



tourism

Department:
Tourism
REPUBLIC OF SOUTH AFRICA

FINAL REPORT:

**DEVELOPMENT OF A FRAMEWORK TO
ASSESS THE ECONOMIC IMPACT OF
COASTAL AND MARINE TOURISM IN
SOUTH AFRICA**

**CAPE PENINSILA UNIVERSITY OF
TECHNOLOGY**

MARCH 2017



ABBREVIATIONS	
ARIMA	AUTOREGRESSIVE INTEGRATED MOVING AVERAGE
AU	AFRICAN UNION
CAPI	COMPUTER-ASSISTED PERSONAL INTERVIEWING
CBA	COST BENEFIT ANALYSIS
CMT	COASTAL AND MARINE TOURISM
CGE	COMPUTABLE GENERAL EQUILIBRIUM
DEA	DEPARTMENT OF ENVIRONMENTAL AFFAIRS
EUROSTAT	EUROPEAN STATISTICS
FIFT	FREE INDEPENDENT FISHING TOURISM
GBTS	GREAT BRITAIN TOURISM SURVEY
GDP	GROSS DOMESTIC PRODUCT
GGP	GROSS GEOGRAPHIC PRODUCT
GSP	GROSS STATE PRODUCT
HDI	HISTORICALLY DISADVANTAGED INDIVIDUAL
ICMTS	INTERNATIONAL COASTAL AND TOURISM SOCIETY
I-O	INPUT-OUTPUT MODEL
IFT	INDUSTRIALISED FISHING TOURISM
LUC	LAND USE CONSULTING LIMITED
MLRA	MARINE LIVING RESOURCES ACT
MMO	MARINE MANAGEMENT ORGANISATION
MPA	MARINE PROTECTED AREA
MSP	MARINE SPATIAL PLANNING
NGO	NON-GOVERNMENTAL ORGANISATION
NDT	NATIONAL DEPARTMENT OF TOURISM
NIAS	NATIONAL INCOME ACCOUNTING SYSTEM
NOEP	NATIONAL OCEAN ECONOMICS PROGRAMME
OLS	ORDINARY LEAST SQUARES
PA	PROTECTED AREA
SAIMI	SOUTH AFRICAN INTERNATIONAL MARINE INSTITUTE
SANPARKS	SOUTH AFRICAN NATIONAL PARKS
SIT	SPECIAL INTEREST TOURISM
SOE	STATE OWNED ENTERPRISE
STATS SA	STATISTICS SOUTH AFRICA
STSA	STATISTICS AND TSA
SNA	SYSTEM OF NATIONAL ACCOUNTS
SUT	SUPPLY AND USE TABLES



tourism

Department:
Tourism
REPUBLIC OF SOUTH AFRICA

TEV	TOTAL ECONOMIC VALUE
TDGDP	TOURISM DIRECT GROSS DOMESTIC PRODUCT
TDGVA	TOURISM DIRECT GROSS VALUE ADDED
TGF	TRIP GENERATING FUNCTION
TSA	TOURISM SATELLITE ACCOUNT
UN	UNITED NATIONS
UNCTAD	UNITED NATIONS CONFERENCE ON TRADE AND DEVELOPMENT
UNEP	UNITED NATIONS ENVIRONMENTAL PROGRAMME
UNWTO	UNITED NATIONS WORLD TOURISM ORGANISATION
WTP	WILLINGNESS TO PAY
WWF-SA	WORLD WILDLIFE FUND – SOUTH AFRICA



TABLE OF CONTENTS

1. Introduction.....	10
2.1 An overview of Operation Phakisa.....	11
2.1.1 CMT Lab overview	17
2.2 CMT global overview	23
2.3 Economic contribution of CMT case studies	27
2.4 Marine Protected Areas (MPAs).....	30
2.5 CMT in South Africa.....	33
2.6 Economic impacts of tourism	34
2.7 Measuring economic impacts of CMT and global cases.....	36
2.7.1 Cost Benefit Analysis (CBA).....	36
2.7.2 Input-Output (I-O) models	37
2.7.3 General equilibrium models	38
2.7.4 Tourism Satellite Account (TSA).....	39
2.7.5 Time-series forecasting methods.....	42
2.8 CMT economic impact studies – global cases	43
2.9 Assessing the economic impacts of tourism in South Africa	62
2.9.1 CMT economic impact studies - South Africa.....	68
3. Guidelines for the Economic Impact Assessment of CMT	76
4. Conclusion.....	77
References.....	81



tourism

Department:
Tourism
REPUBLIC OF SOUTH AFRICA

LIST OF TABLES

Table 1: Marine tourism and coastal tourism identified by the CMT Lab.....	21
Table 2: Coastal and marine activities	26
Table 3: Potential Benefits and Costs of MPAs	32
Table 4: Net economic impact by type of marine wildlife tourism	57
Table 5: Methodologies used to research the trends in the economic value of tourism in Cape Town	68



tourism

Department:
Tourism
REPUBLIC OF SOUTH AFRICA

LIST OF FIGURES

Figure 1: CMT and leisure (Maritime Cluster, 2015).....	13
Figure 2: Why tourism matters? Source: UNWTO (2016).....	35
Figure 3: Sequence from CMT to economic contribution within MPAs	42



EXECUTIVE SUMMARY

This report focusses on key aspects emerging from Phase 1 of the study to develop a framework to assess the economic impacts of coastal and marine tourism in South Africa. A desktop study approach is adopted to review relevant literature which provides national and international perspectives to identify best practices and current trends with regard to assessing the economic impacts of Coastal and Marine Tourism (CMT) in order to inform the development of a framework to assess CMT's contribution to South Africa's tourism sector. The development of a standardised framework will assist in measuring, monitoring and managing the economic impacts of CMT in South Africa.

The main aspects and themes covered are:

- Global and national overview of CMT, especially its economic contribution
 - Growing importance of CMT globally and nationally
 - Growing prominence of water-dependent recreational activities
 - CMT is amongst the largest and oldest sectors of the tourism industry
 - Range of different types of CMT and recreational activities
 - While different definitions of CMT are noted, the key characteristics relate to tourists and visitors to coastal and marine areas participating in activities
 - CMT is diverse and covers a range of coastal and marine assets (beyond cruise and beach tourism)
 - Socio-economic and environmental/ conservation roles of CMT emphasised
 - Importance of Marine Protected Areas (MPAs) foregrounded
 - Increasing threats that impact on CMT which includes climate change, economic shifts, security concerns and developmental demands
- Overview of Operations Phakisa
 - Aimed at unlocking the economic potential of the country's oceans as part of unlocking the ocean's economy
 - Identification of six focus areas including CMT
 - To provide jobs and improve socio-economic conditions of previously disadvantaged communities
 - Highlights that South Africa's oceans are capable of generating an estimated R129 177 billion contribution to the Gross Domestic Product (GDP) by the year 2033
 - Links between CMT and leisure activities
 - Provides an overview of main coastal and marine assets/ resources
 - Key challenges identified which include lack of uptake of coastal and marine assets/ resources for tourism purposes, CMT product portfolio, high levels of unemployment and unskilled resources (especially in rural areas and around marine assets), limited participation of the private sector, insufficient infrastructure and underdeveloped and uncoordinated marine related events and recreation
 - Stresses the importance of skills and capacity building as well as research, technology and innovation as enablers
 - Identified the existing environmental regulatory framework as a gap in the framework and sees a need for a new coordinated sectoral management system



- Importance of integrated ocean governance and protection
- CMT Lab overview
 - Objective to unlock the potential of South Africa's CMT by developing implementation plans for initiatives
 - Ten steps identified: (1) Priorities and outcomes, (2) Labs, (3) Budget, (4) Public feedback, (5) Roadmap, (6) Delivery units, (7) Performance management and problem solving, (8) Capacity building, (9) Communicating impact and (10) Institutionalising delivery
 - Identified key stakeholders to participate in the Lab
 - Marine tourism and coastal tourism types/ characteristics delineated by the Lab
 - Need to understand the complex tourism value chain and multiple stakeholders
 - Key proposed Lab initiatives: marketing, safety and security, regulations and permitting, skills and transformation, sustainability/ spatial planning, events, routes, infrastructural developments and hidden gems
- Economic contributions of CMT case studies
 - Numerous studies focusing on the economic impacts of tourism (many events tourism) but fragmented and limited research on CMT
 - Focus on national and global or product specific contributions (such as whale watching and shark diving) contributions based primarily on tourism figures
 - Main methodological approaches
 - Survey based (tourists/ visitors and tourism enterprises)
 - Macro-economic analysis drawing on national economic data
 - International datasets (eg. UNTWO)
- MPAs and measuring economic impacts
 - One of the largest part of the world's protected areas (PAs)
 - Value of well-managed MPAs as a means of protecting entire ecosystems and supporting resource recovery
 - Potential benefits and costs of MPAs identified in relation to extractive users, non-extractive users and management
- CMT in South Africa
 - Part of tourism which has been acknowledged as one of the biggest key economic sectors in South Africa, which continues to receive considerable growth
 - Main destinations are in the Western Cape, Eastern Cape and KwaZulu-Natal
- The main approaches to measure the economic impacts of CMT
 - Cost Benefit Analysis (CBA): tool used either to rank projects or to choose the most appropriate option and the ranking or decision is based on expected economic costs and benefits
 - Input-Output (I-O) models: used to study the environmental, social and economic repercussions and impacts of human activities – focus direct, indirect and induced demand as well as multiplier effects - using specific indicators such as GDP, labour income and employment.



- General equilibrium models: “an economy-wide model that includes that feedback between demand, income and production structures and where all prices adjust until decisions made in production are consistent with decisions made in demand” (Rossouw & Saayman, 2011:757). Focuses on the changes in the economic contribution that result from specific events or activities that comprise “shocks” to tourism demand and that these changes generate three types of effects, namely: direct effects, indirect effects and induced effects.
- Tourism Satellite Account (TSA): TSA is the single most important new macro-economic policy analysis tool developed in the last several decades to measure tourism demand and its implications for a national economy. TSA is a method of measuring the direct economic contributions of tourism expenditure to a national economy using the System of National Accounts.
- Time-series forecasting methods: used to predict tourism demand for specific tourism locations.
- Main issues for consideration when undertaken economic impact assessments for CMT
 - Addressing secondary benefits and multiplier effects
 - Types, scope and quality of data/ information required
 - Sample sizes
 - How to ensure reliability and validity?
- Proposed guidelines for the economic impact assessment of CMT
 - Simplify the system and approach
 - Develop tools and data collection guidelines to improve data consistency and quality
 - Adopt a consultative and collaborative process
 - Permit comparative and trend analyses over time
 - Research as well as monitoring and evaluation efforts on CMT need to be aligned and consolidated
- Identified key economic indicators to inform the development of the framework
 - Number of CMT visitors
 - Average and overall expenditure patterns of visitors in specific categories
 - Number and quality of jobs in each category (for example, permanent, seasonal and contract as well as disaggregated by gender, race, etc.)
 - Impact on local business (both in terms of direct and indirect/ multiplier effects)
 - Use of local services
 - Impact on regional and national GDP
 - Consideration of economic leakages



1. Introduction

At the United Nations Conference on Trade and Development (UNCTAD) held in 2014, coastal and marine tourism (CMT) was identified as one of the key sectors contributing towards the development of the oceans economy (United Nations - UN, 2014). The concept of the oceans economy, also referred to as the blue economy, is one that simultaneously promotes economic growth, environmental sustainability, social inclusion and the strengthening of oceans ecosystems (The Commonwealth, 2014; UN, 2014). As indicated by UNCTAD (UN, 2014), the oceans economy offers significant development opportunities for sectors such as sustainable fisheries and aquaculture, renewable marine energy, marine bio-prospecting, maritime transport and marine and coastal tourism. UN (2014) specifically estimates that globally almost 350 million jobs are linked to the oceans through fishing, aquaculture, coastal and marine tourism and research activities, with an additional one billion people relying on fish as their primary source of protein. Furthermore, the African Union (AU, 2012) indicates that 200 million Africans rely on the ocean for food and nutrition with 39 of the 54 African countries and islands being littoral.

At the very same conference (UNCTAD), it was indicated that of the 1 billion international tourists recorded in 2012, the United Nations World Tourism Organisation (UNWTO) estimated that approximately one of every two tourists visited the seaside; an important source of income and foreign exchange earnings (UN, 2014). This serves as an indication of the significance of CMT. However, the conference emphasised that CMT is vulnerable to climate change, natural disasters and pollution, which in turn might affect their contribution to the economy. More generally, UNWTO (2016) states that international tourism represents 7% of the total world exports and 30% of services exports with the share of exports of goods and services increasing from 6% to 7% in 2015, with the international tourism outgrowing world merchandise trade for the fourth consecutive year. UNWTO (2016) indicates that the total export value from international tourism amounted to US\$1.4 trillion and that income generated by international visitors on accommodation, food and drink, entertainment, shopping and other services and goods reached an estimated US\$1,232 billion in 2015.

In 2014, South Africa launched Operation Phakisa which focuses on unlocking the economic potential of the country's oceans. Six focus areas were identified, including CMT. The government of South Africa therefore



plans to accelerate growth and development by unlocking the potential of CMT to provide jobs and improve socio-economic conditions of previously disadvantaged communities in the country. However, in South Africa, there is currently limited data available relating to the economic impact of CMT which will provide a better understanding of the economic contribution of CMT and its potential influence on the tourism sector in South Africa. Furthermore, it is unknown as to what methodologies are being used to assess CMT impacts.

The purpose of this desktop study is to review relevant literature which will provide a national and international perspective to identify best practices and current trends with regard to assessing the economic impacts of CMT in order to inform the development of a framework to assess CMT's contribution to South Africa's tourism sector. A standardised framework can assist in measuring, monitoring and managing the economic impacts of CMT in South Africa. The literature reviewed in this desktop study includes a global and national overview of CMT, its economic contribution, Marine Protected Areas (MPAs) and measuring economic impacts. An overview of Operations Phakisa is presented first to provide context to the study.

2.1 An overview of Operation Phakisa

The South African Government, through the Department of Planning, Monitoring and Evaluation launched Operation Phakisa in July 2014 (Operation Phakisa, 2014). Operation Phakisa (Phakisa means “fast” or “hurry up”) is a programme which is meant to produce fast results and involves the bringing together of key stakeholders in a “laboratory” for practical and detailed intensive planning as well as set targets which are presented for public viewing, led by thorough monitoring of progress and an implementation process which is made public (Operation Phakisa, 2014). Operation Phakisa was conceptualised from analysing and adopting aspects of the Malaysian marine cadastre conceptual model (Institute for Global Dialogue, 2016). As there are various definitions of what is marine cadastre, with respect to the Malaysian model, marine cadastre was defined as marine management system that considers who has special rights, restrictions and responsibilities for marine space activities (Abdullah, Arof & Tajam, 2013).

The Department of Environmental Affairs (DEA) led the first implementation of Operation Phakisa, which focuses on unlocking the economic potential of South Africa's oceans (Operation Phakisa, 2014) and stimulating the country's blue economy (van Wyk, 2105). The Western Cape, Eastern Cape and KwaZulu–



Natal are the coastal provinces identified to be at the driving seat of this initiative and overall, South Africa's oceans are capable of generating an estimated R129 177 billion contribution to the Gross Domestic Product (GDP) by the year 2033 (Operation Phakisa, 2014). The Institute of Global Dialogue (2016) also notes that there are 250 000 jobs directly linked to various maritime regimes locally, but with Operation Phakisa this number could be up-scaled to a million jobs. Initially, Operation Phakisa had four focus areas which were identified, namely (Operation Phakisa, 2014):

- Marine protection services and ocean governance

This area is aimed at the implementation of a tool to involve the stakeholders of the oceans in order to draft the execution and monitoring of an integrated approach to planning in the oceans arena as well as develop an instrument to ensure that governance and enforcement is carried out in a joint and effective manner within a period of a year. This focus area is led by the DEA.

- Aquaculture

The Department of Agriculture, Forestry and Fisheries leads the aquaculture focus area which is aimed at discovering how South Africa's aquaculture can lead to the development of new and existing farms in order to create about 5 500 direct jobs as well as accomplish a collective value of R1.5 billion. .

- Maritime transport and manufacturing

This area focuses on how the maritime transport and manufacturing sector can grow over the next five years in order to be able to increase its contribution to the GDP as well provide employment and is led by the Department of Transport.

- Offshore oil and gas exploration

The Department of Mineral Resources leads the offshore oil and gas exploration focus area which aims to unravel the capabilities of South Africa's offshore oil and gas for economic gain, through the exploration of forty new wells in a period of ten years as well as production through the development of projects.

During an oceans economy review workshop in 2015, two more focus areas were identified and added, namely, small harbours and CMT, the focus of this desktop study, as summarised next.



- Small harbours

Small harbours carry the potential for harbour infrastructure as well as the development of the precincts of small towns. This focus area has the ability to create about 12 000 jobs and a significant contribution to the GDP. This is led by Department of Public Works (Operation Phakisa, 2015).

- CMT

Led by the National Department of Tourism (NDT), initiatives within the coastal tourism space, projects as well as interventions will be put in place and to analyse the contribution and potential contribution of CMT to non-urban communities (Operation Phakisa, 2015).

Operation Phakisa acknowledges that CMT and leisure is extremely diverse and covers a wide range of coastal and marine assets as well as tourism, recreational and leisure pursuits (Maritime Cluster, 2015). They also note that CMT is inclusive of far more than cruise or beach tourism. Figure 1 below displays the sectors associated with CMT and does not exclude the leisure aspect which goes alongside with CMT.

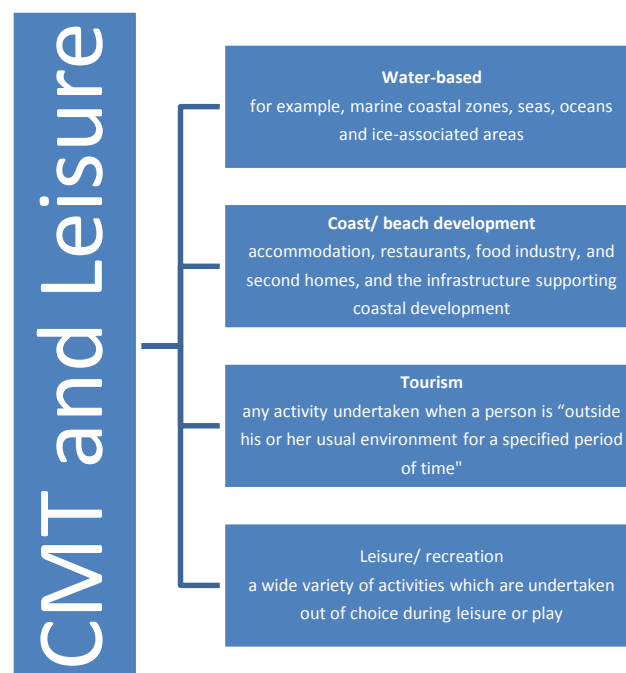


Figure 1: CMT and leisure (Maritime Cluster, 2015)



Operation Phakisa's vision and aspiration towards CMT is stipulated as follows: "by 2030 South Africa is the premier experience-based coastal and marine tourism destination in Africa and is renowned as a top coastal and marine tourism destination globally with a unique range of experiences for all visitors" (Maritime Cluster, 2015:4). South African Government News Agency (2014) states that in 2010 South Africa's oceans economy employed approximately 316 000 people in the sector and contributed approximately R54 billion to the country's GDP.

There are a number of central challenges which Operation Phakisa has identified which could potentially prevent the development of a successful CMT sector in South Africa, and they are (Maritime Cluster, 2015:7):

- South Africa has abundant coastal and marine assets that are not adequately considered or used for tourism purposes
- There are insufficient tourism products in the right place to make South Africa a CMT destination for local, domestic and foreign tourists
- Too few local, domestic and foreign visitors recognise and make use of South Africa's marine assets for tourism purposes
- South Africa has unacceptably high levels of unemployment and unskilled resources, especially in rural areas and around marine assets
- Numerous public sector role players, each with different (sometimes conflicting) mandates in respect of CMT development
- The private sector in South Africa is reluctant to develop tourism products without certainty of profitability
- Funders have a negative view on funding tourism projects
- Marine related events and recreation are underdeveloped and uncoordinated
- There is insufficient infrastructure to support CMT development, especially in rural areas
- South Africa has rigorous environmental protection legislation and controls which impacts on development



All the above mentioned six focus areas will be supported by two enablers, to ensure and provide sufficient technical and educational skills required for implementation, namely, skills and capacity building as well as research, technology and innovation as outlined next (Operation Phakisa, 2014):

- Skills and capacity building

The South African International Marine Institute (SAIMI) has been recognised to be able to coordinate all skills and capacity buildings practices involved in the Operation Phakisa's Oceans Economy. An amount of R296 million has been allocated by the Department of Higher Education and Training to provide funding and establish the National Cadet Programme.

