

THE ECONOMIC VALUE AND CONTRIBUTION OF THE SIMON'S TOWN PENGUIN COLONY

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Prepared for:



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Executive Summary

It is becoming increasingly important to identify and quantify our unique environmental and heritage assets enabling the development of strategies to sustainably use and protect these resources. This assessment responds to this need focusing on the economic benefits associated with the Simon's Town Penguin Colony.

The first breeding pair of penguins arrived at Boulders, Simon's Town in 1983 and the colony grew rapidly reaching 1,000 nesting pairs by 2001. Roughly 854 pairs are currently to be found in the area. Simon's Town Municipality managed the area until SANParks took over in 1998 when the site became part of the Table Mountain National Park (TMNP). Over the years significant additions and upgrades of facilities and amenities were undertaken and SANParks staff numbers increased to 20 permanent employees. The success of the Simon's Town Penguin Colony is clearly reflected in visitor numbers to the SANParks Boulders section of the Colony which have grown from approximately 580,000 in 2006 to 930,000 in 2017.

The primary economic benefits associated with the Penguin Colony stem from transport and other expenditure that could reasonably be ascribed to it making the distinction between expenditure by international tourists, domestic tourists and Cape Town residents. In addition, a distinction can be made between benefits that would accrue to the local area (i.e. Simon's Town and surrounds) and those that would accrue to the rest of the City of Cape Town. Estimates of gross expenditure benefits associated with the Penguin Colony are highly significant and as follows:

Transport expenditure associated with the Colony is approximately R37 million per annum for international and domestic **tourists**. In addition, tourists spend on other items including entry fees (such as those paid to SANParks at Boulders), food, curios, guides, local transport, entertainment and accommodation. Expenditure on these items that can be ascribed to the colony is approximately R255 million per annum within the whole of Cape Town, R90 million of which accrues to Simon's Town.

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Expenditure by **residents** of Cape Town associated with the Colony is roughly R19 million per annum. Note that this spend results in positive impacts in the Simon's Town area but not within the wider Cape Town area as it displaces expenditure that would have occurred elsewhere in Cape Town.

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Total expenditure associated with the Colony is approximately R311 million per annum. The majority (i.e. 88%) coming from international tourists, 8% from domestic tourists and the remaining 6% from Cape Town residents.

The present value (PV) of likely future total expenditure associated with the Simon's Town Penguin Colony over the next 30 years was estimated at approximately R6.87 billion with R2.27 billion of this accruing to Simon's Town area (assuming conservative visitor growth of 2% per annum and applying a 4% discount rate).

The benefits associated with the Simon's Town Penguin Colony were also measured in terms of the highly significant jobs that it supports. Approximately 885 jobs were found to be associated with Colony-related visitor expenditure in all parts of Cape Town. A survey of actual jobs in the part of Simon's Town nearest the Colony indicated that approximately 180 permanent and 35 seasonal direct jobs are associated with it. This result, alongside estimates derived through multiplier modelling, indicate that approximately 250 jobs is a reasonable estimate for direct jobs associated with the Simon's Town Penguin Colony in the whole of Simon's Town.

Other key benefits associated with the colony include its contribution to the Cape Town and Simon's Town brand, property value enhancement and heritage and socio-cultural values associated with it summarised as follows:

- Given its status as one of the jewels of Cape Town, there can be little doubt that Boulders and the Simon's Town Penguin Colony makes a contribution to the overall branding of Cape Town. Its prominence in branding Simon's Town is also highly significant and increases awareness of its eco-tourism and leisure offering alongside its historical ambience and nautical focus.
- The Penguin Colony results in the overall enhancement of property values throughout Simon's Town. Essentially two factors are at play here. One, it provides significant amenity values and, two, it results in significant economic opportunities driven by visitor expenditure both of which are reflected in the value of properties.
- The Colony combines the presence of an endangered species at a relatively unique and particularly picturesque setting with high visitor numbers (and therefore high awareness of the site). In addition, the species in question, the African Penguin, is a highly 'charismatic' species which can evoke strong emotional reactions. Even without the benefit of a survey to estimate values, these factors all indicate that the site is likely to have high heritage and socio-cultural value.

The investment in and management of the Penguin Colony by SANParks and subsequently the City of Cape Town, in partnership with SANCOBB, residents and tourism stakeholders has allowed for the creation of a world-class conservation and tourist destination. Ongoing management and improvement is, however, needed if the benefits associated with the Colony are to be sustained and increased. As per the City of Cape Town's Landscape Master Plan for the area and in accordance with SANParks projections, combined investments in order of R22 million are required to meet the area's medium-term investment requirements. This level of investment seems justifiable as it represents 7.5% of current annual tourist visitor numbers and their expenditure benefit of and only 0.6% of the expenditure benefits anticipated over the next 10 years.

The need for these investments is likely to increase in urgency as visitor numbers and associated pressures increase over time. To be clear, failure to collectively address investment needs and improve on visitor experiences would not be strategic. It would give rise to increased risks to the continued healthy functioning of the colony and in terms of reduced or stagnant visitor numbers and associated economic benefits. In this sense, the Simon's Town Penguin Colony is no different to other business undertakings in the highly competitive tourism sector.

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- Business owners nearby Boulders
- Estate agents in Simon's Town

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1 INTRODUCTION AND SCOPE

The South Peninsula is one of Cape Town's premier tourist areas with its unique environmental and heritage assets that underpin the tourism sector. The endangered African Penguin colony at Simon's Town forms an integral part of the natural heritage of the area. The economic value of this natural heritage to the local area and the City of Cape Town is, however, poorly understood increasing the likelihood that it is not properly taken into account in decision making, budgeting and management. Urgency in this regard is heightened given human population and tourism growth expectations for Cape Town as well as the continued threats faced by this Endangered species.

The need to assess the economic benefits associated with the Simon's Town Penguin Colony was thus identified by the City of Cape Town and an initial study was conducted on this topic in 2014. This study is essentially an update of the 2014 study and is focused on:

- Researching and quantifying, to the degree possible and appropriate, the direct and indirect financial, intrinsic and social value of the existence and presence of the Simon's Town African Penguin Colony to the City of Cape Town.
- Outlining the primary investments required to continue to manage and enhance the Penguin Colony and assessing the justification for such investments.

The intention of the work is that future decisions around funding, management and land use can be better informed with regard to the value of the Colony. In addition, the research should prove useful in stimulating local interest in critical natural heritage sites such as the Colony and as an educational resource.

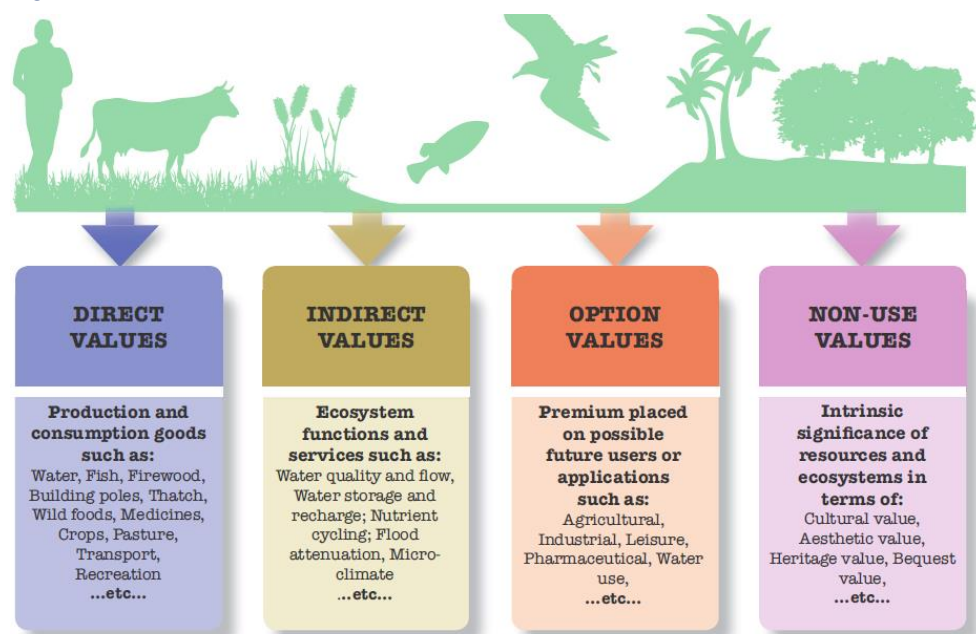
In terms of scope, a medium level of detail was possible given time and budget constraints. This resulted primarily in the need to focus the assessment on the key value stream associated with the Simon's Town Penguin Colony, namely, its tourism value. Assessment focuses on the whole penguin colony area which includes the well-known Boulders section forming part of the Table Mountain National Park as well as adjacent parts of the colony on City of Cape Town land such as Burgher's Walk and on South African National Defence Force (SANDF) land.

