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‘Might is Right’.
A study of the Cape Town/Crozets elephant seal oil trade (1832–1869).

BY

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A dissertation submitted in fulfilment of the requirements for the award of the degree of Master of Arts in Historical Studies.

Faculty of the Humanities
University of Cape Town.
2011.
Compulsory Declaration.

This work has not been previously submitted in whole, or in part, for the award of any degree. It is my own work. Each significant contribution to, and quotation in, this dissertation from the work, or works, of other people has been attributed, and has been cited and referenced.

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Abstract

This thesis is the study of Cape involvement in the elephant seal oil trade on the Prince Edward Islands and Crozet Islands between the years 1832–1869. The Cape Town/Crozets elephant seal oil trade was a lucrative branch of the Cape Colony’s fisheries yet no research has been done on the topic and this work attempts to fill this lacuna and positions Cape sea elephanting in a broader transnational context in a way similar to Briton Cooper Busch on American sealing and can be seen as a first step in determining the aggregate economic value of the sealing industry in the Antarctic region.

A thorough analysis of the contemporary local maritime journal of record, the Cape of Good Hope and Port Natal Shipping and Mercantile Gazette, has led to the discovery of 100 voyages that were made to the Crozets by Cape sealers. Through the use of shipping manifests and a variety of court cases and memoranda this thesis has obtained enough information on the amount of elephant seal oil returned to the Cape to use statistical models to determine the amount of elephant seals killed on the islands. This work has also incorporated research on elephant seal biology in order to determine the annual cycle of the southern elephant seals in order to demonstrate how Cape sealers adapted to this cycle in order to maximise their yields. The use of interdisciplinary research has allowed for a far richer analysis of the topic than would otherwise have been possible.
A quantitative and qualitative analysis of the Cape Town/Crozets elephant seal oil trade has allowed us to determine that the termination of the trade in 1869 was driven by economics rather than overharvesting of the stock. It has also allowed us to map the rise and fall of the merchants involved in the trade as well as allowing us an insight into what life was like for Cape sealers en route to and on the Crozets.

Despite the close link Cape Town has had historically with the sea, the writing of Cape history has followed the western historiographical canon laid down by the end of the nineteenth century in which history ended at the edge of the continents and dwelt almost exclusively on the interiors. This work attempts to erode this historiographical canon by emphasising the role of the ocean as an economic frontier in the context of the Cape Colony.
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Introduction

When this project began, the intention was to write the history of the nineteenth century sealing trade on the coast of southern Africa. However, it soon became clear that substantial work had already been done on this topic but almost nothing on a long forgotten sealing frontier – that of the elephant seal oil trade between Cape Town and the Prince Edward and Crozet Islands in the second third of the nineteenth century. This trade, known informally as ‘sea elephanting’, was considered by the contemporary press to be one of the major fishing industries at the Cape and was often mentioned in the local maritime journal of record the *Cape of Good Hope and Port Natal Shipping and Mercantile Gazette*. John Jearey, a merchant that had a near monopoly on the elephant seal oil trade between 1838–1858, was commended by the journal more than once for the success of his ‘sea elephant fishery at the Crozets’. The *Gazette* even went so far as claiming in an article regarding the state of the Cape Colony’s industries that the fisheries branch was in a highly promising state due to Jearey’s fishery and that Jearey “may be called the founder of this lucrative branch”. American sealers also remarked on the success of Jearey’s fisheries on the islands and Washington Fosdick of the *Emeline*, while on a sea elephanting voyage at the Crozets, stated in his journal that “all these islands have been worked at various times by a party of Englishmen from the Cape of Good Hope under the orders of an individual from that place, who has amassed a large