- Research, technology and innovation

The Department of Science and Technology will help enable research in studies involving the maritime environment.

The existing sectoral approach is said to only provide a partial picture of the overall sector, which presents a certain level of difficulty in achieving a balance as well as the management of interdependencies (Operation Phakisa, 2014). Therefore, the existing environmental regulatory framework has identified a gap in this framework and sees a need for a new coordinated sectoral management system (Operation Phakisa, 2014). Operation Phakisa hopes to action the implementation regarding this newly developed coordinated ocean governance approach which is to "implement an overarching, integrated ocean governance framework for sustainable growth of the ocean economy that will maximise socio-economic benefits while ensuring adequate ocean environmental protection within the next five years" (Operation Phakisa, 2014:6). Van Wyk (2015), however, warn that while Operation Phakisa has a strong focus on economic matters it ignores two unresolved issues in relation to the country's extended continental shelf claim, which if successful in will result in South Africa's territory increasing significantly together with security and economic opportunities and challenges. This Van Wyk (2015) contends may warrant the consideration of a 10th province in South Africa. The importance of the extended continental shelf claim is that it includes the exploration and exploitation of extended shelf resources such as oil and gas, gas hydrates, seabed mining, and marine genetic resources which are likely to overlap with that of Mozambique and Namibia.



According to Operation Phakisa (2014), three focus areas were identified under the integrated ocean governance and protection spectrum, namely:

- Integrated framework and governance

For the development of an overarching governance plan by March 2016.

- Ocean protection

For the population of the ocean environment all illegal activities and the promotion of its multiple socio-economic benefits.

- Marine spatial planning (MSP)

To develop a national MSP framework by December 2015, a regional MSP framework and a more detailed small-scale marine spatial plan, enabling a sustainable oceans economy.

Ideally, the integrated ocean governance and protection services will encourage new growth areas in the ocean economy, therefore unlocking the ocean economy through sustainable tourism development (Operation Phakisa, 2014). For CMT, the NDT will act as a business head as provide a platform for a research study to identify the highest potential, sustainable growth generators in the coastal marine sector and will be based on existing economic, social and environmental information (Operation Phakisa, 2015).

In 2016, a report titled “Toward a South African and Southern African Integrated Oceans Governance Framework” was published resulting from proceedings from a symposium held in 2014 following a revelation that maritime security and oceans governance are rapidly becoming important international challenges. The symposium aimed “to build on discourses regarding South Africa’s evolving approach to national security and development focusing on the strategic significance of its maritime domain and that of the African continent” (Institute for Global Dialogue, 2016:3). Furthermore, the symposium aimed at making use of South Africa’s positioning as a “geographically pivotal state”, placing it as a significant contributor to global ocean’s governance, maritime security and functional cooperation together with the promise of a stable economy. Through the discussions, it was concluded that South Africa was looking for a way forward in terms of mapping processes and including all the necessary developmental elements. South Africa had to revamp



institutions as well as develop new ones and also establish an integrated approach for all sectors involved and affected by policies regarding the ocean economy. It also came through that Operation Phakisa was seen as an opportunity to bring about this integration as it will bring together departments. It is evident that the Operation Phakisa initiative has shown progress since inception. In April 2016, President Jacob Zuma provided an update on the implementation of Operation Phakisa (DEA, 2016). He cited that the government has unlocked investments amounting to about R17 billion in the Oceans Economy, as a result of Operation Phakisa and further added that since the inception of Operation Phakisa, over 4 500 jobs have been created in the various sectors (DEA, 2016). The update brought about by the President focused on the development of ports infrastructure as the aim is for ports to be more efficient and have the necessary infrastructure to service the maritime industry and attract investment (DEA, 2016). He noted that R7 billion had been allocated by Transnet National Ports Authority to improve South Africa's ports and announced the newly-acquired boat hoist in Port Elizabeth which is only the second of its kind in the country and has a ninety ton capacity which also forms part of the construction of a new slipway (DEA, 2016). The President also mentioned some progress in the ports of Durban, KwaZulu-Natal and Saldanha Bay, Western Cape. President Zuma further indicated that Operation Phakisa will also be used to develop rural economies through small harbour development, CMT and aquaculture and that R80 million has been allocated for the rehabilitation and maintenance of proclaimed fishing harbours in Gansbaai, Saldanha Bay, Struisbaai, Gordons Bay and Lamberts Bay in the Western Cape (DEA, 2016).

The next section provides an overview of the CMT Lab which was held earlier this year.

2.1.1 CMT Lab overview

A CMT Lab was held this year, with an objective to unlock the potential of South Africa's CMT, writing detailed implementation plans for initiatives along the entire coastline (NDT, 2016). The Lab was a collaboration between NDT and the DEA to advance the economic potential of South Africa's natural resources (NDT, 2016). In terms of the context of the Lab, NDT (2016) notes that the 2014 oceans economy lab and 2015 national biodiversity economy strategy described opportunities for the growth of South Africa's oceans and biodiversity economy. Therefore, NDT and the DEA jointly decided to use the implementation lab



methodology to create detailed implementation plans to create that growth and the Lab took place from the 10 April to the 13 May 2016.

The NDT and DEA took the initiative to conduct an implementation Lab on how South Africa's biodiversity can be used for transformation purposes. They further note that "labs are a core component of a 10-step methodology, but used alone they are not the silver bullet" (NDT, 2016:8). Therefore, certain pre-conditions need to be in place before starting the Lab and one should always position labs in the context of 10 steps of broader delivery, namely:

1. Priorities and outcomes
2. Labs
3. Budget
4. Public feedback
5. Roadmap
6. Delivery units
7. Performance management and problem solving
8. Capacity building
9. Communicating impact
10. Institutionalising delivery

They further state that key characteristics of the delivery Lab methodology are as follows:

- Participants
15 to 25 cross-cutting stakeholders with sufficient seniority to make decisions with the objective to design implementation plans
- Leadership
Government leaders frequently engaged in the Lab with the objectives to provide live guidance, debottleneck processes and sign off on outputs
- Timeline
Five weeks continuous fulltime process with high level aspirations to detailed implementation with the objective to produce fast, actionable results



- Venue
Off-site of their usual employment, with work streams in different rooms in the same site with the objective to work towards a common goal and focus collectively without day job distractions
- End products
“3-feet” level implementation plan with required budget identified for realising initiatives with the objectives to improve chances of implementation
- Working style
Intense problem solving that is non-hierarchical and collaborative with the objective to avoid non-productive discussion and extract high quality input

NDT (2016) highlighted that in order to do this work, 40 people from more than 20 organisations engaged in the CMT Lab from different sectors, namely: the public sector, State Owned Enterprises (SOEs), private sector, Non-governmental organisations (NGOs) and academics.

Over the 5 week period, the CMT Lab worked to gather and prioritise issues and to develop solutions and action plans, which includes lab preparation, gathering of issues, prioritisation of issues, developing detail action plan followed by finalisation (NDT, 2016). The investor day helped the Lab identify potential sources of funding for their initiatives/ projects with the potential to finance activities, and included the following:

- African Development Bank
- National Empowerment Fund
- Department of Trade and Industry
- KZN Trade and Industry
- eThekweni Municipality Economic Development Unit

NDT (2016) noted that there were limitations experienced within the Lab, namely:

- Inadequate baseline data for the sector
- Lack of or outdated feasibility studies for infrastructural developments
- Limited participation of the coastal municipalities and the private sector
- Limited “3-feet” plans – gaps and missing information in “3-feet” plans due to limited participation



tourism

Department:
Tourism
REPUBLIC OF SOUTH AFRICA

However, the Lab recognised that within the 3rd longest coastline in Africa, CMT has untapped potential to contribute to South Africa's development and transformation as South Africa has 15% of the global marine species with 10 000 species of marine animals and plants (NDT, 2016). Van Wyk (2015) that South Africa's maritime sovereignty includes a coastline of 3 924 km; an exclusive economic zone of 1 553 000 km² and 4 340 000 km² maritime territory. Therefore, the Lab highlighted that CMT focuses on recreational activities along the coastal zone and/ or the marine environment. The table below depicts the tourism activities which are within the CMT framework as identified by the CMT Lab.



Table 1: Marine tourism and coastal tourism identified by the CMT Lab

Marine Tourism	Coastal tourism
Marine wildlife tourism (e.g. seals, dolphins, turtles etc.)	Coastal wildlife tourism (e.g. land-based whale watching, marine turtle tours etc.)
Recreational fishing (e.g. boat-based fishing, spear fishing, fishing competitions etc.)	Sand/ beach sport (e.g. kite-flying, beach combing, sand dune surfing etc.)
Scuba diving/ snorkelling (e.g. shark cage diving)	Coastal heritage and events (e.g. local seafood and cultural tourism, cultural history etc.)
Water sports (e.g. big wave surfing, yachting, water skiing, water surfing etc.)	Sightseeing (e.g. light house tourism, cycling, marathons etc.)
Ocean experience (e.g. cruise tourism, marinas, island tourism, under water archaeology etc.)	Educational and scientific excursions (e.g. aquariums etc.)
Events (e.g. marine competitions)	Spiritual experiences
	Pure recreational (e.g. dining out, shopping)

Source: Table compiled from NDT (2016)

During the Lab it was estimated that the coastal and marine sector could reach R43.3 billion contribution to the GDP and possibly double the number of jobs by 2030 and also established that their vision is to grow a world class and sustainable CMT destination that directly benefits South Africans (NDT, 2016). The Lab also aspires for South Africa to be ranked amongst the top 10 destinations globally and to grow up to 9% annually which the objectives of encouraging economic growth transformation and sustainability (NDT, 2016). The Lab notes that the tourism value chain is complex, with multiple stakeholders participating, namely (NDT, 2016):

- Where do I want to go?
Travel channels, international and local travel agents and tour operators and self-planned trips
- How do I get there?
International and national air carriers, ground transportation and cruise lines



- Where will I stay?
Luxury, large and small hotels and village accommodations
- What will I see and do?
Beach activities, water-based activities, events, cultural experiences and retail

The Lab developed a set of proposed initiatives which were aimed to address the identified market, these were:

1. Marketing
Integrate CMT into South Africa's brand pillars and increase the share of space of CMT on the internet.
2. Safety and security
Increase security measures in coastal cities, beach areas and coastal attractions, while increasing and sustaining international accreditation standards for water quality, safety and environmental responsibilities.
3. Regulations and permitting
Review legislative framework and incentives to increase participation of Historically Disadvantaged Individuals (HDIs), integrate/ coordinate permitting application processes and approval for events
4. Skills and transformation
Establish a National Customer Service Index and service excellence programme and develop targeted intervention for scarce skills such as cruise, as well as entrepreneurship in coastal areas.
5. Sustainability/ spatial planning
Create a central data repository and develop decision-making tools for sustainable use of CMT resources
6. Events
Identify and elevate events that would attract domestic and international tourists, with a special focus on off-peak season
7. Routes
Unify and market together attractions and individuals routes across the coastline to provide a variety of experiences and stimulate entrepreneurial opportunities



8. Infrastructural developments

Unlock the challenges affecting selected capital intensive projects with great potential for economic development, and develop a framework to deal with future opportunities

9. Hidden gems

Identify and market attractions along the coastline that are not well known but have potential attract visitors

The NDT (2016) further adds that the identified market segments/ themes are: cultural/ spiritual, business/ leisure (BLEisure), adventure, lifestyle and beach. The Lab further identified the following as the next steps to achieving their goals (NDT, 2016):

1. Assign ownership to all activities across implementing agencies
2. Structure and achieve a delivery unit responsible for coordination and implementation
3. Conduct open days and road shows to increase ownership and understanding of the Lab outcomes and implementation
4. Include Lab implementation in re-allocation and budgeting processes
5. Refine “3-feet” plans with the initiative owners
6. Feasibility studies and business case development for the initiatives

The next section presents a global overview of CMT including case studies of the economic contribution of CMT, MPAs and is followed by a synopsis of CMT in South Africa.

2.2 CMT global overview

CMT is amongst the largest and oldest sectors of the tourism industry, dating back to the late nineteenth century where wealthy Americans began visiting coastal areas, particularly Florida (Honey & Krantz, 2007). Orams and Lück (2014) state that nature-based tourism contributes to the coastal economy of many tropical marine systems around the world. This position is supported by Biggs, Hicks, Cinner and Hall (2015) and Hall (2001) who indicate that marine-orientated nature-based tourism plays an important socio-economic role, and provides an incentive for conservation in many coastal regions. Coastal



and marine environments have gained popularity as tourism settings amongst tourists (Honey & Krantz, 2007). The United Nations Environment Programme (UNEP) (2009:10) notes that “coastal tourism is based on a unique resource combination at the interface of land and sea offering amenities such as water, beaches, scenic beauty, rich terrestrial and marine biodiversity, diversified cultural and historic heritage, healthy food and good infrastructure”. According to Seymour (2012:27), marine tourism comprises of a number of different aspects such as marine/ coastal environments, MPAs and marine activities which together contribute to its existence.

The marine tourism industry has been growing steadily (Biggs et al., 2015; Hall, 2001; Orams, 1999). Two-thirds of the planet surface area is made up of the marine environment (Cheung, Sarmiento, Dunne, Frölicher, Lam, Deng Palomares, & Pauly, 2012), therefore presenting the marine environment as a major venue for tourism and recreational activities (Kenchington, 1993). The previous years have presented a growth in nature-based tourism, marine areas as well as species (Lange & Jiddawi, 2009; Vianna, Meekan, Pannell, Marsh & Meeuwig, 2012; Guerra & Dawson, 2016). However, Biggs et al. (2015) warn that nature-based tourism in marine systems is under threat from global change.

Recreational activities which are dependent on water have become a key element in the tourism industry (Burgin & Hardiman, 2011). For example, whale watching is a fast growing industry across the globe and has gained considerable support from the international community as a non-consumptive activity of marine species (Higham, Bejder, Allen, Corkeron & Lusseau, 2016; Hoyt, 2001; 2012). Greenpeace (2001) adds that whale watching is a billion dollar industry which is available in more than 87 different countries around the world, attracting over a million participants yearly. Other examples of such tourism activities include diving and snorkelling with manta rays and seals, diving with sharks and turtles (Cinner, 2014; Anderson & Waheed, 2001). To date, there are many definitions of CMT. Nulty, Annet, Balnaves and Teyssedea (2007:1) define marine tourism as “the sector of the tourism industry that is based on tourists and visitors taking part in active and passive leisure and holidays pursuits or journeys on (or in) coastal waters, their shorelines and their immediate hinterlands”. The Mediterranean Maritime Integrated Projects (2014:1) note that “coastal tourism refers to land-based tourism activities including swimming, surfing, sunbathing and other coastal recreation activities taking place on the coast for which the proximity to the sea is a condition including also their respective services. Maritime tourism refers to sea-based activities such as boating, yachting, cruising,



nautical sports as well as their land-based services and infrastructures” and Orams (1999:13) defines CMT as “recreational activities that involve travel away from ones place of residence and which have as their host or focus the marine environment (where the marine environment is defined as those waters which are saline and tide affected)”. However, based on the current research that the NDT is currently undertaking on CMT, and taking into consideration that there is no standardised definition across this sector, it is noted that in order for South Africa to measure the economic impact of its CMT, South Africa has endorsed the following definition that is used by the International Coastal and Marine Tourism Society (ICMTS, n.d.:1) as derived from Orams (1999) and is proposed for the study:

CMT includes those recreational activities which involve travel away from one's place of residence which have as their host or focus the marine environment and/ or the coastal zone.

The entire coastal and marine system is diverse and complex. Some of the key components and indicated by ICMTS (n.d.):

- **Coastal ecosystems:** such as estuaries, coastal dunes, rocky coasts, sandy beaches, coastal cliffs, intertidal (littoral) areas.
- **Marine ecosystems:** such as coral reefs, benthic, kelp forests, rocky reefs, continental shelves, sea-mounts, hydro-thermal vents, open oceans, polar oceans.
- **Oceanic zones:** Epipelagic, mesopelagic, bathypelagic, abyssalpelagic, hadalpelagic.
- **Coastal zones:** Inshore, littoral, foreshore, backshore.

The coastal and marine recreation activities are presented in Table 2 below.



tourism

Department:
Tourism
REPUBLIC OF SOUTH AFRICA

Table 2: Coastal and marine activities

Coastal Recreational Activities	Marine Recreational Activities
<ul style="list-style-type: none">• sand-dune surfing• beach volleyball• tidal-pool exploration• kite-flying• land-yachting• fishing• walking• skim-boarding• horse-riding• sand-castle building• sand sculpting• radio-controlled boating• wildlife watching• shell-fish gathering• beach-combing• sun-bathing (baking)• picnic• barbecues	<ul style="list-style-type: none">• scuba diving• snorkelling• sailing• yachting• water-skiing• wake-boarding• boat based fishing• wildlife watching• scenic boat cruising• sea-kayaking• surfing• surf-ski paddling• kite-surfing• board-sailing (windsurfing)• dragon-boat paddling• stand-up-paddle boarding, swimming• coastal drives (incl. sea watching from viewpoints)• scenic boat trips/ visits (including to islands)• ferry trips• cruise ship visits (as passengers and local visitors)• going to visitor centres (aquaria, museums, heritage, etc.)• maritime-related events and festivals• health therapy (e.g. thalassotherapy)• reef walking



Coastal Recreational Activities	Marine Recreational Activities
	<ul style="list-style-type: none">• maritime museums

Source: Table compiled from ICMTS (n.d.)

2.3 Economic contribution of CMT case studies

Within the tourism sector, coastal tourism does have significant tourist flows and generates income (Centre for Industrial Studies, 2008). The Centre for Industrial Studies (2008) adds that among destinations, tourists prefer coastal areas as a tourist destination. In 2001, Hoyt noted that a projected annual growth of well beyond 5% was expected over the next number of years where CMT is concerned. Several global case studies are highlighted which illustrates the economic contribution of CMT. These case studies are also elaborated upon further in the report when reviewing the economic impact assessment methodologies utilised.

In **Hawaii**, for example, more than 80% of the area's 7 million annual visitors take part in activities based on CMT, with the majority engaging in scuba diving and snorkelling (Clark, 2015). The Centre for Industrial Studies (2008) strongly affirms that among tourist destinations, areas along the coast are highly preferred by tourists and note the **Mediterranean** region as the world's leading tourist destination, accounting for about a third of the global tourist income. Moreover, **Europe's** coastal environment comprises of a combination of landscapes and natural refuges as well as a whole lot of biological richness (Zurub, Lonescu & Constantin, 2015). Therefore, it is no surprise that CMT is amongst the most significant touristic thematic sub-sectors in Europe (Zurub et al., 2015). The **Great Barrier Reef** has been globally recognised amongst the most popular marine destinations in the world, with about 1.6 million visitors each year (Harriot, 2002).

Whale watching as a commercial endeavour, with important educational, environmental, scientific and socio-economic benefits was estimated to be now at least a 1\$ billion USD industry attracting more



than 9 million participants a year in 87 countries and territories (Hoyt, 2001). In this study and as early as 1994, South Africa was already identified as one of the fastest growing whale watching countries. O'Connor, Campbell, Cortez and Knowles (2009) state that South Africa is a popular destination for both boat and land-based whale watching. They specifically indicate that in 2008 there was a slight increase in overall numbers of whale watch tourists compared to 1998, at a rate of 1.1% per annum over the decade while boat-based whale watchers dramatically increased over the same period at a rate of 14% per annum. Furthermore, O'Connor et al. (2009) noted that in 1998, fifteen boat-based operators took 6 176 whale watchers and generated \$174 500 in direct expenditure and \$1 000 800 in indirect expenditure while in 2008, twelve boat-based whale operators took an estimated 48 000 whale watchers who generated \$2 762 427 in direct expenditure and \$8 192 104 in indirect expenditure. They also stated that land-based whale watching continued to be a huge tourist drawing card, particularly to the Western Cape (with the focus almost exclusively on southern right whales). They estimated that there were 519 150 land-based whale watchers in 2008 and Hermanus received approximately 70% of these or 369 232 tourists in 2008. Their calculations for land-based estimates were from estimated overnight accommodation capacity as well as estimations of whale festival attendance figures.

Vianna et al. (2012) identified shark diving tourism as a significant contributor to the economy of Palau, **Phillippines** which generates about US\$18 million per year and accounts for about 8% of the GDP. They further showed that shark diving generated US\$12 million in salaries for the Palau economy per annum. According to Orams and Luck (2014), the humpback whales which are found in numbers in Vava'u, **Tonga** are an extremely valuable tourism resource, and present economic benefits to the local economy of about T\$10 million per year in 2009 from T\$750 000 per year in 1999. This increase being brought about by an increase in visitors to take part in whale watching, an increased number of operators and an increase in tour prices. A self-reply questionnaire was used to gather data which underscored that whales had become a major pulling factor to the area. Interviews with tour operators were also held, which confirmed the increasing influence of whale-watching to the tourism industry of Vava'u.