2 APPROACH

Once the recent history, management and visitor numbers associated with the penguin colony were understood, it was necessary to identify all the value streams associated with it and to prioritise which value streams were to be focused on and quantified. This allowed for the rational allocation of resources and time to those value streams that are most important and is the approach used in similar studies such as the valuation of Cape Town's natural assets (see De Wit et al., 2009).

The Millennium Ecosystem Assessment (MEA) framework allows for the orderly classification and identification of ecosystem services. This can then be augmented and cross-checked using the Total Economic Value (TEV) framework which is more commonly used in the process of attaching monetary values to ecosystem services (see Figure 2.1).

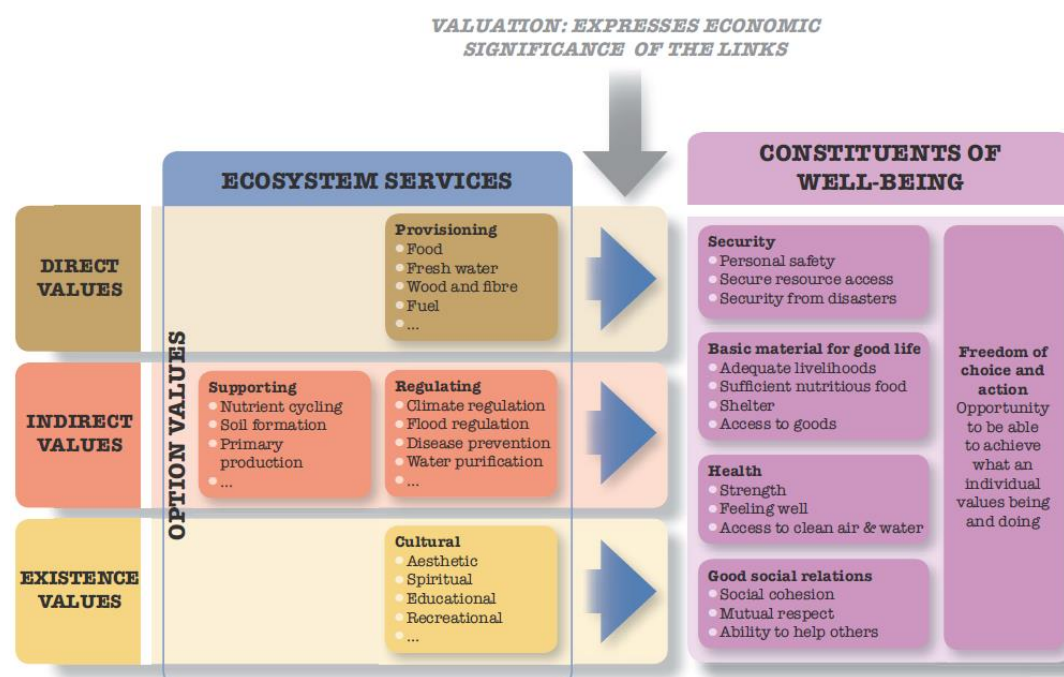
Figure 2-1: Total Economic Value classification of environmental amenities



Source: IUCN, 2009

Figure 2.2 shows how the MEA and TEV approaches can be integrated and the link that economic valuation attempts to provide between ecosystem services and human well-being.

Figure 2-2: Relationship between ecosystem services, human well-being and total economic value



Source: IUCN, 2009 adapted from the MEA

Using these frameworks as a guide, the ecosystems services and value streams associated with the penguin colony were identified. As one would expect, a relatively wide variety of

values were identified including direct (e.g. tourism), indirect (e.g. regulating services) and non-use values (e.g. existence, bequest and option).

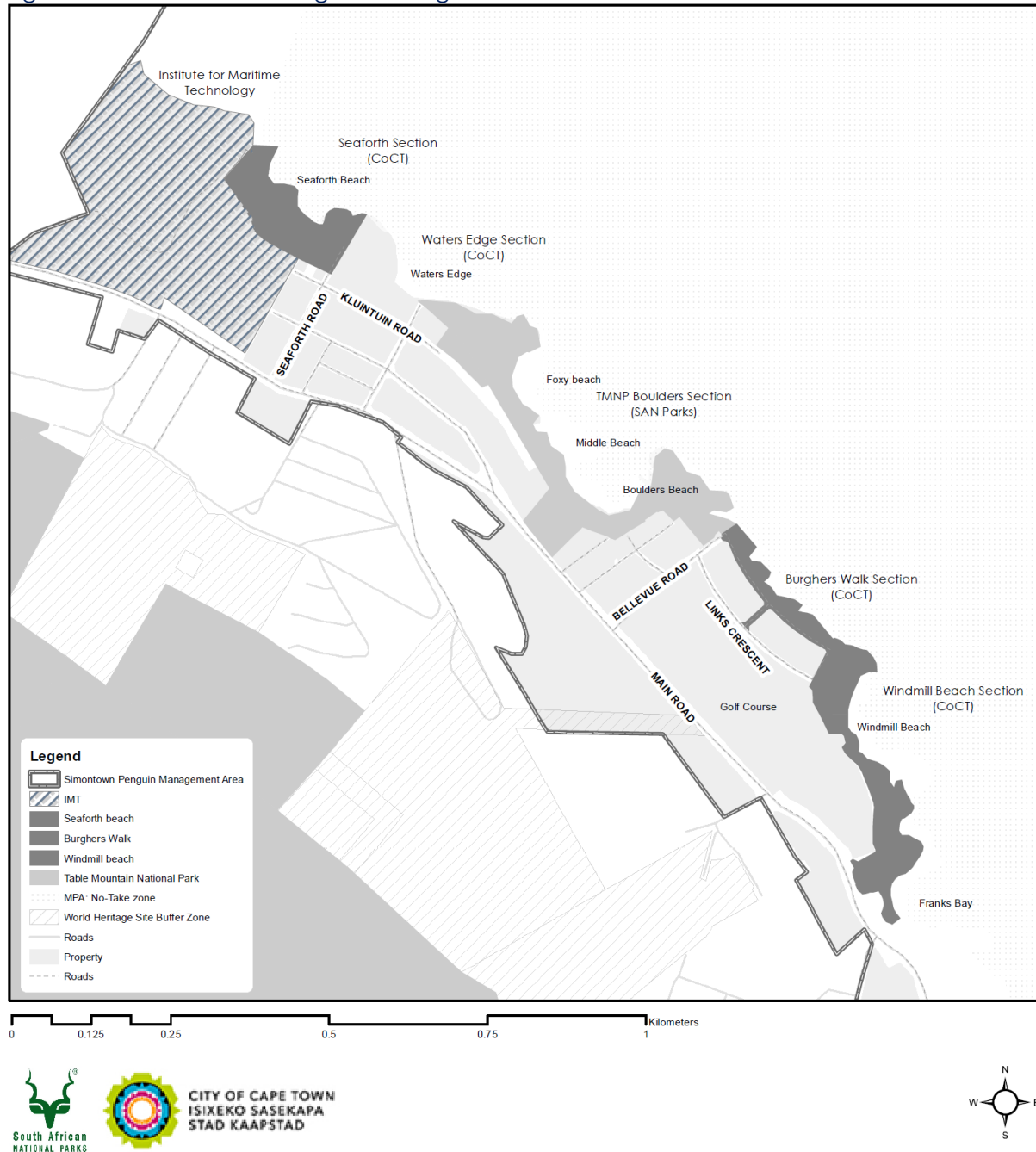
It was then necessary to prioritise value streams for assessment. Given the aims of the study along with available resources for its execution, the primary focus was placed on direct tourism and recreational values. Not only are these values very prominent for the site, they also reflect the key contribution that the Simon's Town Penguin Colony makes to the Simon's Town and wider Cape Town economy. Other values associated with the colony that should also be borne in mind in decision-making include its contribution to the Cape Town and Simons Town brand, its role in property value enhancement and its existence / bequest value. These values are also discussed briefly but are not quantified.

