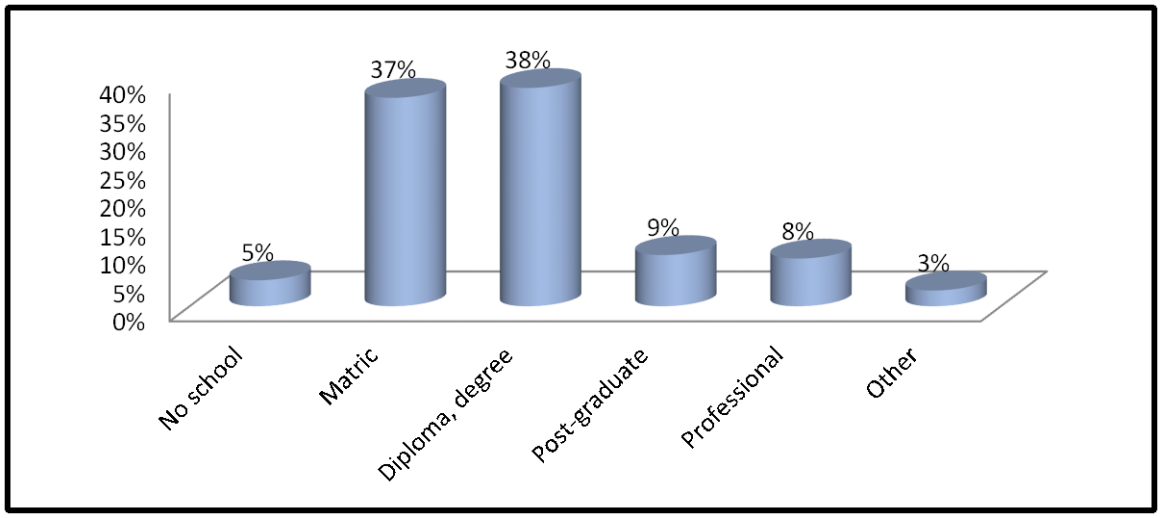

Figure 4.4: Education

From the above Figure (Figure 4.4), it shows that overall respondents completed school education and has some form of post school education.

4.2.5 Occupation

The below figure (Figure 4.5) indicates that 21% of respondents were self-employed and 21% worked as managers. Seventeen percent (17%) worked in professional occupations and 14% in other occupations.

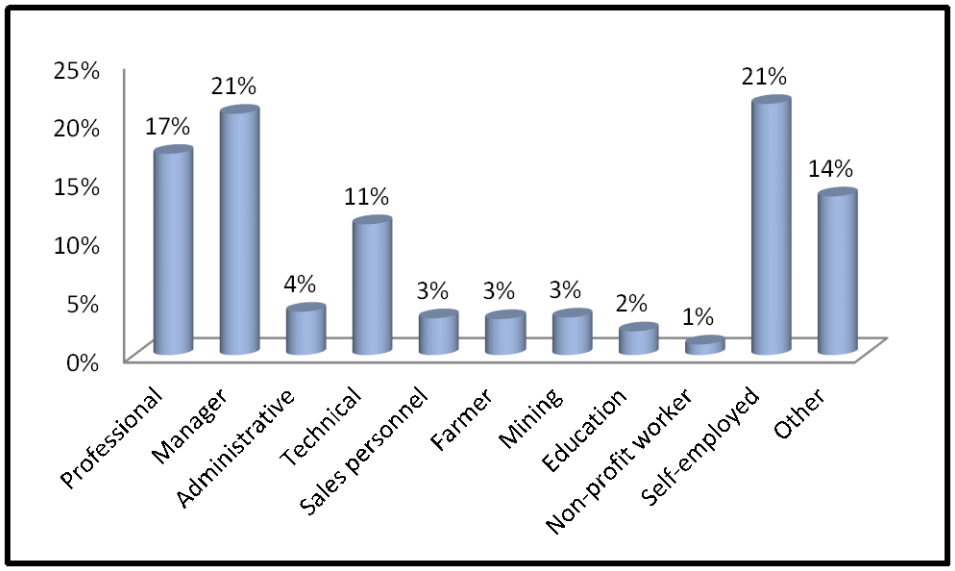

Figure 4.5: Occupation

A study completed by Brown (2012) to help inform the development of a new national strategy for angling in England and Wales showed 65% were employed or self-employed. Ormsby (2004) indicated that seven out 10 respondents were employed. The South African results and the results from other studies indicated that respondents were mostly employed.

4.2.6 Province of residence

Twenty-six percent (26%) of the respondents were from Gauteng, followed by those from KwaZulu-Natal (22%) and the Western Cape (18%) as seen in Figure 4.6. Only 2% of respondents were from the Free State and Mpumalanga. One percent (1%) of respondents resides outside the borders of RSA and includes countries such as Zimbabwe, Botswana, Ireland and the USA. Comparisons will not be made with other studies, because the results are South African based.

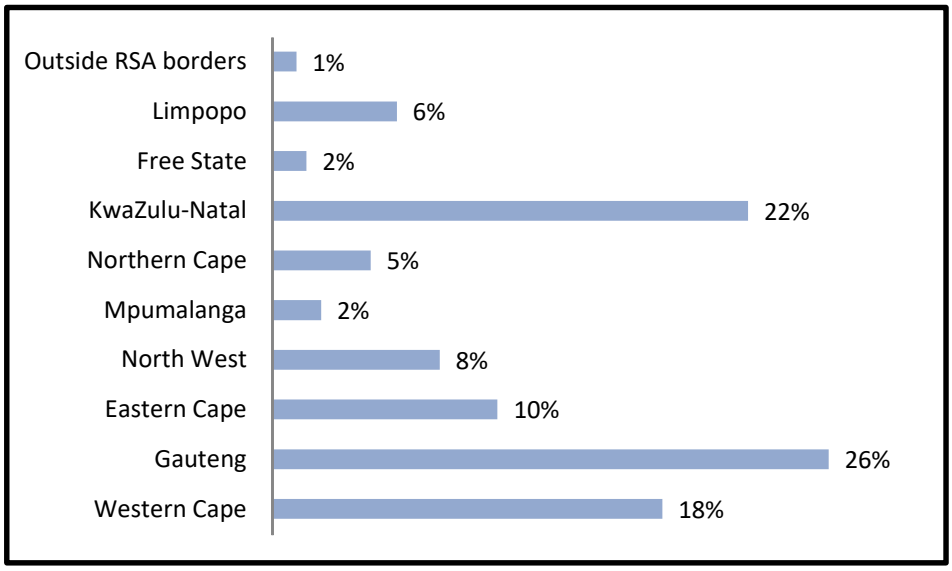

Figure 4.6: Province of residence

4.2.7 Income

In the figure (Figure 4.7) it is revealed that 26% of respondents earn between R140 001 and R221 000, followed by 18% who earn between R20 001 and R140 000, and 17% who earn more than R670 001.

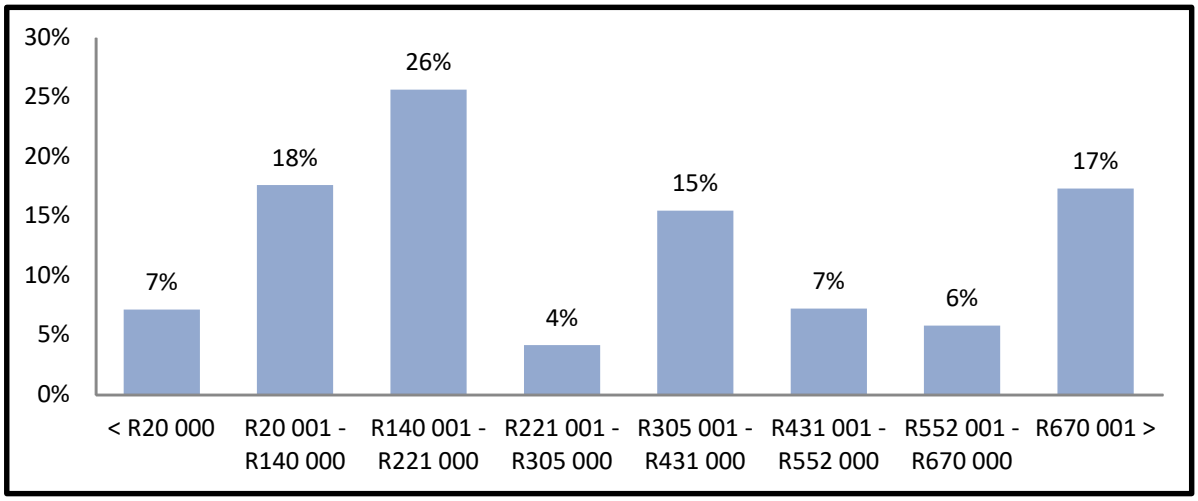

Figure 4.7: Income

According to a study done by Prayaga *et al.* (2009) in the Great Barrier Reef the average income of anglers are $76993.40 annually (using 2009 currency, this is R531 000). The results from the study by Nguyen *et al*. (2013) indicated income based on Canadian $ were less than $50 000 per year (23.5%) for respondents (using 2013 currency, this is R500 000). Respondents indicated an annual income

between $20800 - $31199 (Australian Dollars) (Ormsby, 2004:13) (using 2004 currency this is R147 443). Overall, the rest of the annual incomes were higher than this study.

4.2.8 Fishing club

Respondents were asked whether they belonged to either an angling club or a social angling club. The difference between an angling club and a social angling club is the following: angling clubs distinguish between organised anglers were as a social angling club includes all non-league anglers. Organised anglers will be differentiation with personalised numbers on display on the anglers clothing, bait box and each club have distinctive colours (Western Cape Shore Angling, 2004).

4.2.8.1 Angling club membership

The majority of anglers indicated that they do not belong to an angling club (60%), while 40% do belong to an angling club as seen in Figure 4.8.

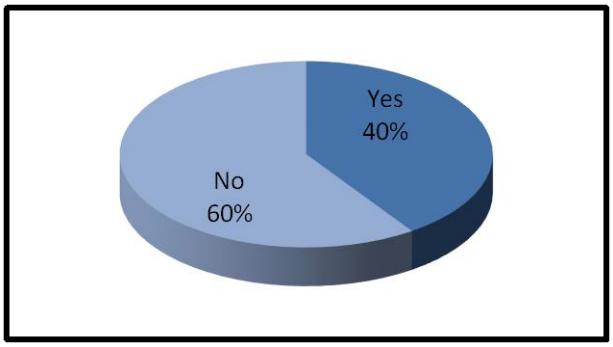

Figure 4.8: Angling club membership

4.2.8.2 Social angling club membership

Fifty-six (56%) of respondents are part of a social fishing club, while 44% are not as seen in Figure 4.9.

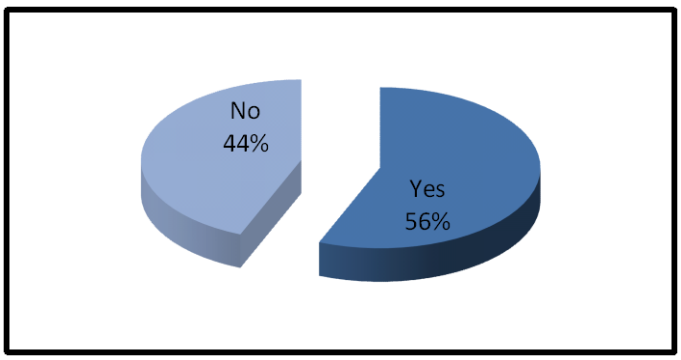

Figure 4.9: Social angling club membership

The results from a study conducted by Nguyen *et al.* (2013) at the Fraser River, British Columbia indicated that 89.7% were not part of a fishing club. The results from the study are better in

comparison to the study completed by Nguyen *et al*. (2013). South African anglers are more likely to be part of an angling club.

4.3 FISHING DISCIPLINE

The questionnaire addressed different fishing disciplines and included different fishing methods. The main fishing disciplines in the questionnaire were marine fishing, estuary fishing, freshwater angling and fly-fishing each with their different subsets.

4.3.1 Most preferred fishing discipline

Respondents indicated the following results regarding the different fishing disciplines as indicated in Table 4.1.

Table 4.1: Most preferred fishing discipline

	Do not partake	Not at all important	Slightly important	Important	Very important	Extremely important
	MARINE FISHING DISCIPLINE					
Rock and surf angling	17%	6%	18%	19%	**26%**	14%
Deep sea angling	23%	7%	17%	20%	**25%**	8%
Ski-boat	**31%**	7%	14%	15%	23%	8%
Jet-ski	**71%**	9%	9%	5%	4%	1%
Fishing ski	**60%**	9%	13%	9%	4%	3%
Charter boat	**56%**	10%	16%	10%	6%	2%
Spear-fishing: boat	**68%**	8%	9%	5%	6%	2%
Spear-fishing: shore	**60%**	8%	8%	7%	11%	4%
	ESTUARY FISHING DISCIPLINE					
Estuary: boat	**25%**	5%	16%	19%	24%	11%
Estuary: shore	**25%**	5%	15%	19%	23%	13%
	FRESHWATER ANGLING					
Bank angling (Carp, barbel,	**29%**	4%	16%	17%	26%	8%

kurper, yellowfish etc. in a dam or river)						
Boat angling (Carp, barbel, kurper, yellowfish etc. in a dam or river)	**42%**	10%	15%	15%	13%	5%
Bass angling	**27%**	5%	17%	19%	23%	9%
Tigerfishing	**37%**	5%	17%	19%	17%	5%
			FLY-FISHING			
Trout	**47%**	6%	14%	16%	12%	5%
Yellow fish	**49%**	5%	10%	15%	16%	5%
Estuary	**52%**	5%	13%	14%	12%	4%
Sea	**53%**	6%	14%	12%	11%	4%

For further statistical analysis, the fishing disciplines were divided into the following usable groups (c.f. Figure 2.3):

- Bass.
- Fly-fishing.
- Fresh water bank.
- Fresh water boat.
- Deep-sea.
- Estuary boat.
- Estuary shore.
- Fishing ski.
- Marine shore.
- Spearfishing.
- None.

The reason for dividing the fishing disciplines in further groups is because the ANOVA test or practical significance test require ten or more respondents per group to do proper analysis. In order to achieve this and to make sure groups were larger than ten, the above mentioned grouping was used.

4.3.2 Favourite three fish species (for both freshwater and marine species)

Respondents indicated the following fish species as their most preferred:

1. Carp with 13%.
2. Barber with 9%.
3. Bass with 8%.

Ormsby (2004) showed the following species as favourites in Queensland, Australia:

1. Whiting.
2. Bream.
3. Flathead.

Differences in species are also a result of different fishing waters and different habitats. To compare the species from over the world will be difficult.

4.3.3 Age introduced to fishing

Respondents who were introduced to fishing (Figure 4.10) between the ages of 0 and 10 years, accounted for 84% of the total, followed by 10% between the ages of 11 and 20 years. On average, respondents were 7.71 years old when they were introduced to fishing for the first time.

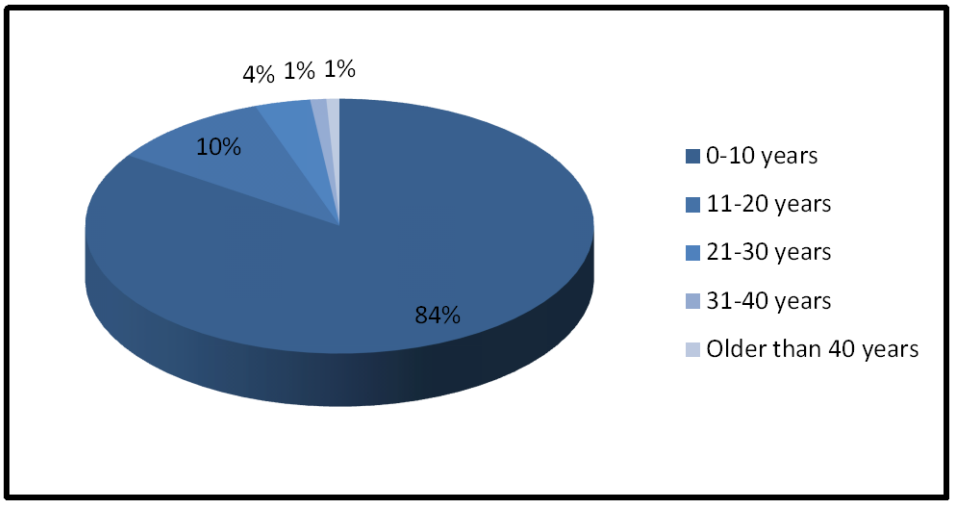

Figure 4.10: Age introduced to fishing

In England and Wales 87% of anglers began fishing between the ages of four and 16 years (Brown, 2012). The results from the study are similar to those of other studies. This shows that stakeholders of recreational fishing should focus on younger groups, for example marketers of recreational fishing equipment can market their products in such a way to appeal to a younger generation. Providers of

recreational fishing facilities, such as resorts can make sure to have activities that would also appeal to younger markets.

4.3.4 Exposed to fishing

The majority of respondents (76%) indicated that their families exposed them to fishing, while 13% were introduced by their friends and 8% decided for themselves as seen in Figure 4.11.