O'Malley, Lee-Brooks and Medd (2013) estimated that direct expenditures on manta ray dives in 23 countries was assessed at over US\$73 million annually, with 10 countries accounting for almost 93% of the global expenditure estimate, specifically Japan, Indonesia, Maldives, Mozambique, Thailand, Australia, Mexico, United States, Federated States of America and Palau and the direct economic impact of manta ray watching tourism was estimated at \$140 million annually.

However, with all these developments and increased tourism to the marine environment, it is almost inevitable that there will be damage to the environment if it is not monitored. Numerous studies have been conducted which focuses on the impact of CMT on the natural environment thus, consideration of MPAs in relation to economic contribution is briefly outlined in the following section.



2.4 Marine Protected Areas (MPAs)

MPAs are part of the world's protected areas (PAs). Balmford, Green, Anderson, Beresford, Huang, Naidoo and Manica (2015) estimate the global magnitude of visits to protected areas, arguing that despite PAs covering one-eighth of the land and being a major focus of nature-based recreation and tourism, it is unknown how many and how often people visit PAs. They compiled a globally-representative database of visits to PAs and built region-specific models predicting visit rates from PA size, local population size, remoteness, natural attractiveness and national income. Balmford et al. (2015) conclude that the application of these models to all but the very smallest of the world's terrestrial PAs suggests that together they receive roughly 8 billion (8×10^9) visits per year, more than 80% of which are in Europe and North America. Furthermore, they link region-specific visit estimates to valuation studies and show that these visits generate approximately US\$600 billion per year in direct in-country expenditure and US\$250 billion per year in consumer surplus.

The need for policy evaluation and management regarding the marine environment for tourism activities has been researched by several scholars (Bradford & Robbins, 2013; Neff & Yang, 2013; Techera & Klein, 2013; Carlson, 2012; Luisetti, Turner, Bateman, Morse-Jones, Adams & Fonseca, 2011; Higham, Beijder & Lusseau, 2008; Hall, 2001; Hoyt, 2001). According to Spalding et al. (2014:55), less than 2.3% of the Earth's oceans are protected, despite the ocean covering more than 70% of the Earth's surface area and playing a vital role in helping to regulate climate, provide food and other services such as tourism and recreation. Sink (2016) states that the value of well-managed MPAs as a means of protecting entire ecosystems and supporting resource recovery within their bounds is well established. Sink (2016) further indicates that in South Africa MPAs provide opportunities for marine ecotourism including snorkelling, scuba diving, bird and marine mammal watching, and shark tourism. Sink (2016) also notes that the key proposed Phakisa MPAs that aim to increase benefits through their marine tourism assets and their role in the preservation of South African culture and heritage include Namaqua National Park, Robben Island, Protea Banks and Aliwal Shoal.

MPAs have played a vital role in certain areas to enforce policy regulation and practice in some areas. Dixon and Sherman (1990:8) define MPAs as "any area of the marine environment that has been



granted special status to encourage lasting protection of the natural or cultural resources within that specific region". Barker and Roberts (2008) add that MPAs are those areas which allow opportunities for conservation management and to regulate visitor activities with an environmental management perspective while Page and Connell (2009) note that MPAs are a water-based reserve with protective policies for marine life. Agardy, Bridgewater, Crosby, Day, Dayton, Kenchington and Peau (2003:353) state that the most commonly used definition of MPA internationally is that provided by IUCN, "any area of inter-tidal or sub-tidal terrain, together with its overlying water and associated flora, fauna, historical, or cultural features, which has been reserved by law or other effective means to protect part or all of the enclosed environment". In the Calamianes Islands, **Philippines**, the primary goal of MPAs is to improve coastal management, balancing conservation and development through the engagement with and participation of multiple stakeholders, including governments at multiple levels and communities (Barker and Roberts, 2008:898).

Lucrezi, Milanese, Markantonatou, Cerrano, Sarà, Palma and Saayman (2017) specifically examine the importance of scuba diving tourism as a vehicle to encourage conservation, generate revenue and support local communities which is key to understand scuba diving tourism's interactions with environmental, social, and economic factors in the context of MPAs where dynamics between role players are complex (and often contested as in the case of South Africa). Lucrezi et al.'s (2017) study provides insights into the problems affecting the sustainability of the scuba diving tourism industry in two MPAs in **Italy** and **Mozambique**. They examined the interactions between the industry and environment, economy, non-monetary aspects, society, governance, and scientific community questionnaire surveys and interviews with 20 scuba diving operators.

Higham et al. (2016), Kiszka, Heithaus and Wirsing (2015) and Lusseau (2004) argue that when poorly regulated, tourism based on the observation of marine megafauna can also cause disturbances to the animals, which can lead to negative behavioural and ecological consequences. Vianna et al. (2012) add that long-term interactions between sharks and divers have been proposed to interfere with the behaviour and ecology of shark populations. The behavioural consequences on marine life as a result of disturbances has further been discussed in a number of studies (Aswani, Diedrich & Currier, 2015; Meissner, Christiansen, Martinez, Pawley, Orams & Stockin, 2015; New, Hall, Harcourt, Kauman,



Parsons, Pearson, Cosentino & Schick. 2015; Lusseau, 2004; Orams, 1999). These studies were conducted primarily in **New Zealand, Australia and Mexico, North America and Fiji**. The studies mainly cited that boat interactions have an impact on behavioural patterns of marine animals which is attributable to tourism. These studies also highlight the concerns with regards to feeding, which is mainly to increase visitor satisfaction by luring the animals through human intervention. The following table shows the potential benefits and costs of MPAs.

Table 3: Potential Benefits and Costs of MPAs

Categories	Benefits	Costs
Extractive Users (e.g., commercial and recreational fishermen)	increase in catch, reduced variation in catch and improved catch mix (i.e., greater frequency of older/larger fish)	decrease in catch, congestion on the fishing grounds, user conflicts, higher costs associated with choice of fishing location and increase in safety risks
Non-extractive Users (e.g., divers, eco-tourists, and existence value)	maintain species diversity, greater habitat complexity and diversity higher density levels	damage to marine ecosystem and loss of traditional fishing community
Management	scientific knowledge hedged against uncertain stock assessments and educational opportunities	increase in monitoring and enforcement costs, and foregone economic opportunities (e.g., oil, gas, and mineral exploration and bio-prospecting)

Source: Sanchirico, Cochran and Emerson (2002:10)

In **South Africa**, MPAs are proclaimed in terms of Section 43 of the Marine Living Resources Act (MLRA), which regulates both the exploitation and conservation of marine living resources (World Wildlife Fund – South Africa - WWF-SA, 2014). Operation Phakisa (2014), under its sectors, also aims to create a MPA representative network to safeguard biodiversity and the ecosystem services provided by the ocean as well as facilitate sustainable development. This management is not only directed to the conservation on the marine environment, but to the well-being of marine life as well.



2.5 CMT in South Africa

There are many definitions for tourism. In relation to CMT, one may define tourism as the “act of exchange recreational opportunities for economic benefits” (Kenchington, 1993:5). The United Nations World Tourism Organisation (UNWTO, 2014:3) defines tourism as the activity of visitors which include visitor expenditure. The UNWTO (2014) further defines tourism expenditure as “the amount paid for the acquisition of consumption goods and services, as well as valuables, for own use or to give away, for and during tourism trips. It includes expenditures by visitors themselves, as well as expenses that are paid for or reimbursed by others”. Some of the economic benefits of tourism is that tourism can generate income, provide employment and increase tax (Castro, Molina-Toucedo & Pablo-Romero, 2013).

Tourism has been acknowledged as one of the biggest key economic sectors in South Africa, which continues to receive considerable growth. According to Statistics South Africa (Stats SA, 2015), 98.3% of foreign arrivals into the country were for holiday purposes in the year 2015. Furthermore, the growth of domestic tourists in South Africa has increased annually, with 11.2 million domestic travellers in 2011 (Stats SA, 2011). According to Stats SA (2011), these domestic visitors travel for various reasons such as visiting friends and family, leisure/ holiday purposes and religious reasons, however, a major attraction for these visitors is its coastline. This strongly emphasises the significance of South Africa as a holiday destination and further underscores the importance of the tourism industry's role in South Africa's economy. Stats SA (2015) report that in 2005 474 664 individuals were directly employed in the tourism sector, rising by 205 153 to 608 817 individuals in 2014. The tourism and travel industry in South Africa has become a significant factor in the economy and a great tool for job creation. The country greatly invests in resources to market its holiday and leisure time offerings nationally and internationally as well as developing a strategy to achieve national service excellence within the tourism industry.

According to Aguiló-Perez and Juaneda (2000) and Vainikka (2013), a tourist would generally choose a holiday destination where there is a seaside. One of the major attractions for these tourists in South Africa is the marine life that is found at various points along the coastline stretching over 3 000



kilometres (South Africa.net, 2016), thus presenting the South African coastline as a major marine tourism destination with the potential to draw more tourists around the world (Seymour, 2012). Along this lengthy coastline lies a number of marine destinations attracting a large number of tourists from around the world, which offer various activities such as snorkelling, whale watching, shark cage diving, swimming, scuba diving and world class surfing (SouthAfrica.net, 2016). Each of these destinations carries their own unique characteristics which serve as a major draw card to the area. For example, the whale route in the **Western Cape** is commonly known for its world class whale watching and shark cage diving experiences. **KwaZulu-Natal** is also commonly known for Scuba diving in Sodwana Bay as well as its warm beaches which mainly attract domestic visitors during the peak season. The **Eastern Cape** Province is predominantly known for its coastal routes such as Tsitsikamma adventure route, the wild coast and the sunshine coast which are more leisure orientated and its coastal parks such as the Hluleka, Dwesa, Mkhambathi and Silaka (Visit Eastern Cape, 2016).

In order to develop guidelines to assess the economic impacts of CMT in South Africa, a brief overview of the economic impacts of tourism is presented next.

2.6 Economic impacts of tourism

Tourism is generally a vibrant and innovative industry, with settings capable of providing employment, entrepreneurship and local businesses which often brings significant economic benefits to local communities (Government of Kenya, 2009). Harriot (2002) adds that the tourism industry is an industry growing globally, with much contribution to the social welfare as the numbers of tourist arrivals continue to grow each year. Therefore, it is no surprise that this industry involves 235 million employees worldwide and accounts for 5% of the global economy (UNWTO, 2016). The importance of tourism to global economies cannot be denied. According to the UNWTO (2016), tourism is amongst the leaders in international commerce, while also representing one of the main sources of income for many developing countries worldwide. The UNWTO (2016) deduces that, to date, the business volume of the tourism is so large that it equals or even surpasses that of food products, automobiles or oil exports. The figure below highlights why the tourism industry matters and its significant contribution on an international scale. According to the UNWTO (2016), international tourist arrivals have increased by



4.6% in 2015 to 1.184 million, while forecasts by the UNWTO (2016) predict these numbers to be 1.8 billion by the year 2030.



Figure 2: Why tourism matters? Source: UNWTO (2016)

It is important to note upfront that although there is an established body of literature on measuring economic impacts and modelling impacts, in terms of tourism research this area is relatively new and generally focused on the impacts of specific tourism events or tourism types and assessing broader contributions to global, national and regional economies. In this regard, contributions to GDP and generation of jobs tend to dominate. However, there is limited and fragmented research (examined in the next sections) that focuses on coastal environments. For example, Penn, Hu, Cox, and Kozloff (2016) state that pristine coastal environments are the key to Hawaii's worldwide fame and attraction to tourists by their economic value remains understudied.

As highlighted above, the tourism industry plays a significant role in South Africa's economy. For South Africa to capitalise on its CMT assets, marketers state clearly that it is necessary to understand the market that uses them, the reasons why people travel and what the visitors would like to gain from



their trip (Hung & Petrick, 2011). This data are important aspects of economic impact methodologies which will be outlined next.

2.7 Measuring economic impacts of CMT and global cases

A considerable number of studies have been conducted around the world to place an economic value to protected areas as well as national parks (Curtin Business School, 2014) which are relevant to ascertaining the economic contribution of CMT. Economists rely on models to quantify economic impacts (Stynes, 1999). A number of methods have been developed to evaluate or assess the economic impact of tourism and recreation to areas in the natural environment for tourism use as outlined next.

2.7.1 Cost Benefit Analysis (CBA)

The former Department of Environmental Affairs and Tourism in South Africa (2004) describes a CBA as a tool used either to rank projects or to choose the most appropriate option and the ranking or decision is based on expected economic costs and benefits. The aim of CBA is to present the lifetime costs and benefits of a project as a single number that can be compared together the interest rate prevailing or the costs and benefits of other projects to give either a net present value or a benefit/cost ratio (HM Treasury, 2014). A number of steps have to followed in conducting the CBA, namely:

- identify and define the project;
- identify consequences of the project or policy;
- determine type of CBA;
- identify incidence of costs and benefits in income;
- if appropriate, adjust costs and benefits of income;
- discount the flows of costs and benefits and use the appropriate decision tool; and finally,
- conduct a sensitivity analysis.

There are a couple of common errors that come with using this method, such as secondary benefits and multiplier effects, double counting, failure to recognise such costs and ignoring implicit or



opportunity costs (Department of Environmental Affairs and Tourism, 2004:6). This technique does not ignore environmental considerations such as the valuation of environmental impacts. Most CBAs in tourism are undertaken in relation to events, specifically sport events (Andersson & Lundberg, 2013; Nooij, Berg & Koopmans, 2013; Kesenne, 2005; Mules and Dwyer, 2005). However, increasing number of studies in relation to nature-based tourism CBA are also emerging (Lanfranchi, Giannetto & De Pascale, 2014; Mayer, 2014).

2.7.2 Input-Output (I-O) models

Rodrigues, Marques, Wood and Tukker (2016) state that an I-O model is widely used to study the environmental, social and economic repercussions and impacts of human activities. Surugiu (2009) describes an I-O model as a matrix that captures the flow of purchases and sales in the inter-industry arena, which allows impacts to be drawn then reported at the highest resolution. Surugiu (2009) adds that this model remains the most common economic impact analysis method that is used at the regional and state level in some countries such as Romania, the United Kingdom, Italy, the United States of America, Australia, New Zealand and Fiji. I-O models are intended to examine the industries within a local economy. Bess and Ambargis (2011) stipulate that key factors that affect the performance of activities and trends are quantified and discussed using industry-specific indicators. Bess and Ambargis (2011) add that these indicators include the GDP, labour income and employment. Economic impacts are generated through direct, indirect and induced demand in the economy which is presented in the manner of the industry as well as consumer purchases of goods and services (McNay, 2011). Furthermore, to effectively make use of the multipliers for impact analysis, users must be in a position to avail detailed information with regards to their geographical region and industrial earnings as well as changes in output or employment that are associated with the project being studied (McNay, 2011). Saayman, Saayman and Ferreira (2009) state that closely associated with I-O models are the calculation of multiplier effects. They assert that multipliers indicate the magnitude of economic benefits in terms of sales, income and employment generated by the initial spending in the economy due to the tourism activity. The main applications of the I-O analysis have been discussed in several studies (Wiedmann, 2009; Briassoulis, 1991; Fletcher, 1989; Miller & Blair, 1985). Rodrigues et al. (2016) states that while I-O models are useful, the detailed level of data required is often not available



which requires the use of proxy data and aggregation. Furthermore, Saayman et al. (2009) indicate that regional input output tables are often not available (also in South Africa) and are expensive to develop because of the extensive data required.

2.7.3 General equilibrium models

Models such as the general equilibrium and economic base models have also been used to quantify economic impact studies in marine tourism and in countries such as New Zealand, Australia, Mauritius, the United States of America, Malaysia and Indonesia (Holmes, Hughes, Mair & Carlsen, 2015; Stynes, 1997). Narayan (2004) used the general equilibrium model to delineate the long-run impact of a 10% increase in tourist expenditure on Fiji's economy. Commonly known as the Computable General Model (CGE), this model is defined as “an economy-wide model that includes that feedback between demand, income and production structures and where all prices adjust until decisions made in production are consistent with decisions made in demand” (Rossouw & Saayman, 2011:757). Berrittella, Bigano, Roson and Tol (2006) use the CGE model to study the economic implications of climate-change-induced variations in tourism demand. They show that variations in tourist flows will affect regional economies in a way that is directly related to the sign and magnitude of flow variations. According to Dywer and Spurr (n.d), tourism's economic impact refers to the changes in the economic contribution that result from specific events or activities that comprise “shocks” to tourism demand and that these changes generate three types of effects, namely: direct effects, indirect effects and induced effects. They add that CGE models consist of a set of equations that characterise the production, consumption, trade and government activities of the economy. CGE models incorporate all I-O mechanisms, mechanisms for potential crowding out of one activity by another as well as for multiplier effects (Dywer & Spurr, n.d). Frechtling (2013) adds that CGE models address how a national economy adjusts to shock such as increased tourism expenditure or higher tax rates and reaches a new general equilibrium. Dywer and Spurr (n.d.) note that the strengths of the CGE approach to assessing the economic impacts of changes in tourism expenditure are many and vary, and they include the ability to:



- model business and household demand for goods and services, relative price changes and substitution effects;
- take account of the interrelationships between tourism, other sectors in the domestic economy and foreign producers and consumers;
- incorporate endogenous price determination mechanisms;
- identify and test underlying assumptions and
- allow initial expenditure shocks to originate from anywhere in the economy.

Dywer and Spurr (n.d) add that CGE models can guide policy makers in a variety of scenarios.

2.7.4 Tourism Satellite Account (TSA)

According to Frechtling (2013), the TSA is the single most important new macro-economic policy analysis tool developed in the last several decades to measure tourism demand and its implications for a national economy. He adds that the TSA is a distinctive method of measuring the direct economic contributions of tourism expenditure to a national economy. Its unique approach derives from employing the principles and structure of the internationally adopted System of National Accounts (SNA) to measuring the direct economic impact of tourism (Frechtling, 2013). He further adds that the TSA comprises of a set of inter-related tables that show the size and distribution of the different forms of tourism expenditure in a country and direct contribution to the GDP, employment and other macro-economic measures of a national economy. The UNWTO (2014) defines the TSA as the second international standard on tourism statistics that has been developed in order to present economic data relative to tourism within a framework on internal and external consistency with the rest of the statistical system through its link to the SNA. The United Nations Statistics Division (2008) states that a complete TSA provides the following:

- macro-economic aggregates that describe the size and the economic contribution of tourism, such as tourism direct gross value added (TDGVA) and tourism direct gross domestic product (TDGDP), consistent with similar aggregates for the total economy, and for other productive economic activities and functional areas of interest;



- detailed data on tourism consumption, a more extended concept associated with the activity of visitors as consumers, and a description on how this demand is met by domestic supply and imports, integrated within tables derived from supply and use tables (SUT), that can be compiled both at current and constant prices;
- detailed production accounts of the tourism industries, including data on employment, linkages with other productive economic activities and gross fixed capital formation; and
- a link between economic data and non-monetary information on tourism, such as number of trips (or visits), duration of stay, purpose of trip, modes of transport etc. which are required to specify the characteristics of the economic variables.

According to Stynes (1997), to assess how much tourism activity contributes to a region's economy, an economic impact analysis should be completed. Stynes (1997) points out that some of the key questions that need to be addressed when doing an economic impact study are as follows:

- How much income do households and businesses earn from tourism?
- How much employment does tourism support in the area?
- What tax revenue does tourism generate?
- What portion of the local business sales can be attributed to tourism?
- How much spending do tourists do in the area?

Therefore, Frechtling (2013) indicates that to measure economic impacts, secondary data from governmental economic statistics, economic base models, I-O models, multipliers and visitor spending surveys need to be analysed.

Wu, Zhang and Fujiwara (2012) highlight that numerous contributions to the scientific literature have analysed whether different sets of attributes, such as psychological factors, demographic factors, or characteristics of the trip, affect tourism expenditure. According to Alegre, Mateo and Pou (2013), to date, many researchers explain how variables impact tourism expenditure from a quantitative perspective. They also add that quantitative studies showing a great number of econometric models which analyse the determinants of tourism expenditure have begun to emerge. It has been noted that the factors commonly analysed to determine tourism expenditure are the profile of tourists as well as



trip characteristics (Alegre et al., 2013; Medina-Muñoz & Medina-Muñoz, 2014), however, Legohérel and Wong (2006:12) argue that these factors are not always the best predictors of tourist behaviour which ultimately lead to tourist expenditure at destinations. Moreover, numerous studies have concluded that expenditure is affected by the overall satisfaction about a destination (Cárdenas-García, Pulido-Fernández & Pulido-Fernández, 2016), which ultimately leads to intentions to revisit a destination (Kim, 2014; Baker & Crompton, 2000). Frechtling (1994) adds that to determine the total spend of visitors to an area chosen for a study is not too complex and the researcher should also include the following considerations:

- The visitor does not live in the study area on a permanent basis
- The visitor purchase or consume products offered at the study area while visiting

These criteria should be taken into consideration when conducting the methodology process in order to generate usable results.