Finally, looking to the future, the investment needs of the area were assessed in terms of what is required to ensure that Simon's Town Penguin Colony remains a world-class destination and whether such investments are broadly justified.

3 RECENT HISTORY, MANAGEMENT AND VISITOR NUMBERS

In order to provide context, this section contains a brief synopsis of the history of Simon's Town Penguin Colony focusing on its establishment and development from 1985 onwards. The management of the Colony, investment in it and the employment this creates are also outlined along with visitor numbers. A map of the Simons Town Penguin Management Area is provided in Figure 3-1.

Figure 3-1: Simons Town Penguin Management Area



Some of the earliest mentions of the Boulders and Seaforth areas in historical records show that they were used as a whaling station in the 1800s and later on as a navy degaussing station. The first breeding pair of penguins arrived at Boulders in Simon's Town in 1983. Initially the colony grew at an annual rate of 60%, far exceeding growth through natural reproduction and indicating immigration from other colonies (Crawford et al. 2000 in Lewis, 2011). Thereafter growth slowed nevertheless reaching 1,000 nesting pairs by 2001. At the latest count there were 854 pairs to be found in the area (see Table 3.1).

Table 3-1: Penguin numbers and distribution (selected years 1993 – 2017)

Year	Nests	Penguins	Penguin nests per area / land owner					
			SANParks		City of Cape Town		SANDF	
			Nr nests	% of total	Nr nests	% of total	Nr nests	% of total
1993	241	771	229	95%	12	5%	0	0%
1996	416	1 331	315	76%	101	24%	0	0%
1999	906	2 899	808	89%	98	11%	0	0%
2002	1 083	3 466	966	89%	117	11%	0	0%
2005	1 227	3 926	576	47%	111	9%	0	0%
2008	934	2 989	804	86%	130	14%	0	0%
2011	663	2 122	502	76%	148	22%	13	2%
2012	831	2 659	519	62%	265	32%	47	6%
2013	553	1 770	-	0%	-	0%	0	0%
2014	962	3 078	491	51%	408	42%	63	7%
2015	982	3 142	602	61%	340	35%	40	4%
2016	893	2 858	477	53%	386	43%	30	3%
2017	854	2 733	688	81%	166	19%	0	0%

2013 count not separated by site

The arrival of the penguins was a source of conflict on the part of some residents to start. Lewis (2011) notes that the arrival "...caused controversy among many of the local residents who had previously frequented penguin-free beaches for recreational purposes. Many of the penguins also nested in neighbouring gardens, making considerable noise and giving off unpleasant odours, further increasing the conflict with the neighbouring residences. As the penguin colony grew, it attracted increasing numbers of tourists, leading to further loss of amenity to the local residents." Initially the Simons Town Municipality managed the area erecting a wooden fence and instituting an entry fee. However, it was only when SANParks took over in 1998 that significant management effort was initiated after the site became part of the Table Mountain National Park (TMNP). Prior to this, annual visitors were in the order of 200,000, with six access points to the beach and only two staff members at the site. A process of intensive public participation was undertaken, to start with, in order to collectively plan for the protection of the colony whilst meeting the needs of local residents and visitors.

Over the years significant investment was undertaken all of which contributed to the world-class facility in place today. This included the following items (funded by SANParks and the City of Cape Town the total value of which is probably between R14 million and R20 million in current terms):

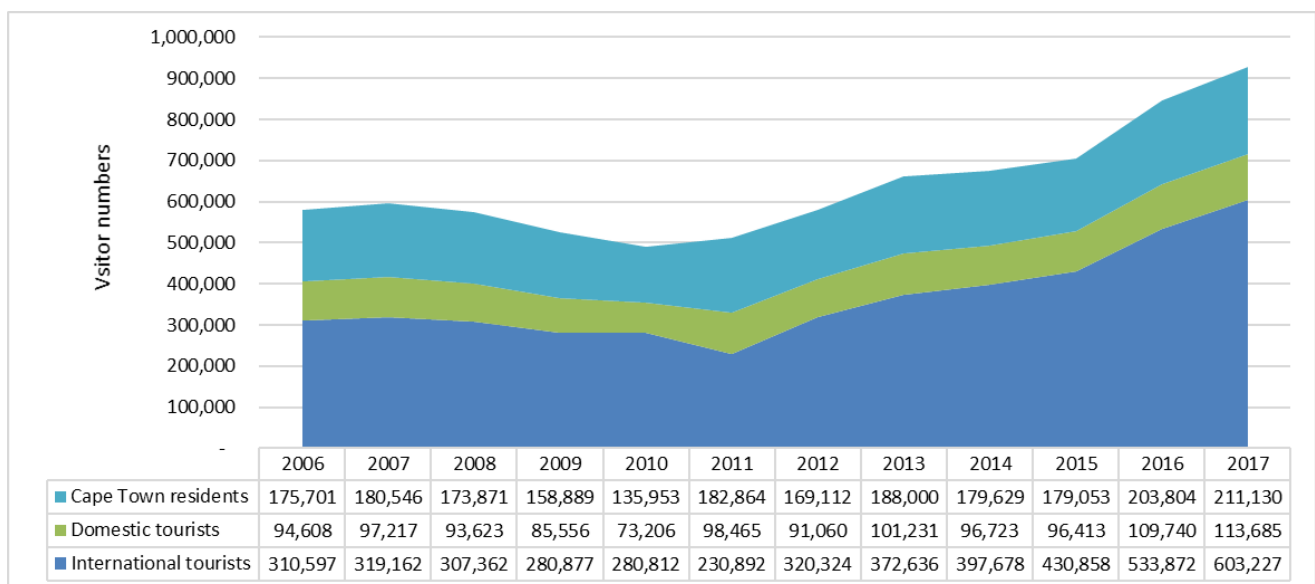
- Main Boardwalk: 1998 to 1999
- Forest Link Boardwalk: 1999 to 2000
- Wooden 'Wendy' houses for access control and administration
- Signage (direction, regulatory, interpretive and traffic)
- Tarring and upgrade at Institute of Marine Technology (IMT) Bus Parking
- Upgrade of Seaforth Parking
- Additional penguin proof fencing at Water's Edge School
- Conversion of degaussing station to modern Visitor Centre: 2001 to 2003
- Willis Walk changed from tar path to boardwalk with stormwater interventions
- Fencing from around golf course to Frank's bay
- Upgrades to boulders parking
- Installation of Burghers Walk Boardwalk and

- Rehabilitation of coastal vegetation¹

In addition, a major upgrade of the SANParks Visitor Centre to the value of approximately R4.5 million is currently being undertaken. Its primary focus is on re-aligning visitor flows through the Centre by creating a new exit gate area that is separate from the entrance gate area thereby alleviating congestion which has increasingly become a challenge. The curio shop/kiosk is also being upgraded and positioned so that exiting visitors are channelled through the shop.