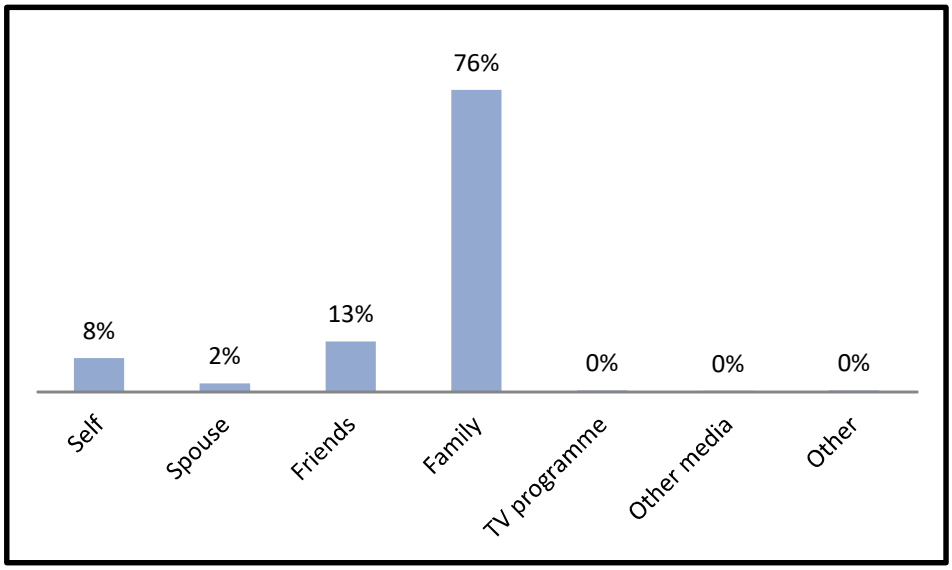

Figure 4.11: Exposed to fishing by which medium

Brown (2012) indicated that 38% of anglers were introduced to fishing by their parents. The results from this study are better than the results of other studies. This shows that recreational fishing is mostly a family activity and people tend to start fishing at a very young age. For the stakeholders of recreational fishing this is an important factor because it shows that they should focus on groups or families and not just the individual angler.

The following section will show the economic impact results of the study.

4.4 ECONOMIC IMPACT

In the following sections questions such as group size, number of people paid for and average spending will be answered.

4.4.1 Fishing preference

Eighty percent (80%) of respondents indicated that they prefer fishing in groups, while only 20% prefer to fish alone. According to Ormsby (2004) 49% of respondents preferred to travel with family and friends during fishing trips and this is shown in Figure 4.12. The results from the study are higher than other studies. South African's prefer to fish in groups. The importance of this is that recreational anglers will also consider other group members when making a purchasing decision. When determining something such as accommodation the angler will consider something that will be able to accommodate the angler and the family. The larger the group or the more people participating in the recreational fishing experience the higher the spending will be.

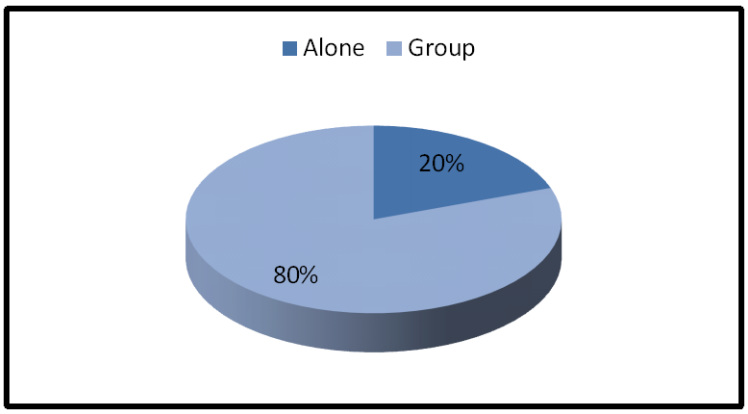

Figure 4.12: Fishing preference

4.4.2 Group size

Respondents travel in groups of three (26%), four (26%) or two (16%) persons. The average size of travel groups was 4.45 people according to Table 4.2.

Table 4.2: Group size

GROUP SIZE	PERCENTAGE
1 person	2%
2 persons	16%
3 persons	26%
4 persons	26%
5 persons	10%
6 persons	9%
7 persons	2%
8 persons	3%
9+ persons	6%
Average	4.45 people

The average group size according to Prayage *et al*. (2009) is 2.31 people. Teisl and Boyle (1997) found the average group size to be three people. The results from the study is higher, larger groups

than those of other studies. The relevance of this may be that the larger the group the more the angler or fishing tourist will spend, the group size will also affect the purchase-decision making process.

4.4.3 Number of people paid for

Respondents were financially responsible for mostly one (37%) or two (24%) people as shown in Table 4.3. On average, respondents paid for 1.6 people. No other studies could be found that measured the same question.

Table 4.3: Number of people paid for

NUMBER PAID FOR	PERCENTAGE
No-one	20%
1 person	37%
2 persons	24%
3 persons	8%
4 persons	7%
5 persons	2%
6 persons	1%
7+ people	1%
Average	1.6 people

4.4.4 Number of day's gone fishing

The largest group of respondents indicated that they fish between 21 and 30 days (21%) per annum, followed by 17% who spend between 11 and 20 days and 14% who spend between one and 10 days fishing per year this is shown in Table 4.4. On average, respondents spend between 48 days per year on fishing activities that is 13% of a year. The more or longer people tend to fish the more they will spend on different aspects, which will lead to an increase in spending of recreational anglers.

Table 4.4: Number of day's gone fishing

NUMBER OF DAYS	PERCENTAGE
1-10 days	14%
11-20 days	17%
21-30 days	21%
31-40 days	10%
41-50 days	10%

51-60 days	8%
61-70 days	2%
71-80 days	2%
81-90 days	2%
91-200 days	12%
201 and more days	2%
Average	48.1 day

According to Schramm and Gerard (2004) anglers spend an average of 44.3 days fishing per year. The results from a study conducted by Nguyen, Rudd, Hinch and Cooke (2013) at the Fraser River, British Columbia indicated that respondents fished less than 10 days during the year. A study completed by Brown (2012) to help the development of a new national strategy for angling in England and Wales showed that almost all anglers want to go fishing more often (94.2%) but lack of time due to work and family commitments was the biggest barrier for 59.5% of anglers. The respondents from the study fished more days during the year than respondents of other studies. Reasons being that respondents may have more free time or do not need to travel large distances in order to partake in fishing activities.

4.4.5 Types of trips undertaken during the last twelve months

During the last twelve months, 38% of respondents undertook day trips, 32% went on weekend trips and 30% went on fishing trips for longer than a weekend (Figure 4.13).

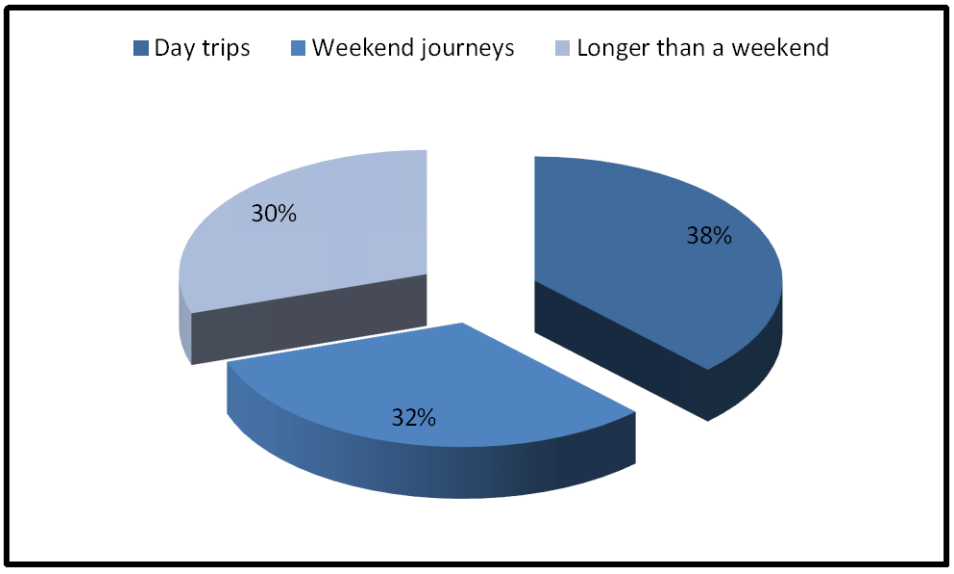

Figure 4.13: Types of trips during the last twelve months

Table 4.5 shows that respondents, who took trips lasting longer than a weekend, went between 1 and 5 days (61%), 30% stayed between 6 and 10 days. On average, they stayed for six days. This shows that respondents do tend to travel for recreational fishing trips, the more they travel, the more they will spend on these trips.

Table 4.5: Number of days

NUMBER OF DAYS	PERCENTAGE
1-5 days	61%
6-10 days	30%
11-20 days	7%
more than 20 days	2%
Average	6.12 days

Ormsby (2004) showed that 85% of respondents took day trips and 15% of respondents took longer trips. Longer trips were an average of three days. Results from the study showed more frequent trips and longer trips than the results from other studies.

4.4.6 Average spending

The following section will provide an analyses of the spending on day and overnight trips, annual spending and spending on other related fishing equipment.

4.4.6.1 Spending on day and overnight trips

According to Table 4.6 on average, respondents spend R29 947.79 on day fishing trips and R28 810.26 on overnight trips, the reason may be that people taking part in competitions might pay less if they purchase a package for the weekend which includes competition fees and accommodation. The highest spending for day trips were terminal fishing tackle (R4 909.72), transportation (R4 692.16) and accommodation (R4 133.16). The highest spending for overnight trips were transportation (R5 826.31), accommodation (R4 483.52) and boat fuel & oil (R3 932.76). This is important for the study because it shows recreational fishing stakeholders on which areas one needs to focus when promoting recreational fishing. It also shows that stakeholders need to focus on longer trips and create packages for anglers. This will result in a higher spending for these recreational anglers.

Table 4.6: Average spending on day and overnight trips

ITEMS	DAY TRIPS	OVERNIGHT TRIPS
Entrance fees	R746.61	R810.09
Accommodation	R4133.16	R4483.52
Transportation	R4692.16	R5826.31
Food	R3108.01	R2910.27
Alcohol & beverages	R1804.41	R1850.22
Boat fuel & oil	R4273.56	R3932.76
Terminal fishing tackle (i.e. Hooks, sinkers, line, lures, etc.)	R4909.72	R3884.91
Bait: Frozen commercially sourced	R1370.21	R776.39
Bait: Fresh harvested bait by local people	R370.88	R322.40
Gillies	R319.03	R247.36
Boat hire	R353.57	R379.87
Competition fees	R965.31	R778.07
Parking or entrance fees	R102.97	R123.31
Charter or fishing guide	R418.29	R357.71
Fish cleaning and filleting	R70.90	R43.82
Gifts	R639.75	R485.55
Medical (suntan cream, malaria pills, etc.)	R474.64	R526.96
Other items	R1194.62	R1070.74
TOTAL	R29947.79	R28810.26

Schramm and Gerard (2004) indicated that respondents spend an average of $549.10 on fishing equipment and $451.67 on fuel. The study done by Fisheries and Oceans Canada to determine the economic and social importance of recreational fisheries to Canada's provinces and territories (2010) showed that transport, food and accommodation were the main spending areas for recreational fishing in Canada. Transport averaged at $281, and food and accommodation averaged at $240.

4.4.6.2 Annual fees

On all the annual fees, respondents spend most on membership fees (R882.94) per annum. The total that respondents spend on annual fees amounts to R1 587.31, as shown in Table 4.7.

Table 4.7: Annual fees

ITEMS	AMOUNT
Fishing permit fees	R463.67
Membership fees	R882.94
Affiliation fees	R240.70
TOTAL	R1 587.31

4.4.6.3 Other annual fishing-related spending

The purchase of fishing equipment (R10 183.03) makes the strongest contribution towards the R29 949.25 average spending on annual fishing-related spending according to Table 4.8.

Table 4.8: Other annual fishing-related spending

ITEMS	AMOUNT
Purchase of fishing equipment	R10 183.03
Boat maintenance	R4 074.38
Boat seaworthy inspection and equipment	R964.99
Insurance on fishing-related equipment	R3 645.85
Mooring fees	R351.54
Fishing clothing	R1 507.59
Storage fees for boats and equipment	R843.62
Other (trailer licence, trailer bearings, lures, purchasing boats, etc.)	R8 378.25
TOTAL	R29 949.25

4.5 FISHING MOTIVATION

In the following section, anglers indicated why they were motivated to fish. This question is important for the study because the motivation for taking part in recreational fishing has a direct impact in the trip expenditure. Focusing on the motivation to take a recreational fishing trip could maximise the economic benefit for the tourist destination. Improved knowledge of the travel motivations of recreational anglers will be of great assistance to the stakeholders to sustain and increase market share in the recreational fishing industry.

4.5.1 Motives for fishing

In Table 4.9 respondents were asked to indicate on a five-point Likert scale (where '1' = Not at all important and '5' = Extremely important) how important a list of aspects are in motivating them to partake in fishing.

Table 4.9: Motives for fishing

MOTIVATIONAL ITEMS	LEVEL OF IMPORTANCE	Not at all important	Slightly important	Important	Very important	Extremely important
To be with friends	Important	8%	14%	28%	23%	27%
For family recreation	Extremely important	9%	10%	25%	23%	33%
For relaxation	Extremely important	6%	0%	11%	25%	58%
To get away from the regular routine	Extremely important	6%	3%	10%	27%	54%
To experience new and different things	Extremely important	6%	7%	21%	29%	37%
To experience adventure and excitement	Extremely important	5%	4%	17%	29%	45%
To catch fish to eat	Not at all important	42%	23%	15%	10%	10%
For the challenge of the sport	Extremely important	7%	3%	13%	27%	50%
To catch a 'trophy' fish	Extremely important	14%	14%	16%	21%	35%
For the fun and enjoyment thereof	Extremely important	5%	0%	9%	24%	62%
To test my skills	Extremely important	8%	8%	17%	27%	40%
To participate in competitions	Not at all important	28%	17%	21%	15%	19%
To be with people with similar interests	Very important	9%	12%	26%	27%	26%
Part of my lifestyle	Extremely important	7%	6%	16%	28%	43%
For my well-being	Extremely important	11%	8%	20%	25%	36%
To sell fish to supplement my livelihood	Not at all important	90%	5%	1%	2%	2%
To feed my family	Not at all important	77%	12%	6%	2%	3%

The top five reasons were:

1. For the fun and enjoyment thereof.
2. For relaxation.

3. To get away from my regular routine.
4. For the challenge of the sport.
5. To experience adventure and excitement.

These reasons are important for the study since it shows the motivations why these recreational anglers travel. It also indicates that recreational fishing is a recreational activity and not a reason to provide for families (77%) in terms of catching fish to eat (42%) or to sell fish (90%) they caught. This supports the literature in Chapter 2 which indicated that recreational fishing is a recreational activity participated in leisure time.

The study done by Schramm & Gerard (2004) indicated the following motives for fishing namely for relaxation (73.7%), to be outdoors (60.4%), to get away from the regular routine (59.3%), for the experience of the catch (54.1%). Ormsby (2004) showed that the reasons for fishing, in order of preference, were for rest and relaxation, to be outdoors, to enjoy nature and for the pleasure of catching fish, there is comparisons between these studies and this study.

4.6 FACTOR ANALYSIS: MOTIVES FOR PARTAKING IN RECREATIONAL FISHING

Determining the motives for partaking in recreational fishing is important since motivation has a direct implication on the spending behaviour of a tourist. Factor analysis is used to find latent variables or factors among observed variables. The data contains many variables and the analysis is used to reduce the number of variables (Tustin, Lighthelm, Martins & Van Wyk, 2005:668). The extraction method used was the Principal Axis factoring and the Rotation Method used was the Oblimin with Kaiser Normalisation. The factor analysis (Pattern Matrix) identified four motivational factors (Table 4.10) that were labelled according to similar characteristics. The four factors accounted for 65.89% of the total variance and are *Relaxation and escape* (factor 1), *livelihood* (factor 2), *socialisation* (factor 3) and *competition* (factor 4).

The Kaiser-Meyer-Olkin measure of sampling adequacy aims to examine whether the strength of the relationship between variables is large enough to proceed to a factor analysis (Wiid & Diggines, 2013:241). The measure was 0.874 for the factor analysis, which is acceptable. The Bartlett's test of

sphericity was found to be significant (p = .000). Therefore, the data reduction by principal components would be legitimate for the factor analysis.

Commonalities are the proportion of variance of each item explained by the extracted factors. Once factors have been extracted, a better idea can be gained of how much variance is, in reality, common (Field, 2009:654). In this study, the factors range from 0.41 to 0.71, which shows sufficient variance in all items.

Relatively high factor loadings indicate a reasonably high correlation between the delineated factors and their individual items. Any item that cross-loaded on two factors with factor loadings greater than 0.3 were categorised in the factor where interpretability was regarded as being the best.

Table 4.10: Factor analysis – Motives of partaking in fishing

Factor	Factor loading	Mean	Cronbach Alpha (Reliability coefficient)	Inter-item Correlation
Factor 1: Relaxation and escape		3.9978	0.867	0.452
For relaxation	0.809			
For the fun and enjoyment	0.807			
To get away from the regular routine	0.795			
To experience adventure and excitement	0.741			
For the challenge of the sport	0.735			
For my well-being	0.727			
Part of my lifestyle	0.712			
To experience new and different things (unique)	0.620			
Factor 2: Livelihood		1.6361	0.630	0.412
To feed my family	0.878			
To catch fish to eat	0.748			
To sell fish to supplement my livelihood	0.686			
Factor 3: Socialisation		3.4526	0.717	0.459
For family recreation	0.811			
To be with friends	0.808			
To be with people with similar interests	0.443			
Factor 4: Competition		3.3564	0.712	0.421
To participate in competitions	0.843			
To catch a 'trophy' fish	0.596			

To test my skills	0.472			

Factor scores for all the motives were calculated as the averages of all items contributing to a specific factor so that mean scores could be interpreted on the original 5-point Likert scale of measurement (1 = not at all important; 2 = slightly important; 3 = important; 4 = very important and 5 = extremely important) as a motivational factor for why fishing is important. As presented in the table (Table 4.10), according to the mean, *Relaxation and escape* (Factor 1) was the most important motive and yielded the highest mean value (3.99). The reliability coefficient was 0.867 and the average inter-item correlation was 0.452. This shows that for recreational angler's aspects such as fun and enjoyment, to get away from the regular routine, to experience adventure and excitement, the challenge of the sport, personal well-being, and lifestyle and to experience new and different things is very important. As discussed in section 4.5.1 this was also some of the most important motivational factors from other similar studies. *Socialisation* (Factor 3) had the second highest mean value of 3.45, a reliability coefficient of 0.712 and an average inter-item correlation of 0.459. *Competition* (Factor 4) was third with a mean value of 3.35, a reliability coefficient of 0.712 and an inter-item correlation of 0.421. *Livelihood* (Factor 2) received the lowest mean value (1.631). The reliability coefficient was 0.630 and the average inter-item correlations were 0.412.