Figure 2 below is a representation of the sequence from CMT to the economic impacts received by coastal economies such as Australia, Fiji, Palau, New Zealand, Greece and the Maldives (Rontos et al., 2012; Shark News, 2012; Vianna et al., 2012; New Zealand Tourism Research Institute, 2009; Wood & Glasson, 2005) , however, only restricted to marine activities within MPAs.

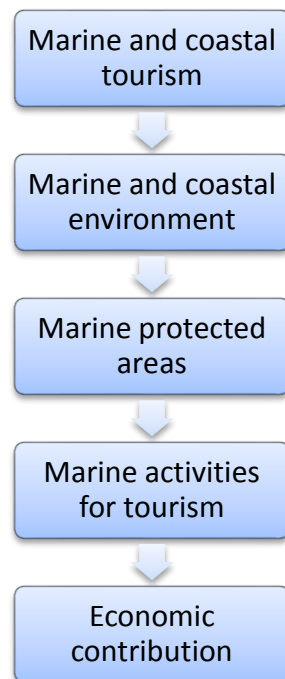


Figure 3: Sequence from CMT to economic contribution within MPAs

Source: Researcher's own compilation adapted from Ojeda-Martinez, Casaldueiro, Bayle-Sempere, Cebrian, Valle, Sanchez-Lizaso & Salas (2009)

2.7.5 Time-series forecasting methods

Claveria and Torra (2014) assert that the increasing interest aroused by more advanced forecasting techniques, together with the requirement for more accurate forecasts of tourism demand at the destination level due to the constant growth of world tourism, has lead us to evaluate the forecasting performance of neural modelling relative to that of time series methods at a regional level. They indicate that since seasonality and volatility are important features of tourism data, there is a need to compare the forecasting accuracy of different techniques. This is also supported by Baggio and Sainaghi (2016) who highlight the complex dynamics of tourism systems and the usefulness of mapping time series into networks. Time-series forecasting methods can also be used to predict tourism demand for specific tourism locations. Burger, Dohnal, Kathrada and Law (2001) argue that time-series forecasting methods can be useful to predict tourism demand for a certain region/destination, especially where there is limited or no access to large databases in order to create



structural models. They compare a variety of time-series forecasting methods as a guideline for tourism forecasters. The specific methods/ techniques were naïve, moving average, decomposition, single exponential smoothing, Autoregressive Integrated Moving Average (ARIMA), multiple regression, genetic regression and neural networks (with the latter two methods being non-traditional techniques). They tested the techniques a metropolitan level to forecast the US demand for travel to Durban, South Africa (a coastal tourism destination) from 1992 to 1998. Burger et al. (2001) specifically compared actual and predicted number of visitors and concluded that the neural network method performed the best.

Lim and McAleer (2002) analysed stationary and non-stationary international tourism time series data by formally testing for the presence of unit roots and seasonal unit roots prior to estimation, model selection and forecasting tourist arrivals in Australia from Hong Kong, Malaysia and Singapore. They found that although the ARIMA model outperforms the seasonal ARIMA models for Hong Kong and Malaysia, the forecasts of tourist arrivals are not as accurate as in the case of Singapore. Thus, their results indicate that economic analyses can have differing results.

The following section looks at previous studies conducted to measure economic impacts of coastal and marine related activities internationally and nationally.

2.8 CMT economic impact studies – global cases

Research in the field of environmental economics as well as natural resource management has increased globally. **Australia** is a country with a large area comprising of the natural environment and marine environment (Jones et al., 2011). A study was conducted by Jones et al.(2011), which aimed at developing simple methods to evaluate the economic contribution of natural environments to local and regional economies. The study was built on other Australian and international studies in order “to develop methods of assessing the economic impact of tourism to natural environments, to clarify key explanatory variables of tourism expenditure and to develop and proof a simple survey instrument” (Jones et al., 2011:3). This research comprised of a desktop research in order to identify methods used to identify impacts, a critical analysis of survey data collected over a six year period in order to assess the key variables in direct tourism expenditure as well as the development, assessment and



modification of a survey instrument that would address the key variables of tourism expenditure. The data collection process was facilitated between 1997 and 2004 as part of an ongoing longitudinal study. Through their discussion, they found that the most appropriate measure to assessing the economic contribution of tourism to a local/ regional economy is through direct tourism expenditure using surveys. They also established that the key explanatory variables of tourism direct expenditure are origin, accommodation type, activities, household income and age. The study also found that:

- A survey developed by researchers can be a successful tool to collect data on direct expenditure.
- The sample sizes can be small, provided they are a true representation of the key variables.
- The best results are achieved through face-to-face interaction with visitors followed by mail back surveys facilitated by the researchers. It was found that surveys which relied on accommodation providers produced inconsistent results.
- Data can be analysed easily and without the use of computers at a local level, however, centralised storage has the ability to analyse data over time during different seasons to clearly demonstrate trends as well as transformations in tourist activity.

In **Western Australia**, the researchers successfully used tourism direct expenditure data when presenting a business case which is accepted to the Western Australian Treasury for increased management resources (Jones et al., 2011). As much as the economic value of protected areas had been realised globally, it is said that the economic benefits of tourism to protected areas cannot be identified easily because identifying a protected area's goods and services, determining who values those goods and services, and measuring these values is not always a straightforward process (New et al., 2015). Phillips (1998) notes that the concept of total economic value (TEV) is now a well-established and useful framework for identifying the various values associated with protected areas. He adds that the TEV of a protected area consists of its use values which are direct, indirect and option values and non-use values which are existence and bequest values. New et al. (2015) therefore measured the economic value by first conducting a desktop research to identify methods to assess the economic evaluation of tourism to natural areas, then a critical analysis of survey data collected at



two sites in Western Australia, between 1997 and 2003 in order to assess key variables in direct tourist expenditure and then the development, assessments and modification of a survey instrument that addresses the key variables of tourism expenditure.

These protected areas encompass a variety of environmental and social values and are valuable to the economy through tourism (New et al., 2015). Jones et al. (2011) also make a bold statement that since political processes often put their focus on the economy and tax returns, establishing the economic value of protected natural areas can assist in the development of robust arguments to achieving funds allocated for government resources for natural area management.

Wood and Glasson (2005:394) note that when measuring the economic impact of a specific tourism resource such as a protected area, and not a tourism destination, it is critical to determine the expenditure amount that is associated merely with that specific resource. Also, the proportion of trip expenditure devoted merely to the resource as well as the visitor's alternative travel plans if the resource did not exist are important to quantify so that economic values are not exaggerated (Wood & Glasson, 2005). Stynes (1997), however, argues that expenditure is more predictable and can be estimated from other studies, but he does recognise that the more the data, the more reliable will be results of the economic assessment. Stynes (1997) further adds that surveys, survey methodologies as well as classification of key explanatory variables remain critical to the quality and reliability of the assessment.

Wilson and Tisdell (2003:52) warn that it is important not to overlook the fact that direct expenditure methods produce only a conservative minimum estimate of the total contribution of natural areas and, thus, excludes the secondary expenditure such as goods/ service providers to natural areas (the multipliers). They further propose that further innovative research is conducted on estimating the economic benefits on a wider scale and incorporate, for example, an estimate of benefits over a period of time with the application of appropriate discount rates and a comparison on a standard basis with other land uses or activities.

Onofri and Nunes (2013) examines worldwide tourist coastal destination choice using a comprehensive global dataset at the country level, for both domestic and international tourists. They



rely heavily on UNWTO datasets. They model tourist's behaviour in terms of a set of simultaneous, interdependent decisions. The two key variables used are coastal tourism flows (international and domestic coastal arrivals) and tourists' market expenditures.

As mentioned previously, in 2012, Vianna et al.'s study on the socio-economic value and community benefits from shark diving tourism in Palau, the **Philippines** identified shark diving as a significant contributor to the economy of Palau. It generates about US\$18 million per year, accounts for about 8% of the GDP and also showed that shark diving generated US\$12 million in salaries for the Palau economy per annum. This emphasises the economic contribution of marine activities in other marine destinations globally. The study further established that using sharks can be profitable and as a resource, can be renewable and non-consumptive, thus providing a model that can be used by other shark diving destinations. In their study methods, Vianna et al. (2012) made use of a socio-economic survey with four different questionnaires as they were directed at four different stakeholders, namely: visitors, dive operators, dive guides and local fishers during the May/ June period in 2010. For the visitors, a self-administered questionnaire was administered and for the other stakeholders, face-to-face interviews were held using a standard questionnaire. The questionnaire included questions about expenditure on accommodation and other activities while in Palau and also assessed the diver's knowledge of the shark sanctuary and its influence on their decision to visit Palau. Vianna et al. (2012) identified two potential sources of error in their estimates of economic values, namely: the degree to which their sample was representative as well as the accuracy of their estimates of the value derived from non-diving activities. Furthermore, Vianna et al. (2012) noted that the divers were only surveyed in May and June therefore seasonal variations in different nationalities were not captured by their results and have acknowledged it as a possible cause for sample bias. Several scholars (Hampton & Jeyacheya, 2014; Greiner, Mayocchi, Larson, Stoeckl, & Schweigert, 2004) have studied the contribution of marine tourism activities to communities, particularly in those less developed countries such as **Indonesia, the Philippines, Mauritius and Palau**. All these share a common notion that tourism related marine activities present significant economic benefits and preserves the livelihoods of the local economy. Similar methods were used, following surveying of visitors as well as other stakeholders, that is, tour operators and guides. The main indicators of the studies were visitor participation, employment and expenditure patterns.



Orams and Page (2000) urge that understanding tourists, who they are and what their attitudes, beliefs and desires are, forms an important component within tourism studies. Veal (1992) provides an important narrative of the types of questionnaire surveys used in tourism research which include:

- household or home-based survey;
- street-based survey;
- telephone survey;
- post or mail survey;
- site or user-based survey; and
- captive group survey.

Orams and Page (2000) note that within each of these categories, self-completion questionnaires are a dominant data gathering tool which can be employed which has indeed come across in the studies previously mentioned above. Orams and Page (2000) add that if designed and administered properly, self-reply questionnaires are an effective tool for gathering detailed data about visitors. Orams and Page (2000) further note that when surveying visitors, a number challenges such as: language, culture, expectations and unfamiliar surroundings may occur. Arian, Campbell, Cooper and Lancaster (2011) therefore highlight the importance of a pilot study, more specifically when conducting self-reply surveys. van Teijlingen and Hundley (2002) describes a pilot study as a straightforward way of testing the procedure employed as well as the articulation of the methods selected for the study are adequate to support the research objectives. Simon and Goes (2013) adds that a pilot study represents a trial run to prepare for the actual study.

Other forms of measuring economic impacts from tourism have been seen in some studies. Some countries have adopted an approach of measuring the economic impact of CMT by analysing the performance of their coastal regions such as the **United States of America** (World Travel and Tourism Council, 2015). The basis of this approach is to use existing data on travel and tourism wherever possible, and to fill in the gaps by supplementing data with estimates derived from the typical relationship between the missing information and other economic indicators where necessary. Using actual and estimated data, they then applied the UN Statistics Division-approved TSA methodology to



quantify the direct contribution of CMT. In order to determine wider impacts, they also compiled direct (accommodation, service providers, food and beverages, transport), indirect (purchases from suppliers, government fees) and induced (spending from direct and indirect employees) impacts. Orams and Page (2000) note that international and domestic visitor indicators that are often included in the analysis are the number of tourists, total spend, average length of stay and number of bed nights. Veal (1992) adds that this method has a certain degree of limitation as there is an assumption that all tourists visiting coastal provinces partake in CMT.

In **Fiji**, an agreement with dive operators villages was established and has therefore become an economic alternative supporter to the community and the agreement was that the villagers would not fish on parts of the reef, thus the dive operator would pay levy fees from each visitor directly to the villages (Brunnschweiler, 2009). In 2004 and 2005, the dive operator paid a total amount of US\$3 910 and US\$5 930, respectively, to the two villages as a compensation for not fishing in the reef (Brunnschweiler, 2009). In order to minimise possible conflicts and prevent personal gain, the levies are not paid to individuals but into a dedicated village bank account and the village committee then decides how the revenues are to be used by the community.

The National Ocean Economics Programme (NOEP) (2005) in **California, United States** measured economic impacts from CMT by means of a census survey conducted in 2000, through identifying the different businesses/ industries and sourcing the number of people employed and the revenue generated by these business/ industries. According to the NOEP (2005), California was the 5th largest economy in the world in 2000 and had the largest ocean economy in the United States ranking number 1 overall for employment and gross state product (GSP). The study included (1) economy construction, (2) living resources, (3) offshore minerals, (4) ship and boat, (5) maritime transportation and ports, and (6) coastal tourism and recreation. For coastal tourism and recreation, the identified industries were amusement and recreation services, boat dealers, food and beverage, accommodation, marinas, zoos and aquaria and the data was sourced from the quarterly census (NOEP, 2005). The methodology for this approach was based on using the ES-202 employment data, which are collected monthly by each State's Department of Labour and reported to the United States Department of Labour (NEOP, 2005). The census surveys were completed per household through the Department of Labour and the main



indicator was employment. This study is different to the US study previously cited as the initial study received its data from the UN Statistics Division-approved TSA and this study used a census approach to extract data.

In 2009, a study was conducted which looked at creating barometers of economic change in marine tourism, fisheries and communities in New Zealand (New Zealand Tourism Research Institute, 2009). A mixed method approach was adopted: combining interviews with largely online surveys to gain insights into the impacts associated with the industry on three stakeholders, namely: visitors, businesses and community. The main aim was to create an approach which could easily be replicated and developed further in the future, therefore creating the potential for a barometer of economic change for localities rather than just a once-off study (New Zealand Tourism Research Institute, 2009). They note that a review of their literature reveals that relatively limited work has been conducted on understanding and evaluating the economic impacts of marine tourism on communities and regions and much focus is put on environmental impacts on marine ecosystems (New Zealand Tourism Research Institute, 2009). For their methodology, a mixed research approach was employed which included surveys and interviews to better understand the economic impact of marine tourism. Interviews with key stakeholders were followed using a series of web-based surveys, which began with interviews conducted with key individuals from the local communities, that is, local residents and businesses including tourism operators and commercial fishermen as well as representatives from local and regional government, the Department of Conservation and the regional tourism organisations (New Zealand Tourism Institute, 2009). The focus of the interview phase was also used as a tool to identify key contacts and what they named as “champions” for the research who would later be crucial in getting behind the research and assisting with the promotion of the visitor survey. A total of sixteen interviews were conducted. The web surveys were targeted at each specific group: visitors, local businesses and the host community. All three surveys were linked from a homepage purposely setup to host these surveys (New Zealand Tourism Institute, 2009). The surveys were conducted from 14 January to 17 April 2009 and supplementary use was made of paper surveys as required. A convenience sampling method was used and flyers were printed and distributed through a number of local outlets and in addition, email addresses were collected from these outlets from visitors willing to take part in the study and these visitors were emailed a link to the online survey (New Zealand Tourism



Institute, 2009). When monitoring the incoming survey numbers, it was clear to them that the online survey was not as effective as they initially hoped for with the numbers of respondents being low, they therefore decided to distribute a number of paper surveys to complement the online responses. All the businesses were contacted and asked to participate and business surveys were distributed through an email containing a link to the online survey. Two separate community notices were published in local newsletters to raise awareness of the business and resident surveys. All residents listed with a phone number were contacted by phone and asked to participate, they were made aware of the link and alternative options were offered such as hardcopies via mail and a soft copy via email. In total 547 surveys were received from visitors, 36 business surveys and 50 from community surveys. These were collected from two different regions. The study revealed that visitors value the marine environment. It was further revealed that the dive group in particular has a significant daily impact on the local economy with an average of \$123 per day, therefore for every 1000 visitors, their data indicated a local economic injection of \$306 106. It was also revealed that local businesses depend heavily on the visitor industry and are highly seasonal (New Zealand Tourism Research Institute, 2009). The residents revealed clearly that tourism is a significant force for economic development and that the community depends on the industry.

In 2004, the Sustainable Tourism Cooperative Research Centre (Carlsen & Wood, 2004) conducted an assessment of the economic value of recreation and tourism in **Western Australia's** national parks, marine parks and forests. The study used visitor spending to measure the direct economic value of tourism and recreation to the South West forest and Gascoyne Coast regions. Visitor spending was determined by an expenditure survey which asked tourists to record their amounts of expenditure on different items during their holiday in the selected regions. They further note that measuring spending through visitor expenditure survey has several advantages to using business sales due to much higher response rates with visitors as well as the ability to capture additional data about visitor characteristics and behaviour in order to assist in the management of these areas (Carlsen & Wood, 2004). The surveys were distributed to places of accommodation, visitor centres and national park checkpoints during the Australian April holidays which they identified as a period to capture a maximum number of visitors and ensure a good response rate. The visitor expenditure of each of the samples was measured by asking respondents to indicate:



- the approximate amount of money they spent on their trip with reference to the categories of travel, accommodation, food and drinks, activities, equipment and others;
- how much was spent in the region;
- whether these expenditure figures were per day or for the total trip;
- how many people were covered by these expenditure figures; and
- their length of stay in the regions in days.

Carlsen and Wood (2004) noted that the nature of asking visitors to record their own spending gives rise to a limitation in the accuracy of the data and that common difficulties arise in visitors misinterpreting expenditure questions and their inability to estimate holiday expenditure. Therefore to try and correct this, response results from previous expenditure surveys undertaken in the study areas were used to confirm the framing of the questions to ensure maximum understanding and responsiveness (Carlsen & Wood, 2004). In order to calculate direct visitor spend, the following equation was used:

$$\text{Total visitor expenditure} = \text{average daily visitor expenditure} \times \text{average length of stay} \times \text{total number of visitors}$$

Some of the key indicators in the survey included: origin, length of stay, travel party, mode of transport, accommodation type, reason for visit, activities undertaken, substitution factor, visitor expenditure and substitution value (Carlsen & Wood, 2004).

In 2001, Hoyt looked at whale watching worldwide as a special report for the International Fund for Animal Welfare. He noted that whale watching as a commercial endeavour, with important educational, environmental, scientific and socio-economic benefits was at least a 1\$ billion USD industry attracting more than 9 million participants a year in 87 countries and territories. Hoyt (2001) noted that since the worldwide survey in 1994, whale watching has continued to grow at a rapid rate. At the same time, the report revealed that the number of whale watchers has increased from 4 million for the year 1991 to 9 million in 1998 and the total whale watching expenditures were estimated at \$1 049 million USD in 1998 (Hoyt, 2001). Furthermore, he noted that whale watching was now carried out in some 492 communities around the world where in many places it provided valuable income to a community with



the creation of new jobs and businesses. This strongly emphasises the valuable contribution made by marine tourism in communities across the globe. In 1994, Taiwan was identified as the fastest growing whale watching country followed by Iceland, Italy, Spain and South Africa (Hoyt, 2001). As in his previous reports in 1992 and 1995, Hoyt (2001) mentions that he has largely used tourism expenditures to chart the worldwide growth of whale watching. He adds that these tourism expenditures represent measures of the socio-economic benefits of whale watching. In this report, Hoyt (2001) notes that the main economic numbers are based on tourist expenditures for whale watch tickets (direct expenditures) and expenses incurred by tourists during as well as immediately before and after the whale watching experience (indirect expenditures). However, he acknowledges that this is not the TEV of whale watching and that tourism expenditures are provided simply as one measure of the measure of the overall TEV. Hoyt (2001) supports his methods by stating that there are several reasons for using tourism expenditures to give an indication of the value of whale watching and they are:

- Whale watching tourism expenditures provide conservative base or benchmark numbers which are most easily understood by politicians and the general public as well as tourism managers.
- Whale watching tourism expenditures are comparatively straight forward to obtain and interpret, comparisons can be easily made from region to region and country to country as well as when added together show total world numbers from whale watching.

As part of his methodology, Hoyt (2001) mentions that he had compiled socio-economic information on the world's 500 whale watch communities and sent out more than 1 000 surveys and requests for information to whale operators, tourism departments and researchers, achieving a response rate greater than 50% which in his view demonstrates the widespread interest and commitment which whale watch businesses have as well as the importance attached to the whale watching by communities who see it as part of their long-term future. He also conducted interviews with stakeholders in many whale watching communities to determine the wide range of socio-economic benefits offered and he notes that some communities, states, provinces or countries have commissioned detailed studies of visitor preferences, spending patterns and interest in whales and



whale watching. In his view, these provide relevant data to communities to reflect a wider understanding of the contribution of whale watching across the globe.