The success of the Simon's Town Penguin Colony, and the Boulders section of the Colony in particular, is clearly reflected in visitor numbers which have increased from approximately 580,000 in 2006 to 930,000 in 2017 (see Figure 3.1). It is ranked the 5th most popular attraction in Cape Town based on visitor numbers (WESGRO, 2017). As indicated on the figure, recent growth in visitor numbers has been particularly robust averaging 10% per year over the period 2012 to 2017. Increased international tourists have driven the majority of this growth after a three-year period of decreasing visitor numbers between 2008 and 2010 associated with the Financial Crisis.

Figure 3-2: Visitor number to the Boulders section of the Simon's Town Penguin Colony (2006 – 2017)



Data supplied by SANParks

In terms of people employed in order to manage the Colony, SANParks staff numbers have increased with time to the current total of 20 permanent and 3 seasonal positions including:

- 1 Section ranger (operations manager)
- 1 Ranger sergeant
- 4 Field rangers
- 1 Senior tourism officer
- 2 Tourism officers
- 2 Environmental monitors (appointed with Extended Public Works Programme funding)

¹ Plants were provided by CoCT and donated by the Cape Bird Club for rehabilitation of trampled areas at Burghers' Walk and areas where alien clearing was done, including inside Boulders National Park.

- 7 Access Control staff (1 supervisor + 6 others with 3 additional staff during season & regular site visits by Area Manager and Auditor)
- 2 Cleaners

The City of Cape Town itself manages or oversees the management of all the areas outside of the Boulders Section, including Seaforth, Burghers Walk and Windmill beach areas, where penguins nest. The City has entered into a management agreement with Southern African Foundation for the Conservation of Coastal Birds (SANCCOB) to facilitate co-management. Four penguin monitors and a site coordinator are employed through the Cape Town Environmental Trust (CTEET), funded by SANCCOB. SANCCOB also contributes to the management of the wider Colony focusing on research, rescue, rehabilitation and awareness creation. In addition, it organises the annual Penguin Festival which includes a public release of birds, educational and leisure activities, food stalls and exhibits to raise funds for its penguin related work.

Penguin conservation in the area also benefits from and creates opportunities for interns, Expanded Public Works Programme (EPWP) CoastCare Projects and Wildlife and Environment Society of South Africa (WESSA)'s Beach Stewards programmes.

4 ECONOMIC BENEFITS OF TOURISM

The Simon's Town Penguin Colony is an internationally recognised tourist site. This section focuses on attaching an economic value to the tourism and recreational activity associated with the Colony. First, the wider tourism economy context is discussed briefly along with the colony's role in contributing to the Cape Town tourist experience. This is followed by an analysis of the economic benefits associated with the Colony stemming from expenditure by tourists and residents.

4.1 The tourism economy context

The national tourism industry has exceeded the growth of virtually all other sectors in the economy in the post-apartheid era. This was initially driven by significant increases in international visitor numbers to South Africa of roughly 300% between 1994 and 2013 to reach 9.6 million tourists (DoT, 2014). Tourism growth was highest in the years immediately after 1994, after which it remained above average when compared with other countries for several years. For example, international tourist arrivals to South Africa grew at an annual average growth rate of 7.4% between 2011 and 2013, well above the global average of 4.5% during this period.² Tourism's direct contribution to South Africa's GDP was approximately R136 billion in 2017 (representing 2.9% of total GDP), and is forecast to grow by 2.4% in 2018 and thereafter by 3.6% per annum between 2018 and 2028. Tourism also supported 726,500 direct jobs (4.5% of total employment) in 2017 (WTTC, 2018).

The critical importance of tourism to economic development in the Western Cape is well known. It is estimated that tourism contributes R38 billion per annum to the provincial economy whilst supporting approximately 206,000 direct jobs.³ With respect to growth, the Western Cape experienced an 18% increase in international arrivals and a 16% increase in domestic arrivals between 2015 and 2016, with the tourism sector adding approximately 20,000 jobs since the launch of the Project Khulisa growth strategy in 2014.⁴

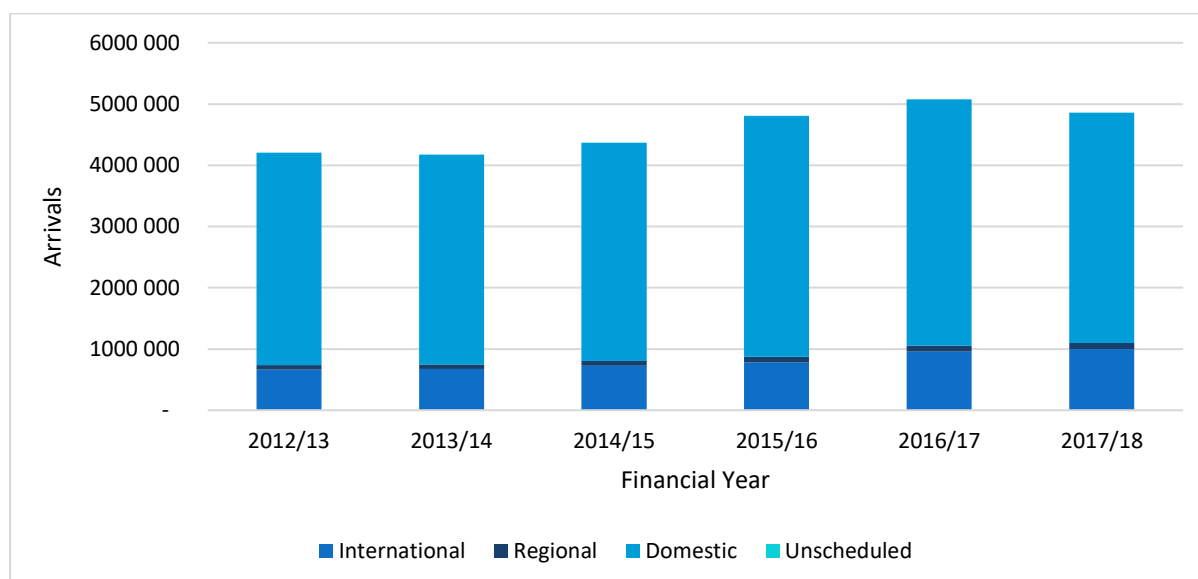
² See <http://www.southafrica.info/travel/tourists-290514.htm#.U8Dm3PmSxBk>

³ See <https://news.wine.co.za/News.aspx?NEWSID=32288&CLIENTID=&SPOTLIGHTID=>

⁴ See <https://www.iol.co.za/business-report/economy/western-cape-at-the-centre-of-growth-in-sa-tourism-sector-11466734>

Growth in tourist arrivals to Cape Town over the past five years, as indicated by airport arrivals, has been high relative to South Africa as a whole. Year on year growth between 2015/16 and 2016/17 was 6.7%, with growth in international arrivals being particularly high at 25.1% (see Table 4.1). The 2016/17 to 2017/18 period, however, saw the total number of arrivals fall by 4.3%. This was due to a fall in domestic (-6.5%) and regional (-2.4%) arrivals. The number of international arrivals, however, continued to grow by 4.6% during this period.