It possibly indicates that the recreational activity, recreational fishing, is an important leisure time activity and not merely for livelihood (to provide for their families and to eat the fish) or for competition purposes. It can also indicate that the latest mantra in South African fishing circles, to "catch and release" (c.f. 2.2.1), really is a new trend in recreational fishing. Anglers do not merely catch the fish to eat it or sell it, but rather enjoy the activity as a relaxation or for fun and enjoyment. This is very important for certain fish species and to manage recreational fishing sustainably. It also correlates with the literature that recreational activities can directly be applied to the theory of planned behaviour (c.f. 2.3.2). This theory shows that participation in recreational activities requires an individual to invest time (free time or leisure time), effort (need to travel to a fishing destination) and energy (taking part in the fishing activity). As seen in Factor 1 (*Relaxation and escape*) the respondents do put effort into the activity (they need to get away from the regular routine and experience new and different things), energy (the challenge of the sport) and time (part of my lifestyle, and for my well-being). Determining the motivations for partaking in recreational angling is also important for the recreational fishing industry in order to improve the current status and can be applied in marketing strategies (c.f. 3.3). It will form an integral part in product development, improved marketing strategies, enhanced service delivery approaches and policy formulation.

Determining the motivation for partaking in recreational fishing will assist in determining why people travel for recreational fishing and why they travel to certain destinations.

4.7 FACTOR ANALYSIS: FISHING DISCIPLINE

The question regarding the different fishing disciplines is an important question because it shows that there is not just one way to do fishing. Different fishing disciplines may have different motivations for traveling to certain destinations. The behaviour of anglers in different fishing disciplines may be different. Motivation and behaviour is directly linked to spending behaviour and this is the reason why it is important to determine the different fishing disciplines and to determine whether or not respondents of the different fishing disciplines behave differently. It will provide stakeholders with the opportunity to focus on groups with a higher spending behaviour.

Respondents were asked in section B of the fishing disciplines to indicate on a 6-point Likert scale of measurement (1 = do not partake; 2 = not at all important; 3 = slightly important; 4 = important; 5 = very important and 6 = extremely important). The fishing disciplines were grouped in four main groups with different methods (Table 4.11)

Table 4.11 Fishing disciplines

Fishing discipline	Fishing method
Marine	• Rock and surf angling • Deep sea angling • Ski-boat • Jet-ski • Fishing ski • Charter boat • Spearfishing: Boat • Spearfishing: Shore
Estuary	• Estuary: Boat • Estuary: Shore
Freshwater angling	• Bank angling (Carp, barber, kurper, yellowfish, etc. in a dam or river) • Boat angling (Carp, barber, kurper, yellowfish, etc. in a dam or river)

Fly-fishing	• Bass angling • Tigerfishing
	• Trout • Yellow fish • Estuary • Sea

The extraction method used was the Principal Axis factoring and the Rotation Method used was the Oblimin with Kaiser Normalisation. The factor analysis (Pattern Matrix) identified five factors (Table 4.12) that were labelled according to similar characteristics. The five factors accounted for 71.68% of the total variance and are *Fly-fishing* (factor 1), *deep sea fishing* (factor 2), *estuary fishing* (factor 3), *fresh-water fishing* (factor 4) and *other* (factor 5).
The Kaiser-Meyer-Olkin measure was 0.792 for the factor analysis, which is acceptable. The Bartlett's test of sphericity was found to be significant (p = .000). Therefore, the data reduction by principal components would be legitimate for the factor analysis.

Commonalities are the proportion of variance of each item explained by the extracted factors. Once factors have been extracted, a better idea can be gained of how much variance is, in reality, common (Field, 2009:654). In this study all the factors range from 0.41 to 0.71 which means that sufficient variance explained in all items by the four factors extracted.

Relatively high factor loadings indicate a reasonably high correlation between the delineated factors and their individual items. Any item that cross-loaded on two factors with factor loadings greater than 0.3 were categorised in the factor where interpretability was regarded as being the best.

Factor scores for all the motivation factors were calculated as the averages of all items contributing to a specific actor so that mean scores could be interpreted on the original 6-point Likert scale of measurement (1 = do not partake; 2 = not at all important; 3 = slightly important; 4 = important, 5 = very important and 6 = extremely important) for different fishing disciplines. As presented in the table, according to the mean, *Estuary* (Factor 3) was the most important discipline and yielded the highest mean value (3.68). The reliability coefficient was 0.741 and the average inter-item correlation was 0.488. *Fresh-water fishing* (Factor 4) had the second highest mean value of 3.10, a reliability coefficient of 0.817 and an average inter-item correlation of 0.529. *Deep-sea fishing* (Factor 2) was third with a mean value of 3.09, a reliability coefficient of 0.728 and an inter-item

correlation of 0.457. The four factor was *fly-fishing* (Factor 1) with a mean value of 2.53, reliability coefficient of 0.894 and an inter-item correlation of 0.679. *Other* (Factor 5) received the lowest mean value (2.09). The reliability coefficient was 0.777 and the average inter-item correlations were 0.469.

Table 4.12 Factor analysis – Fishing discipline

Factor	Factor loading	Mean	Cronbach Alpha (Reliability coefficient)	Inter-item Correlation
Factor 1: Fly-fishing		2.5395	0.894	0.679
Trout	0.831			
Yellow fish	0.805			
Estuary	0.910			
Sea	0.898			
Factor 2: Deep sea fishing		3.0959	0.728	0.457
Deep sea angling	0.868			
Ski-boat	0.845			
Charter boat	0.412			
Factor 3: Estuary fishing		3.6791	0.741	0.488
Rock and surf angling	0.805			
Estuary: boat	0.626			
Estuary: shore	0.884			
Factor 4: Freshwater fishing		3.1024	0.817	0.529
Fresh Boat angling	0.835			
Fresh Bank angling	0.825			
Bass angling	0.815			
Tigerfishing	0.631			
Factor 5: Other		2.0980	0.777	0.469
Jet-ski	-0.570			
Fishing ski	-0.594			
Spearfishing: boat	-0.905			
Spearfishing: shore	-0.913			

The results for Factor 5 can be seen as insignificant.

4.8 PRACTICAL SIGNIFICANCE TEST FOR THE IMPORTANCE OF PARTAKING IN FISHING

An analysis of variance (ANOVA) was carried out to determine whether there are significant differences between the different fishing disciplines, the reason for fishing and spending based on the continuous questions in the questionnaire. Both the factor analysis and the ANOVA were executed for statistical purposes (factor analysis tables is in section 4.6 and 4.7). The reason for this is to determine if a specific fishing discipline with a specific motive spends differently than another. The questions used in the statistical analysis are the questions from section B, fishing discipline and section E, fishing motivation.

Ellis and Steyn (2003:51) explain that the effect size is independent of sample size, and is a measure of practical significance. The effect size can be understood as a large enough effect to be of importance in practice, and is explained for differences in means, the relationships in two-way frequency tables as well as multiple regressions (Table 4.13). The effect sizes are classified as follows:

0.2 – Indicates a small effect size, meaning there is a small to no practical significant difference

0.5 – Indicates a medium effect size, meaning that a medium practical significant difference exists

0.8 – Indicates a large effect size, indicating a large practical significant difference (Ellis & Steyn, 2003:52)

Table 4.13: Practical significance test

Factor	Discipline	N	Mean	Std. error	p-value
Factor 1: Relaxation and escape	Bass	125	4.18	0.09	
	Deepsea	99	3.96	0.11	
	Estuary boat	56	3.99	0.14	
	Estuary shore	35	4.05	0.18	
	Fishing ski	167	4.06	0.08	0.02
	Flyfishing	58	3.78	0.14	
	Freshwater bank	213	3.78	0.07	
	Freshwater boat	53	3.82	0.14	
	Marine shore	263	4.12	0.06	
	None	16	4.04	0.26	
	Spearfishing	9	4.24	0.35	
Factor 2: Livelihood	Bass	115	1.57	0.08	
	Deepsea	89	1.58	0.09	
	Estuary boat	48	1.70	0.12	
	Estuary shore	32	1.82	0.15	
	Fishing ski	147	1.69	0.07	0.136
	Flyfishing	48	1.46	0.12	
	Freshwater bank	201	1.59	0.06	

	Freshwater boat	49	1.44	0.12	
	Marine shore	236	1.64	0.05	
	None	15	1.98	0.21	
	Spearfishing	9	2.15	0.28	
Factor 3: Socialisation	Bass	121	3.42	0.1	
	Deepsea	94	3.48	0.11	
	Estuary boat	53	3.31	0.15	
	Estuary shore	33	3.55	0.19	
	Fishing ski	156	3.38	0.09	0.304
	Flyfishing	55	3.32	0.14	
	Freshwater bank	208	3.50	0.07	
	Freshwater boat	51	3.52	0.15	
	Marine shore	248	3.49	0.07	
	None	15	4.10	0.28	
	Spearfishing	9	2.89	0.36	
Factor 4: Competition	Bass	123	3.44	0.10	
	Deepsea	96	3.29	0.12	
	Estuary boat	54	3.34	0.16	
	Estuary shore	35	3.39	0.19	
	Fishing ski	162	3.36	0.09	0.759
	Flyfishing	54	3.35	0.16	
	Freshwater bank	208	3.28	0.08	
	Freshwater boat	52	3.18	0.16	
	Marine shore	250	3.46	0.07	
	None	15	3.30	0.29	
	Spearfishing	9	2.29	0.38	

From the above table (Table 4.14) there was a small effect size between the primary angling disciplines and Factor 1 (*relaxation and escape*), the effect size was smaller than 0.2 and that there is no practical significant difference. This indicates that Factor 1 (*Relaxation and escape*) is important for all the fishing disciplines. For Factor 2 (*livelihood*) a large effect size was indicated for fly-fishing (0.83) and freshwater boat (0.86). Spearfishing also showed a large effect size for *socialisation* or factor 3 with 1.13. Factor 1 (*Relaxation and escape*) statistically indicated with spearfishing, it had a higher count than fly-fishing, freshwater bank and freshwater boat. Bass also had a higher effect size than fly-fishing and freshwater bank, it shows that bass anglers prefer to fish for relaxation and escape. These respondents could be high spenders in these fishing disciplines because it is an important recreational activity for them. They need to spend time with family and to get away from the regular routine. Marketers and recreational fishing suppliers should focus on this aspect because it is such an important recreational factor. Spearfishing had a practical higher count for socialisation than fly-fishing and freshwater boat. Spearfishing also only had nine respondents, who could be

highly positive. This shows that fishing disciplines such as Bass prefer to fish for relaxation and escape.

4.9 PRACTICAL SIGNIFICANCE TEST FOR THE TOTAL SPENDING FOR THE DIFFERENT PRIMARY ANGLING DISCIPLINES

A comparison was made between the spending behaviour of the different fishing disciplines. Spending behaviour from section C, the information of the questionnaire was used and grouped into day trip expenditure, overnight expenditure, yearly and other annual fishing-related expenditure. An understanding of the spending of the respondents is important since it will influence the amount that the anglers will spend. The question was used in the statistical analysis to determine if the spending behaviour in day trips, overnight trips, yearly trips and spending on fishing related equipment are different. It is important because the purchase decision-making process for a day trip may be different from that of an overnight trip, respondents may put more effort and consideration into an overnight trip than into a day trip. Day trips may be impulsive decision, where as an overnight trip, anglers need to consider aspects such as accommodation. Determining this difference between the total spending would indicate to stakeholders the important areas of recreational fishing and where one will possibly find the high spenders.

A natural way to comment on practical significance is to use the standardised difference between the means of two populations, i.e. the difference between the two means divided by the estimate for standard deviation. We introduce a measure that is called the effect size, which not only makes the difference independent of units and sample size, but relates it also with the spread of the data (Steyn & Ellis, 2009).

z or t	Population SD's σ_1 and σ_2 not necessarily equal. Take $s_{\max}$ = maximum of s_1 and s_2, the sample SD's.	$d = \frac{\lvert \bar{x}_1 - \bar{x}_2 \rvert}{s_{\max}}$

The following guidelines were also provided for the interpretation of the effect size in the current case (Steyn & Ellis, 2009):

(a) small effect: d=0.2, (b) medium effect: d=0.5 and (c) large effect: d=0.8.

In many cases, it is important to know whether a relationship between two variables is practically significant, for example between gender and preference for or against a new medical scheme for workers. For random samples, the statistically significance of such relationships are determined with Chi-square tests, but actually one wants to know whether the relationship is large enough to be important.

In this case the effect size is given by where is the usual Chi-square statistic for the contingency table and n is the sample size (Steyn & Ellis, 2009). In the special case of a table, the effect size is given by the phi coefficient. Note that the effect size is again independent of sample size. The following guidelines are provided for the interpretation of it in the current case (Steyn & Ellis, 2009): (a) small effect: , (b) medium effect: , (c) large effect: .A relationship with is considered as practically significant.

Table 4.14: Manova

Factor	Type III Sum of Squares	Df	Mean Square	F	Sig.	Wilks' Lambda
						0.952
Total spending on a day trip	40671041644.82	9	4519004627.20	1.647	0.098	
Total spending on an overnight trip	82216845663.46	9	9135205073.71	1.052	0.396	
Total spending yearly	77765607.44	9	8640623.05	0.821	0.597	
Total spending on other	138972521463.90	9	15441391273.77	0.401	0.935	

The Wilks' Lambda value was 0.952 with a significance of 0.477. The total spending on a day trip had a small effect (0.098) on the different fishing disciplines. Spending on an overnight trip and yearly spending had a medium effect on the different fishing disciplines, 0.396 and 0.597 respectively. Spending on other fishing equipment had a large effect size on the different fishing disciplines with 0.935 effect size. The total spending on other fishing related expenditure include fishing equipment (rods, reels, GPS, echo-sounder), boat maintenance, boat seaworthy inspection and safety gear, insurance of all fishing-related equipment, mooring fees, fishing clothing and storage fees for boats and equipment. The higher effect size for this aspect can indicate that respondents spend a great deal on fishing equipment and that marketers and suppliers of recreational fishing services should focus on this area, as this can lead to a high economic impact. There was not a large difference in spending behaviour, $F(36, 2715) = 0.995$, $p < .0005$; Wilk's $\Lambda = 0.952$.

From the table one can see that spending does not have a statistically significant effect on the different primary fishing disciplines, spending on a day trip (F (9,727) = 1.647, p > .0005), spending on overnight trips (F (9, 727) = 1.052, p > .0005), spending on yearly trips (F (9,727) = 0.597, p > .0005) and spending on other fishing equipment (F (9,727) = 0.401, p > .0005).

The different fishing disciplines do not spend differently, this shows that one should focus on all the different fishing disciplines and not exclude a group. All of these groups can lead to a higher spending behaviour.

4.10 CHI-SQUARED TEST PERCENTAGE (CROSS TABULATION)

In order for the different stakeholders to realise the differences between the different fishing disciplines the Chi-squared tests were used to test the significance of the observed association in a cross-tabulation. It assists researchers in determining whether a systematic association exits between the variables. Questions used in the analysis were socio-demographic questions from Section A such as gender, age, income, qualifications, occupation language, province of residence as well as behavioural questions such as groups size, whether respondents prefer to fish alone or in groups, if respondents had a valid social or marine fishing permit.

For an association between two categorical variables to be statistically significant, the p-value must be less than 0.05 (Pallant, 2010:219). Cramer‘s V is a measure of the strength of this association, where values of 0.3 indicate a medium effect and values of 0.5 indicate a large effect. The effect of each element will determine the influence it exerts on each festival.

The p-value for gender indicates that there is a small difference in the gender of the different fishing disciplines. For all the different fishing disciplines the range for male was between 84.2% and 100%. The reason for this may be that recreational fishing is a physical activity with endurance and takes place in more rural settings which may not appeal to the female sex.

The p-value for language = <0.000 and Cramer’s V = 0.31 which shows a significant difference. More Afrikaans-speaking respondents took part in Freshwater bank (71.7%) angling. The reason for this might be that questionnaires were distributed at a popular fresh water angling competition (Bloemhof Bonanza) in the Free State, with predominant Afrikaans speaking respondents.

The p-value for education = <0.000 and Cramer's V = 0.22 which signifies a small difference for the different fishing disciplines. Most fishing disciplines indicated the level of education as diplomas or degrees, with the exception of Estuary boat (38.6%), Freshwater bank (46.6%) and None (61.1%) which only had matric as the highest level of education. The reason for this may be the fact that most respondents are occupied in a managerial profession and will need some form of post-school education.

Occupation had a p-value of <0.000 and Cramer's V = 0.16. Fly-fishing (24.2%) and spearfishing (22.2%), are mostly professionals, Bass (27.4%), estuary shore (27.0%), freshwater bank (18.4%) and spearfishing (22.2%) are mostly managers, deep-sea (42.0%), estuary boat (22.4%), fishing ski (39.5%), fly-fishing (24.2%), freshwater boat (23.6%), marine shore (18.6%) and none (56.3%) are mostly self-employed. Occupation is plays an underlying role in total expenditure of anglers. Occupation influences tourist spending, the higher the occupation level the higher the spending behaviour will be.

The p-value of income was <0.000 and Cramer's V = 0.17. The results form income, which is also a significant indicator in distinguishing low spenders from high spenders indicate that bass (26.3%), deep-sea (38.3%), fishing ski (28.6%), fly-fishing (25.0%) and freshwater boat (21.2%) earned an income of more than R670 001 annually. These groups are very important and can be seen as possible high spenders. These fishing disciplines may be high spenders because they may need expensive fishing equipment for these fishing disciplines such as boats.

The different fishing disciplines also indicated that they do not belong to a fishing club, with the exception of deep-sea (79.4%), fishing ski (72.6%), fly-fishing (62.9%) and spearfishing (66.7%), none of the fishing disciplines belonged to a social fishing club, the p-value for fishing clubs was <0.000 and Cramer's V = 0.39 and for social fishing clubs the p-value was <0.000 and Cramer's V was 0.22. The reason for this may be that respondents do not see the relevance of belonging to a fishing club, club fees may be too expensive and if they already own a valid fishing permit there is no importance in belonging to a club. For stakeholders this is an important aspect because belonging to a fishing club the recreational fishing stakeholders can keep track of the anglers and determine the sustainability of the recreational activity.