Whale watching opportunities in Northern Patagonia, **Chile** is a study which was conducted by Catalan, Huckle-Gaete and Troemel (2010), which was aimed at reviewing the whale watching situation among coastal communities of fishermen and indigenous families in Northern Chile. Since the mid-1990s, tourism has become a main economic venture in Chile and in the year 2000, a total 1 742 407 tourists visited Chile, while in 2007 the number increased to 2 506 756 contributing \$1 803 million to the economy (Government of Chile, 2001; 2008). Catalan et al. (2010) note that among these, Special Interest Tourism (SIT) visitors are the most dominant group with regards to total number of visitors and suggests that Chile is mainly being pursued by tourists for its natural attractions. Among these SIT activities whale watching has been one of the most rapidly increasing worldwide (Catalan et al., 2010). It is said that the area of the Gulf of Corcovado is one of the most productive and diverse marine environments throughout South America, inhabited by species such as dolphins and whales (Catalan et al., 2010). It is therefore this diversity which is said to provide important opportunities to promoting whale watching in Northern Patagonia (Catalan et al., 2010). Local communities have therefore implemented whale watching tours in different areas of the Gulf and in the north of Chile Island, the local community and a fisherman association have organised tours for watching whales, dolphins and penguins (Catalan et al., 2010). They further note that the local council has become an important actor in this regard, and has organised different events and fairs related to whale watching in order to attract visitors and consolidate the region as a whale watching hub in Southern Chile. Catalan et al. (2010) also believe that SIT tourism could become the main driver to conserving these marine species in Southern Chile, while also elevating it to a world-class destination for whale watching and economic gain. In order to achieve this, they also indicate that whale watching requires the adoption of best practices to guarantee no risks and impact on tourists and animals which include: vessel speed and the procedure to approach the animals, minimal distances, observation time, vessel characteristics and regulations as well as crew qualifications. In addition to these, they noted that in order for the local community to take advantage of the opportunities arising from whale watching, several aspects have to be developed such as market information, quality standards and, most importantly, best practices at the local level of operation. This is said to provide good value to coastal



local communities as well as the environment. They conclude their research by stating that whale watching is still emerging and is still marginal in relation to other activities despite the potential of Patagonia. They note that a study done by Huckle-Gaete et al. (2010) indicated that there is not enough information available with regards to tourist profiles or number of visitors demanding whale watching in the area. Therefore, Catalan et al. (2010) identify this as critical in many aspects, including assessing the real contribution of whale watching to local economies or defining strategies to improve whale watching operations. There is also lack of systemised information to ascertain the level of satisfaction from tourists during the tour. These aspects were identified as gaps in their research.

A TSA assessment was used in **Greece** to determine the impact of the cruise industry in 2009 (Diakomihalis & Lagos, 2008). During the conference, it was noted that the contribution of the cruise sector depends on the level of expenditures realised by the producers and consumers of the cruise industry and the questions that need to be answered through their research were:

- what do visitors buy and which industries are most affected by these purchases?
- who are the main visitors?
- how many people are employed in the cruise and related tourism industries?
- how much capital formation has been undertaken by the cruise industry?

Diakomihalis and Lagos (2008) state that their research examined the contribution of the cruise sector of the Greek economy and estimates the economic impacts on the major macro-economic values for the year 2004 and that the aim of the analysis was to investigate the way and the degree in which the cruise activity contributes to the national economy. Diakomihalis and Lagos (2008) identified a weakness of public services and the private sector in providing data concerning specific shipping activities such as the cruise sector and also the fact that cruising is not an immiscible activity but a combination of other sectors which is why the overall estimation and evaluation of the sector demands data from different but related sources. They then ascertain that the implementation of a suitable methodological tool such as the TSA will allow a thorough and accurate evaluation of cruising economic impact on the major macro-economic values. Diakomihalis and Lagos (2008) note that using the TSA has several advantages over other basic methods such as measuring employment in tourist related



industries or summing gross tourism consumption and also that a TSA can account for impacts across all industries, not just those traditionally designated tourism-related. Therefore the construction of the TSA then requires two distinct steps:

- The demand side where tourist expenditure data must be adjusted to be statistically and conceptually consistent, inflated or deflated if reference years vary and allocated to individual tourism-related products.
- The supply side where the total support of individual tourism products must be evaluated by “Greek produced” cruises that have been estimated to 50% of the total East Mediterranean cruises.

Diakomihalis and Lagos (2008) noted that the process is complex because the relevant data sources do not have the required level of detail on purchases of products, therefore they must be disaggregated using a variety of information and some assumptions based on, for example, tourism volumes and employment information. In the cases where data was almost impossible to find, the researchers used data provided by interviewees, while for other categories complicated calculations were necessary according to the practice and the procedure adopted by the authorities and the companies. The TSA as suggested by UNWTO and EUROSTAT consists of ten tables, though only eight are recommended as suitable for development. For this study, the following tables were developed:

Table 1: Production account of cruise industry, net basis (at current prices).

Table 2: Tourism supply and demand, by type of commodity and type of visitor, net basis, at purchaser’s prices (at current prices).

Table 3: Supply by cruise industry and other industries to meet tourism demand by different types of visitors, net basis (at current prices).

Table 4: Tourism value added of cruise industry and other industries, net basis (at current prices).

Table 5: Tourism employment of cruise industry and other Industries.

Table 6: Visitor characteristics, same-day visitors and tourists, net basis.



Table 7: Cruise industry gross capital acquisition (at current prices).

Table 8: Cruise industry gross capital stock (at current prices).

The result constitutes the impact of the cruise industry on the GDP and it was estimated to be €474.75 million (Diakomihalis & Lagos, 2008). The results also show that tourist consumption attributed to the cruise sector was estimated at €893.48 million, made up of personal consumption by tourists (€888.46 million) and €5.2 million from businesses consumption within the Trade and Transport sector taken from other industries (Diakomihalis & Lagos, 2008).

In 2015, a report prepared by Land Use Consultants Limited (LUC) which looked at valuing marine tourism and recreation drew together a collection of around 100 core documents and the review process was intended to provide a clear picture of the 'state of the art' in understanding the use of **Scotland's** coastal and marine environments for recreation activities and their contribution to tourism and the wider economy. Omnibus surveys were used, which can be understood as "general and wide-ranging market research where quantitative data on a number of subjects is collected during the same interview" (LUC, 2015:9). Respondents were surveyed in their own homes, often in person, with technology-assisted approaches such as Computer-Assisted Personal Interviewing (CAPI), and are subject to stratified sampling to secure robust results accounting for demographic, economic and geographical variations (LUC, 2015:9). They noted that a key product for the purposes of this project was the Great Britain Tourism Survey (GBTS) which was run jointly for VisitScotland, VisitEngland and VisitWales through a commercial omnibus survey (LUC, 2015). The first objective of GBTS was to provide measurements of tourism by residents of Great Britain, in terms of both volume and value and the second was to collect details of the trips taken and of the people taking them. The GBTS provided an impression of tourism activity in Scotland, year on year, with values recorded in relation to length of stay, spend, accommodation type, trip timing and purpose, activities, modes of transport and demographics (LUC, 2015). Table 4 shows some of the results from the survey, with key indicators being expenditure and income. The table also highlights the need to consider displacement in marine and coastal destinations and to account for uncertainty (LUC, 2015). As it appears in the table below, displacement in this regard is defined as "the effect that tourism spending has on raising prices for tourism related products, which in turn deter some tourists who would have spent money in the



destination” (LUC, 2015:16). They also note that displacement may be particularly relevant to those types of marine and coastal recreation where participants actively seek peace and solitude and which may be important to their activity. Therefore the table below shows that there is more expenditure for terrestrial tourism, followed by coastal then marine tourism. Also, displacement did affect the income and employees on all the three types of tourism so it is important to consider if adding displacement will not deter tourists to other activities.

Table 4: Net economic impact by type of marine wildlife tourism

With No displacement			With 30% displacement		
Marine wildlife tourism type	Expenditure (£m)	Income (£m)	FTE employees	Income (£m)	FTE employees
Terrestrial	114	38	1 622	27	1 136
Marine	63	21	904	15	633
Coastal	100	34	1 421	24	995
TOTAL	276	94	3 947	65	2 763

Source: (LUC, 2015:16)

In 2011, Borch, Moilanen and Olsen (2011) conducted a study relating to the structure and economic effects of marine fishing tourism in **Norway**. They note that marine fishing tourism is a rapidly growing phenomenon in Norway and that the Norwegian coastline has a fairly open access to salt-water recreational fishing, however, the lack of a license system and a registry of fishing enterprises makes it challenging to identify tourists and enterprises for survey purposes (Borch et al., 2011). In their methodology, two surveys categories were used: a supply side and a demand side. On the supply side, they highlight that the surveying of marine fishing tourism raises the challenge of identifying the industry catering to fishing tourists (Borch et al., 2011). They describe marine fishing tourism as all enterprises providing services to non-residential salt-water recreational fishers and can be further categorised by defining the level of industrialisation involved in catering to a fishing tourism activity ranging from Free Independent Fishing Tourism (FIFT) to Industrialised Fishing Tourism (IFT). Their study therefore focused exclusively on the professional providers of the IFT sector, who define a marine fishing tourism company as an enterprise providing a combination of accommodation, boat rental, gutting and freezer facilities and services from a host to tourists (Borch et al., 2011). They discovered that in Norwegian statistics the providers of services to fishing tourists is placed in different categories and there is no governmental statistics in Norway which can give direct information on the



number of enterprises providing services to fishing tourists so the researchers in this study made use of the enterprise lists obtained from the tourism industry. From a round of phone calls, it was clear that some of the enterprises on the list did not provide services to fishing tourists and thus were removed from the list. After these rounds of enquiry, the population was 421 enterprises. Of these enterprises, 85% received a questionnaire through email and were directed to an online survey website and 15% received the questionnaire via regular mail, however, they were also given the option of responding via the survey website. The questionnaire included questions about the number of accommodation units, beds, rental boats and guest nights. The questionnaire also included questions about the length of the fishing tourism season, prices for accommodation and boat rental, the nationality of fishing tourists, travel group and mode of transport.

On the demand side, Borch et al. (2011) set up a survey to fishing tourists that they distributed via 200 enterprises in the IFT sector during April 2009. Through this they collected data on tourist expenditure in ten different groups of goods and services. As a means for collecting additional data, foreign tour operators that distribute fishing trips to Norway were contacted to request their assistance with distributing the survey. The study revealed that there were 434 identified enterprises which belong to the IFT sector providing 14 986 beds and 2 369 rental boats. The total number of guest nights in these enterprises were 1 257 577 and 46.5% of these are fishing tourist guest nights. The study also revealed that the total expenditure in the IFT sector was €104 million, which emphasises the economic contribution of marine fishing tourism on the Norwegian economy.

Another demand or consumption-based study is that of Penn et al. (2016) who examines preferences for characteristics associated with beach recreation in Oahu, **Hawaii**, among residents and tourists. They indicate how aspects such as sand quality, water quality, congestion levels, and swimming safety conditions influences decisions adopting a choice experiment approach which conveys attribute levels almost entirely through pictures, a new way of undertaking research. Penn et al. (2016) found that excessive congestion and water quality are regarded as the most important beach attributes, specifically the avoidance of poor water quality in favor of a chance to experience excellent water quality. They also indicate that evidence suggests that significant different willingness to pay (WTP) exists among residents and tourists in relation to poor water quality and excellent water quality being



more important to tourists, while residents place greater value on avoiding excessive congestion. These are important components to consider when undertaking economic impact studies which explains consumer behaviour and preferences. It also has the potential of economically quantifying negative environmental impacts (such as increased littering or degradation of natural resources) in specific locations.

Examining economic impacts of CMT needs to go beyond a focus on spend patterns and economic benefits. It needs to include examining consumer behaviour as reflected in the study by Penn et al. (2016). Birdir, Ünal, Birdir and Williams (2013) is another study that examines WTP as an economic instrument for coastal tourism management by looking at cases from Mersin, **Turkey**. In their study, 402 visitors were interviewed at the Turkish beaches of Kizkalesi, Yemiskumu and Susanoglu near Mersin. Birdir et al. (2013) found that 92% of the respondents expressed a WTP to see the beaches improved in relation to washed up litter and human debris, provision of more social activities and to maintain the quality of the beach. WTP values ranged from an average of €2.33 and €1.77 for Susanoglu beach per adult beach visit. Preferred payment methods identified were voluntary boxes and through local taxes. WTP studies can therefore assist local government to institute policies to increase financial resources for efficient beach management. Linked to the understanding the economic aspects of consumer behaviour is Capacci, Scorcu and Vici's (2015) study that examines the economic impact of Blue Flags and eco-labels in relation to seaside tourism. They argue that in a period of rising competition and environmental concern, tourism destinations increasingly use signals that certify and communicate the quality provided in order to gain a competitive advantage over competitors. Capacci et al. (2015) assert that certifications which are generally intended to provide synthesized information on destinations particularly affect foreign tourists who suffer more from asymmetric information. They use panel data techniques and highly geographical disaggregated data from 2000-2012) to compare the attractiveness of certified and non-certified **Italian** provinces, especially Blue Flag status which is one of the most popular eco-labels aimed at promoting seaside tourist destinations. Their study examines the relationship between label achievement and inbound tourist flows, concluding that empirical evidence suggests that current certification positively affects future foreign tourist decisions to visit the destination.



As mentioned previously, interest in exploring the benefits of marine resources has grown considerably in the recent years. Ecotourism in the marine realm, focused on large marine species can, if properly managed, potentially offer one solution that provides long-term sustainable benefits for both the people and animals involved (LUC, 2015).

O'Malley et al. (2013) conducted a study looking at the global economic impact of manta ray watching tourism. They note that marine species involved in marine tourism activities range from whales to turtles, seals, sharks and rays and that interactions range from simply observing these animals from a boat to in a water dive and snorkel experiences. These activities have expanded, becoming increasingly popular since the 1980s and have been shown to generate significant economic benefits and supporting businesses within the local economies in which they operate (O'Malley et al., 2013). In this regard, O'Malley et al. (2013) note that manta ray watching refers to recreational activities undertaken to view manta rays in the wild, which for their study includes dives and snorkels at manta ray dive sites, but could also potentially include observing manta rays from a boat. They then ascertain that the direct economic impact of manta ray watching comprises of direct expenditures (gross expenditures) to dive businesses from manta ray dives and snorkels as well as associated tourism expenditures, which together provide a conservative estimate of total tourist expenditures on manta ray watching activities. O'Malley et al. (2013) collected data from August 2011 to August 2012 on the extent of manta ray watching and expenditures on manta dives through primary and published research using a five step process, namely:

1. Literature review to identify existing published and unpublished estimates of manta dive expenditures
2. Broad level internet search to identify manta ray watching locations through review of manta ray research organisations' websites
3. Local specific internet research to identify dive operators and manta dive sites, conducted with the Google search engine
4. Questionnaires emailed to dive operators to collect information on manta dive expenditures and additional data



5. Personal interviews with select operators and area experts to review and verify results for each location

O'Malley et al. (2013) mention that for each manta ray watching location they focussed on obtaining the following detailed information: (1) number of operators offering manta dives, (2) dive sites considered to be primary manta dive sites, (3) seasons that manta are present (if seasonal), (4) number of trips made to manta dives per year, (5) maximum number of divers per trip and average occupancy rates, (6) price per dive, (7) the number or proportion of dive days lost due to poor weather or other factors, and (8) operator perceptions with regard to the importance of manta rays to their business and the local community as well as how manta rays rank among sea life that divers most want to see (O'Malley et al., 2013). They add that two surveys were designed, one for day boat operators and one for live-aboard boats and questions were often personalised to reflect any data already gathered or specific questions that arose through the internet research. To estimate the associated tourism expenditures, O'Malley et al. (2013) made use of the benefits transfer approach which was based on Hoyt's (2001) methods to estimate the direct economic impact of whale watching in locations where detailed data on associated tourist expenditures were not available. As noted by O'Malley et al. (2013) and as mentioned previously, Hoyt (2001) applied ratios of total expenditures (whale watching tickets plus associated tourist expenditures) to direct expenditures (whale watching tickets) to determine an estimate for the economic impact of whale watching in locations around the world. O'Malley et al. (2013) cite that for their study, the collected country specific data on dive tourist expenditures from one country's tourism authority report, ten published studies on the economic impact of tourist trips, focused on viewing sharks and one study on the economic impact of whale watching tourism. The study therefore estimated that direct expenditures on manta dives in the 23 countries was assessed at over US\$73 million annually, with 10 countries accounting for almost 93% of the global expenditure estimate, specifically Japan, Indonesia, Maldives, Mozambique, Thailand, Australia, Mexico, United States, Federated States of America and Palau; and the direct economic impact of manta ray watching tourism was estimated at \$140 million annually (O'Malley et al., 2013).

Prior to examining CMT economic impact studies in South Africa, a brief overview of some studies and methodologies which have been used in assessing the economic impact of tourism in South Africa will



be presented. This includes information provided by the Provinces in relation to assessing the economic impacts of tourism, and linkages with CMT where relevant, which will also be taken into consideration when developing guidelines for assessing the economic impacts of CMT in South Africa. It is, however, noted that the information accessed is limited as not all the Provinces responded to this request, and in cases where responses were received, the information was limited mainly to assessing economic impacts of specific events. Additional information was also forwarded by NDT.

2.9 Assessing the economic impacts of tourism in South Africa

Several studies have examined the economic impacts of tourism in South Africa, specifically focusing on events (Saayman, Saayman & Joubert, 2013; Saayman, Rossouw & Saayman, 2008; Strydom, Saayman & Saayman, 2006; Saayman & Saayman, 2004; 2006a; 2012; 2014) or tourism destinations (Saayman, Rossouw & Saayman, 2013; Oberholzer, Saayman, Saayman & Slabbert, 2010; Saayman, Saayman & Ferreira, 2009; Saayman & Saayman, 2004; 2006b; 2006c; 2010). Some studies have also examined the economic impacts of tourism provincially and nationally (Saayman & Saayman, 2001; 2003; Saayman, Saayman & Rhodes, 2001). These studies generally highlight the economic importance of the tourism sector at the local, regional and national levels. The studies utilise survey-based data, particularly visitor surveys, business surveys and/ or resident surveys. The main indicators and variables used include:

- Visitor arrivals
- Tourist expenditure patterns (magnitude and distribution of spend)
- Improvements in GDP
- Income generation/ job creation
- Contribution to entrepreneurial activities/ local businesses
- Leveraging of additional tourism products

Often multipliers are used to calculate indirect costs. It is important to note, as highlighted by Saayman et al. (2009) that in South Africa there are high leakages in the tourism sector and therefore the local economy does not benefit to its full potential.



As mentioned previously, very few Provinces responded to the request for information regarding the assessment of the economic impacts of tourism in the respective Provinces. Limpopo Province and Gauteng Province provided economic impact studies for the following events:

- Mapungubwe Arts Festival 2006
- Kremetart Cycling Race 2015
- Marula Festival 2015
- Yellow Arum Lily Festival 2016
- Go West Music Festival 2014

Most of these event economic assessments only took direct expenditure into account by means of a visitor survey. It is further noted that the NDT undertook a comprehensive study (2013-2016) to develop guidelines to assess the economic impact of events, which included the development of indicators in consultation with the Provinces, piloted survey instruments and developed a training manual to assist Provinces with conducting economic impact studies of events utilising a standardised methodology. The methodology included collecting expenditure and profile data from the event attendees and event organiser expenditure data, which was then used to calculate the direct and indirect economic impacts of the event.

In 2008, a study was undertaken with the primary focus of determining the economic impact of 21 National Parks which are managed by the South African National Parks (SANParks) on the South African economy on a local, regional and national level as well as to determine the extent of these impacts (SANParks, 2008). According to SANParks (2008), the aim of the economic impact study was to consolidate all relevant information to illustrate the economic impact of the 21 National Parks on the economy. The project focussed on the following:

- The present direct and indirect economic impact of the (21) National Parks under management of SANParks (individually and collectively) on the immediate region(s) and province(s) in which they are located and the country as a whole.
- To develop an understanding of the National Parks as economic activities and to ensure all impacts are fully captured in simulation modelling.
- To quantify the effects of the investments on the different sectors of the economy.



- To express the impact in terms of direct, indirect and induced effects with the application of an economic modelling technique in a provincial and national context.
- To interpret the results in terms of implications for social and economic interventions to maximise benefits.