Figure 4-1: Visitor arrivals at Cape Town International Airport (2012 – 2017)



Source: ACSA, 2018

The contribution of tourism to the Cape Town economy is substantial given its prominence as a destination. This contribution has been analysed between 2006 and 2016, and forecast up to 2026, by Oxford Economics (reported in WTTC, 2017). They found that as a share of the City's total GDP, Cape Town's travel and tourism sector grew by 1.5% per annum over the past ten years, substantially higher than the 1% sector growth for South Africa as a whole. Travel and tourism generated 7.5% of the city's GDP in 2016, with one in nine people being directly or indirectly employed in the sector (up from approximately one in eleven jobs in 2007).

4.2 Estimation of benefits

Estimating the value of the Simon's Town Penguin Colony can be approached in different ways. Application of the so-called 'travel cost method' is a potential approach. It is, however, constrained as it only provides a partial picture of the economic benefits associated with the penguin colony based on the revealed preferences of visitors to it as reflected in their travel decisions and their travel/transport costs. It ignores other non-transport related expenditures by visitors which are ascribable to the Simon's Town Penguin Colony such as spending on accommodation, food, guides, entry fees, entertainment, etc. While these expenditures may not all reflect willingness to pay they are real expenditures in the local economy which have an impact on economic development outcomes such as job creation. Bear in mind that these expenditures include those by visitors with general as well as more specialised interests in the penguin colony. The latter incorporates the growing local and international birding fraternity who will invariably include the African Penguin on their species lists for Cape Town. These visitors are also catered for by local guiding and tour companies focused on birding such as Rockjumper Birding Tours, Birding Africa, Cape Town Pelagics and others.

With this in mind, the economic benefit of the Simon's Town Penguin Colony was estimated focusing on both transport and other expenditure that could reasonably be ascribed to it and the jobs associated with this expenditure. A distinction was made between expenditure from the following sources to allow for a better understanding of overall benefits:

- International tourists
- Domestic tourists
- Cape Town residents

In addition, a distinction was made between benefits that would accrue to the local area (i.e. Simon's Town) and those that would accrue to the rest of the City of Cape Town area.

The following basic steps were followed in assessment:

1. Source visitor numbers for the Simon's Town Penguin Colony from SANParks making the distinction between international tourists, domestic tourists and Cape Town residents.
2. For international and domestic tourists that visit the penguin colony, estimate their transport expenditure incurred in getting to Cape Town. For international tourists, this required isolating the relative prominence or weight of Cape Town in their overall trip to South Africa.
3. For international and domestic tourists that visit the Simon's Town Penguin Colony, ascribe a reasonable portion of travel costs to the presence of the penguin colony thereby isolating the relative prominence or weight of it in the travel decision of tourists coming to Cape Town.
4. For all visitors to the Simon's Town Penguin Colony, estimate the portion of their daily spend within Cape Town (on items such as local transport, guides, entry fees, food and accommodation) that can be ascribed to the penguin colony based on the amount of time that the average visitor spends there.
5. Multiply visitor numbers by (1) transport expenditure and (2) other visitor expenditure to get total gross expenditure associated with the Simon's Town Penguin Colony. Estimate the portion of this expenditure that accrues to local businesses in Simon's Town.
6. Estimate likely job numbers associated with gross visitor expenditure using employment multipliers.

4.2.1 Visitor transport expenditure

It was assumed that the average foreign visitor would spend R16,000 on travel to South Africa. They would then spend an additional R2,200 on internal travel to Cape Town which would be the same amount that domestic visitors would spend to travel to Cape Town.

Expenditure on travelling to Cape Town is made up primarily of the airfares in the case of international tourists. For domestic tourists, flying is also a prominent mode of transport for trips but the portion of tourists using cars, buses or trains is significantly greater. Regardless of transport mode used, expenditure on transport to Cape Town has a significantly lower impact on the Cape Town economy when compared with expenditure by tourists when in Cape Town. For example, foreign tourists flying here will often pay for their tickets outside of South Africa to foreign airline companies. In many cases, the portion of the ticket accruing to the Airports Company (ACSA), local aircraft servicing and crew hosting companies is all that could reasonably be counted as local spending. Similarly, domestic tourists arriving by car will have spent money on fuel en route to Cape Town but not in Cape Town. In order to account for this, and ensure focus on local spending, transport costs to Cape Town were reduced by 80%.

For international visitors, having estimated the transport costs of getting to South Africa and Cape Town, estimates were needed of the relative prominence or weight specifically of Cape Town within the average South African travel itinerary. This was done based on previous research by de Wit et al. (2009) who found that Cape Town conservatively equated to 25% of the overall attraction package that motivates international tourist trips to South Africa. In reaching this conclusion, the 'must-see' nature of Cape Town was recognised along with its numerous travel awards including:⁵

- *Awarded number one city in Africa in 2017 for business tourism events by the International Congress and Convention Association (ICCA), the fourth consecutive win for the city.*
- *Awarded the Conde Naste Readers' Travel Awards 2016 for Best Overseas City for Restaurants & Bars, as well as the second best overseas city in the World.*
- *The 2015-16 Telegraph Travel Awards chose Cape Town as Best City (for the fourth year running)*
- *In Condé Nast's Reader's Choice Awards, Cape Town took the honour as the number one food city in the world for 2016*
- *Cape Town has been named as Luxury City Destination of the Year for the second consecutive year in the Luxury Travel Guide Africa & Middle East Awards 2016.*
- *In 2015 Cape Town was ranked number 10 in the Top 25 Destinations in the World by Tripadvisor. This is determined by an algorithm that monitored the quality and quantity of user reviews over a twelve month period.*
- *National Geographic named Cape Town as number two on its 2015 top 10 list of best beach cities in the world.*

It was then necessary to estimate the portion of transport costs to Cape Town that one could reasonably ascribe to the Simon's Town Penguin Colony. The prominence of the Penguin Colony as a tourist attraction within Cape Town and the time people devote to visiting it were key informants in this regard. There can be little doubt that the Simon's Town Penguin Colony including Boulders is a key part of the package of attractions on offer in Cape Town.

With respect to time spent at the Simon's Town Penguin Colony, the 2007/2008 Table Mountain National Park visitor survey found that the average visitor spent 1.6 hours at the penguin colony (Donaldson, 2009). Albeit slightly less, this is comparable to the average for all sites in the Table Mountain National Park which was 2.1 hours. Taking travel time into account, which these estimates exclude, it was assumed that the average tourist visitor to the Simon's Town Penguin Colony is probably devoting roughly 30% of their day to traveling to and visiting the penguin colony and immediate surrounds.⁶ This time allocation would equate to roughly 6.5% of the average international tourist trip to Cape Town over five days and roughly 10.5% of the average domestic tourist trip over three days. Apply these assumptions, the total tourist transport expenditures need to get to Cape Town and associated with the Simon's Town Penguin Colony were found to total R31.4 million per annum for international tourists and R5.3 million per annum for domestic tourists (see Table 4.1).

⁵ See <http://www.capetown.travel/trade-media/tm-news/cape-town-accolades/cape-town-accolades-and-awards>

⁶ Note that this estimate takes into account the likelihood that the majority of tourists spend roughly 7 hours in a day visiting attractions with the remainder devoted to relaxing at their accommodation establishment and morning/evening meals.