Respondents indicated that they do own a valid marine fishing permit (p-value <0.000 and Cramer's V=0.29) with the exception of none (62.5%). This is a positive sign for recreational fishing stakeholders, because with these fishing permits, the sustainable use of fishing resources can be ensured and it indicates that people want to make sure they are within the law when they are checked for marine fishing permits. Unfortunately, only two fishing disciplines, fly-fishing (51.1%) and freshwater bank (54.2) indicated that they own a valid freshwater fishing permit (p-value <0.134 and Cramer's V = 0.14). It is relevant for the study because it can indicate to the stakeholders that more policies and law enforcement is needed in freshwater areas to maintain sustainability for recreational fishing.

The p-value for fishing in groups was <0.000 and Cramer's V = 0.52. The respondents in the different fishing disciplines also indicated that they prefer to fish in groups, this links to the factor analysis done on the motives for partaking in recreational fishing, the second important factor was factor 2, *socialisation*, which includes spending time with family and friends and to be with people with similar interests. The larger the group, the higher the spending behaviour will be.

Freshwater bank (63.6%) and none (84.2%) were the only two fishing disciplines who did not take a daytrip in the last 12 months (p-value <0.000 and Cramer's V = 0.34). Freshwater bank (66.7%), freshwater boat (50.9%) and none (84.2%) did not take part in weekend trips in the last 12 months (p-value <0.000 and Cramer's V = 0.38). All other fishing disciplines did take daytrips and weekend trips in the last 12 months. This indicates that these groups may be the high spenders since they tend to travel more frequently for fishing trips.

The findings show that there is different profiles for the different fishing disciplines. Although certain comparisons are indicated, differences in occupation, income, province of residence are indicated. The table (Table 4.15) also show that recreational anglers do tend to travel a lot and that most of these anglers did take a trip in the last 12 months. This is important for the stakeholders since these anglers tend to spend money on these trips and it can be seen as an important economic impact.

Table 4.15: Combined chi-square for different fishing disciplines

Factor	Fishing discipline	Bass	Deepsea	Estuary boat	Estuary shore	Fishing ski	Fly-fishing	Freshwater bank	Freshwater boat	Marine shore	None	Spearfishing	P-value	Cramer's V	
Gender													<0.001	0.16	Small effect size
Male (1)		96.1%	94.1%	96.5%	97.2%	98.8%	100%	90.6%	92.6%	97.0%	84.2%	100%			
Female (2)		3.9%	5.9%	3.5%	2.8%	1.2%	0%	9.4%	7.4%	3.0%	15.8%	0%			
Language													<0.000	0.31	Medium effect size
Afrikaans (1)		28.8%	23.7%	29.3%	36.1%	26.2%	33.9%	71.7%	54.2%	37.4%	20.0%	0.0%			
English(2)		71.2%	76.3%	70.7%	63.9%	73.8%	66.1%	28.3%	45.8%	62.6%	80.0%	100%			
Level of education													<0.000	0.22	Medium effect size
No school (1)		2.4%	1.0%	1.8%	2.7%	1.8%	0.0%	2.7%	5.5%	4.2%	0.0%	0.0%			
Matric (2)		30.4%	29.7%	38.6%	24.3%	35.5%	24.2%	46.6%	23.6%	31.3%	61.1%	11.1%			
Diploma, degree (3)		48.8%	38.6%	36.8%	51.4%	44.0%	38.7%	32.4%	50.9%	45.3%	38.9%	44.4%			
Post-graduate (4)		8.0%	15.8%	12.3%	18.9%	8.4%	21.0%	5.5%	10.9%	12.8%	0.0%	33.3%			
Professional (5)		9.6%	13.9%	10.5%	2.7%	10.2%	16.1%	8.7%	7.3%	6.4%	0.0%	11.1%			
Other (6)		0.8%	1.0%	0.0%	0.0%	0.0%	0.0%	4.1%	1.8%	0.0%	0.0%	0.0%			
Occupation													<0.000	0.16	Small effect size
Professional (1)		12.9%	17.0%	15.5%	8.1%	12.0%	24.2%	12.4%	16.4%	12.9%	6.3%	22.2%			
Manager (2)		27.4%	21.0%	20.7%	27.0%	22.8%	12.9%	18.4%	20.0%	25.0%	6.3%	22.2%			
Administrative (3)		2.4%	1.0%	3.4%	5.4%	1.8%	1.6%	9.2%	0.0%	2.3%	6.3%	11.1%			
Technical (4)		12.9%	3.0%	8.6%	13.5%	9.0%	12.9%	16.1%	12.7%	12.9%	6.3%	0.0%			
Sales Personnel (5)		1.6%	3.0%	6.9%	2.7%	3.0%	1.6%	1.8%	3.6%	6.4%	0.0%	0.0%			
Farmer (6)		4.0%	3.0%	1.7%	0.0%	1.8%	6.5%	2.3%	1.8%	6.1%	0.0%	11.1%			
Mining (7)		3.2%	2.0%	3.4%	0.0%	0.6%	1.6%	8.8%	1.8%	1.1%	6.3%	0.0%			
Education (8)		3.2%	1.0%	5.2%	0.0%	0.0%	3.2%	1.4%	3.6%	3.4%	0.0%	0.0%			
Non-profit		0.8%	0.0%	0.0%	2.7%	0.0%	0.0%	1.8%	1.8%	0.4%	6.3%	0.0%			

worker (9)														
Self-employed (10)		23.4%	42.0%	22.4%	18.9%	39.5%	24.2%	17.5%	23.6%	18.6%	56.3%	11.1%			
Other (11)		8.1%	7.0%	12.1%	21.6%	6.6%	11.3%	10.1%	14.5%	11.0%	6.3%	22.2%			
Annual income													<0.000	0.17	
<R20000 (1)		6.8%	1.1%	11.3%	11.1%	0.6%	7.1%	7.1%	5.8%	9.7%	20.0%	0.0%			
R20001 – R140000 (2)		16.1%	3.2%	7.5%	16.7%	7.1%	3.6%	26.1%	13.5%	14.8%	6.7%	11.1%			
R140001 – R221000 (3)		12.7%	8.5%	9.4%	16.7%	15.6%	10.7%	14.7%	9.6%	17.1%	26.7%	11.1%			
R221001 – R305000 (4)		11.9%	13.8%	17.0%	11.1%	14.3%	21.4%	18.5%	7.7%	12.1%	6.7%	33.3%			
R305001 – R431000 (5)		9.3%	18.1%	20.8%	22.2%	18.2%	14.3%	14.7%	13.5%	19.1%	20.0%	11.1%			
R431001 – R552000 (6)		10.2%	6.4%	5.7%	11.1%	8.4%	10.7%	5.7%	15.4%	8.6%	0.0%	0.0%			
R552001 – R670000 (7)		6.6%	10.6%	9.4%	0.0%	7.1%	7.1%	4.7%	13.5%	4.7%	0.0%	11.1%			
R670 001> (8)		26.3%	38.3%	18.9%	11.1%	28.6%	25.0%	8.5%	21.2%	14.0%	20.0%	22.2%			
Fishing club													<0.000	0.39	Medium effect size
Yes (1)		44.8%	79.4%	37.9%	25.0%	72.6%	62.9%	25.3%	47.3%	43.0%	29.4%	66.7%			
(No 2)		55.2%	20.6%	62.1%	75.0%	27.4%	37.1%	74.7%	52.7%	57.0%	70.6%	33.3%			
Social fishing club													<0.000	0.22	Medium effect size
Yes (1)		39.8%	39.3%	24.1%	17.1%	34.4%	41.7%	16.4%	41.5%	21.9%	6.3%	22.2%			
No (2)		60.2%	60.7%	75.9%	82.9%	65.8%	58.3%	83.6%	58.5%	78.1%	93.8%	77.8			
Valid fishing permit: Marine													<0.000	0.29	Medium effect size
Yes (1)		77.0%	83.3%	88.9%	87.1%	88.5%	80.8%	56.7%	77.1%	84.1%	37.5%	100%			
No (2)		23.0%	16.7%	11.1%	12.9%	11.5%	19.2%	43.3%	22.9%	15.9%	62.5%	0.0%			
Valid fishing permit: Freshwater													0.134	0.14	Small effect size
Yes (1)		41.6%	44.4%	43.9%	36.0%	38.3%	51.1%	54.2%	36.6%	39.7%	41.2%	14.3%			

No (2)		58.4%	55.6%	56.1%	64.0%	61.7%	48.9%	45.8%	63.4%	60.3%	58.8%	85.7%			
Province of residence													<0.000	0.18	Small effect size
Western Cape (1)		23.4%	21.8%	24.1%	22.2%	24.4%	19.0%	6.3%	13.2%	28.1%	0.0%	22.2%			
Gauteng (2)		27.3%	17.8%	10.3%	22.2%	20.8%	31.7%	30.9%	35.8%	23.2%	42.1%	0.0%			
Eastern Cape (3)		14.1%	15.8%	20.7%	11.1%	12.5%	19.0%	7.2%	7.5%	11.6%	0.0%	11.1%			
North West (4)		1.6%	7.9%	6.9%	0.0%	2.4%	1.6%	16.1%	3.8%	1.5%	10.5%	0.0%			
Mpumalanga (5)		0.8%	3.0%	1.7%	2.8%	3.6%	1.6%	1.8%	7.5%	2.6%	5.3%	0.0%			
Northern Cape (6)		0.8%	1.0%	0.0%	0.0%	1.2%	1.6%	9.0%	1.9%	1.1%	21.1%	0.0%			
KwaZulu-Natal (7)		25.0%	28.7%	27.6%	38.9%	29.2%	20.6%	13.0%	20.8%	29.6%	10.5%	66.7%			
Limpopo (8)		5.5%	2.0%	1.7%	0.0%	3.0%	1.6%	0.9%	1.9%	0.4%	0.0%	0.0%			
Free State (9)		0.8%	1.0%	1.7%	2.8%	3.0%	1.6%	13.0%	3.8%	1.5%	10.5%	0.0%			
Other (10)		0.8%	1.0%	5.2%	0.0%	0.0%	1.6%	1.8%	3.8%	0.4%	0.0%	0.0%			
Prefer to fish in group													<0.000	0.52	Large effect size
No (0)		23.4%	14.9%	17.2%	13.5%	17.9%	20.6%	28.9%	27.3%	13.4%	26.3%	22.2%			
Yes (2)		76.6%	85.1%	82.8%	86.5%	82.1%	79.4%	71.1%	72.7%	86.6%	73.7%	77.8%			
Daytrip in last 12 months													<0.000	0.34	Medium effect size
No (0)		32.8%	33.7%	29.3%	27.0%	34.5%	27.0%	63.6%	49.1%	32.5%	84.2%	0.0%			
Yes (1)		67.2%	66.3%	70.7%	73.0%	65.5%	73.0%	36.4%	50.9%	67.5%	15.8%	100%			
Weekend trip in last 12 months													<0.000	0.38	Medium effect size
No (0)		38.3%	40.6%	37.9%	32.4%	41.7%	28.6%	66.7%	50.9%	39.2%	84.2%	44.4%			
Yes (2)		61.7%	59.4%	62.1%	67.6%	58.3%	71.4%	33.3%	49.1%	60.8%	15.8%	55.6%			

The following section will provide the findings and implications of the results of the study.

4.11 FINDINGS FROM THE CRITICAL ANALYSIS

The study revealed different findings. The following findings and implications were discovered:

- The socio-demographic profile of an angler will be discussed in this section. The respondents were mostly male (90%), the reason for this may be that recreational fishing is a physical and endurance activity. Fishing destinations are also in rural areas and may not appeal to the female sex. Respondents were between the ages of 40 to 49 years (30%), with an average age of 44.88 years, this is in relation with the fact that most respondents are in some form of occupation (managers, 21% and self-employed, 21%) and already have a diploma or degree (38%). Respondents were mostly English speaking (50%). Respondents are mostly from Gauteng (26%) and earn between R140 001 and R221 000 annually (26%).
- Females tend to participate less in recreational fishing which can create a new market opportunity for recreational fishing.
- Anglers do not belong to an angling club (60%) but 56% of anglers do belong to a social fishing club. Anglers belong to either one or the other.
- The three preferred fishing species are carp (13%), barber (9%) and bass (8%).
- Anglers were introduced to angling at a very young age, aged between 0 and 10 (84%). Most respondents (76%) were introduced to fishing by family.
- Eighty percent (80%) of anglers prefer to fish in groups with an average group size of 4.45 people. Respondents were mostly financially responsible for one person (37%).
- Anglers fished between 21 and 30 days (21%) and on average 48 days of fishing.
- In the last twelve months 38% of respondents undertook day trips, 32% went on weekend trips and 30% fished for longer than a weekend. Trips longer than a weekend was an average of six days.
- On average, anglers spend R29 947.79 on day trips (highest spending areas were terminal fishing tackle, transportation and accommodation) and R28 810.26 on overnight trips (highest spending areas were transportation, accommodation and boat fuel and oil).
- Spending on annual recreational fishing fees was an average of R1 587.31 and included permit fees, membership fees and affiliation fees. Spending on other annual fishing-related aspects averaged at R29 949.25 with fishing equipment as the highest aspect.

- The top five motives for fishing included for the **fun and enjoyment**, for **relaxation**, to get **away from regular routine**, the **challenge of the sport** and to **experience adventure** and excitement.
- Determining the motives for taking part in recreational fishing is important since motivation has a direct implication on the spending behaviour of a tourist. A factor analysis was completed in regards with the motives for partaking in recreational fishing. The factor analysis revealed four factors: Relaxation and escape (factor 1), livelihood (factor 2), socialisation (factor 3) and competition (factor 4). Determining the motivations for partaking in recreational angling is also important for the recreational fishing industry in order to improve the current status and can be applied in marketing strategies. It will form an integral part in product development, improved marketing strategies, enhanced service delivery approaches and policy formulation. Determining the motivation for partaking in recreational fishing will assist in determining why people travel for recreational fishing and why they travel to certain destinations.
- The critical analysis reveals thereof the following fishing disciplines: bass, fly-fishing, freshwater bank, freshwater boat, deep-sea, estuary boat, estuary shore, fishing ski, marine shore, spearfishing and none. The reason for this is for the practical significance test which needs ten or more respondents per group.
- The question regarding the different fishing disciplines is an important question because it shows that there is not just one way to do fishing. Different fishing disciplines may have different motives for traveling to certain destinations. The behaviour of anglers in different fishing disciplines may be different. Motivation and behaviour is directly linked to spending behaviour and this is the reason why it is important to determine the different fishing disciplines and to determine whether or not respondents of the different fishing disciplines behave differently. It will provide stakeholders with the opportunity to focus on groups with a higher spending behaviour. The critical analysis revealed five factors that were labelled according to similar characteristics. The five factors accounted for 71.68% of the total variance and are *Fly-fishing* (factor 1), *deep sea fishing* (factor 2), *estuary fishing* (factor 3), *fresh-water fishing* (factor 4) and *other* (factor 5).
- An analysis of variance (ANOVA) was carried out to determine whether there are significant differences between the different fishing disciplines, the reason for fishing and spending based on the continuous questions in the questionnaire. Both the factor analysis and the ANOVA were executed for statistical purposes. The reason for this is to determine if a specific fishing discipline with a specific motive spends differently than another. The questions used in the

statistical analysis are the questions from section B, fishing discipline and section E, fishing motivation. There was a small effect size between the primary angling disciplines and factor 1 (R*elaxation and escape*), the effect size was smaller than 0.2 and that there is no practical significant difference. This indicates that Factor 1 (*Relaxation and escape*) is important for all the fishing disciplines. For factor 2 (*livelihood*) a large effect size was indicated for fly-fishing (0.83) and freshwater boat (0.86). Spearfishing also showed a large effect size for *socialisation* or factor 3 with 1.13. Factor 1, (*Relaxation and escape*) statistically indicated with spearfishing, it had a higher count than fly-fishing, freshwater bank and freshwater boat. Bass also had a higher effect size than fly-fishing and freshwater bank, it shows that bass anglers prefer to fish for relaxation and escape. These respondents could be high spenders in these fishing disciplines because it is an important recreational activity for them. They need to spend time with family and to get away from the regular routine. Marketers and recreational fishing suppliers should focus on this aspect because it is such an important recreational factor. Spearfishing had a practical higher count for socialisation than fly-fishing and freshwater boat. Spearfishing also only had nine respondents, who could be highly positive. This shows that fishing disciplines such as Bass prefer to fish for relaxation and escape.

- A very important comparison was made between the spending behaviour of the different fishing disciplines. An understanding of the spending of the respondents is important since it will influence the amount that the anglers will spend. The question was used in the statistical analysis to determine if the spending behaviour in day trips, overnight trips, yearly trips and spending on fishing related equipment are different. It is important because the purchase decision making process for a day trip may be different from that of an overnight trip, respondents may put more effort and consideration into an overnight trip than into a day trip. Day trips may be impulsive decision, where as an overnight trip, anglers need to consider aspects such as accommodation. Determining the difference between the total spending would indicate to stakeholders the important areas of recreational fishing and where one will possibly find the high spenders. The spending does not have a statistically significant effect on the different primary fishing disciplines, spending on a day trip ($F(9,727) = 1.647$, $p > .0005$), spending on overnight trips ($F(9, 727) = 1.052$, $p > .0005$), spending on yearly trips ($F(9,727) = 0.597$, $p > .0005$) and spending on other fishing equipment ($F(9,727) = 0.401$, $p > .0005$). The different fishing disciplines do not spend differently, this shows that one should focus on all the

different fishing disciplines and not exclude a group. All of these groups can lead to a higher spending behaviour, especially when purchasing equipment for fishing.