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1 *Cape of Good Hope Shipping List*, No. 174, 12 May 1843 and No. 194, 3 November 1843
fortune”.³ Jearey’s sealing gangs were also often referred to by those shipwrecked on the islands and rescued by his gangs.⁴ Despite this, Cape involvement in the sea elephanting trade in the nineteenth century was soon forgotten. In Wardlaw Thompson’s history of the sea fisheries of the Cape Colony published in 1913, the sea elephanting trade is not even mentioned.⁵ So it is perhaps not surprising that otherwise thorough analysis of the exploitation of seals, elephant seals and whales at the Crozet Islands and the Prince Edward Islands by Rhys Richards make no mention of the Cape’s significant involvement in the elephant seal oil trade.⁶ The number of vessels sent by Cape merchants to the Crozets and the fact that they managed to repel American crews from ‘their’ beaches suggests that the Cape sealers influence on the islands was far larger than has hitherto been recognised. This lacuna extends to the secondary literature on the history of sealing in southern Africa by Best,⁷ Shaughnessy,⁸ and David and van Sittert,⁹ which has focused on the exploitation of fur seals along the South African coast. This thesis fills this lacuna and positions Cape sea elephanting in a

⁴ See for example James Read’s letter to his father regarding the wreck of the Richard Dart on Prince Edward’s Island in 1849. Cape of Good Hope and Port Natal Shipping and Mercantile Gazette, No. 307, 16 November 1849
⁵ W. Wardlaw Thompson, The Sea Fisheries of the Cape Colony From Van Riebeeck’s Days to the Eve of the Union.
broader transnational context in a way similar to Busch on American sealing.\textsuperscript{10} While most historical research on sealing in southern Africa has focussed on accurately determining the number of seals killed with a view to determining the historic population levels in order to provide policy guidelines for population management in the present, this thesis – while estimating the number of elephant seals killed by Cape sealers on the Crozets – also focuses on the social and economic aspects of sealing in order to elucidate what the main drivers behind the establishment and fall of the Cape sea elephanting trade were.

While the harvesting of elephant seals for their oil by Cape sealers was no doubt substantial, it is the contention of this thesis that shifts in demand and price were responsible for the termination of the Cape/Crozets elephant seal oil trade rather than the overexploitation of elephant seals. Basberg and Headland have pointed out how so far, no one has managed to work out the aggregate economic value of the sealing industry in the Antarctic region.\textsuperscript{11} Their aim is to view the Antarctic as an economic region, but this cannot be done without making an inventory of all the vessels sent to the region and of their catches. This work will hopefully be one of many small steps needed in order to produce an inventory detailed enough to accurately estimate the economic significance of this region. Basberg and Headland’s preliminary analysis on the subject suggests that oil extracted from elephant seals was more important economically relative to furs and whale

\textsuperscript{10} Briton Cooper Busch, \textit{The War Against the Seals: A History of the North American Seal Fishery.}

oil than had been hitherto acknowledged. This all suggests that the Cape sealing trade had a greater economic importance than the likes of Wardlaw Thompson accorded it.

That the sealing trade both on the southern African coast and at the Crozets developed in the first third of the nineteenth century should not come as a surprise considering that the Cape had recently been annexed by Britain. As has been pointed out by Hainsworth in his analysis of the New South Wales sealing industry between 1800–1821, most of those involved in the sealing trade in Australia (as was the case at the Cape) were Britons who had only recently left the metropole and who were conscious of British maritime tradition and saw the ocean as a more familiar and hopeful source of gain than the alien and mysterious interior. Despite the close link Cape Town has had historically with the sea, the writing of Cape history followed the western historiographical canon laid down by the end of the nineteenth century in which history began and ended at the edge of continents and dwelt almost exclusively on the interiors. This historiographical canon has slowly been eroded as work by the likes of Hainsworth and Young in Australia have begun to focus on the ocean as an economic frontier and this work aims to continue this tradition of emphasising the role of the ocean as an economic frontier in the context of the Cape Colony.