Table 4-1: Transport expenditure associated with the Simon's Town Penguin Colony

	International tourists	Domestic tourists	Total
Transport expenditure			
Total Simon's Town Penguin Colony visitors per annum	603,227	113,685	R 928,042
Spend per tourist for international travel to SA	R 16,000	N/A	
Spend ascribed to Cape Town in international trips to SA	25%	N/A	
Spend per tourist for internal travel to Cape Town	R 4,000	R 2,200	
% of transport spend accruing to Cape Town businesses	20%	20%	
Total annual transport spend associated with Cape Town	R 482,581,840	R 50,021,464	R 532,603,304
Proportion of transport spend associated with Penguin Colony	6.5%	10.5%	
Per visitor transport spend associated with Penguin Colony	R 52	R 46	
Total annual transport expenditure assoc with Penguin Colony	R 31,367,820	R 5,252,254	R 36,620,073

4.2.2 Other visitor expenditure

In addition to the transport expenditure required to reach Cape Town, all visitors to the Simon's Town Penguin Colony spend on other items both in Simon's Town and in the wider Cape Town area. These include items such as entry fees (including those paid to SANParks at Boulders), food, curios, guides, local transport, entertainment and accommodation. They are commonly measured in terms of 'daily spend' and the latest available tourism statistics indicate that they amount to approximately R1,300/day for international tourists and R600 for domestic tourists.⁷ A portion of this daily spend can then also be ascribed to the Penguin Colony based on time spent there as discussed above. In addition to tourist expenditure, expenditure by residents of Cape Town was estimated based on a lower spend per trip of R90 per person.⁸

The results of the expenditure estimation exercise indicate that approximately R275 million in annual visitor expenditure within the City of Cape Town can be ascribed to the Simon's Town Penguin Colony (see Table 4.2). It is difficult to accurately estimate the portion of this expenditure that accrues to local businesses in Simon's Town and surrounds. A reasonable assumption of 35% was nevertheless chosen in this regard for tourist spending and 70% for Cape Town residents which resulted in an expenditure estimate of R103 million.

Table 4-2: Other visitor expenditure associated with the Simon's Town Penguin Colony

	International tourists	Domestic tourists	Cape Town residents	Total
Other visitor expenditure				
Total Simon's Town Penguin Colony visitors per annum	603,227	113,685	211,130	R 928,042
Visitor spend/day (entry, local transport, accom, food, etc)	R 1,300	R 600	R 90	
Proportion of tourist spend associated with Penguin Colony	30%	30%	100%	
Per visitor spend associated with Penguin Colony	R 390	R 180	R 90	
Total annual visitor expenditure assoc with Penguin Colony	R 235,258,647	R 20,463,326	R 19,001,660	R 274,723,633
Proportion of spend occurring in Simon's Town	35%	35%	70%	
Total annual visitor expenditure in Simon's Town	R 82,340,526	R 7,162,164	R 13,301,162	R 102,803,853

⁷ Based on data from SA Tourism (2017) on daily spend and assuming that two thirds of visitors were holiday-makers and one third were visiting friends and relatives.

⁸ Expenditure by Cape Town residents is substantially lower than tourists given their likely use of discounted entry using the Wild Card system and lower likelihood of expenditure in the local areas on things like meals, curios, guides, etc. Note that this spend results in positive impacts in the Simon's Town area but not within the wider Cape Town area as it displaces expenditure that would have occurred anyway elsewhere in Cape Town.

4.2.3 Expenditure summary and the value of future expenditure

Table 4.6 provides a summary of both transport and other expenditure associated with the Penguin Colony outlined above. It shows that a total of approximately R311 million per annum can be ascribed to the Simon's Town Penguin Colony with the majority (i.e. 86%) coming from international tourists, 8% from domestic tourists and the remaining 6% from Cape Town residents. This is a highly significant amount particularly within the context of the local Simon's Town economy which benefits from an approximately R103 million portion of this total.

Table 4-3: Summary of gross annual transport and other expenditure associated with the Simon's Town Penguin Colony

All visitor expenditure (transport and other)

Annual expenditure in Simon's Town

Annual expenditure in the rest of Cape Town

Total annual expenditure associated with Penguin Colony

% of total

International tourists	Domestic tourists	Cape Town residents	Total
R 82,340,526	R 7,162,164	R 13,301,162	R 102,803,853
R 184,285,940	R 18,553,416	R 5,700,498	R 208,539,854
R 266,626,467	R 25,715,580	R 19,001,660	R 311,343,706
86%	8%	6%	

Aside from annual expenditure data presented thus far, present value (PV) estimates of likely future expenditure streams associated with the Simon's Town Penguin Colony can provide a useful estimate of the 'asset value' of the colony. To do this, it was conservatively assumed that visitor numbers would grow by 2% per annum over the next 30 years.⁹ Future expenditure associated with these gradually increasing visitor numbers was then estimated for each of the next 30 years. These future values were then discounted at a base rate of 4% to arrive at a R6.87 billion present value for all expenditure with R2.27 billion of this accruing to Simon's Town area (see Table 4.5).¹⁰ With regards to sensitivity analysis, choice of a 6% discount rate decreases total present value estimates to R5.33 billion whilst a 2% rate increases estimates to R9.16 billion.

Table 4-4: Present value of 30 years of future tourism expenditure associated with the Simon's Town Penguin Colony

Discount rate: 4%

In the local area

In the rest of Cape Town

Total

Present Value of 30 years of future expenditure associated with the Simon's Town Penguin Colony			
International tourists	Domestic tourists	Cape Town residents	Total
R 1,817,763,498	R 158,113,156	R 293,638,719	R 2,269,515,373
R 4,068,327,828	R 409,588,367	R 125,845,165	R 4,603,761,360
R 5,886,091,325	R 567,701,523	R 419,483,884	R 6,873,276,733

Sensitivity analysis on total

Discount rate: 2%

Discount rate: 6%

R 7,841,954,900	R 756,340,582	R 558,872,351	R 9,157,167,834
R 4,563,469,269	R 440,137,319	R 325,224,620	R 5,328,831,207

⁹ This estimate is roughly in keeping with growth over the last eight years once short term fluctuations are taken into account. For example, visitor growth was substantially negative between 2007 and 2010 followed by significant positive growth over the last three years.

¹⁰ Discounting is used in economic analysis because society discounts the future (e.g. people rationally place a lower value on R100 received in some future year relative to R100 received today). This is, for example, because of impatience and because they expect to grow benefits received today through investments.

4.2.4 Employment benefits

Job creation is probably the most important imperative in economic policy throughout South African. With this in mind, the benefits of expenditures associated with the Simon's Town Penguin Colony were also measured in term of the jobs that they support. This was done using an average between job multipliers based on Statistics South Africa data and own estimates based on the investigation of the relationship between likely turnover and total jobs at establishments such as hotels and restaurants catering to tourists. Expenditures were multiplied by the estimated job multiplier (i.e. 3.3 direct jobs per R1 million spent by tourists) to generate the results in Table 4.8. These indicate that a total of 885 jobs would be associated with the Simon's Town Penguin Colony in all parts of Cape Town with up to 327 of these to be found in Simon's Town and surrounds.

Table 4-5: Direct jobs associated with the Simon's Town Penguin Colony visitor expenditure

	International tourists	Domestic tourists	Cape Town residents	Total
Direct jobs associated with visitor expenditure				
Within the local area (Simon's Town)	274	19	34	327
Within the rest of Cape Town	509	34	15	558
Total jobs associated with tourist expenditure	783	53	49	885

The above jobs estimates can also be cross-checked against a survey of actual jobs in the part of Simon's Town that is nearby the penguin colony (i.e. within ~500m of Boulders and including the Froggy Pond area) which contains a number of businesses that rely heavily on visitors to the Simon's Town Penguin Colony. These are listed in Table 4.9 along with their most likely level of reliance on penguin colony visitor expenditure and the corresponding number of jobs at these businesses that can be ascribed to the Simon's Town Penguin Colony.¹¹ SANParks, City of Cape Town, EPWP, SANCCOB and CTEET staff are added to complete the employment picture which indicates that approximately 180 permanent and 35 seasonal job associated with the Simon's Town Penguin Colony in the area immediately surrounding it. This indicates that the estimate of 327 jobs derived through approximated multiplier modelling in Table 4.6 is probably on the high side. The reality is likely to lie between these estimates – i.e. between 180 and 327 jobs or an average of 250 jobs in Simon's Town and surrounds.