- In order for the different stakeholders to realise the differences between the different fishing disciplines the Chi-squared tests were used to test the significance of the observed association in a cross-tabulation. It assists researchers in determining whether a systematic association exits between the variables. Questions used in the analysis were socio-demographic questions from Section A such as gender, age, income, qualifications, occupation language, province of residence as well as behavioural questions such as groups size, whether respondents prefer to fish alone or in groups, if respondents had a valid social or marine fishing permit.
- For all the different fishing disciplines the range for male was between 84.2% and 100%. The reason for this may be that recreational fishing is a physical activity with endurance and takes place in more rural settings which may not appeal to the female sex.
- More Afrikaans-speaking respondents took part in Freshwater bank (71.7%) angling. The reason for this might be that questionnaires were distributed at a popular fresh water angling competition (Bloemhof Bonanza) in the Free State, with predominant Afrikaans speaking respondents.
- Most fishing disciplines indicated the level of education as diplomas or degrees. The reason for this may be the fact that most respondents are occupied in a managerial profession and will need some form of post-school education.
- Fly-fishing and spearfishing, are mostly professionals, Bass, estuary shore, freshwater bank and spearfishing are mostly managers. Occupation plays an underlying role in total expenditure of anglers. Occupation influences tourist spending, the higher the occupation level the higher the spending behaviour will be.
- The results from income, which is also a significant indicator in distinguishing low spenders from high spenders indicate that bass deep-sea, fishing ski, fly-fishing and freshwater boat earned an income of more than R670 001 annually. These groups are very important and can be seen as possible high spenders. These fishing disciplines may be high spenders because they may need expensive fishing equipment for these fishing disciplines such as boats.
- The different fishing disciplines also indicated that they do not belong to a fishing club, none of the fishing disciplines belonged to a social fishing club. The reason for this may be that respondents do not see the relevance of belonging to a fishing club, club fees may be too expensive and if they already own a valid fishing permit there is no importance in belonging to a

club. For stakeholders this is an important aspect because belonging to a fishing club the recreational fishing stakeholders can keep track of the anglers and determine the sustainability of the recreational activity.

- Respondents indicated that they do own a valid marine fishing permit. This is a positive sign for recreational fishing stakeholders, because with these fishing permits one can ensure the sustainable use of fishing resources and it indicates that people want to make sure they are within the law when they are checker for marine fishing permits.
- Unfortunately, only two fishing disciplines, fly-fishing (51.1%) and freshwater bank (54.2) indicated that they own a valid freshwater fishing permit. It is relevant for the study because it can indicate to the stakeholders that more policies and law enforcement is needed in freshwater areas to maintain sustainability for recreational fishing. Although not all provinces require anglers to have a freshwater fishing permit, it can strongly be advised for the sustainability of recreational fishing.
- The respondents in the different fishing disciplines also indicated that they prefer to fish in groups. This links to the factor analysis done on the motives for partaking in recreational fishing, the second important factor was factor 2, socialisation, which includes spending time with family and friends and to be with people with similar interests. The larger the group, the higher the spending behaviour will be.
- Freshwater bank (63.6%) were the only fishing discipline who did not take a daytrip in the last 12 months. Freshwater bank (66.7%), freshwater boat (50.9%) and none (84.2%) did not take part in weekend trips in the last 12 months.
- All other fishing disciplines did take daytrips and weekend trips in the last 12 months. This indicates that these groups may be the high spenders since they tend to travel more frequently for fishing trips. The findings show that there are different profiles for the different fishing disciplines. Although certain comparisons are indicated, differences in occupation, income, province of residence are indicated. The table also shows that recreational anglers do tend to travel a lot and that most of these anglers did take a trip in the last 12 months. This is important for the stakeholders since these anglers tend to spend money on these trips and it can be seen as an important economic impact.
- The findings also show that the socio-demographic determinants have less of an influence on the spending behaviour of recreational fishing than that of behavioural determinants. More focus should be given to the behavioural determinants.

4.12 CONCLUSION

The purpose of this Chapter was firstly to profile the respondents of the recreational fishing survey. Secondly, to do a factor analysis for the motives for partaking in recreational fishing and a factor analysis for the different fishing disciplines. Thirdly, the chapter focused on a practical significance test (ANOVA) to test the importance of partaking in fishing as well as a practical significance test for the total spending for the different primary angling disciplines. Fourthly, the chapter focused on a chi-squared test to test the significant difference between the fishing disciplines. The chapter also explained the methodology applied in the study as well as the statistical analyses.

The chapter indicated that recreational anglers were mostly male with an average age of 44.88 years. The preferred language was English and the level of education was either a diploma or degree. Most of the respondents were self-employed or a managerial positions and lived in Gauteng. Respondents earned an average income between R140 001 – R221 000. Respondents indicated that they prefer to travel in groups with an average group size of 4.45 people. They fished on average 48.1 days in a 12-month cycle.

A factor analyses was conducted on the motives for partaking in recreational fishing identified four factors namely relaxation and escape, livelihood, socialisation and completion. The factor analyses for the different fishing disciplines identified five factors and include: fly-fishing, deep-sea fishing, estuary, fresh-water fishing and other.

Based on the different fishing disciplines and motives for partaking in fishing the ANOVA on the spending behaviour of respondents, there was no significant difference between the disciplines in relation to spending behaviour. Total spending on other factors of recreational fishing did show a higher effect size differences for all the fishing disciplines. This can indicate that recreational anglers tend to spend much more on the fishing equipment than on other aspects of the trip.

The Chi-squared tests showed statistically significant differences between the different fishing disciplines. The results indicated that the segments differed based on their occupation, province of residence, income, valid fishing permits and membership at fishing clubs. More behavioural differences are indicated than that of the socio-demographic determinants.

In the following chapter, the main conclusions of the research are described with the implications and recommendations based on the research results. These conclusions and recommendations could assist the stakeholders in recreational fishing to increase the spending in the future.

5 CHAPTER

CONCLUSIONS AND RECOMMENDATIONS

5.1 INTRODUCTION

The goal of this study is to determine the spending behaviour of recreational fishing in South Africa, and this was done by doing a critical analysis of the behaviour and profile of anglers. The importance of the study is to show the necessary stakeholders where and how to improve recreational fishing in order to increase the importance of recreational fishing as well as to keep it sustainable. Little empirical investigations were completed to determine the effect of recreational fishing in South Africa on the economy. Before one can determine the impact of a tourism or recreational activity, such as recreational fishing, it is of the upmost importance to determine how these respondents spend their money; this is influenced by socio-demographics and geographical factors, tourist motivation and tourist behaviour.

Empirically little is known about the spending behaviour of recreational fishing in South Africa, which necessitated this investigation. During the study, different methods and techniques were engaged in order to evaluate the determinants of the spending behaviour. The objectives of the study were outlined in Chapter 1, and successively these objectives were addressed in the chapters as indicated below.

The first objective was to complete an analysis of existing literature regarding recreational fishing and fishing tourism and this was met in Chapter 2. The main aspects covered were: firstly, the relationship between leisure, recreation and tourism; secondly, the history of recreation as well as an overview of recreational fishing and fishing tourism; thirdly, different theories of recreation were discussed, including the theory of planned behaviour; fourthly, the types of recreational activities

and how recreational fishing fits in; fifthly, different fishing methods or disciplines and the techniques, and lastly, the recreational fishing stakeholders.

Objective two was to complete an analysis of the spending behaviour of recreational anglers through different theories and motivational factors. In Chapter 3, this specific objective was met. Firstly, tourist behaviour was discussed. Secondly, the different models of tourist behaviour, including theories and models of consumer behaviour were analysed. Thirdly, the tourist spending behaviour was discussed as well as the different motivational factors for spending. Fourthly, the relevance of recreational fishing and the South African economy was determined and lastly, the angler's value chain, which contributes to the economy. The third objective was to investigate the socio-demographic, behavioural and motivational determinants of the spending behaviour of recreational fishing; these empirical results are seen in Chapter 4. The final objective is to draw conclusions and make recommendations and indicate the implications of this research. This chapter will conclude the findings of the research and use the research results from Chapter 4 to make recommendations concerning future recreational fishing research.

The aim of this chapter is to draw conclusions and make recommendations as well as to identify aspects for future research. The chapter will start with a personal journey of the researcher and will follow with the contributions of the study as well as the conclusions of each chapter separately. Finally, recommendations and future research will be addressed.

5.2 PERSONAL JOURNEY

Completing a PhD study feels like you will never be done with the work. Literally. It never ends. Completing such a study takes time, patience, dedication, a lot of hours and a very supportive network. My husband pushed me in the direction of completing my PhD. My decision to take on this journey was an easy decision (little did I know I would be pregnant four months after I made this decision, and what is more challenging than a pregnancy and new born baby?), choosing a topic was a different story. I decided on the following aspects before deciding on a topic: it should not be something I have done during my Honours degree or my Master degree, it should be something that would take me out of my comfort zone and it must be something new and different.

Determining the spending behaviour of recreational fishing was exactly all of the above mentioned. My honours degree and Master degree both focused on the social impacts of festivals. I have never fished or angled before, so the lingo was new to me. Every little aspect of realising the broad concept of recreational fishing was a challenge. I learned and experienced something new about fishing around every corner. Who knew there were different types of fishing rods such as boat rods, casting rods, offshore rods, spinning rods, telescope rods and trolling rods? And that you could easily pay R4000 just for a rod, with no extras, no reels, no line or lures? The brands providing these products are so extensive and there are many to choose from. I think buying fishing equipment and accessories are for an angler the equivalent of a shopping spree in a mall for any shopaholic. The topic was also new and different since little studies, if any, in South Africa focus on the spending behaviour of recreational fishing.

Obtaining secondary sources is not always an easy task and may feel daunting at certain times of the study. One needs to make sure that data is lucid and appropriate and this is not always an easy task when most studies are international studies. It took some time converting spending and economic impacts of these international studies in useable Rand-value, for putting things into perspective. The number of secondary resources needed to complete a study adds up and it takes time to analyse the literature of these studies in order for the resources to be of assistance when explaining or using it as a contribution in a holistic analyses of the study.

Analysing the data from the questionnaires is also a very time consuming part of the study. It takes time to insert the data in to Excel®, coding the data and then sending it to a statistical analyser to convert the data into useable, unbiased results. The results are also, at times, difficult to interpret in order to make appropriate recommendations. Ensuring that these recommendations are useful for the stakeholders such as service providers or the government agencies takes time and skills. A researcher should always have the main goal of the study in mind and ensure that this is clear in every single aspect of the study. It is important to have a supportive promoter who provides guidance and very important recommendations. Always listen to your promoter and take some suggestions to heart.

The trials and challenges faced when writing a thesis is tireless and challenging of any individual, so more when pregnant and having a newborn baby in the house. After the completion of this study, I

want to show my children (and anyone that needs a little inspiration) that when the road gets though, you can still conquer anything through dedication and passion.

5.3 THE CONTRIBUTION OF THIS THESIS

The study makes apparent contributions; these contributions are primarily orientated towards closing the gaps in the literature or the available data of the spending behaviour of recreational fishing in South Africa. Although many studies can be found that focus on spending behaviour in South Africa, none of these studies focused on recreational fishing. Studies already completed included topics such as hunting, biltong hunting, festivals, visiting National Parks and spending behaviour of scuba-divers. This study focused on the spending behaviour of recreational fishing and what the motives for spending are for different fishing disciplines. The following contributions are made pertaining to the literature, practical and methodological perspectives.

5.3.1 Contribution to literature of the field of study

- This research contributed to the lack of understanding of recreational fishing and the spending behaviour of recreational fishing in South Africa, due to the limited research from a South African perspective. To address this gap, fishing as a recreational and tourism activity was assessed. The data indicated that recreational fishing includes a very diverse group of fishing disciplines (bass, fly-fishing, freshwater bank, freshwater boat, deep-sea, estuary boat, estuary shore, fishing ski, marine shore, spearfishing) and this is an example of the necessity of tourism research for each of these fishing disciplines. Information about the different fishing disciplines has been provided in order for the reader to realise how extensive the recreational fishing market is. The different fishing disciplines were analysed in the spending behaviour of recreational fishing and showed that all disciplines played a pivotal part in the continuous sustainability of recreational fishing. The top five motives for fishing included for the fun and enjoyment, for relaxation, to get away from regular routine, the challenge of the sport and to experience adventure and excitement. Money is mostly spend on fishing related aspects, and most money is spend on fishing equipment, accommodation and transport.

- The study also contributes to the existing body of knowledge of spending behaviour, and again indicates the importance of assessing the determinants of spending behaviour. It showed that motivational factors do influence the decisions of tourists and that one needs

to do extensive research in determining the reasons for tourist taking part in tourism activities such as recreational fishing. Determining the motives of fishing tourists is an aspect that can be used in influencing these fishing tourists to be high spenders in certain areas of recreational fishing such as spending more on fishing equipment, or purchasing fishing discipline related packages. This study also indicates that existing models, such as the value-chain analysis or the spending model can be a useful guideline in determining the areas of the spending of recreational fishing.

5.3.2 Methodological contribution to recreational fishing

The methodology employed in this study is unique in terms of the following:

- The study makes a significant contribution in terms of the measuring instrument used to measure the spending behaviour of recreational fishing. Since no questionnaire regarding recreational fishing in South Africa could be found, a new questionnaire had to be developed. Questionnaire items were derived from international literature and some items were self-generated by the researcher. The questionnaire items were tested and the reliability and validity of the items were confirmed. The questionnaire can furthermore be used, adapted and developed for further studies regarding recreational fishing in South Africa.
- Another important contribution of the measuring instrument is that it not only measured the spending behaviour of recreational fishing. Aspects such as different fishing disciplines were identified. The questionnaire also determined types of species regularly caught which in turn can contribute to determining the sustainability and natural resource considerations when determining the impact on fish species. The instrument also measured favourite fishing destinations, which in turn can be used to determine area specific impacts of recreational fishing.
- The measuring instrument also contributed to the evaluation of the spending behaviour of recreational fishing in South Africa in terms of the different fishing disciplines. No other studies were found to have compared these aspects with the facets of the fishing disciplines. It became evident that the fishing disciplines have an impact on the spending behaviour of recreational fishing. Understanding how these aspects influence anglers can assist stakeholders to market recreational fishing offerings more effectively.

5.3.3 Practical contribution to recreational fishing

- The identified determinants that influence recreational fishing contribute to a greater understanding of the motivational factors and the different fishing disciplines and how this

will influence the spending behaviour and sustainability of recreational fishing in South Africa.

- New source markets (the different fishing disciplines) are identified. This indicates that recreational fishing stakeholders can capitalise on the potential of developing products and services aimed specifically for each of these markets. Fishing destination management organisations within South Africa can utilise this information in attracting a greater number of fishing tourists by means of purposeful marketing campaigns, which are fishing discipline appropriate as well as considering the motivational factors for taking part in recreational fishing. The identified motives for taking part in recreational fishing (relaxation and escape) can assist the stakeholders in creating packages for fishing tourists. When the angler sees it is a hassle free, all-inclusive package they will consider to spend money on such a package because they take part in recreational fishing to get away from normal routine or to just relax.
- Policy development and enforcement of these policies and legislation is strongly suggested. The study contributes to policy formulation or legislation formulation in terms of how the natural resources of recreational fishing should be managed. The study indicates that not many recreational anglers own a fishing permit; this shows government stakeholders that laws in terms of fishing permits should be a priority. Although this is not relevant for all provinces in terms of fresh water fishing, it is suggested to consider policies for these areas as well.
- The study also indicated which fish species are more popular for recreational fishing. This provides an indication to the relevant stakeholders which species should be monitored to ensure that these species are not over exploited. It will ensure the sustainable use of natural resources and the future of recreational fishing and the future of the fish species. These findings not only generate strategic insight into the marketing of recreational fishing, but also propose that knowledge of spending determinants revealed in this study can lead to a greater economic impact and competitive advantage. By applying the determinants that influence the spending of the different fishing disciplines, stakeholders can be assured of the expansion of recreational fishing or fishing tourism. A factor that plays a role in the total spending is the number of days that they take for a fishing trip, the longer the fishing trip the more money they will spend. Stakeholders can consider creating fishing tourism packages which includes accommodation, charter boats, fishing equipment (if the tourists do not own their own) and food in order to attract more fishing tourists and to create the opportunity for them to spend more.

- The information gained from this study will assist the stakeholders of recreational fishing with the current trends and needs of recreational anglers. This includes the motives for partaking in recreational angling and those fishing disciplines and spending behaviour that would attract greater spending. South Africa needs to realise the benefits that will be gained from recreational fishing as shown in internationally related articles. These benefits are not just economic of nature but will also enhance the sustainable use of recreational fishing and fishing tourism. It will also enhance competition between suppliers of recreational fishing products and services and therefore a closer look need to be taken at the marketing and profiling of recreational anglers to attract these anglers and increase spending behaviour.
- Furthermore, no studies were found in South Africa that determined how many respondents are part of fishing clubs and social fishing clubs and how many respondents own a valid fishing permit, this in turn can support and recommend legislation for recreational fishing.

5.4 CONCLUSIONS

The conclusions are made with regard to each objective as outlined in Chapter 1. A total of four objectives were formulated for this study and each was addressed in a specific chapter. The conclusions of the research are structured as follows:

- Firstly, conclusions will be drawn regarding the literature analysis regarding recreational fishing and fishing tourism (Chapter 2).
- Secondly, conclusions will be drawn regarding the literature analysis of the spending behaviour of recreational anglers through different theories and motivational factors (Chapter 3).
- Thirdly, conclusions will be drawn from the empirical research (Chapter 4).

5.4.1 Conclusion regarding an analysis of existing literature regarding recreational fishing and fishing tourism (Objective 1 – Chapter 2)

The first objective aimed to analyse existing literature regarding recreational fishing and fishing tourism in order to provide a clear understanding of why recreational fishing can be viewed as a tourism activity. This objective was addressed in Chapter 2.

The following conclusions can be drawn regarding recreational fishing and fishing tourism:

Tourism, leisure and recreation overlap, because all of these aspects are a quantity of free time. A person can participate in leisure activities in free time, in other words a person can participate in a recreational activity (such as recreational fishing) or a person can, as a fishing tourist, travel from fishing destinations to fishing destinations and participate in the recreational activity. Recreation can be seen as a leisure activity as well as a tourism activity, and this is why the study focused on recreational fishing as a tourism activity. Not all fishing is part of tourism, but recreational fishing include defining elements of tourism such as traveling to and from fishing destinations, the presence of tourism service industry (such as accommodation), to exchange money for services (buying food at restaurants), overnight stays at destinations (anglers do stay on average six days during a recreational fishing trip (c.f.4.4.5)), it is a service industry, and it is part of leisure and recreation.