They noted that the impact on the economy and communities will be determined by utilising an impact simulation model that quantifies the direct and spin-off effects in the economy and develop proxies for the non-quantifiable impacts. They add that the financial analysis was based on performance indicators which measure the performance of a specific park against benchmark data and the financial analysis was done for the 2005/2006 financial year. SANParks (2008) highlighted that to determine the economic impact of the SANParks it is necessary to examine the capital as well as operational expenditures of the individual National Parks. Here, they defined capital expenditure as all expenditures undertaken by SANParks, irrespective of the source of funding on different projects and programmes such as infrastructure development, dams, roads, fences and development programmes. Operational expenditure was defined as all expenditures undertaken by SANParks in terms of operating costs such as human resources, maintenance cost, office cost and bank charges (SANParks, 2008).

SANParks (2008) notes that though various economic indicators exist to express these impacts, the more commonly-used and overarching ones are: business output or sales volume, value added or gross domestic product on either a regional or national level GDP, and job creation. They add that these indicators provide an indication of the change such as the improvement or the deterioration in the economic well-being of the quality of life of the people, which is the main goal of economic development.

The analysis concluded that the total profit of SANParks for the 2005/2006 financial year was approximately R14,2 million, 3 171 jobs have been sustained and an amount of R204,9 million has been paid towards human resource services (SANParks, 2008).

The Eastern Cape Province has looked at the tourism industry on a provincial level and present it in a form of an annual tourism barometer. According to the Eastern Cape Annual Tourism Barometer (Department of Economic Development, Environmental Affairs and Tourism, 2015), South Africa has seen historic good growth performance of the tourism sector and the year 2014 saw foreign arrivals to South Africa and noted



that the strong growth trend is expected to have eased off for 2015. The Eastern Cape Annual Tourism Barometer (Department of Economic Development, Environmental Affairs and Tourism, 2015) also notes that South Africa saw an increase in foreign tourists by 6.6% in 2014 up from 2013. For the Eastern Cape province, they note that tourism experienced 2.4 billion in total spend, 304 888 visitor numbers, 9.5 days average length of stay and 37% expenditure share (Department of Economic Development, Environmental Affairs and Tourism, 2015). The barometer did not, however, provide details of the methods used to determine these figures. After an examination of key international beach tourism source markets and trends, a sample of international beach tourism destinations and the potential South African products on the Eastern Seaboard, the Department of Economic Development, Environmental Affairs and Tourism (2015) concluded that:

- South Africa has the product base to attract international beach tourists, including additional supporting attractions to supplement the beach product which are in line with market demand trends;
- International outbound beach tourism is a major market, particularly from Europe where some 87 million international beach holidays are taken annually, of which 9.3 million are long-haul beach holidays;
- International tourism markets are growing and although the proportion of beach holidays taken remains steady, the proportions of long haul holidays, and the proportions of beach long haul holidays taken are growing, therefore the long haul beach market is increasing; and
- Long haul beach destinations are hosting from 70 000 to 1 500 000 beach tourists per annum.

The Eastern Cape Annual Tourism Barometer (Department of Economic Development, Environmental Affairs and Tourism, 2015) notes that in order to realise this type of tourism development, the following planning interventions would be required:

- Proper spatial planning, including careful identification of two or three zones for the development of additional hotel/ self catering rooms
- Excellent environment management
- Improved air access – airports and charter services



- Some key improvements to other infrastructure, certain key roads and other basic provisions such as water, electricity sewage etc.
- Cooperation of key international tour operators
- An excellent beach tourism destination marketing campaign

Appropriate targeted incentives to promote investment in rooms and other tourism facilities Myles (2014) examines Coastal Route Tourism in the Eastern Cape as a vehicle for collaborative economic development, arguing that route tourism is a market-driven approach for tourism destination development. The intention of tourist routes, Myles (2014) indicates is to bring together a variety of activities and attractions under a unified theme to stimulate entrepreneurial opportunities through the development of ancillary products and services. Myles (2014) further indicates the development and promotion of a coastal route extending some 900 km along the diverse coastline of the Eastern Cape Province in South Africa is a good example of linking together a series of tourist attractions along a defined coastline in order to promote coastal and marine tourism by encouraging visitors to travel from one location to another. It is important to note that this article does not identify the parameters of establishing actual economic impacts or measures associated with Coastal Route Tourism. Much of the literature suffers from a similar limitation in that it refers to economic development and impact but lack empirically-based econometric data to support assertions.

A study conducted by Grant Thornton (2016) on the economic value of tourism in Cape Town has been included in this review as it sheds light on the challenges of conducting economic impacts studies in South Africa. The study used three different methodologies presented in the table below as there was no one single definitive methodology that could be used (Grant Thornton, 2015).

According to Grant Thornton (2015), the disaggregated national and provincial data could be used to quantify both the direct tourism spend as well as the tourism gross value add. The approach, however, requires more information on a city level to make the assumptions more robust. They therefore recommend a common approach to tourism research where the various stakeholders collect tourism information which speaks to a common research agenda. Grant Thornton (2015) further advises that guidance on the information requirements and methodologies used to measure the economic value of tourism at a city level are provided by the UNWTO's Statistics and TSA (STSA) Programme which launched a new Issue Paper Series in October 2013. The Paper Series includes the following:



tourism

Department:
Tourism
REPUBLIC OF SOUTH AFRICA

- Governance for the Tourism Sector and its Measurement;
- Regional TSA; and
- Economic Impact of Tourism, Overview and Macro-economic Analysis.



Table 5: Methodologies used to research the trends in the economic value of tourism in Cape Town

Description	Disaggregation of national and provincial tourism statistics to a city level of measure direct tourism spend	Survey of tourism enterprises in the City of Cape Town to measure direct tourism spend at these enterprises	Disaggregation of the national TSA to a city level to measure direct tourism gross value add
Gaps	<ul style="list-style-type: none"> Lack of data disaggregated to a city level 	<ul style="list-style-type: none"> Lack of definitive database of tourism enterprises Lack of benchmark for survey results 	<ul style="list-style-type: none"> Lack of data disaggregated to a city level
Positives	<ul style="list-style-type: none"> One main source of data Minimal number of assumptions needed to disaggregate data Benchmarks for disaggregation assumptions such as arrivals at the Cape Town International Airport Simple and easy to understand methodology and assumptions Results in an estimate of number of tourists, length of stay and average spend per day on a city level 	<ul style="list-style-type: none"> Methodology yielded a similar result to the disaggregation of national data Projects employment numbers 	<ul style="list-style-type: none"> Utilises a nationally recognised source Minimal number of assumptions needed Projects employment numbers
Negatives	<ul style="list-style-type: none"> Need for assumptions to disaggregate data to a city level Does not project employment numbers 	<ul style="list-style-type: none"> Lack of participation by the tourism industry resulting in small survey sample Number of assumptions required that have a significant impact on the results such as number of tourism enterprises per category, turnover per category and employment per category 	<ul style="list-style-type: none"> Delay in publishing the national TSA Only quantifies the direct gross value add and not the direct and induced value

Source: Grant Thornton (2015)

2.9.1 CMT economic impact studies - South Africa

Some studies have been conducted in South Africa, in the **Eastern Cape** in particular that focuses on the value of its fresh waters (Dikgang & Hosking, 2016; Paterson, et al., 2014; du Preez et al., 2012; Hosking, 2011; du Preez & Hosking, 2010; Hosking & du Preez, 2004). These studies made it clear



that given the overwhelming evidence available on the significance of freshwater inflow to estuary functionality, it is clear that an important component of catchment management is the allocation of river water into estuaries. It was also found that where there had been extensive economic development around the river system, the value of inflows into estuaries tended to be less than the value of water abstracted upstream. Various models such as the choice model, which currently serves as the foundation for modelling the choices that individuals make (Paterson et al., 2014) were used in these studies and structured surveys and scheduled interviews with focus groups and experts as well as telephonic communications were used to gather data in order to draw conclusions.

Another method, namely the contingent valuation method, which is a survey technique that is used to place monetary values on products and services for which market prices do not exist or do not reflect the real value of the good/service. Here respondents, who are the users of the Keurbooms Estuary were presented with hypothetical scenarios through questionnaires and asked questions about the amount of money they would be prepared to spend to make them become reality (Hosking & Du Preez, 2004). Most activities which happen in these fresh water destinations are mostly recreational fishing and these studies link to CMT due to the connection of the leisure aspect involved as a result of South Africa's waters.

However, South Africa currently has limited data available relating to the economic impact of CMT and its contribution to the economy (Operation Phakisa, 2014). As part of a broader study looking at global shark currency, Gallagher and Hammerschlag (2011) conducted a socio-economic case study of a shark-ecotourism company based in Gansbaai, Western Cape. The company, Apex Expeditions had been conducting shark ecotourism activities for more than 20 years. They quantified the scope of their operation by evaluating a set of demographic and economic focal metrics which included:

- year of company establishment
- total number of trips since inception
- total number of trips per year between 1999 and 2010
- total number of customers since inception
- total number of customers per year between 1999 and 2010



- maximum number of passengers per year from 1999 to 2010
- total number of staff employed per year between 1999 and 2010
- average cost per person, per trip, per year between 1999 and 2010

Through their results, Gallagher and Hammerschlag (2011) identified that shark ecotourism revealed significant growth overtime. They also identified that an average Apex Expedition customer spends about US\$350 per day, including other costs to the local economy such as accommodation, food transport and other recreational activities. Their study also revealed a high rate of community involvement and educational outreach from the company, such as donations to local community enterprises, around US\$2 000 annually.

A study was conducted in 2010 which looked at the socio-economic implications of the KwaZulu-Natal sardine run for local indigenous communities (Myeza, Mason & Peddemors, 2010). A descriptive research method was developed to describe the following: knowledge of the indigenous community about the sardine run; their perceptions of, and attitude towards, the run; the skills they possess; the level of their involvement in the run and the extent to which they benefit from it (Myeza et al., 2010). Primary data was collected by means of questionnaires. Data was collected via a questionnaire administered during personal interviews, which enabled a visual check to ensure the respondent fitted the correct sample population, facilitated the collection of personal data (age, opinions, earnings), and ensured that any questions that interviewees did not understand could be explained (Myeza et al., 2010). The study population was local people living in the more rural areas of the Hibiscus Coast Local Municipality, part of the Ugu District Municipality. The data collection method used had two potential weaknesses. Firstly, because a non-random sample was taken so it may not have been representative of the population. To resolve this possible bias, care was taken to select respondents who matched the criteria for the population. Secondly, interviews were conducted during daylight hours only, on account of security concerns by both respondents and interviewers. This could bias results by influencing the type of respondent being interviewed, and was partially rectified by conducting some interviews over weekends when a more representative section of the population was available (Myeza et al., 2010). The data was analysed using statistical software. The study revealed that although around two-thirds of those interviewed were aware of the sardine run and just over half participated in



it, only some 17% benefited financially from it. However, despite this low level of participation, the financial benefit to the community could amount to R17-18 million, and as much as R34-54 million if a multiplier effect of 2-3 is applied. This was determined through the collection of primary data using questionnaires in the form of interviews and the study population was local people living in the more rural areas of the Hibiscus Coast Local Municipality. The study revealed that a large proportion (over 70%) of the participation is non-income generating so less than one third of those interviewed benefited financially from the sardine run (Myeza et al., 2010). Of the interviewees who benefited financially from the event, 53 indicated earning between R60 and R5 000 resulting in an average earning of about R160 per person being estimated for the annual sardine run event. Therefore, Myeza et al. (2010) note that at an average of R160 per person, the total population could earn up to R18 million from the sardine run. The study suggested people should be more educated about the sardine run in order to reap the benefits from the event (Myeza et al., 2010).

Oberholzer, Saayman, Saayman and Slabbert (2010) conducted a study which looked at the socio-economic impact of Tsitsikamma, which is regarded as South Africa's oldest marine park. Oberholzer et al. (2010) note that in 1964, the Park was proclaimed as the first marine park in South Africa. As a very popular ecotourism attraction in South Africa, the Park attracts a considerable number of tourists annually and it has an influence on the economic and social well-being of the surrounding community (SANParks, 2008). As part of their motivation for conducting the study, Oberholzer et al. (2010) highlighted the fact that no study had been conducted to measure the socio-economic impact of the park, in fact no socio-economic studies has been done for marine parks in South Africa. Three forms of methodology were used in this study. Firstly, three surveys were conducted, namely: a community survey, a business survey and a visitor survey. For the community survey, the main variables were residents' perceptions which were accompanied by independent variables such as community attachment, participation and length of stay. For the business survey, businesses within a 25 km radius to the park were included in the study and the indicators here were number of employees, and whether they were part-time or full-time. The visitor survey was done in the form of a questionnaire, with the main indicators being demographic aspects and visitor expenditure. Secondly, partial multipliers were derived through a process of iteration to determine the economic impact of the park where the spending is traced through the local economy as tourists buy goods, firms buy stock from suppliers



and pay employees. This was mainly because of a limited number of firms in the study area, therefore a process of iteration was used where spending is traced through the local economy as tourists buy goods and firms buy stock from suppliers and pay their employees so the multipliers thus represent the change in sales and income that results from tourist spending (Oberholzer et al., 2010). Lastly, descriptive analysis was used to determine the community's perceptions concerning the park and the effect of the park on the community's quality of life. The results showed the community had a positive perception about the park and that it had a very positive impact on the communities. The visitor survey revealed that approximately 74% of respondents indicated that they also spend money in the area outside the park. The businesses most visited by the respondents are petrol stations and general dealers (retail/ food), restaurants and the bottle store. The visitor survey was divided into two broad categories, day visitors and overnights visitors. The overnight visitors were further sub-grouped to campers and chalets as they are the two accommodation types offered at the park (Oberholzer et al., 2010). The study showed that more people make use of camping than the chalets and revealed that campers spend on average R2 707.45 while chalet users spend on average R3 194.80 while staying at the park (Oberholzer et al., 2010). The multipliers which were accommodation services, where they illustrated the spending they use on their suppliers, indicated that the park produced a total income of R21 723 510.39 to the local economy (Oberholzer et al., 2010). This study was the first of its kind at a marine national park and also emphasised the lack of research done with regards to the economic contribution of CMT in South Africa. Therefore, more studies need to be conducted in order to draw comparisons as well as to expose the undiscovered worth of our coastline.

Dicken (2010) examines the socio-economic aspects of boat-based ecotourism during the sardine run within the Pondoland MPA, arguing that understanding recreational aspects of the tourism industry developing around the KwaZulu-Natal sardine run is important for the protection and sustainability of the Pondoland MPA on the south-east coast of South Africa. Onsite questionnaires were conducted with people who visited the area to experience the sardine run using boat-based access. Spend patterns were used to establish the direct value of their visit which was calculated to be around R5.47 million. Dicken's (2010) study indicated that although the benefits of the sardine run tourism industry extend throughout the South African economy, local indigenous communities receive little direct benefit. However, Dicken (2010) did establish that almost half of the respondents showed a willingness



to contribute R500 or more towards and community development programme. Dicken and Hosking (2009) conducted a similar study to assess the socio-economic aspects of the tiger shark diving industry with the Aliwal Shoal MPA. Data was again collected from dive participants. The results indicates that the direct value of tiger shark diving to the Aliwal Shoal region was R12 405 274.

Another study was conducted in 2012 by means of a travel cost analysis which looked at the value of tiger shark diving within the Aliwal Shoal marine protected area. In their discussion, Du Preez et al. (2012) stated that the travel cost method is widely applied internationally to value recreational sites. Furthermore, they note that travel cost method can be broken up into single-site and multiple-site ones but for their study, the single-site method was used. This method is based from adopting the individual travel cost method which is based on the notion that individuals residing far from the recreation sight spend more and undertake fewer trips than those residing near to the site, a trip generating function (TGF) is estimated in which travel costs predict the number of visits that an individual will undertake to the recreation site. Once the TGF is estimated, a demand function is determined from which the consumer surplus, associated with the recreation site can be estimated. Du Preez et al. (2012) stated that two issues arise in modelling recreational demand, namely: the truncation of non-users which means that non-visitor's demand and the value they attach to the recreational site in question are not captured as part of the study and the endogenous stratification which means that frequent visitors are more likely to be captured during the surveys of the sample which is described as an approach that uses in-sample information on the relationship between the outcome of interest and covariates for experimental controls to estimate potential outcomes without treatment for all experimental units. Furthermore, they note that if truncation and endogenous stratification are overlooked, then the estimates which are produced will be biased or even lack consistency. To account for this, three estimation techniques were applied which are Ordinary Least Squares (OLS), a standard Poisson model and a Poisson model that corrects for truncation and endogenous stratification. The semi-log functional form was selected for the estimation of the OLS model, because it allows for the calculation of consumer surplus by taking the negative inverse of the travel cost/ dive coefficient and the same method was used to calculate consumer surplus in the Poisson models. According to du Preez et al. (2012), an anonymous referee pointed out that foreign and local divers at the Aliwal Shoal MPA are different and therefore the consumer surpluses of these two categories should be separated. To do



this, the sample of respondents was split into foreign visitors and local visitors and the Poisson model that corrects for truncation and endogenous stratification was applied to both sets of visitor data. The on-site survey method was used to gather data through a period of twelve months in 2007 and the travel costs for each respondent were calculated by summing each individual's distance costs, time costs, admission fees and accommodation costs. It was then concluded that in 2007, the consumer surplus per person per tiger shark dive was R1 136, and the total consumer surplus per annum was R2 080 925.

Hosking et al. (2014) undertook a study looking at the economic contribution of the ocean sector in South Africa. They aimed at identifying the overall economic contribution through applying alternative methods of apportioning GDP into ocean and non-ocean parts. In 1995, it was estimated that the ocean sector contributed about 33% of South Africa's GDP and in 2010, it accounted for about 40% (McCarthy, Baxter, Schroenn, McGrath, Forbes, & Parnel, 1998). Through their discussion they noted that the trend of accommodating local nation stewardship of the ocean could be beneficial to South Africa as there is a large ocean area to potentially exploit and manage. However, in order to satisfy this desire, a range of facilitation and conservation management techniques are required. In order for this context to be well carried out, more information was required to provide greater insight. It was through this perspective that in 2012, the Department of Environmental Affairs declared one out of its four key strategic goals to be "Informing stakeholders of the value and sustainable use potential of oceans and coastal ecosystems and the role of stakeholders in contributing to ocean stewardship" (Department of Environmental Affairs, 2012:65).

In their methodology, Hosking et al. (2014) had a method which used ocean closeness as a reference for apportioning GDP. This is where the value of oceans sector production is captured as economic activity in the land section of the maritime environment. A limitation of the maritime environment is that it defines the estimate of the ocean sector gross geographic product (GGP) in a way that is insensitive to the degree of linkage to ocean sector inputs since it includes some expenditure and production income that does not make use of any ocean resource or environment, other than in a minimal way and excludes some expenditure and income taking place inland of the maritime zone that uses ocean resources as key inputs in production. This study found that the highest contribution of the ocean



sector within the South African economy is found to be in the primary sector which is agriculture, forestry and fisheries (ocean and coastal fishing, fish hatcheries and fish farms). A major weakness of the closeness to ocean method is that many of the economic activities taking place near the ocean use little, if anything, of the ocean resources and its environment as inputs in production. If this method was used to determine the contribution of the ocean sector to the GDP, it would have been around 33%, however, because of its shortcomings, this method was not the preferred one. An alternative method was the sum of value added, which Hosking et al. (2014) found more technically accurate. This method makes use of the National Income Accounting System (NIAS) to value the contribution made by the ocean within preselected sub-sectors of the economy. Moreover, Hosking et al. (2014) add that the sum of value added method remains the one “that easily allows the identification of the contribution of the ocean sector to GDP, because the categorisation under this analysis of GDP is the nature of activity, and from the nature of activity one is able to judge the degree to which the value added incorporated is dependent on ocean sector input”. This method was the preferred method and, according to its results, 4.4% was the calculated sum of value added to the GDP. However, this method also encompasses a considerable scope for categorisation error, such as: activities may be categorised as ocean sector but not really be so, classified ocean sector to the incorrect degree or may not be categorised as ocean sector when they should be

Studies have also tried to economically quantify the value of marine or coastal resources. For example, Ballance, Ryan and Turpie (2000) examine the impact of litter on beach uses in the Cape peninsula. They used an interview survey to determine the importance of beach cleanliness to local and non-local beach users, and the consequent effect on the regional economy. They found that most foreign beach users and almost half the respondents from the Cape Metropolitan Region are prepared to spend more than seven times the average trip cost to visit clean beaches. Furthermore, they stated that up to 97% of the value of these beaches could be lost by a drop in standards of cleanliness. The impact on the regional economy could be a loss of billions of rands each year (Balance et al.. 2000). They further used a Travel Cost approach and estimated the total annual recreational value of selected beaches in the Cape Peninsula at between R3 million and R23 million. They attributed the large variation is due to a number of assumptions inherent to the Travel Cost Method, and extrapolations from the limited data available.