¹¹ These estimates were based on observation and interviews with selected businesses. Note that reliance on visitors going to Seaforth only and not to Boulders was the other key source of business for the majority of businesses.

Table 4-6: Reliance and associated jobs at businesses in the area immediately surrounding the Simon's Town Penguin Colony

Business or entity	Total jobs		Percent reliance on penguin colony	Jobs associated with penguin colony	
	Permanent	Seasonal		Permanent	Seasonal
Boulders Beach Guest Lodge, restaurant, curio shop	20	8	90%	18	7
Bosky Dell self-catering cottages	4	1	75%	3	1
Edwardian Town House	2	-	95%	2	-
Cheriton Guesthouse	4	1	95%	4	1
Magellan's Passage	10	1	80%	8	1
Residence William French	4	2	80%	3	2
Napthali Lodge	3	-	95%	3	-
Sea de Villa B&B	1	-	85%	1	-
Whale View Manor and Spa	6	-	80%	5	-
Froggy Pond Resort	9	-	15%	1	-
Other small self-catering / private homes	35	5	70%	24	4
Seaforth Restaurant	60	10	50%	30	5
Café Penguin & iPenguin y Africa curio shop	12	4	85%	10	3
Informal traders	20	6	90%	18	5
Aloes shop	3	1	90%	3	1
Two small ice cream / coffee kiosks	5	2	90%	5	2
Curio shop in SANParks Visitor Centre	3	1	100%	3	1
SANParks	20	3	100%	20	3
City, EPWP and WESSA staff	15	-	100%	15	-
CTEET (funded by SANCCOB)	4	-	100%	4	-
Total	240	45		180	35

5 OTHER VALUES AND UNQUANTIFIED BENEFITS

Having assessed the primary economic benefits associated with the Simon's Town Penguin Colony, this section presents a brief qualitative discussion of other important value streams that are associated with the colony focusing on:

- Contribution to the Cape Town and Simon's Town brand
- Property value enhancement
- Heritage and socio-cultural

5.1 Contribution to the Cape Town and Simon's Town brand

Natural assets can make a significant contribution to urban quality of life which allows areas to attract entrepreneurs and others that help to drive economic development. According to CRE (2009), a supportive entrepreneurial environment includes quality of life consideration. The simple point is made that entrepreneurship is about people and entrepreneurs choose to locate their businesses in places where they wish to live particularly within the context of higher rates of mobility. Communities that invest in quality of life infrastructure are thus more likely to attract entrepreneurs from outside the community and keep those who are home grown. Entrepreneur (2008) also affirms that research has proven that a higher quality of life plays a significant role in a city's ability to attract businesses and knowledgeable workers.

Cape Town, with prominent natural features and amenities, is increasingly branded as being more desirable than other less appealing cities. For example, Accelerate Cape Town's Vision 2030, "suggests that we should be using our natural and human diversity, which inspires so many people, to develop and attract the world's most creative thinkers and get them to

develop global innovations from here" (CBN, 2009).¹² This suggests that the link between natural assets and the attraction of key human capital needed to drive economic development is well recognised in Cape Town (see de Wit et al., 2009).

Given its status as one of the jewels of Cape Town, there can be little doubt that the Simon's Town Penguin Colony makes a contribution to the overall branding of Cape Town. Its prominence in branding Simon's Town is also highly significant and a relatively recent phenomenon that is probably still gaining momentum. It is only effectively in the last 15 to 20 years that the Penguin Colony rose to prominence as a tourism attraction directly associated with Simon's Town. In this time, Simon's Town has increasingly become associated with the penguins to the point where Simon's Town is often considered synonymous with the penguin colony. This has arguably enhanced the Simon's Town brand by increasing awareness of its eco-tourism and leisure offering alongside its historical ambience and nautical focus driven by the harbour and presence of the navy.

5.2 Property value enhancement

Cape Town boasts some of the most sought-after property in the world. In large part this relates directly to the aesthetic and recreational amenity values associated with the City's natural assets which are reflected in property prices. It also relates to the economic opportunities on offer as with other cities. In the case of Cape Town, given its strong tourism economy, these two factors support each other (i.e. amenity values also support tourism which leads to economic opportunities).

Starting at a relatively wide spatial scale, Standish et al. (2004) investigated the impact of the Table Mountain National Park including Boulders on property values in Cape Town. They found that the Park has a profound influence on the overall property market and that it would be hard to hypothesize what the market would be like without it. It forms an intrinsic part of the balance between natural and developed area that Cape Town properties offer buyers. Focusing on Simon's Town, it was confirmed in interviews with local estate agents that the Simon's Town Penguin Colony including Boulders results in the overall enhancement of property values throughout Simons Town. Essentially two factors are at play here as one would expect. One, Boulders and adjacent coastal areas provides significant amenity values and, two, it results in significant economic opportunities driven by visitor expenditure both of which are reflected in the value of properties.

With regard to the former, the beauty of the area surrounding the Simon's Town Penguin Colony and the recreational options offered by Boulders Beach in particular are the main drivers of value as they would be at other similar settings. Property values are also likely to be influenced upwards to some extent by the immediate presence of the Boulders Beach segment of the Table Mountain National Park, which would likely not have been designated as such had it not been for the establishment of the penguin colony. Despite significant overall positive impacts, a limited number of houses bordering on, and in the immediate vicinity of, the colony and associated facilities are periodically exposed to nuisance factors from penguins and visitor (e.g. smell, noise, congestion). These nuisance factors are, however, managed using access restrictions, fencing, traffic management and other management measures. It needs to be recognised that without extensive management being in place, there would be significantly greater scope for the Colony to have negative impacts on property values in the immediate surrounds.

It is also important to bear in mind that houses nearby the penguin colony also derive value from their potential to be rented out to tourists who are most interested in the penguins. As outlined previously, the penguin colony is also responsible for the creation of significant

¹² Accelerate Cape Town is a business-led initiative aimed at bringing together stakeholders in the Cape Town region to develop and implement a long-term vision for sustainable, inclusive economic growth.

business opportunities in Simon's Town focused on catering for the needs of visitors. The availability of these opportunities drives property values in the same way that the presence of any other industry would.

5.3 Heritage and socio-cultural values

Heritage and socio-cultural values are relatively difficult to define. In environmental valuation as applied by economists, so-called existence value refers to the value people attach to the mere existence of environments, sites or species even if they have never seen or visited them in person. These values are related to bequest values which are associated with value people attach to preservation for the enjoyment of future generations. Both existence and bequest values tend to be prominent for places or species which have special natural heritage significance. For example, surveys have been used to show that people have a high willingness to pay to preserve threatened species (see Loomis et al., 2014 for a review of such studies which have covered a number of species including seals, birds, wolves, elephants, etc.) as well as special places such as specific mountains, wetlands, beaches, etc.

In essence, the Simon's Town Penguin Colony combines the presence of an endangered species at a relatively unique and particularly picturesque setting with high visitor numbers (and therefore high awareness of the site). In addition, the species in question, the African Penguin, is a highly charismatic species which can evoke strong emotional reactions. Even without the benefit of a survey to estimate values, these factors all indicate that the Colony is likely to have high existence and bequest value.