Fishing tourism can be defined as travelling with the primary reason to participate in angling or fishing and activities or events and is also defined as recreational fishing conducted by anglers who may sometimes travel considerable distances from one's home and/or own fishing areas, and sometimes abroad, in order to visit other areas to fish. The tourist may be accustomed with the destination and be familiar with the species to fish. There is a gradient in the degree to which travelling fishers may have socio-cultural links to a fishing destination. The more exotic and unfamiliar a fishing destination is, the greater the socio-cultural barriers can be. In addition, motivations for fishing by such tourists may place greater emphasis on adventure and souvenirs (e.g. trophies) than is the case for fishers with closer links to the area in which they angle. This can motivate the payment of significant sums of money to intermediaries ("fishing tour operators") that organise and facilitate their fishing experiences (c.f. 1.7.6).

At first, activities such as hunting and fishing formed an integral part of a person's life in order to survive and provide for families. As tools were created to assist people during hunting and fishing, these work activities became easier and there was more free time for playlike activities. Recreational activities date as far back as Ancient Greece (1200 – 500 B.C) up to modern living and free time when it became a legal right to have holidays. It was essential for children to play in order for them to grow up healthy, for physical development as well as social development. The Romans were one of the cultures that saw leisure as a time to take a break from work. The Catholic Church took leisure a step further and emphasised that recreation should provide a specific benefit by easing and helping a person to recover after being drained from work. Over time, fishing became a leisure activity and not an activity purely for survival and fishing tourism was born (c.f. 2.2). The history of fishing tourism is related to the history of tourism (c.f. 2.2.1). Fishing tourism consists of two groups:

special-interest fishing tourism (a fishing tourist who purchases a trip which may include accommodation, charter boats, guides, etc. or an arrangement focusing only on fishing) and tourists who combine fishing with other recreational activities (these activities may include snorkelling, surfing, visiting a museum or water parks). Considering the fishing tourism industry in the study of recreational fishing is an important aspect for the stakeholders when focusing on high spenders and how and why they do spend money (c.f. 2.2.1).

There is no logical or specific category for recreational theories of fishing. Theories include elements such as need-serving, satisfying experiences, value to the community and the association with an activity. The main recreational theories include the surplus-energy theory, recreation theory, catharsis theory and self-expression theory. These theories indicate that recreation is for self-satisfaction from participating successfully in an activity. The person experiences it as an emotional condition because one achieves something, are exhilarated, being accepted, gaining success, for personal worth and for pleasure and enjoyment (c.f. 2.4). The theory of planned behaviour can be applied to recreational activities; performance of an activity such as fishing can serve as the criterion to be accounted for by reliance on the model's theoretical constructs. The more positive attitude an individual hold for a recreational activity, the higher the societal pressure placed on it. Intentions to perform an activity such as fishing can be predicted from attitudes, subjective norms, and perceived behavioural control with respect to the activity and the performance of the behaviour can be predicted from intentions and perceptions of behavioural control (c.f. 2.3.2).

Recreational activities are grouped in different forms and settings such as urban recreation, wildlife recreation, coastal or marine recreation and commercial recreation. Marine tourism forms part of coastal or marine recreation and includes recreational activities such as fishing, scuba diving, sunbathing, snorkelling and sunbathing. Commercial recreation is divided into businesses that cater for local residents, such as country clubs, driving ranges and tennis clubs, as well as businesses which focus on tourists and excursionists such as resorts, lodges and hotels. Urban recreation can be seen as activities that motivate people to move away from rural areas to the city. It includes specialised activities and events, for example a concert from an international music star. Wildlife recreation and outdoor recreation includes not only activities in a natural surrounding it can also take place on city sidewalks, playgrounds and backyards. Activities such as camping, hiking, canoeing, rafting, fishing and rock climbing are all forms of outdoor and wildlife recreation. Recreational fishing can be

classified as coastal or marine recreation and wildlife or outdoor recreation (c.f. 2.4). Recreational activities can also be active (the participant does the activity, for instance a physical activity that use the natural physical environment such as recreational fishing) or passive (the participant watch others involved in the activity for example the recreational anglers' family travels along on the fishing trip but does not take part in recreational fishing) (c.f. 2.4).

Recreational fishing is a social activity, attracting respondents from the entire South Africa. Traditionally the recreational fishing industry included multitude recreational anglers who mainly used domestically acquired fishing skills, techniques and products locally developed. Over the past years fishing magazines, television reality programmes and outdoor exhibitions portrayed a new face of fishing were completion increased, more international exposure is visible, new products and techniques are available and anglers are able to gain access to learning material from professional competitive anglers (c.f. 2.5). For almost every fish species there are different types of fishing techniques and different types of fishing equipment (such as lures, rods, lines, sinkers, etc.). Some of the techniques used all over the world include bottom fishing, trolling, fly-fishing, jigging, casting or spinning. Recreational fishing can also be categorised according to the location and tools used for the activity, the four basic groupings are *pêche à pied,* shore-based, boat-based and underwater fishing with a multiple of further sub divisions. The study grouped recreational fishing into several fishing disciplines according to marine fishing (rock and surf angling, deep sea angling, ski-boat, jet-ski, fishing ski, charter boat, spearfishing: boat, spearfishing: shore), estuary fishing (estuary: boat, estuary: shore), freshwater fishing (bank angling, boat angling, bass angling and tiger-fishing) and fly-fishing (c.f. 2.5.1). These fishing disciplines can be seen in the questionnaire and respondents were able to indicate the most preferred fishing discipline.

The behaviour of organisations in the recreation, leisure and the tourism sector are important for policy creation, management of activities such as recreational activities, providing services and products for recreational fishing and ensuring the sustainable use of the natural resources. These organisations can be grouped into public-sector organisations, such as national tourism organisations, South African Tourism, and the main function is to market South Africa as a tourist destination internationally and domestically, they can make tourists aware of the offerings of recreational fishing. Provincial tourism organisations for example The Western Cape's Department of Economic Development and Tourism, who is responsible for marketing and promoting unique selling

points of an area as a tourism destination. The Department must ensure to market the unique recreational fishing destinations that they are able to provide. Regional tourism organisations, such as the Highlands Meander in Mpumalanga should ensure to promote Dullstroom as a favourable fly-fishing destination in that area, businesses in Dullstroom will need to pay a fee to join the regional tourism organisation for the organisations to market and promote their offerings. Local tourist organisations such as tourist information centres must provide up to date information about accommodation, events, attractions, activities (such as recreational fishing) and transport. Private sector organisations include profit-making (tourism services such as accommodation, tour operators providing charter boat services or recreational fishing packages) and non-profit making organisations (such as social clubs for recreational fishing) (c.f. 2.6). The main public sector recreational fishing stakeholders include the DWAF who need to formulate and implement policies governing the water resources of South Africa. Since recreational fishing takes part in water resources it is important for this department to ensure the sustainable use of these water resources. DEA, whose main responsibility is to ensure to protect, conserve and enhance our environment, natural heritages assets and resources. They need to liaise with DWAF and DAFF to ensure the management of overfishing, water pollution and habitat and community modification, providing policies and legislation for the sustainable use of the water resources. SRSA, need to ensure that there are organised fishing bodies in South Africa. NDT will develop the potential of sport and recreational fishing and the accompanying tourism are substantial with indirect and induced economic effects also potentially significant in terms of jobs, wages and supplying industries. The district and local municipalities have a shared responsibility over natural resources relevant to fishing in conjunction with the provincial departments (c.f. 2.6.2). The main private sector recreational fishing stakeholders include SASACC, SAFBAF and provincial fishing bodies (their function is to serve as a link between the private and public sectors and being the mouthpiece of recreational fishing), the formal business sector (the suppliers, manufacturers, importers, wholesalers and retailers of recreational fishing products and services), the media (most anglers use fishing magazines, more recently anglers are also turning to television as a source of technical information), fishing venues (these are often criticised by anglers for the lack of facilities or poor maintenance and the enforcing of fishing regulations are generally not considered the responsibility of the venue owners and management unless managed by a provincial department) and the angler (unless affiliated into organised fishing) they are isolated. This might be the preferred status of anglers but it presents challenges for the industry to communicate and ensure stakeholder integrations. Public and private sector stakeholders benefit financially in different ways from the recreational fishing industry, but the

overall contribution to the economy is an important aspect of the combined stakeholder activities (c.f. 2.6.2).

Summarising this objective, literature shows the relation between recreation and tourism and the importance of recreational activities for tourists. Creating synergy between public and private sector stakeholders is important since it will identify opportunities and strengths for the recreational fishing industry and could also address the challenges of the industry.

5.4.2 Conclusion regarding an analysis of the spending behaviour of recreational anglers through different theories and motivational factors (Objective 2 – Chapter 3)

The third chapter of this study addressed the second objective of the research, namely to examine the spending behaviour of recreational anglers through different theories and motivational factors.

Before examining what motivates a tourist to purchase specific offerings or how tourists spend money, the behaviour involved in purchasing needs to be examined. Identifying the determinants or variables of spending will stimulate the increase in spending for recreational anglers and can be managed by a spending model. The spending model will assist the stakeholders in recreational fishing to market products more effectively and to better fit the needs of a particular segment of the recreational fishing market, this in turn will guarantee the influence in higher spending. It is important to determine the characteristics that influence angler's expenditure as well as their behaviour when developing a spending model. Although spending models are available, expenditure patterns of tourist will differ from one sector to another (c.f. 3.1). Tourist behaviour focuses on the way that individuals make the decisions to spend their available resources, money time and effort (c.f. 3.1).

A marine tourism framework was compiled to explain the potential economic impact of marine tourism. The framework consists of the spenders / investors (c.f. 2.7; c.f. 3.1) who contribute to marine tourism. Governments use taxes to fund the industry, create legislations and policies for the industry and provide tourism products such as suprastructures, infrastructure and parks or nature reserves in order for the tourist to participate in marine tourism. Private businesses create and supply the necessary tourism products and services for the use of the tourist and these may include

accommodation, restaurants and activities such as recreational fishing. The tourist or visitor will invest time and money in preparation of a marine tourism holiday and will be influenced by socio-demographic, behavioural and external factors (c.f. 3.1, c.f. 3.3; c.f. 3.4). Determining these influences of the tourist or visitor will leave the stakeholders with the opportunity to determine certain outcomes which will lead to appropriate products and services (c.f. 3.4). Marine tourism will either lead to consumptive use (c.f. 3.1) and non-consumptive use (c.f. 3.1). Consumptive tourism includes killing or capturing of wildlife such as recreational fishing but not using the "catch and release" path and non-consumptive include snorkelling, surfing, visiting water parks, etc. Reasons for the importance of establishing the determinants or influences can lead to strategic planning of facilities and amenities, marketing, budgeting and management, policy formulation and to determine niche markets for the specific tourism offering (c.f.3.1).

Tourist behaviour is important firstly in order for the tourist to understand life experience and secondly for the industries or managers of tourism businesses to understand tourist behaviour. It is important for the public decision makers (c.f. 2.6) to determine tourist behaviour in order to make either policy or management decisions about the on-site behaviour of recreational fishing. For instance, anglers need permits to fish in all areas, public stakeholders need to ensure that the law is enforced and evaluate whether anglers do have these permits to keep recreational fishing sustainable. Public and private marketers (c.f. 2.6) need to influence fishing tourists to visit a place of interest and ensure that they spend money, the financial and design success of a tourism product is in the interest of the business decision makers and these groups need to determine why fishing tourists make travel choices and purchases. The fishing tourism industry or recreational fishing industry is dependent on determining the travel behaviour of anglers in order to improve the current status. The knowledge of the travel behaviour of recreational fishing will assist in product development, improved marketing strategies, enhanced service delivery approaches and policy formulation (c.f. 3.2).

It is important to understand how and why tourists make their decisions, and therefore different models of tourism purchase decision-making process is important (c.f. 3.3). The purchase decision-making model can be found in the work of Weaver and Lawton (2006); Middleton and Clarke (2001) and Blackwell, Miniard and Engel (2006). The decision-making process consists of five stages: the initial stimulus (the fishing tourist becomes aware of the need to take part in recreational fishing),

conceptual framework (the fishing tourists determine their time and money available to their disposal), fact-finding (the fishing tourists gathers information for instance regarding fishing destinations and calculates the different options against the cost benefits), definitions of assumptions (the fishing tourists decides to buy to product or not) and design alternatives (the fishing tourists evaluates the experience after the recreational fishing trip) (c.f. 3.3.1). The purchase decision-making process stages area awareness of a need or problem, information seeking, evaluation, decision-making, action and post-purchase evaluation (c.f. 3.3.1). Choices that affect the tourist during the decision-making process include the destination, the type of travel, time and duration, mode of transport, type of accommodation, tour/travel organisation, fishing tourist will consider each of these aspects before a decision is made regarding a recreational fishing trip (c.f. 3.3.1). Consumer behaviour or tourist behaviour consists of two very important aspects, (i) the factors affecting consumer behaviour, such as internal influences, external influences, personal or demographic characteristics and market characteristics and (ii) the consumer decision-making process. Internal influences include aspects such as motivation, motivation of recreational fishing is determined in the empirical study as well as the personal or demographic characteristics such as race, gender and age. External influences and the market characteristics can be influenced by the public and private stakeholders of recreational fishing (c.f. 3.3).

It is important to establish the determinants of spending because: it leads to strategic planning of facilities and amenities, tourism products can be developed in a sustainable and profitable way, it leads to strategic marketing, a market profile can be developed, niche markets can be identified, policies can be formulated, it leads to retail merchandising, it leads to customer service, it provides a better understanding of tourist spending behaviour and the underlying factors affecting such behaviour (c.f. 3.4).

Literature composed a model for the spending behaviour of biltong hunters and indicated that a spending model should include the socio-demographic, travel behaviour and geographic characteristic of tourists. A spending model will assist owners of recreational fishing products in marketing the products effectively and to better fit to the needs of a particular segment of the market. The number of days spent at a destination, the size of the travel group, the frequency of visits and catering preferences are behavioural indicators of spending behaviour. The model can also be applied to determine the spending behaviour of recreational fishing. Key factors influencing

recreational anglers' expenditure include socio-demographic and geographic characteristics, travel behaviour and travel motivation, these factors were determined in the empirical analysis of this study and these factors can positively influence the spending behaviour of recreational fishing (c.f. 3.4 and c.f. Chapter 4).

It is important to have a clear understanding of the basic flow of money within a local economy during tourism activities. Money will flow from the spending of local residents or non-local residents, they will purchase from local suppliers, staff or households will have primary spending as well as secondary spending and there will be leakages to individuals outside the local economy. The public and private sector stakeholders will benefit financially in different ways because of the spending of recreational fishing but the overall contribution to the economy is an important aspect of the combined stakeholder's activities, in other words it is important for the public and private sector stakeholders to work together to enhance the spending behaviour and increase the growth of recreational fishing. According to literature, recreational fishing is one of the world's most popular pastimes and has an enormous financial impact on national economies and necessitates appropriate stakeholder management of resources. Anglers spend money on travel expenditures, auxiliary purchases for fishing and other miscellaneous fishing expenses. The surprising finding about South African sport and recreational fishing was that there was a low appreciation and little knowledge of its significant economic impact on the GDP among public and private sector organisations. The fishing industry is undervalued and less regarded among policy makers and resource oriented managers relative to comparative sports such as hunting (c.f. 3.5). Ten percent of people take part in recreational fishing; this is equal to 700 million people all over the world involved in recreational fishing. In South Africa the total number of recreational anglers are 1.4 million people and generates R52 billion (c.f. 4.1), this indicates that recreational fishing is a valuable source of income.

The angler's value chain is defined as the angler's transformation of secondary sequential fishing trip planning activities (inputs) into the primary goal of an optimal value added recreational experience (outputs). Setting out on a fishing trip takes the angler through a decision-making cycle and expenditure processes to prepare for the execution and completion of the trip. Ultimately the recreational angler would like to return home from a trip with a feeling of value for money, having enjoyed the outdoors and the activity for its pleasure, relaxation and satisfaction. Expenses include those directly related to recreational fishing such as fishing equipment or the accommodation at the

fishing destination or non-fishing expenses such as fuel, food and beverages. Higher spending and demand by anglers will lead to an increase in business activities in a province or area, which, in turn, will create more employment and income for members of a community or a specific province. A greater demand by recreational anglers means more services and products will be supplied, which in turn will lead to improved infrastructure, including water, electricity, roads, shops and transport (c.f. 3.5.1).