As many of the studies in the above discussion indicate, a key challenge in assessing the economic impacts of CMT is how to distinguish CMT from other forms of interrelated tourism types. For example, Connell (2006) highlighted the increase in medical tourism in coastal areas, indicating that medical tourism has grown rapidly in the past decade, especially for cosmetic surgery. Pillay and Rogerson (2013) look at agriculture-tourism linkages in relation to the accommodation sector of urban coastal areas in KwaZulu-Natal. They assert that the leveraging of tourism's potential for backward linkages is critical for enhancing local impacts in developing countries. They interviewed 50 hotels to analyse food supply chains of tourism accommodation providers.

3. Guidelines for the Economic Impact Assessment of CMT

Based on the desktop study the following guidelines are recommended when assessing the economic impact of CMT in South Africa. Given the complexity of the CMT environment and issues as indicated in the discussion as well as the range of methodological approaches and tools available to undertake economic modelling and impacts, it is suggested that to ensure broader buy-in and implementation the following principles underpin the guidelines for undertaking economic impact assessments:

- Simplify the system and approach proposed
- Develop tools and data collection guidelines to improve data consistency and quality (this will also assist with undertaking comparative studies)
- The data collection instruments should be developed via a consultative and collaborative process that should include drawing on best practices and benchmarks as well as piloting and refinement (it is important to note that this desktop study reviewed research, including the methods adopted but did not critically examine data collection tools which should be included in the next phase to improve relevance, quality, validity and accuracy)
- The approach adopted must permit comparative and trend analyses over time
- As far as possible, existing research as well as monitoring and evaluation efforts on CMT need to be aligned and consolidated



The key economic indicators emanating from the literature review and expanded to accommodate the broader transformative and development goals of South Africa should include:

- Number of CMT visitors
- Average and overall expenditure patterns of visitors in specific categories
- Number and quality of jobs in each category (for example, permanent, seasonal and contract as well as disaggregated by gender, race, etc.)
- Impact on local business (both in terms of direct and indirect/ multiplier effects)
- Use of local services
- Impact on regional and national GDP
- Consideration of economic leakages

In terms of visitor data, it is important to include visitor profiles (including place of residence), primary reason for travel, duration of travel, type of accommodation, immediate group composition and spend in relation to accommodation, transport, direct cost to participate in activities (for example, shark diving, snorkelling, recreational fishing, etc.), food and beverages, entertainment, etc. The sources of information required need to be identified to develop appropriate data collection tools and networks.

4. Conclusion

In 2014 South Africa launched Operations Phakisa which focuses on unlocking the economic potential of the country's oceans, with CMT identified as one of the focus areas. However, there is currently limited data available relating to the economic impact of CMT and its potential influence on tourism in South Africa. Thus, NDT commissioned this study to review relevant literature to identify best practices and current trends with regard to assessing the economic impacts of CMT in order to inform the development of a framework to assess CMT's contribution to South Africa's tourism sector.

The desktop study underscored that while there is an established body of literature on measuring economic impacts and modeling impacts, in terms of tourism research this area is relatively new and generally focused on the impacts of specific tourism events or tourism types and assessing broader contributions to global, national and regional economies. In this regard, contributions to GDP and



generation of jobs tend to dominate. A number of methods have been utilised to assess the economic impact of tourism and recreation to areas in the natural environment, including CBA and I-O models. While most CBA have been undertaken in relation to sport events, a number of nature-based tourism studies are emerging. While I-O models are useful, the detailed level of data required is often not available thus proxy data and aggregation is used. Furthermore, regional I-O tables are often not available in South Africa and are expensive to develop because of the extensive data required. Models such as the general equilibrium and economic base models, including CGE, have been used to quantify economic impact studies in marine tourism in countries such as New Zealand, Australia, Mauritius, USA, Malaysia and Indonesia. CGE models have been used to guide policy makers. The TSA has been identified as the single most important macro-economic policy analysis tool developed in the last several decades to measure tourism demand and its implications for a national economy. With the increasing interest aroused by more advanced forecasting techniques, together with the requirement for more accurate forecasts of tourism demand at the destination level due to the constant growth of world tourism, has led to evaluating forecasting performance of neural modeling relative to that of time series at a regional level. Since seasonality and volatility are important features of tourism data, it necessitates the comparison of forecasting accuracy of different techniques. Time-series forecasting methods are especially useful to predict tourism demand where there is limited or no access to large databases to create structural models.

A major limitation of this study is the lack of input by the various Provinces with respect to the assessment of economic impacts in their respective Provinces due to the timeframes as to when this request was made towards the end of 2016. Several economic impact studies relating to CMT have been conducted in South Africa, however one of the major challenges in assessing the impacts of CMT is how to distinguish CMT from other forms of interrelated tourism types. Given the complexity of the CMT environment and the range of methodological approaches and tools available to conduct economic modelling and impacts, a broader buy-in and consultative process is required. Furthermore, several principles that underpin the guidelines for undertaking economic impact assessments of CMT in South Africa are proposed. The approach underscores comparative and trend analyses over time as well as emphasising that existing research as well as monitoring and evaluation efforts on CMT need to be aligned and consolidated.



The key economic indicators emanating from the literature review and expanded to accommodate the broader transformative and development goals of South Africa should include:

- Number of CMT visitors
- Average and overall expenditure patterns of visitors in specific categories
- Number and quality of jobs in each category (for example, permanent, seasonal and contract as well as disaggregated by gender, race, etc.)
- Impact on local business (both in terms of direct and indirect/ multiplier effects)
- Use of local services
- Impact on regional and national GDP
- Consideration of economic leakages

In terms of visitor data, it is important to include visitor profiles (including place of residence), primary reason for travel, duration of travel, type of accommodation, immediate group composition and spend in relation to accommodation, transport, direct cost to participate in activities (for example, shark diving, snorkelling, recreational fishing, etc.), food and beverages, entertainment, etc. The sources of information required need to be identified to develop appropriate data collection tools and networks.

Based on the findings of the desktop study, the following next steps for Phase 2 include the following:

- Workshop with key economists and researchers to identify data requirements in relation to methodological approaches to assess the economic impacts of CMT
- Consultation with Provinces and other key stakeholders in relation to desktop study and draft framework
- Data audit in relation to macro- and micro-economic modelling required
- Develop methodology (including the drafting of data collection instruments)
- Piloting methodology
- Refinement and finalisation of framework.



tourism

Department:
Tourism
REPUBLIC OF SOUTH AFRICA



References

Abdullah, A., Arof, Z. M. & Tajam, J. 2013. Marine cadastre issue and conceptual for implementation in Malaysia. *Journal Intelek*, 8(1), 24-30.

African Union (AU). 2012. *2050 Africa's Integrated Maritime Strategy*. Retrieved from <http://www.au.int/maritime> [22 November 2016].

Agardy, T., Bridgewater, P., Crosby, M. P., Day, J., Dayton, P. K., Kenchington, R., ... & Peau, L. 2003. Dangerous targets? Unresolved issues and ideological clashes around marine protected areas. *Aquatic Conservation: Marine and Freshwater Ecosystems*, 13(4):353-367.

Aguiló Perez, E. & Juaneda, S. C. 2000. Tourist expenditure for mass tourism markets. *Annals of Tourism Research*, 27(3):624-637.

Alegre, J., Mateo, S., & Pou, L. 2013. Tourism participation and expenditure by Spanish households: The effects of the economic crisis and unemployment. *Tourism Management*, 39, 37-49.

Andersson, T. D. & Lundberg, E. 2013. Commensurability and sustainability: Triple impact assessments of a tourism event. *Tourism Management*, 37, 99-109.

Anderson, C. & Waheed, A. 2001. The economics of shark and ray watching in the, Maldives. *Shark news*. <http://www.flmnh.ufl.edu/fish/Organizations/SSG/SSGDefault.html> [02 November 2016].

Araín, M., Campbell, M.J., Cooper, C.L. & Lancaster, G.A. 2010. What is a pilot or feasibility study? A review of current practice and editorial policy. *BMC Medical Research Methodology*. 10:67.

Aswani, S., Diedrich, A. & Currier, K. 2015. Planning for the future: mapping anticipated environmental and social impacts in a nascent tourism destination. *Society and Natural Resources*, 28(7):703-719.

Baggio, R. & Sainaghi, R. (2016). Mapping time series into networks as a tool to assess the complex dynamics of tourism systems. *Tourism Management*, 54: 23-33.

Baker, D. A. & Crompton, J. L. (2000). Quality, satisfaction and behavioral intentions. *Annals of Tourism Research*, 27(3):785-804.

Ballance, A., Ryan, P. G. & Turpie, J. K. 2000. How much is a clean beach worth? The impact of litter on beach users in the Cape Peninsula, South Africa. *South African Journal of Science*, 96(5):210-230.

Balmford, A., Green, J. M., Anderson, M., Beresford, J., Huang, C., Naidoo, R. & Manica, A. 2015. Walk on the wild side: Estimating the global magnitude of visits to protected areas. *PLoS Biol*, 13(2), e1002074.



Barker, N. H. L. & Roberts, C.M. 2008. Attitudes and preferences of divers towards regulations. In: Garrod, B., Gössling, S. (editors). *New Frontiers in Marine Tourism: Diving Experiences, Sustainability, Management*. Oxford: Elsevier.

Berrittella, M., Bigano, A., Roson, R. & Tol, R. S. (2006). A general equilibrium analysis of climate change impacts on tourism. *Tourism management*, 27(5):913-924.

Bess, R. & Ambargis, Z.O. 2011. *Input-Output Models for Impact Analysis: Suggestions for Practitioners using RIMS II Multipliers*.
https://www.bea.gov/papers/pdf/WP_IOMIA_RIMSII_020612.pdf [20 October 2016].

Biggs, D., Hicks, C. C., Cinner, J. E. & Hall, C. M. 2015. Marine tourism in the face of global change: The resilience of enterprises to crises in Thailand and Australia. *Ocean and Coastal Management*, 105:65-74.

Birdir, S., Ünal, Ö., Birdir, K. & Williams, A. T. 2013. Willingness to pay as an economic instrument for coastal tourism management: Cases from Mersin, Turkey. *Tourism Management*, 36:279-283.

Borch, T., Moilanen, M. & Olsen, F. 2011. *Marine Fishing Tourism in Norway: Structure and Economic Effects*. <http://okonomiskfiskeriforskning.no/wp-content/uploads/sites/4/2014/05/Borch-Moilanen-og-Olsen.pdf> [22 November 2016].

Bradford, R. & Robbins, R. 2013. A rapid assessment technique to assist management of the white shark (*Carcharodon Carcharias*) cage dive industry, South Australia. *The Open Fish Science Journal*, 6:13-18.

Briassoulis, H. 1991. Methodological issues: Tourism input-output analysis. *Annals of Tourism Research*, 18(3): 485-495.

Brunnschweiler, J. M. 2009. The Shark Reef Marine Reserve: A marine tourism project in Fiji involving local communities. *Journal of Sustainable Tourism*. 1-14.

Burger, C. J. S. C., Dohnal, M., Kathrada, M. & Law, R. 2001. A practitioners guide to time-series methods for tourism demand forecasting - a case study of Durban, South Africa. *Tourism Management*, 22(4):403-409.

Burgin, S. & Hardiman, N. 2011. The direct physical, chemical and biotic impacts on Australian coastal waters due to recreational boating. *Biodivers. Conserv.* 20, 683e701. <http://dx.doi.org/10.1007/s10531-011-0003-6>.

Capacci, S., Scorcu, A. E. & Vici, L. 2015. Seaside tourism and eco-labels: The economic impact of Blue Flags. *Tourism Management*, 47:88-96.

Cárdenas-García, P. J., Pulido-Fernández, J. I., & Pulido-Fernández, M. D. L. C. 2016. The influence of tourist satisfaction on tourism expenditure in emerging urban cultural destinations. *Journal of Travel and Tourism Marketing*, 33(4): 497-512.



tourism

Department:
Tourism
REPUBLIC OF SOUTH AFRICA

Carlson, C. 2012. *A review of whale watch guidelines and regulations around the world version 2012. Guidelines for commercial cetacean-watching activities in the accobams area.* College of the Atlantic, Bar Harbour, Maine USA.



- Carlsen, J. & Wood, D. 2004. *Assessment of the Economic Value of Recreation and Tourism in Western Australia's National Parks, Marine Parks and Forests*.
file:///C:/Users/bobu/Downloads/Assessment_of_the_Economic_Value_of_Recreation_and%20(1).pdf [2 December 2016].
- Castro-Nuño, M., Molina-Toucedo, J. A. & Pablo-Romero, M. P. 2013. Tourism and GDP: A meta-analysis of panel data studies. *Journal of Travel research*, 52(6):745-758.
- Catalan, C.G., Huckle-Gaete, R. & Troemel, J.R. 2010. *Whale-watching Opportunities in Northern Patagonia, Chile*. http://www.pacific-news.de/pn35/PN35_whale_watching.pdf [30 November 2016].
- Centre for Industrial Studies. 2008. *The Impact of Tourism on Coastal Areas: Regional Development Aspects*. European Union,
http://www.europarl.europa.eu/meetdocs/2004_2009/documents/dv/pe_397260_/pe_397260_en.pdf [29 November 2016]
- Anderson, C. & Waheed, A. 2001. *The economics of shark and ray watching in the Maldives*. Shark News, Marine Research Centre, Republic of Maldives.
- Cheung, W. W. L., Sarmiento, J. L., Dunne, J., Frölicher, T. L., Lam, V. W. Y., Deng Palomares, M. L. & Pauly, D. 2012. Shrinking of fishes exacerbates impacts of global ocean changes on marine ecosystems. *Nature Climate Change*, 3(3):254–258.
- Cinner, J. 2014. Coral reef livelihoods. *Current Opinion in Environmental Sustainability*, 7:65-71.
- Clark, A.M. 2015. *Hawaii's Sustainable Marine Tourism Challenges and Opportunities*.
http://www.coralreef.gov/meeting16/hawaii_tourism.pdf [29 October 2016].
- Claveria, O. & Torra, S. 2014. Forecasting tourism demand to Catalonia: Neural networks vs. time series models. *Economic Modelling*, 36:220-228.
- Connell, J. 2006. Medical tourism: Sea, sun, sand and... surgery. *Tourism Management*, 27(6):1093-1100.
- Curtin Business School. 2014. *Sustainable and health tourism*. <http://business.curtin.edu.au/our-research/programs-of-research/sustainable-and-health-tourism/> [30 January 2017].
- Department of Environmental Affairs, 2016. President Jacob Zuma's address on progress made in respect of the implementation of the Operation Phakisa: Oceans Economy initiatives.
https://www.environment.gov.za/speech/presidentjacobzuma_progressionoperationphakisa1 [10 November 2016].
- Department of Economic Development, Environmental Affairs and Tourism. 2015. Eastern Cape Annual Tourism Barometer.
<http://www.dedea.gov.za/Newsletters%20and%20Publications/ECT%20Stats%20Report%202015%20Final.pdf> [6 December 2016].



Department of Environmental Affairs and Tourism in South Africa. 2004. *Environmental Economics*. https://www.environment.gov.za/sites/default/files/docs/series16_environmental_economics.pdf [16 December 2016].

Department of Environmental Affairs. 2012. *Strategic plan: 01 April 2013 to 31 March 2018*. https://www.environment.gov.za/sites/default/files/docs/publications/strategicplan%202013_18_annualperformanceplan.pdf [30 January 2017].

Diakomihalis, M. N. & Lagos, D. G. 2008. Estimation of the economic impacts of yachting in Greece via the tourism satellite account. *Tourism Economics*, 14(4):871-887.

Dicken, M. L. 2010. Socio-economic aspects of boat-based ecotourism during the sardine run within the Pondoland Marine Protected Area, South Africa. *African Journal of Marine Science*, 32(2):405-411.

Dicken, M. L. & Hosking, S. G. 2009. Socio-economic aspects of the tiger shark diving industry within the Aliwal Shoal Marine Protected Area, South Africa. *African Journal of Marine Science*, 31(2):227-232.

Dikgang, J., & Hosking, S. 2016. A comparison of the values of water inflows into selected South African estuaries: The Heuningnes, Kleinmond, Klein, Palmiet, Cefane, Kwelera and Haga-Haga. *Water Resources and Economics*, 16:39-51.

Dixon, J. A. & Sherman, P. B. 1990. *Economics of Protected Areas: A New Look at Benefits and Costs*. Washington, Island Press.

Du Preez, M., Dicken, M. & Hosking, S. G. 2012. The value of Tiger Shark diving within the Aliwal Shoal marine protected area: a travel cost analysis. *South African Journal of Economics*, 80(3):387-399.

Du Preez, M. & Hosking, S. 2010 Estimating the recreational value of freshwater inflows into the Klein and Kwelera Estuaries: An application of the zonal travel cost method. *Water SA*, 36(5):1-9.

Dwyer, L. & Spurr, R. n.d. *Tourism Economic Summary*. <http://www.sustainabletourisonline.com/1001/tourism-economics/tourism-economics-summary> [10 November 2016].

Fletcher, J. E. 1989. Input-output analysis and tourism impact studies. *Annals of tourism research*, 16(4):514-529.

Frechtling, D. C. 2013. *The Economic Impact of Tourism: Overview and Examples of Macro-analysis*. http://www.tourism-generis.com/_res/file/4184/49/0/UNWTO_TheEconomicImpactOfTourism_OverviewExamplesOfMacro-economicAnalysis.pdf [10 November 2016].

Frechtling, D.C. 1994. *Assessing the impacts of travel and tourism – measuring economic benefits*. <http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.477.962&rep=rep1&type=pdf> [30 January 2017].



- Gallagher, A. J. & Hammerschlag, N. 2011. Global shark currency: the distribution, frequency, and economic value of shark ecotourism. *Current Issues in Tourism*, 14(8):797-812.
- Government of Kenya. 2009. State of the coast report: towards integrated management of coastal and marine resources in Kenya. National Environment Management Authority (NEMA), Nairobi.
- Grant Thornton, 2016. Research on the monitoring of trends in economic value of tourism in Cape Town. City of Cape Town: National tourism data projection for 2015; tourism gross value add projection for 2014. City of Cape Town. Unpublished Report.
- Greenpeace. 2001. *Whale Watching and Caribbean Island Tourism*.
<http://www.greenpeace.org/international/en/publications/reports/whale-watching-and-caribbean-i/> [30 October 2016].
- Greiner, R., Mayocchi, C., Larson, S., Stoeckl, N. & Schweigert, R. 2004. Benefits and costs of tourism for remote communities: Case study for the Carpentaria Shire in north-west Queensland. CSIRO Sustainable Ecosystems: Townsville and Tropical Savannas CRC: Darwin.
- Guerra, M. & Dawson, S. M. 2016. Boat-based tourism and bottlenose dolphins in Doubtful Sound, New Zealand: The role of management in decreasing dolphin-boat interactions. *Tourism Management*, 57:3-9.
- Hall, C. M. 2001. Trends in ocean and coastal tourism: the end of the last frontier? *Ocean and Coastal Management*, 44(9):601-618.
- Hampton, M. P. & Jeyacheya, J. 2014. *Dive Tourism, Communities and Small Islands: Lessons from Malaysia and Indonesia*.
<https://kar.kent.ac.uk/41740/1/Dive%20tourism%20Hampton%20&%20Jeyacheya%20NVU%20Han%20oi.pdf> [4 December 2016].
- Harriott, V. J. 2002. Marine tourism impacts and their management on the Great Barrier Reef. CRC Reef Research Centre Technical Report No 46. CRC Reef Research Centre, Townsville.
- Higham, J. E. S., Bejder, L. & Lusseau, D. 2008. An integrated and adaptive management model to address the long-term sustainability of tourist interactions with cetaceans. *Environmental Conservation*, 35(4):294-302.
- Higham, J. E., Bejder, L., Allen, S. J., Corkeron, P. J. & Lusseau, D. 2016. Managing whale-watching as a non-lethal consumptive activity. *Journal of Sustainable Tourism*, 24(1):73-90.
- HM Treasury, 2014. *Supporting Public Service Transformation: Cost Benefit Analysis Guidance for Local Partnerships*.
https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/300214/cost_benefit_analysis_guidance_for_local_partnerships.pdf [27 October 2016].
- Holmes, K., Hughes, M., Mair, J. & Carlsen, J. 2015. *Events and Sustainability*. New York: Routledge.