6 INVESTMENT AND MANAGEMENT NEEDS

The investment in and management of the Simon's Town Penguin Colony by SANParks, the City of Cape Town, SANCCOB, residents and tourism stakeholders has allowed for the creation of a world-class conservation and tourist destination. In recent years, for example, improvements have been made to traffic management protocols and co-operation between the City and SANParks in this regard. Upgrading of the SANParks Visitor Centre is also in process. Ongoing management and improvement is, however, needed if the benefits associated with the Colony are to be sustained and increased.

The Simon's Town Penguin Colony Landscape Master Plan is instructive with respect to future management and investment needs. It was commissioned by the City of Cape Town particularly as exponential growth in visitor numbers and the spread of the Colony outside of the TMNP, brought about the need for planning in the wider area from Seaforth Beach in the north to Frank's Beach in the south. The Plan aims to "ensure that the coastline is suitably developed, protected, managed and maintained to facilitate a balance between the needs of penguins and people" (HLA, 2017). It is comprehensive and details interventions and investments of various sizes including in infrastructure, restoration, fencing, walkways, lighting, signage, etc. It also addresses the need for improved parking and better flow of people and vehicles in the area. The total cost of the investments associated with the Plan is approximately R14.7 million which should meet investment requirements in the area over the medium term at least (i.e. there should be no other major investment requirements for approximately 10 years).

As discussed in Section 3, SANParks is currently investing approximately R4.5 million to upgrade the Visitor Centre with a focus on re-aligning visitor flows and enhanced experiences. This should go a long way towards alleviating congestion and accommodating increased visitor numbers. SANParks has confirmed that other investments will also be needed over the next three years primarily in the form of boardwalk replacements and upgrades along with other facilities and are likely to cost between R6 million and R8 million.

Once these investments have been made, no additional major investments are anticipated to be required over the medium term.

The total investments required from the City of Cape Town and SANParks is thus in order of R22 million to meet the area's medium-term capital investment requirements. A basic comparison between this amount and the visitor numbers and economic benefits associated with the Colony indicates that the investments are justified:

1. The R22 million in investments would be equivalent to the expenditure of approximately 54,000 tourist visitors associated with the Colony (i.e. excluding expenditure by Cape Town residents).
2. This represents 7.5% of current annual tourist visitor numbers and their expenditure and only 0.6% of the total expenditure anticipated over the next 10 years.

The need for these investments is likely to increase in urgency as visitor number and associated pressures increase over time. To be clear, failure to collectively address investment needs and improve on visitor experiences would not be strategic. It would give rise to increased risks to the continued healthy functioning of the colony and in terms of reduced or stagnant visitor numbers and associated economic benefits. In this sense, the Simon's Town Penguin Colony is no different to other business undertakings in the highly competitive tourism sector. Its investment and management needs are also conceptually similar to other natural attractions that have successfully balanced conservation with relatively high tourist volumes such as Philip Island and other penguin colonies in Australia. Lastly, it is particularly important that the stakeholders leading penguin conservation and tourist management efforts agree on a way to ensure a fair distribution of both the costs and benefits associated with co-management of the area.

7 CONCLUSION

The Simon's Town Penguin Colony is a world-class tourism attraction where the number of visitors has grown from approximately 580,000 in 2006 to 930,000 in 2017. As such, tourist and resident expenditure associated with the penguin colony was estimated at approximately R311 million per annum with ~35% of this amount being spent within Simon's Town. This is a highly significant amount particularly within the context of the local economy. Assuming moderate visitor number growth, likely future expenditure flows should have a present value of R6.87 billion over 30 years using a 4% discount rate. The benefits of expenditures associated with the Penguin Colony were also measured in terms of the jobs that they support. A highly significant total of 855 jobs can be associated with it in all parts of Cape Town with in the order of 250 of these to be found in Simon's Town and surrounds. Other key benefits associated with the colony include its contribution to the Cape Town and Simon's Town brand, property value enhancement and heritage and cultural values.

Investment in the ongoing management and improvement of the Simon's Town Penguin Colony is needed if the economic benefits associated with it are to be sustained and improved. As per the City of Cape Town's Landscape Master Plan for the area and in accordance with SANParks projections, combined investments in order of R22 million are required to meet the area's medium-term investment requirements. This level of investment seems justifiable from a strategic point of view as it represents 7.5% of the annual visitor expenditure associated with the Penguin Colony and only 0.6% of the expenditure benefits anticipated over the next 10 years.

8 REFERENCES

- Airports Company South Africa (ACSA). 2018. Cape Town International Airport – Passenger Traffic. Available: [http://www.airports.co.za/StatisticsLib/Cape Town Airport Passenger Traffic Feb18.pdf](http://www.airports.co.za/StatisticsLib/Cape_Town_Airport_Passenger_Traffic_Feb18.pdf) [Accessed 11-04-2018].
- Cape Business News (CBN). 2009. Cape Town to be Africa's Global City. Report posted on 5 June 2009. <http://www.cbn.co.za/dailynews/3798.html>
- Centre for Rural Entrepreneurship (CRE). 2009. Energising Entrepreneurs: Policy in Action. Centre for Rural Entrepreneurship, Lincoln Nebraska. <http://www.ruraleship.org/content/chapter8.php>
- De Wit, M., Van Zyl, H., Crookes, D., Blignaut, J., Jayiya, T., Goiset, V. & Mahumani, B. 2009. Investing in Natural Assets. A Business Case of the Environment in the City of Cape Town. Cape Town.
- Donaldson, R. 2009. Table Mountain National Park visitor and user survey 2007 – 2008: summary of combined summer, autumn, winter and spring results. Report to TMNP (SANParks) by the Centre for Geographical Analysis at the University of Stellenbosch.
- Entrepreneur.com. 2008. Shelby Farms Park approved by Shelby County commissioner and financed by Hyde Family Foundations. Entrepreneur.com Business Perspectives, Fall-Winter, 2008. <https://entrepreneur.com/tradejournals/article/print/192437363.html>
- Habitat Landscape Architects (HLA). 2017. Simon's Town Penguin Colony Landscape Master Plan: Seaforth to Franks Bay. Report prepared for the City of Cape Town. HLA, Cape Town.
- IUCN. 2009. An Integrated Wetland Assessment Toolkit: A guide to good practice. Edited by Oliver Springate-Baginski, David Allen and William Darwall. IUCN, Gland, Switzerland.
- Lewis, S.E.F. 2011. Valuing an Ecotourism Resource: A Case Study of the Boulders Beach African Penguin Colony. Submitted in partial fulfilment of the requirements for the Masters of Science Degree in Conservation Biology. Percy Fitzpatrick Institute of African Ornithology, University of Cape Town.
- Lewis, S.E.F., Turpie, J.K. & Ryan, P.G. 2012. Are African penguins worth saving? The ecotourism value of the Boulders Beach colony, African Journal of Marine Science, DOI: 10.2989/1814232X.2012.716008.
- Loomis, J., Edwards, A. & Richardson, L. 2014. Total economic valuation of threatened and endangered species. Retrieved from <http://www.eoearth.org/view/article/51cbef167896bb431f69c4a9>
- South African Tourism (SA Tourism). 2017. 2016 Annual Tourism Report. SA Tourism, Pretoria.
- Standish, B., Boting, A., Van Zyl, H.W., Leiman, A. and Turpie, J.K. 2004. The Economic Contribution of Table Mountain National Park. Report to SANParks, Cape Town.
- Statistics South Africa (StatsSA). 2018. Tourism Satellite Account for South Africa, final 2014 and provisional 2015 and 2016. StatsSA, Pretoria.

World Travel and Tourism Council (WTTC). 2017. City travel and tourism impact 2017: Cape Town. WTTC, London.

World Travel and Tourism Council (WTTC). 2018. Travel and tourism economic impact 2018: South Africa. WTTC, London.