5.4.3 Conclusions regarding the socio-demographic, behavioural and motivational determinants of the spending behaviour of recreational fishing (Objective 3 – Chapter 4)

The fourth chapter of this study is an empirical investigation of the third objective of the research, to investigate the socio-demographic, behavioural and motivational determinants of the spending behaviour of recreational fishing. The results are based on the surveys conducted in 2015 and 2016 (c.f. 1.6.5)

5.4.3.1 Conclusions with regard to the profile of the respondents

Table 5.1 summarises the main findings from the survey regarding an overall summary of the socio-demographic profile of the respondents (c.f. 4.2)

Table 5.1: Socio-demographic profile of respondents

DEMOGRAPHIC PROFILE	
Gender	Male (90%), female (10%)
Age	Average age of 44.88 years
Language	English (50%)
Level of education	Diploma, degree (38%)
Occupation	Self-employed (21%) and manager (21%)
Province of residence	Gauteng (26%)
Preferred fishing magazine	Tight lines / Stywe lyne (28%)
Income	R140 001 – R221 000 (26%)
Member of fishing club	No (60%)
Member of social fishing club	Yes (56%)

Most preferred marine fishing discipline	Rock and surf angling
Most preferred estuary fishing discipline	Estuary: boat
Most preferred freshwater angling discipline	Bank angling
Most preferred fly-fishing discipline	Yellow fish
Favourite species to catch	Carp (13%) Barber (9%) Bass (8%)
Age introduced to fishing	Average age 7.71 years
Introduced to fishing	Family (76%)
Preference to fish	Group (80%)
Group size	Average of 4.45 people
People paid for	Average of 1.6 people
Average number of days fishing in last 12 months	Average of 48.1 days
Average spending on day trips	R34 889.87
Average spending on overnight trips	R25 669.12
Average spending on annual fees	R1 649.24
Average spending on other annual fishing-related expenditure	R26 620.28
Do with fish	Catch and release (85%)
Caught sea fish	No (78%), 50% reported it
Valid recreational fishing permit	Marine: Yes (73%) Fresh water: Yes (65%)
Province of fishing permit	KwaZulu-Natal (31%); Western Cape (27%)
Checked/inspected by fisheries control officer	Yes (66%), twice on average
Fishing as primary recreational activity	Yes (83%)

Motivation for fishing	6. For the fun and enjoyment thereof 7. For relaxation 8. To get away from my regular routine 9. For the challenge of the sport 10. To experience adventure and excitement

Table 5.1 shows that the majority of respondents were male (90%) with an average age of 45 years, English speaking (50%) and were earning R140 001 to R221 000 per annum. The majority of the respondents (26%) were from Gauteng and preferred to travel in a group (80%), the average group size is four people, paying for an average of 2 people. The average days of fishing in the last 12 months were 48 days. Respondents belonged to a social fishing club (56%) but not to a fishing club (60%). The preferred fishing magazine is Tight lines or *Stywe lyne* (28%). Respondents were mostly introduced to fishing by family (76%) and started to fish at an average age of seven years. The average spending on a day trip was R34 889.87, on an overnight trip was R25 669.12, on annual fees was R1 649.24 and on other annual fishing-related expenditure was R26 620.24. The main motivation for taking part in recreational fishing was for the fun and enjoyment of it.

Determining these socio-demographic factors of the recreational angler is important for the public and private sector stakeholder, as these factors influence the spending behaviour of recreational anglers directly (c.f. 3.4). Knowing what determines how recreational anglers spend their money stakeholders will be able to influence these aspects positively so that there is an increase in the spending of the recreational fishing industry.

This concludes that the findings show that the stakeholders should focus on male respondents. These anglers fish for the fun and enjoyment of recreational fishing, which may indicate that they want to escape from their everyday situations to spend time with family or friends. Considering that spending time with family and friends is important for recreational anglers, stakeholders should consider all genders of recreational fishing. Focusing on female recreational anglers will ensure a new market in recreational fishing which in turn will also increase the importance of recreational fishing for the South African economy.

5.4.3.2 Conclusions from the factor analyses

Regarding the main motives to participate in recreational fishing, an exploratory factor analysis revealed four factors, which motivated respondents to take part in recreational fishing. *Relaxation and escape* received the highest mean value of 3.99, followed by *socialisation* with a mean value of 3.45, *competition* with a mean value of 3.35 and *livelihood* with the lowest mean value of 1.63. When interpreting the mean values on the original Likert scale, all four factors were considered as important motives to the respondents (c.f. 4.6).

The identified motives correspond with the findings from other research regarding spending behaviour of tourists as discussed in the literature review chapters, these studies did not focus on recreational fishing. Another exploratory factor analysis revealed five factors for different fishing disciplines. The five factors include *estuary* with the highest mean value of 3.68, *fresh water fishing* with a mean value of 3.10, *deep-sea fishing* with a mean value of 3.09, *fly-fishing* with a mean value of 2.53 and *other* with the lowest mean value of 2.09 (c.f. 4.7). There are no other previous studies grouping these different fishing disciplines but the literature did reveal different types of fishing disciplines (c.f. 2.5.1).

Based on the results above the findings show there are four main fishing disciplines which need focus, estuary recreational fishing, fresh water fishing, deep-sea fishing and fly-fishing. These four areas should be the main focus areas when considering the different fishing disciplines in South Africa.

For each of these fishing disciplines the relevant recreational fishing stakeholders should consider all four the motives for partaking in recreational fishing. When marketing these fishing disciplines stakeholders should consider the *relaxation and escape factor.* Marketing should focus on how the recreational angler will relax, how they will have fun while escaping from their regular routine. Marketing of fishing destinations can also focus on the unique aspects of the fishing destination ensuring that recreational anglers experience new and different fishing destinations. *Socialisation* is also a very important motive for recreational fishing, anglers want to spend time with family and friends and people with similar interest. The recreational industry can consider more recreational fishing competitions or recreational fishing social events. This will ensure that recreational anglers can spend time with people with similar interests. It will also ensure to enhance the third motivation

for taking part in recreational fishing namely *competitions*. Creating more recreational fishing events, create more competitions. Stakeholders at these competitions can ensure that 'trophy' fish are tagged in order for these recreational anglers to have the opportunity to test their skills and to catch a 'trophy' fish. Another very important motivation for recreational fishing is *livelihood*. Livelihood indicated that recreational anglers also take part in recreational fishing to feed their families, catch fish to eat and to sell fish to supplement their livelihood. Stakeholders should ensure that recreational anglers do not exceed their quotas. They will only be able to do this if they enforce the law regarding fishing permits and if they make sure to do checks on recreational anglers more often. If the stakeholders do not focus on the quotas, the fishing species can be influenced negatively.

5.4.3.3 Conclusions regarding the practical significance test for the importance of partaking in fishing

An analysis of variance (ANOVA) along with effect sizes was carried out to determine whether there are significant differences between the different fishing disciplines, the reason for fishing and spending based on the continuous questions in the questionnaire. The effect size for *relaxation and escape* was smaller than 0.2 which indicates there was a small to no practical significance. This indicates that the factor is important for all the fishing disciplines and not just a specific discipline.

Fly-fishing and fresh-water boat indicated a large effect size for *livelihood* and this possibly indicate that the respondents consume the fish they caught. It is important to make sure that these respondents act sustainably and to monitor the fish species that they catch (c.f. 4.8). This shows that law enforcement for the fishing disciplines is very important. Government must ensure to implementation of laws for fresh water recreational fishing. Government focuses on marine recreational fishing, enforcing quotas and laws regarding certain marine species, prosecuting marine recreational anglers who do not adhere to these laws. The same should happen in the fresh water recreational fishing disciplines, stricter laws and ensuring provincial and regional bodies who would enforce these laws and prosecute those that do not adhere. This will ensure the sustainable use of the natural resources of recreational fishing.

5.4.3.4 Conclusions regarding the practical significance test for the total spending for the different primary angling disciplines

A comparison was made between the spending behaviour of the different fishing disciplines. An understanding of the spending of the respondents is important since the behaviour of how they spend and how much they spend can be influenced by the stakeholders. Spending on a day trip had

a small effect size (0.098), spending on an overnight trip and yearly spending had a medium effect on the different fishing disciplines, 0.396 and 0.597 respectively. Spending on other fishing equipment had a large effect size on the different fishing disciplines with 0.935. The higher effect size for fishing equipment shows that it is a very important aspect for respondents and that they spend a great deal on fishing equipment. Marketers and suppliers of recreational fishing services should focus on this area, as this can lead to higher spending. There was no significant difference in how the different fishing disciplines spend their money, for each fishing discipline spending on fishing equipment had a high effect size. By looking at the spending behaviour of the different fishing disciplines one can see only small differences exist concerning the spending. Therefore, one can conclude by stating that stakeholder's marketing strategy should include all the different spending aspects (daytrips, weekend trips, annual spending, spending on other recreational fishing aspects) (c.f. 4.9). Marketers should create more attractive day trip packages for recreational anglers. Results showed that 38% of the respondents (c.f. 4.4.5) took day trips during the last twelve months. Recreational anglers take more day trips than weekend trips or longer recreational fishing vacations. Marketing strategies should focus on day trips and enhancing the spending of recreational anglers during these day trips.

From the above, the findings (c.f. 4.4.6.3) show that owners and managers of fishing equipment should show more attention on enhancing and focusing on the marketing of fishing equipment in order for fishing tourists to spend more on the equipment. This is the area in which all fishing disciplines spend most of their money. By using marketing methods to ensure that anglers purchase the equipment, spending will increase.

5.4.3.5 Conclusions regarding the Chi-squared test percentage

For all the different fishing disciplines the gender range was male (between 84.2% and 100%). This may indicate that recreational fishing is a physical activity with endurance and takes place in more rural settings which may not appeal to the female sex.

More Afrikaans-speaking respondents took part in Freshwater bank (71.7%). The reason for this might be that questionnaires were distributed at a popular fresh water angling competition (Bloemhof Bonanza) in the Free State, with predominant Afrikaans speaking respondents.

Greatest of the fishing disciplines indicated that the highest level of education was diplomas or degrees, this agrees with the indication that some of the fishing disciplines are a managerial position in their occupation. Disciplines who were mostly self-employed include: Deep sea (42.0%), Estuary boat (22.4%), Fishing ski (39.5%), Fly-fishing (24.2%), Freshwater boat (23.6%), Marine shore (18.6%) and None (56.3%).

According to the income of the different fishing disciplines the following groups can be seen as high spenders since they earn an income of more than R670 001 annually: Bass (26.3%), Deep-sea (38.3%), Fishing ski (28.6%), Fly-fishing (25.0%), and Freshwater boat (21.2%).

None of the fishing disciplines belonged to a social fishing club. Reasons for this may be that respondents do not see the relevance or advantages of belonging to a fishing club, club fees may be too expensive and if they already own a valid fishing permit there is no importance in belonging to a club. For stakeholders this is an important aspect because one can keep track of members of a fishing club and also gain important data from these members without too much effort.

Only two fishing disciplines, fly-fishing (51.1%) and freshwater bank (54.2%) indicated that they own a valid freshwater fishing permit. This is a great concern, since it shows that many respondents do not adhere to the law. It also indicates that more policies and law enforcement is needed in freshwater areas to maintain sustainability for recreational fishing.

The respondents in the different fishing disciplines also indicated that they prefer to fish in groups. This links to the factor analysis done on the motives for partaking in recreational fishing, the second important factor was factor 2, *socialisation*, which includes spending time with family and friends and to be with people with similar interest.

The different fishing disciplines did take part in various fishing trips in the last 12 months, either day trips or weekend trips. This indicates that the respondents do spend money and travel a lot in order for them to take part in recreational fishing frequently (c.f. 4.10).

Table 5.2 provides a summary of the profiles of the different fishing disciplines (c.f. 4.10):

Table 5.2: Profile of different fishing disciplines

	Bass	Deep sea	Estuary boat	Estuary shore	Fishing ski	Fly-fishing	Fresh water bank	Fresh water boat	Marine shore	None	Spearfishing
Gender	Male (96.1%)	Male (94.1%)	Male (96.5%)	Male (97.2%)	Male (98.8%)	Male (100%)	Male (90.6%)	Male (92.6%)	Male (97.0%)	Male (84.2%)	Male (100%)
Language	English (71.2%)	English (76.3%)	English (70.7%)	English (63.9%)	English (73.8%)	English (66.1%)	Afrikaans (71.7%)	Afrikaans (54.2%)	English (62.6%)	English (80.0%)	English (100%)
Level of education	Diploma, degree (48.8%)	Diploma, degree (38.6%)	Matric (38.6%)	Diploma, degree (51.4%)	Diploma, degree (44.0%)	Diploma, degree (38.7%)	Matric (46.6%)	Diploma, degree (50.9%)	Diploma, degree (45.3%)	Matric (61.1%)	Diploma, degree (44.4%)
Occupation	Manager (27.4%)	Self-employed (42.0%)	Self-employed (22.4%)	Manager (27.0%)	Self-employed (39.5%)	Professional (24.2%) Self-employed (24.2%)	Manager (18.4%)	Self-employed (23.6%)	Self-employed (18.6%)	Self-employed (56.3%	Professional (22.2%) Manager (22.2%) Other (22.2%)
Income	R670 001> (26.3%)	R670 001> (38.3%)	R305 001– R431 000 (20.8%)	R305 001– R431 000 (22.2%)	R670 001> (28.6%)	R670 001> (25.0%)	R20 001– R140 000 (26.1%)	R670 001> (21.2%)	R140 001– R221 000 (17.1%)	R140 001 – R221 000 (26.7%)	R221 001 – R305 000 (33.3%)
Belong to a fishing club	Yes (77.0%)	Yes (83.3%)	Yes (88.9%)	Yes (87.1%)	Yes (88.5%)	Yes (80.8%)	Yes (56.7%)	Yes (77.1%)	Yes (84.1%)	No (62.5%)	Yes (100%)
Belong to a social fishing club	No (60.2%)	No (60.7%)	No (75.9%)	No (82.9%)	No (65.8%)	No (58.3%)	No (83.6%)	No (58.5%)	No (78.1%)	No (93.8%)	No (77.8%)
Valid fishing permit for marine	Yes (77.0%)	Yes (83.3%)	Yes (88.9%)	Yes (87.1%)	Yes (88.5%)	Yes (80.8%)	Yes (56.7%)	Yes (77.1%)	Yes (84.1%)	No (62.5%)	Yes (100%)
Valid fishing permit for fresh water	No (58.4%)	No (55.6%)	No (56.1%)	No (64.0%)	No (61.7%)	Yes (51.1%)	Yes (54.2%)	No (63.4%)	No (60.3%)	No (58.8%)	No (85.7%)
Province of residence	Gauteng (27.3%)	KwaZulu-Natal	KwaZulu-Natal	KwaZulu-Natal	KwaZulu-Natal	Gauteng	Gauteng	Gauteng	Western Cape	Gauten	KwaZulu-Natal

		(28.7%)	(27.6%)	(38.9%)	(29.2%)	(31.7%)	(30.9%)	(35.8%)	(28.1%)	g (42.1%)	(66.7%)
Prefer to fish in a group	Yes (76.6%)	Yes (85.1%)	Yes (82.8%)	Yes (86.5%)	Yes (82.1%)	Yes (79.4%)	Yes (71.1%)	Yes (72.7%)	Yes (86.6%)	Yes (73.7%)	Yes (77.8%)
Daytrip in last 12 months	Yes (67.2%)	Yes (66.3%)	Yes (70.7%)	Yes (73.0%)	Yes (65.5%)	Yes (73.0%)	No (63.6%)	Yes (50.9%)	Yes (67.5%)	No (84.2%)	Yes (100%)
Weekend trip in last 12 months	Yes (61.7%)	Yes (59.4%)	Yes (62.1%)	Yes (67.6%)	Yes (58.3%)	Yes (71.4%)	No (66.7%)	No (50.9%)	Yes (60.8%)	No (84.2%)	Yes (55.6%)

By determining the socio-demographic and geographic, recreational fishing behaviour and recreational fishing motives, stakeholders of the recreational fishing industry such as the private and public organisations can work together in order to do strategic planning regarding recreational fishing. They can develop facilities and amenities, recreational fishing products in a sustainable and profitable way. It will assist in strategic marketing, a marketing profile can be developed, niche markets can be identified (consider the different fishing disciplines), policies for all provinces can be formulated, it leads to retail merchandising, it leads to customer service, it provides a better understanding of tourist spending behaviour and the underlying factors affecting such behaviour.

The findings indicate that the behavioural determinants of recreational fishing have a larger impact on the spending behaviour than that of the socio-demographic determinants. The socio-demographic profile of the different fishing disciplines is more or less the same with small discrepancies. Behavioural determinants such as belonging to a fishing club, owning a valid fishing permit or preferring to fish in a group are different for the fishing disciplines. Again, the findings indicate that marine recreational fishing disciplines own fishing permits, this in turn indicate that there may be stronger law enforcements in the marine recreational fishing areas or that certain areas do not require a fresh water fishing permit. Most fishing disciplines do not own a valid fresh water fishing permit although this is not relevant for all provinces it should be a concern for recreational fishing stakeholders. Owning a valid recreational fishing permit should be more attractive. Stakeholders can consider making it easier to buy a valid fishing permit; recreational anglers should have the opportunity to buy permits online.

5.5 RECOMMENDATIONS

In the following section, recommendations are made with regard to the study, as well as, for future research.

5.5.1 Recommendations regarding the critical analysis of the spending behaviour of recreational fishing in South Africa

Due to the lack of studies conducted in South Africa regarding the spending behaviour of recreational fishing, international determinants did show differences between this study and international studies.

Further studies should be conducted in the South African context to minimise the gap. The following recommendations can be made with regards to the spending behaviour of recreational fishing in South Africa:

- Government should consider revising and adding to existing policies. The Department of Agriculture, Forestry and Fisheries compiled a pamphlet which summarizes the regulations for recreational fishing. The pamphlet only covers the marine and estuarine environments in South Africa. Regulations for freshwater recreational fishing are strongly advised. Legislation regarding recreational fishing should be the same in all provinces, making it easier for respondents to adhere to legislation. Government can also consider a national fishing permit which ensures that respondents are able to take part in recreational fishing in any province. This will also make it easier for government, provincial and regional stakeholders to enforce the laws and to ensure recreational anglers own valid permits. Government can also consider creating policies to ensure that fishing destinations are not allowed to provide access to recreational anglers if they do not own a valid recreational permit.
- Marketers of recreational fishing products and services as well as tourism marketers should take into account that fishing tourists visiting different fishing destinations indicated certain motives for taking part in recreational fishing. This has an impact on the development of fishing tourism marketing material as well as product development of recreational fishing. Therefore, the marketing strategies of recreational fishing products and services should make provision for developing product and fishing discipline-specific marketing material. Tourism marketers and managers of recreational fishing destinations must market destinations as all-inclusive recreational fishing destinations, this may increase the number of groups or families that travel to these destinations and in turn increase tourism in certain areas. Results showed that recreational anglers preferred to travel in groups and that one of the motivations were to spend time with family. Destinations should therefore use marketing strategies to include and reflect family activities as well, emphasis should be placed on the added value that these destinations will offer families of recreational fishing.
- All-inclusive recreational fishing destinations furthermore requires relevant supporting infrastructure available for recreational anglers. Managers of these recreational fishing destinations should ensure the necessary facilities and services that recreational anglers should

need, for example sufficient supply of fuel for boats and vehicles, facilities such as day-visitor facilities, services such as a general shop which supplies bait or other fishing equipment.