- Honey, M. & Krantz, D. 2007. *Global Trends in Coastal Tourism*. Centre on Ecotourism and Sustainable Development. Washington, Stanford University.
- Hosking, S. 2011. The recreational value of river inflows into South African estuaries. *Water SA*, 37(12):711-717.
- Hosking, S. & du Preez, M. 2004 Valuation of the freshwater inflows into the Keurbooms estuary by means of a contingent valuation study. *S. Afr. J. Econ. Manage. Sci.*, 7(2):280-298.
- Hosking, S., Du Preez, D., Kaczynsky, V., Hosking, J., Du Preez, M. and Haines, R., 2014. The economic contribution of the ocean sector in South Africa. *Studies in Economics and Econometrics*, 38(2): 65-82.
- Hoyt, E. 2001. Whale Watching 2001: Worldwide tourism numbers, expenditures, and expanding socioeconomic benefits. International Fund for Animal Welfare, Yarmouth Port, MA, USA.
- Hoyt, E. 2012. *Marine Protected Areas for Whales, Dolphins and Porpoises: A World Handbook for Cetacean Habitat Conservation and Planning*. Routledge.
- Hung, K. & Petrick, J. F. 2011. Why do you cruise? Exploring the motivations for taking cruise holidays, and the construction of a cruising motivation scale. *Tourism Management*, 32(2):386-393.
- Institute for Global Dialogue. 2016. *Toward a South and Southern African integrated oceans governance framework South Africa's leadership dilemmas in promoting a global south dialogue on governance in the Indian and South Atlantic oceans*.
<http://www.igd.org.za/jdownloads/IGD%20Reports/Proceedings%20Report%20-%20-%20-%20TOWARD%20A%20SOUTH%20AND%20SOUTHERN%20AFRICAN%20INTEGRATED%20OCEANS%20GOVERNANCE%20FRAMEWORK.pdf> [9 September 2016].
- Jones, T., Wood, D., Hughes, M., Deery, M., Fredline, L., Jones, R., Fulton, B., Pham, T., Pambudi, D., Dwyer, L., Spurr, R., Chapman, K., Lewis, A., Chandler, P. & Catlin, J. 2011. *Ningaloo collaboration cluster: socio-economics of tourism*.
http://www.ningaloo.org.au/www/dms/NingalooResearchProgramDocs/Publications/Cluster-final-reports/CP3_Socioeconomics_of_Tourism.pdf [30 January 2017].
- International Coastal and Marine Tourism Society. n.d. *What is Coastal and Marine Tourism?*
<http://www.coastalmarinetourism.org/what-is-cmt.html> [29 September 2016].
- Kennington, R. 1993. Tourism in coastal and marine environments - a recreational perspective. *Ocean and Coastal Management*, 19(1):1-16.
- Kesenne, S. 2005. Do we need an economic impact study or a cost-benefit analysis of a sports event? *European Sport Management Quarterly*, 5(2):133-142.
- Kim, J. H. 2014. The antecedents of memorable tourism experiences: The development of a scale to measure the destination attributes associated with memorable experiences. *Tourism Management*, 44:34-45.



- Kiszka, J. J., Heithaus, M. R. & Wirsing, A. J. 2015. Behavioural drivers of the ecological roles and importance of marine mammals. *Marine Ecology Progress Series*, 523:267-281.
- Lanfranchi, M., Giannetto, C. & De Pascale, A. 2014. Nature based tourism: Natural balance, impacts and management. *Calitatea*, 15(S1):224.
- Lange, G. M. & Jiddawi, N. 2009. Economic value of marine ecosystem services in Zanzibar: Implications for marine conservation and sustainable development. *Ocean and Coastal Management*, 52(10):521-532.
- Legohérel, P. & Wong, K. K. 2006. Market segmentation in the tourism industry and consumers' spending: What about direct expenditures? *Journal of Travel and Tourism Marketing*, 20(2):15-30.
- Lim, C. & McAleer, M. 2002. Time series forecasts of international travel demand for Australia. *Tourism Management*, 23(4):389-396.
- LUC. 2015. *Valuing Marine Tourism and Recreation*.
<http://www.gov.scot/Resource/0049/00497680.pdf> [8 November 2016].
- Lucrezi, S., Milanese, M., Markantonatou, V., Cerrano, C., Sarà, A., Palma, M. & Saayman, M. 2017. Scuba diving tourism systems and sustainability: Perceptions by the scuba diving industry in two marine protected areas. *Tourism Management*, 59:385-403.
- Luisetti, T., Turner, R.K., Bateman, I.J., Morse-Jones, S., Adams, C. & Fonseca, L., 2011. Coastal and marine ecosystem services valuation for policy and management: Managed realignment case studies in England. *Ocean and Coastal Management*, 54(3):212-224.
- Lusseau, D. 2004. The hidden cost of tourism: Detecting long-term effects of tourism using behavioral information. *Ecology and Society*, 9(1):1-15.
- Maritime Cluster, 2015. *Operation Phakisa Ocean Economy: Coastal and Marine Tourism*.
<http://maritimecluster.co.za/phocadownloadpap/Cruise%20Tourism%20Summit.pdf> [15 November 2016].
- Mayer, M. 2014. Can nature-based tourism benefits compensate for the costs of national parks? A study of the Bavarian Forest National Park, Germany. *Journal of Sustainable Tourism*, 22(4):561-583.
- McCarthy, J.G., Baxter, J., Schroenn, M., McGrath, M., Forbes, A. & Parnel, S. 1998. *Coastal Economy Specialist Study*. Coastal Management Policy Programme, Cape Town: Government Printer.
- McNay, A. 2011. *Input-Output Models and Economic Impact Analysis: What can they and cannot tell us*.
<https://www.doleta.gov/performance/results/AnnualReports/PY2012/Economic%20Impact%20Analysis.pdf> [29 October 2016].



Medina-Muñoz, D. R. & Medina-Muñoz, R. D. 2014. The attractiveness of wellness destinations: An importance–performance–satisfaction approach. *International Journal of Tourism Research*, 16(6):521-533.

Mediterranean Maritime Integrated Projects. 2014. *Coastal and Maritime Tourism*. http://www.medmaritimeprojects.eu/download/ProjeCMTediamer/SH_Meeting_WME/WM_Tourism_factsheet_300115.pdf [15 December 2016]

Meissner, A. M., Christiansen, F., Martinez, E., Pawley, M. D., Orams, M. B. & Stockin, K. A. 2015. Behavioural effects of tourism on oceanic common dolphins, *Delphinus* sp., in New Zealand: The effects of markov analysis variations and current tour operator compliance with regulations. *PLoS one*, 10(1), e0116962.

Miller, R. & Blair, P. 1985. *Input-Output Analysis: Foundations and Extensions*. New Jersey, Prentice-Hall, Inc.

Mules, T. & Dwyer, L. 2005. Public sector support for sport tourism events: The role of cost-benefit analysis. *Sport in Society*, 8(2), 338-355.

Myeza, J., Mason, R. B. & Peddemors, V. M. 2010. Socio-economic implications of the KwaZulu-Natal sardine run for local indigenous communities. *African Journal of Marine Science*, 32(2):399-404.

Myles, P. B. 2014. Coastal Route Tourism: A vehicle for collaborative economic development in the Eastern Cape, South Africa. *Tourism in Marine Environments*, 9(3-4):169-179.

Narayan, P. K. 2004. Economic impact of tourism on Fiji's economy: Empirical evidence from the computable general equilibrium model. *Tourism Economics*, 10(4):419-433.

National Ocean Economics Programme (NOEP) (2005). *Coastal Economy Data*. <http://www.oceaneconomics.org/Market/coastal/coastalEcon.asp> [19 October 2016].

National Department of Tourism, 2016. Coastal and marine tourism: stakeholder engagement and sign off. Unpublished document.

Neff, C. L. & Yang, J. Y. 2013. Shark bites and public attitudes: Policy implications from the first before and after shark bite survey. *Marine Policy*, 38:545-547.

New, L. F., Hall, A. J., Harcourt, R., Kauman, G., Parsons, E. C. M., Pearson, H. C., Cosentino, A. M. & Schick, I. S. 2015. The modelling and assessment of whale-watching impacts. *Ocean and Coastal Management*, 32:1-7.

New Zealand Tourism Research Institute. 2009. *Marine Tourism, Fisheries and Community: Creating Barometers of Economic Change*. www.nztri.org/node/285 [8 November 2016].



Nooij, M. D., Berg, M. V. D. & Koopmans, C. 2013. Bread or Games? A social cost–benefit analysis of the World Cup bid of the Netherlands and the winning Russian bid. *Journal of Sports Economics*, 14(5):521-545.

Nulty, P. M., Annett, J., Balnaves, A., Joyce, J. & Teyssedea, S. 2007. A strategy and action plan for the development of marine tourism and leisure in Lough Foyle and Carlingford Lough areas. (Prepared for: The Laughs Agency East Border Region Committee, North West Region Cross Border Group).

Oberholzer, S., Saayman, M., Saayman, A. & Slabbert, E. 2010. The socio-economic impact of Africa's oldest marine park. *Koedoe*, 52(1):1-9.

O'Connor, S., Campbell, R., Cortez, H. & Knowles, T. 2009. *Whale Watching Worldwide: Tourism Numbers, Expenditures and Expanding Economic Benefits*, A special report from the International Fund for Animal Welfare. Yarmouth MA, USA, prepared by Economists at Large, <http://www.ecolarge.com/wp-content/uploads/2010/06/WWWW09.pdf> [21 December 2016].

Onofri, L. & Nunes, P. A. 2013. Beach 'lovers' and 'greens': A worldwide empirical analysis of coastal tourism. *Ecological Economics*, 88:49-56.

O'Malley, M. P., Lee-Brooks, K. & Medd, H. B. 2013. *The Global Economic Impact of Manta Ray Watching Tourism*. https://www.researchgate.net/publication/237061210_The_Global_Economic_Impact_of_Manta_Ray_Watching_Tourism [1 December 2016].

Oberholzer, S., Saayman, M., Saayman, A. & Slabbert, E. 2010. The socio-economic impact of Africa's oldest marine park. *Koedoe*, 52(1):1-9.

Ojeda-Martínez, C., Casaldueiro, F. G., Bayle-Sempere, J. T., Cebrian, C. B., Valle, C., Sanchez-Lizaso, J. L., ... & Salas, F. 2009. A conceptual framework for the integral management of marine protected areas. *Ocean and Coastal Management*, 52(2):89-101.

Operation Phakisa. 2014. *Oceans Economy: Coastal and Marine Tourism*. <http://www.operationphakisa.gov.za/Pages/Home.aspx> [29 August 2016].

Operation Phakisa, 2015. *Operation Phakisa to create one million jobs and grow South Africa's economy*. http://www.operationphakisa.gov.za/operations/oel/Ocean%2520Economy%2520Lab%2520Documents/Operations%2520Phakisa_%2520Page%25202%2520and%25203.pdf+&cd=4&hl=en&ct=clnk&gl=za [30 January 2017].

Orams, M. 1999. Trends and changes in the whale-watching industry in Vava'u 1999-2009. New Zealand Tourism Research Institute, AUT University, Auckland.

Orams, M. B. & Lück, M. 2014. Coastal and marine tourism. *The Wiley Blackwell Companion to Tourism*, 479-489.



Orams, M. B. & Page, S. J. 2000. Designing self-reply questionnaires to survey tourists: Issues and guidelines for Researchers. *Anatolia*, 11(12):125-139.

Page, S. J. & Connell, J. 2009. *Tourism: A Modern Synthesis*. (3rd ed.) London, South Western Cengage Learning.

Paterson, L. 2014. Distribution patterns of fishes in a freshwater deprived Eastern Cape estuary, with particular emphasis on the geographical headwater region. *Water Sa*, 29(1):61-67.

Penn, J., Hu, W., Cox, L. & Kozloff, L. 2016. Values for recreational beach quality in Oahu, Hawaii. *Marine Resource Economics*, 31(1):47-62.

Phillips, A. (ed.). 1998. *Economic Values of Protected Areas: Guidelines for Protected Area Managers*. Gland and Cambridge, IUCN - The World Conservation Union

Pillay, M. & Rogerson, C. M. 2013. Agriculture-tourism linkages and pro-poor impacts: The accommodation sector of urban coastal KwaZulu-Natal, South Africa. *Applied Geography*, 36:49-58.

Rodrigues, J., Marques, A., Wood, R., & Tukker, A. (2016). A network approach for assembling and linking input-output models. *Economic Systems Research*, 28(4), 518-538.

Rontos, K., Kitrinou, E., Lagos, D. & Diakomihalis, M. 2012. *Islands and Tourism Development: A Viewpoint of Tourism Stakeholders of Levos Island*. <http://cdn.intechopen.com/pdfs-wm/35538.pdf> [5 December 2016].

Rossouw, R. & Saayman, M. 2011. Assimilation of tourism satellite accounts and applied general equilibrium models to inform tourism policy analysis. *Tourism Economics*, 15:753-783.

Saayman, M., Rossouw, R. & Saayman, A. 2008. The regional economic impact of visitor spending at the Cape Argus Cycle Tour. *Africa Insight*, 38(3):100-122.

Saayman, M., Rossouw, R. & Saayman, A. 2013. The socio-economic impact of Table Mountain National Park. *Journal of Economic and Financial Sciences*, 6(2):469-458.

Saayman, M. & Saayman, A. 2001. The economic impact versus marketing spend of different international tourism markets to South Africa. *Global Business and Economics Review – Anthology*. December.

Saayman, M. & Saayman, A. 2003. An economic analysis of international and African tourism markets of South Africa. *African Insight*, 33(1):93-98.

Saayman, M. & Saayman, A. 2004. Economic impact of cultural events. *South African Journal for Economic and Management Sciences*, 7(4):629-642.

Saayman, A. & Saayman, M. 2006a Does the location of arts festivals matter for economic impact? *Papers in Regional Science*, 85(4):569-584.

Saayman, M. & Saayman, A. 2006b. Estimating the contribution of visitor spending in the Kruger National Park to the regional economy. *Journal for Sustainable Tourism*, 14(1):67-81.



- Saayman, M. & Saayman, A. 2006c. Creating a framework to assess the economic contribution of National Parks in South Africa: The case of the Addo Elephant National Park. *Tourism Economics*, 12(4):619-633.
- Saayman, M. & Saayman, A. 2010. Regional Development and National Parks in South Africa: Lessons Learned. *Tourism Economics*, 16(4):1037-1064.
- Saayman, M. & Saayman, A. 2012. The economic impact of the Comrades Marathon. *International Journal of Event and Festival Management*, 3(3):220-235.
- Saayman, A. & Saayman, M. 2014. An appraisal of measuring the economic impact of sport events. *South African Journal of Physical Education, Recreation and Dance*, 36(3):151-181.
- Saayman, M., Saayman, A. & Ferreira, M. 2009. The socio-economic impact of the Karoo National Park. *Koedoe*, 51(1):1-10.
- Saayman, M., Saayman, A. & Joubert, E-M. 2013. The economic contribution of the Wacky Wine Festival to the local economy. *Journal of Contemporary Management*, 10:427-447.
- Saayman, M., Saayman, A. & Rhodes, J. A. 2001. Domestic tourism spending and economic development: The case of the North West Province. *Development Southern Africa*, 18(4):443-455.
- Sanchirico, J.N., Cochran, K.A. & Emerson, P.M. 2002. *Marine Protected Areas: Economic and Social Implications*. <https://www.cbd.int/doc/case-studies/inc/cs-inc-rf-04-en.pdf> [12 November 2016].
- Seymour, K. 2012. The perceived value of scuba diving tourists at a marine destination. Unpublished magister atrium thesis, North-West University, Potchefstroom.
- Simon, K. & Goes, J. 2013. *Scope, Dissertation and Scholarly Research: Limitations and Delimitations*. Seattle, WA: Dissertation success LLC.
- Sink, K. 2016. The Marine Protected Areas debate: Implications for the proposed Phakisa Marine Protected Areas Network. *South African Journal of Science*, 112(9-10):1-4.
- South African Government News Agency. (2014, July 19). *Operation Phakisa to move SA forward*. Retrieved from <http://www.sanews.gov.za/south-africa/operation-phakisa-move-sa-forward> [22 November 2016].
- South African National Parks. 2008. *Economic Impact Assessment*. https://www.sanparks.org/docs/general/economic_impact_study_sept08.pdf [1 December 2016].
- South Africa.net. 2016. *SA's Tourism Increasing in 2016*. <http://www.southafrica.net/trade/en/news/entry/news-sa-tourism-increasing-in-2016> [15 November 2016].
- Spalding, M.D., Roffo, S., Lacambra, C., Meliane, I., Hale, L.Z., Shepard, C.C. & Beck, M.W. 2014. The role of ecosystems in coastal protection: Adapting to climate change and coastal hazards. *Ocean and Coastal Management*, 90: 50-57.



Statistics South Africa. 2011. *Tourism, 2011*. <http://www.statssa.gov.za/publications/Report-03-51-02/Report-03-51-022011.pdf> [25 November 2016].

Statistics South Africa. 2015. *Tourism and Migration*. <http://www.statssa.gov.za/publications/P0351/P0351March2015.pdf> [25 November 2016].

Strydom, A. J., Saayman, M. & Saayman, A. 2006. The economic impact of the Volksblad Arts Festival. *Acta Comercii*, 6: 87-98.

Stynes, D. J. 1997. *Economic Impacts of Tourism*. <https://msu.edu/course/prr/840/econimpact/pdf/ecimpvol1.pdf> [5 September 2016].

Surugiu, C. 2009. *The Economic Impact of Tourism: An Input-output Analysis*. <http://www.revecon.ro/articles/2009-2/2009-2-8.pdf> [25 October 2016].

Techera, E.J. & Klein, N., 2013. The role of law in shark-based eco-tourism: Lessons from Australia. *Marine Policy*, 39:21-28.

The Commonwealth. 2014. *The Oceans Economy: Opportunities and Challenges for Small Developing Island Developing States*. http://thecommonwealth.org/sites/default/files/news-items/documents/Commonwealth_-_The_Oceans_Economy-2.pdf [24 January 2017].

United Nations. 2014. *The Oceans Economy: Opportunities and Challenges for Small Developing Island Developing States*. http://unctad.org/en/PublicationsLibrary/ditcted2014d5_en.pdf [24 January 2017].

United Nations Environment Programme. 2009. *Sustainable Coastal Tourism: An Integrated Planning and Management Approach*. http://www.unep.org/pdf/DTIE_PDFS/DTIx1091xPA-SustainableCoastalTourism-Planning.pdf [24 January 2017].

United Nations Statistics Division. 2008. *Tourism Satellite Account: Recommended Methodological Framework (TSA: RMF 2008)*. <http://unstats.un.org/unsd/statcom/doc08/BG-TSA.pdf> [10 November 2016].

United Nations World Tourism Organisation. 2014. *Glossary of Tourism Terms*. <http://cf.cdn.unwto.org/sites/all/files/Glossary+of+terms.pdf> [10 November 2016].

United Nations World Tourism Organisation. 2016. *UNTWO World Tourism Barometer*. http://cf.cdn.unwto.org/sites/all/files/pdf/unwto_barom16_03_may_excerpt_.pdf [20 January 2017].

Vainikka, V. 2013. Rethinking mass tourism. *Tourist Studies*, 13(3):268-286.

Van Teijlingen, E. & Hundley, V. 2002. The importance of pilot studies. *Nursing Standard*, 16(40):33-36.



- van Wyk, J. A. 2015. Defining the blue economy as a South African strategic priority: Toward a sustainable 10th province? *Journal of the Indian Ocean Region*, 11(2):153-169.
- Veal, A.J. 1992. *Research Methods for Leisure and Tourism. A Practical Guide*. Essex: Longman. Group.
- Vianna, G.M.S., Meekan, M.G., Pannell, D.J., Marsh, S.P. & Meeuwig, J.J., 2012. Socio-economic value and community benefits from shark-diving tourism in Palau: a sustainable use of reef shark populations. *Biological Conservation*, 145(1):267-277.
- Visit Eastern Cape. 2016. *Adventure Province Eastern Cape*. <http://www.visiteasterncape.co.za/> [14 November 2016].
- Wiedmann, T. 2009. A review of recent multi-region input–output models used for consumption-based emission and resource accounting. *Ecological Economics*, 69(2):211-222.
- Wilson, C. & Tisdell, C. 2003. Conservation and economic benefits of wildlife-based marine tourism: Sea turtles and whales as case studies. *Human Dimensions of Wildlife*, 8(1):49-58.
- Wood, D. & Glasson, J. 2005. Giving the environment a voice: The transformational potential of valuing tourism in sensitive natural environments: The case of the Ningaloo coastal region, Western Australia. *Planning Practice and Research*, 20(4):391-407.
- World Travel and Tourism Council. 2015. *Travel and Tourism Economic Impact 2015: United States of America*. <https://www.wttc.org/-/media/files/reports/economic%20impact%20research/countries%202015/unitedstatesofamerica2015.pdf> [22 October 2016].
- Wu, L., Zhang, J. & Fujiwara, A. 2012. A tourist's multi-destination choice model with future dependency. *Asia Pacific Journal of Tourism Research*, 17(2):121-132.
- Zurub, H. H., Lonescu, A. & Constantin, V. D. 2015. Measuring the economic impact of tourism in European emerging markets. *Procedia Economics and Finance*, 32:95-102.