- Tourism marketers are required to do research on a continuous basis in order to determine the travel behaviour of recreational anglers. The results can be used as a focusing point of the marketing strategies. These strategies could then be implemented to develop products for the specific needs of recreational fishing. Focusing on a specific fishing discipline for example fly-fishing, marketers can make sure that advertisements in magazines and on the internet is product specific for fly-fishing. By using this technique fishing discipline spending will increase.
- From this research it was found that “relaxation and escape” is the top motive for fishing tourists to take part in recreational fishing. The implication of this is that stakeholders of recreational fishing must implement this finding in their overall marketing strategy for all their recreational fishing products and services. Managers of recreational fishing destinations can consider secluded areas for each recreational fishing group, making it more private and relaxed for a group, this can be achieved by ensuring groups fish further apart from each other. The implementation of stricter rules regarding noise levels at the areas around the fishing destinations could also enhance this experience.
- Providers of recreational fishing destinations, such as providers of accommodation, need to take the travel motives of the fishing tourists into account in planning and development of recreational fishing destinations, aiming to satisfy the needs and travel motives of the fishing tourists. Provincial authorities should focus on marketing the unique recreational fishing destinations within their provinces. Each of the nine provinces in South Africa have unique fishing destinations for different fishing disciplines, by focusing on these destinations and providing unique fishing discipline packages the recreational fishing numbers will increase. Provincial authorities can furthermore encourage regional areas to enhance the focus on recreational fishing by creating more visibility with marketing material such as billboards, flyers, including services in tourism brochures, using the regional tourism offices and creating all-inclusive packages.
- Stakeholders can also consider online permit system, ensuring that recreational anglers can download permits on their phones.
- Tourism marketers can also consider a recreational fishing app, the app can indicate the best fishing spot for specific fishing disciplines, where to stay, when to visit these areas, what types

of fish species one can expect at the destination and the best equipment to use at these fishing spots. Findings also indicate that recreational anglers do not see the need to belong to a social fishing club. Social fishing clubs should indicate the advantages of belonging to a fishing club for example belonging to a social fishing club ensures that recreational anglers can take part in at least one competition a year or by belonging to club anglers automatically receive a fishing permit. This in turn will enhance the tourism destination, ensuring an increase in fishing tourists.

5.5.2 Recommendations for further research

The following aspects should be considered for further research:

- It is suggested that the measuring instrument must be standardised and used for further research regarding all the aspects of recreational fishing, such as preference of fishing species, favourite fishing destinations, and other recreational activities taking part in.
- Research on the spending behaviour of recreational fishing should be conducted annually of bi-annually over all the different fishing disciplines, to give insight on the needs and motives of the fishing tourists.
- Further research is needed regarding the spending behaviour of each fishing discipline specifically, which is needed to determine the high spending fishing disciplines and the total economic impact.
- Further research can focus on the female market, determining their part and preferences in the recreational fishing market. This will also ensure that recreational fishing is a family-orientated tourism activity.
- Research regarding future trends in nature-based, wildlife tourism and fishing tourism is needed, which can assist the stakeholders in developing sustainable recreational fishing products. For example, research regarding the types of fishing species that recreational anglers prefer to catch can be used in order to determine impact on the fishing species. Research at specific recreational fishing destinations can also be conducted to determine the impact on that specific destination.

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ANNEXURE A: QUESTIONNAIRE

VISVANG OPNAME 2015 /FISHING SURVEY 2015
AFDELING A SOSIO-DEMOGRAFIESE GEGEWENS
SECTION A SOCIO-DEMOGRAPHICS DETAILS

1. Geslag / **Gender?**

M	1	
F	2	

2. Datum van u geboorte? / ***Date of your birth?***

19

3. Huistaal / ***Home language?***

Afrikaans	1
Engels / ***English***	2
Ander, spesifiseer / ***Other, specify***	3

4.Hoogste kwalifikasie / ***Highest level of education***

Geen skool / ***No school***	1
Matriek / ***Matric***	2
Diploma, graad / ***Diploma, degree***	3
Nagraads / ***Post-graduate***	4
Professioneel (bv.geoktrooieerde rekenmeester) **/ Professional (e.g. chartered accountant)**	5
Ander, spesifiseer / ***Other, specify***	6

5a. Provinsie woonagtig/ ***Province of residence?***

Wes-Kaap / ***Western Cape***	1
Gauteng	2
Oos-Kaap / ***Eastern Cape***	3
Noordwes / ***North West***	4
Mpumalanga	5
Noord-Kaap / ***Northern Cape***	6
KwaZulu-Natal	7
Limpopo	8
Vrystaat / ***Free State***	9
Buite RSA-grense /***Outside RSA borders***	10

5b.Indien buitekant die grense van RSA, dui asb u land van herkoms aan. / ***If outside RSA borders, please specify your country of origin.***

5c. Wat is u tuisdorp? / **What is your home town?**

6. Watter visvangtydskrifte lees u op 'n gereelde basis? / **Which fishing magazines do you read regularly?**

7. Beroep / **Occupation**

Professioneel / **Professional**	1
Bestuurder / **Manager**	2
Administratief / **Administrative**	3
Tegnies / **Technical**	4
Verkoopspersoneel / **Sales Personnel**	5
Boer / **Farmer**	6
Mynbou / **Mining**	7
Opleiding / **Education**	8
Nie-winsgeoriënteerde werker/ **Non-profit worker**	9
Eie werkgewer / **Self-employed**	10
Ander, spesifiseer / **Other, specify**	11

8. Wat is jou bruto jaarlikse inkomste? / ***What is your annual gross income?***

< R20 000	1
R20 001 - R140 000	2
R140 001 - R221 000	3
R221 001 - R305 000	4
R305 001 - R431 000	5
R431 001 - R552 000	6
R552 001 - R670 000	7
R 670 001 >	8

9a. Is u 'n lid van 'n hengel klub?
Are you a member of an angling club?

Ja/ **Yes**	1
Nee/ **No**	2

Naam van Klub / **Name of club**

9b.Is u 'n lid van 'n sosiale hengel klub?
Are you a member of a social angling club?

Ja/ **Yes**	1
Nee/ **No**	2

Naam van klub / **Name of club**

10. U gunsteling visvangdissipline? **/ Most preferred fishing discipline?**

					Uiters belangrik / Extremely important
					Baie belangrik / Very important
					Belangrik / Important
					Minder belangrik / Slightly important
					Glad nie belangrik nie / Not at all important
MARIENE/ MARINE					
Rots- en surfhengel/ **Rock and surf angling**	1	2	3	4	5
Diepseehengel**/ Deep sea angling**	1	2	3	4	5
Ski-boot/ **Ski-boat**	1	2	3	4	5
Jet-ski	1	2	3	4	5
Visvang ski**/ Fishing ski**	1	2	3	4	5
Huur boot/ **Charter boat**	1	2	3	4	5
Spieshengel: boot/ **Spearfishing boat**	1	2	3	4	5
Spieshengel: oewer/ **Spearfishing shore**	1	2	3	4	5
RIVIERMOND / ESTUARY					
Riviermond oewer/ **Estuary shore**	1	2	3	4	5
Riviermond boot/ **Estuary boat**	1	2	3	4	5
VARSWATERHENGEL / FRESHWATER ANGLING					
Oewerhengel (Karp, baber, kyrper, geelvis ens. Hengel **in 'n dam of rivier)/ Bank angling (Carp, barbel, kurper, yellowfish etc. in a dam or river)**	1	2	3	4	5
Boothengel (Karp, baber, kurper, geelvis ens.hengel in n dam of rivier)**/ Boat angling (Carp, barbel, kurper, yellowfish etc. in a dam or river**	1	2	3	4	5
Bass visvang**/ Bass angling**	1	2	3	4	5
Tier-visvang/ **Tigerfishing**	1	2	3	4	5
VLIEGHENGEL / FLY FISHING					
Forel/ **Trout**	1	2	3	4	5
Geel vis**/ Yellow fish**	1	2	3	4	5
Riviermond/ **Estuary**	1	2	3	4	5
See**/ Sea**	1	2	3	4	5
Ander (Spesifiseer)/ **Other (Specify)**	1	2	3	4	5
*	1	2	3	4	5
*	1	2	3	4	5

11. Wat is u gunsteling drie visspesies wat u die graagste vang? / **What are your favourite three fish species that you prefer to catch?**

1

2

3

12. Waar is u drie gunsteling visvangplekke geleë (bv. Sodwanabaai)?/ **What are your three favourite fishing spots and where are they located (e.g. Sodwana Bay)?**

13. Op watter ouderdom is u die eerste keer blootgestel aan visvang? / **At what age were you introduced to fishing for the first time?**	

14. Wie het u blootgestel aan visvang? / **Who exposed you to fishing?**

Self	1
Eggenoot/ **Spouse**	2
Vriende/ **Friends**	3
Familie/ **Family**	4
TV-program/ **TV programme**	5
Ander media/ **Other media**	6
Ander, Spesifiseer/ **Other, Specify**	7

AFDELING B EKONOMIESE IMPAK
SECTION B ECONOMIC IMPACT

1. Hoe verkies u om vis te vang? / **How do you prefer to fish?**

Alleen/ **Alone**	1
Groep/ **Group**	2

2. Indien in 'n groep, hoeveel persone vorm gemiddeld deel van u groep? / **If in a group, how many people on average form part of your group?**

3. Vir hoeveel mense in u reisgeselskap betaal u? / **How many people in your party do you pay for?**

4. Hoeveel dae het u in in die laaste 12 maande visgevang (insluitend al die tipes visvang wat u doen)?/ **How many days did you go fishing in the last 12 months (including all types of fishing you do)?**

5. Hoeveel van die volgende reise het jy onderneem gedurende die laaste 12 maande vir visvang? / **How many tri of the following have you undertaken during the last 12 months for fishing?**

Dagreis **/ Day trips**	
Naweekreise/ **Weekend journeys**	
Langer as 'n naweekreis**/ Longer than a weekend trip**	

6. Wat is die gemiddelde duur van verblyf vir reise langer as 'n naweek? / **What is the average length of stay for fishing trips longer than a weekend?**

dae/ days

7.Hoeveel bestee u gewoonlik op die volgende visvangverwante items gedurende die jaar? / **How much do you generally spend on the following fishing-related items during the year?**

Dagreis/ **Day trips**	**Items**	Oornagreis/ **Overnight trips**
R	a.Toegangsfooie/ **Entrance fees**	R
R	b. Akkommodasie/ **Accommodation**	R
R	c. Vervoer / **Transport**	R
R	d. Voedsel / **Food**	R
R	e. Alkohol & Drinkgoed / **Alcohol & Beverages**	R
R	f. Bootbrandstof en -olie/ **Boat fuel and oil**	R
R	g.Terminale visgereedskap (d.w.s. hoeke, sinkers, lyn, kunsaas ens.) **/ Terminal fishing tackle (i.e. hooks, sinkers, line, lures etc.)**	R
R	f. Aas / **Bait**	R
R	Gevries by supermark/ **Frozen commercially sourced**	R
R	Varsaas plaaslik/ **Fresh bait harvested by local people**	R
R	h. Gillies	R
R	i. Boot huur/ **Boat hire**	R
R	j. Kompetisiefooi/ **Competition fees**	R
R	k. Parkering of toegang/ **Parking or entrances fees**	R
R	l. Huur van visvanggids/ **Charter of fishing guide**	R
R	m. Visskoonmaak en "filleting" / **Fish cleaning and filleting**	R
R	n. Geskenke/ **Gifts**	R
R	o. Medies (Sonbrandroom, malariapille ens.)/ **Medical (suntan cream, malaria pills etc.)**	R
R	p. Ander (Spesifiseer)/ **Other (Specify)**	R
R	*	R

8. Hoeveel bestee u op die volgende jaarlikse fooie? / **How much do you spend on the following annual fees?**

a.Visvangpermitfooie/ **Fishing permit fees**	R
b. Ledegeld/ **Membership fees**	R
c. Affiliasiefooie/ **Affiliation fees**	R

9. Ander jaarlikse visvangverwante uitgawes/ **Other annual fishing-related expenses**

a. Aankoop van visvangtoerusting (stokke, katrolle, GPS, eggo-meter)/ **Purchase of fishing equipment (rods, reels, GPS, echo-sounder)**	R
b. Bootinstandhouding (diens, herstel)/ **Boat maintance (servicing, repair)**	R
c. Boot seevaardig-inspeksie en veiligheidstoerusting/ **Boat seaworthy inspection and saftey gear**	R
d. Versekering van alle visvangverwante gereedskap/ **Insurance of all fishing-related equipment**	R
e. Ankerfooie/ **Mooring fees**	R
f. Klerasie/ **Fishing Clothing**	R
g.Stoorfooie van bote en toerusting/ **Storage fees for boats and equipment**	R
h. Ander, spesifiseer/ **Other, specify**	R
*	R
*	R

AFDELING C VISVANG BESONDERHEDE
SECTION C FISHING DETAILS

1. Wat maak u met die vis wat u vang? /
What do you do with the fish that you catch?

Eet /**Eat**	1
Vang en vrylating / **Catch and Release**	2
Skenk/ **Donate**	3
Verkoop / **Sel**l	4
Ander / **Other**	5

Spesifiseer/ **Specify** _____

2a. Het u al ooit 'n seevis met 'n merker gevang? / **Have you ever caught a sea fish with a tag?**

Ja/**Yes**	1
Nee/**No**	2

2b. Indien Ja, het u die merker aan ORI gerapporteer ?/ **If Yes, did you report the tag to ORI?**

Ja/**Yes**	1
Nee/**No**	2

2c. Het u tans 'n geldige rekreasie-visvangpermit in u besit?/ **Do you currently have a valid recreational fishing permit in your possession?**

Mariene/ Marine

Ja/**Yes**	1
Nee/**No**	2

Varswater/ Freshwater

Ja/**Yes**	1
Nee/**No**	2

2d. In watter van die volgende provinsies het u 'n varswaterhengelpermit?**/ In which of the following provinces do you have a freshwater angling permit?**

Wes-Kaap / ***Western Cape***	1
Gauteng	2
Oos-Kaap / ***Eastern Cape***	3
Noordwes / ***North West***	4
Mpumalanga	5
Noord-Kaap / ***Northern Cape***	6
KwaZulu-Natal	7
Limpopo	8
Vrystaat / ***Free State***	9
Buite RSA /***Outside RSA***	10

2e. Is u al ooit nagegaan/ geïnspekteer deur 'n visseryebeheerbeampte?/ **Have you ever been checked/ inspected by a fisheries control officer?**

Ja/**Yes**	1
Nee/**No**	2

2 f. Indien Ja, hoeveel keer is u nagegaan in die laaste 12 maande?/ **If Yes, how many times have you been checked in the last 12 months?**

3a. Is visvang u primêre rekreasieaktiwiteit? / **Is fishing your primary recreational activity?**

Ja/**Yes**	1
Nee/**No**	2

3b. Watter ander rekreasieaktiwiteite neem u graag deel aan (bv. Jag, ens.)? / **What other recreational activities do you participate in (e.g. Hunting, etc.)?**

_____

_____

_____

4. Sien u uself as 'n rekreasievisser? **/ Do you consider yourself a recreational fisher?**

Ja/**Yes**	1
Nee/**No**	2

5. Sien u uself as 'n sportvisser? **/ Do you consider yourself a sports fisher?**

Ja/**Yes**	1
Nee/**No**	2

6. Motiveer op 'n skaal van belangrikheid hoekom u visvang? / **Justify on a scale of importance why you partake in fishing?**

	Uiters belangrik / Extremely important				
	Baie belangrik / Very important				
	Belangrik / Important				
	Minder belangrik / Slightly important				
	Glad nie belangrik nie / Not at all important				
a. Om saam vriende te wees/ **To be with friends**	1	2	3	4	5
b. Vir familierekreasie/ **For family recreation**	1	2	3	4	5
c. Vir ontspanning/ **For relaxation**	1	2	3	4	5
d. Om weg te kom van u gereelde roetine/ **To get away from the regular routine**	1	2	3	4	5
e. Om nuwe en verskillende goed te ervaar (uniek)/ **To experience new and different things (unique)**	1	2	3	4	5
f. Om avontuur en opwinding te ervaar/ **To experience adventure and excitement**	1	2	3	4	5
g. Om vis te vang vir eetdoeleindes / **To catch fish to eat**	1	2	3	4	5
h. Vir die uitdaging van die sport/ **For the challenge of the sport**	1	2	3	4	5
i. Om 'n 'trofee'-vis te vang/ **To catch a 'trophy' fish**	1	2	3	4	5
j. Vir die genot daarvan/ **For the fun and enjoyment thereof**	1	2	3	4	5
k. Om my vaardighede te toets/ **To test my skills**	1	2	3	4	5
l. Om deel te neem aan kompetisies/ **To participate in competitions**	1	2	3	4	5
m. Om saam mense te wees met soortgelyke belangstellings/ **To be with people with similar interests**	1	2	3	4	5
n. Deel van my leefstyl/ **Part of my lifestyle**	1	2	3	4	5
o. Vir my welstand**/ For my wellbeing**	1	2	3	4	5
p. Om vis te verkoop om my lewe aan te vul/ **To sell fish to supplement my livelihood**	1	2	3	4	5
q. Om my familie te voed **/To feed my family**	1	2	3	4	5

7. Enige ander opmerkings en/of komentaar? / **Any other comments and/or recommendations?**

8. Sal u bereid wees om deel te neem aan 'n internet- of telefoniese opvolgopname om meer gedetailleerde data oor u visvanguitgawes te versamel ? / **Would you be willing to participate in an internet or telephonic follow-up survey to collect more detailed data on your fishing expenses?**

Ja/ **Yes**	1
Nee/ **No**	2

9. Indien Ja, kan ons u naam, posadres, telefoonnommer en e-posadres kry?/ **If yes, may we have your name, mailing address, telephone number and email address?**

Naam/ **Name:**

Straat/ **Street :**

Straat/ **Street:**

Stad/ **City:**

Land/ **State:** **Zip**:

Telefoonnommer/ **Telephone number:**

E-posadres/ **Email adress:**