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15 John M.R. Young, Australia’s Pacific frontier; economic and cultural expansion into the Pacific, 1795-1885.
A recent upsurge in interest in the Prince Edward Islands has led to research being undertaken regarding the archaeological significance of sealing sites and shipwrecks by Boshoff,\textsuperscript{16} Cooper and Avery,\textsuperscript{17} and Graham.\textsuperscript{18} However, none of their works have tried to understand the lives of those responsible for leaving behind these remains and how they survived on the islands. Cooper and Avery as well as Graham have made incomplete lists of some of the vessels that sojourned on the Prince Edward Islands without recognising that the Prince Edward Islands were not seen by Cape sealers in isolation, but rather as part of a much larger field of operation that included the Crozet Islands. Hence many of the vessels listed as going to the Crozet Islands would also have worked the Prince Edward Islands. This thesis corrects these gaps in existing historical reconstructions through a close analysis of the Commercial Exchange Shipping Registers and Cape of Good Hope and Port Natal Shipping and Mercantile Gazette. Graham’s thesis goes so far as to state that, due to the incomplete nature of the shipping manifests of vessels that went to the Crozets, it would be impossible to estimate how much oil was taken off the islands. However, through the use of statistical modelling and the literature on elephant seal biology, this thesis demonstrates that it is not only possible to estimate of how much oil was taken by Cape sealers, but also of how many elephant seals were killed in the process.

\textsuperscript{17} J. Cooper and G. Avery (eds.), \textit{Historical Sites at the Prince Edward Islands}, South African National Scientific Programmes Report No. 128.
\textsuperscript{18} Tom Graham, \textit{Cultural Resource Management of the Prince Edward Islands}. 
Elephant seal biology is dealt with in the first chapter which contains a brief outline of the annual cycle of the southern elephant seal. By comparing current biology to that described by nineteenth century sources it is clear that the annual cycle of the southern elephant seal has not changed significantly. This cycle is also crucial to understanding the patterns in voyages made to the Crozet and Prince Edward Islands by Cape sealers. The latter adapted their production process to ensure that they were on the islands during those periods in the year when elephant seals were at their largest and most numerous.

The Cape Town/Crozets sea elephanting trade did not occur in a vacuum but formed part of a much larger sealing and whaling trade that was global in scope. Chapter 2 offers a periodisation of this trade in order to locate both the Southern Ocean and Cape Town in this broader context. Southern Ocean sealing was driven by publication of the voyages of discovery which identified new sealing grounds, though often, sealers themselves embarked on voyages of discovery in search of new rookeries. The age of exploration in other words was closely followed by the age of exploitation. By the time that Cape vessels appeared in the Southern Ocean, the majority of the sub-Antarctic islands had already been discovered and their fur seal populations hunted to the brink of extinction, leaving elephant seals (whose blubber was rendered down to produce oil used both for lighting and as an industrial lubricant) as the main exploitable resource. Cape-based sea elephanting voyages were confined almost entirely to the Prince Edward and Crozet Islands. The term ‘Crozets’ encompassed both island groups, which were viewed as a single field of enterprise by the Cape sealers.
Chapter 3 analyses the Cape shipping registers to divide the sea elephanting trade into three distinct periods. The first (1832–1838) was far from successful as Cape merchants entered the trade for the first time and failed due to a lack of knowledge and experience about how to conduct such an enterprise. The second period (1838–1858) was dominated by one man, the Cape Town merchant John Jearey, until the introduction of gas lighting to Cape Town, and various other financial setbacks caused him to withdraw from the Crozets in 1858. Towards the end of this period elephant seal oil became an export item, with the bulk of the Cape-produced oil in the late 1840s and 1850s being shipped to Britain as the demand in Cape Town dwindled. The final late revival in the trade (1865-1869) was in response to a spike in the price of oil in London and ended when the bubble burst.

Chapter 4 moves from a quantitative to a qualitative analysis of the elephant seal oil trade. This chapter examines the conditions that the sealers lived under - both on the vessels and on the islands - through an analysis of court cases and shipwreck narratives published in the Cape maritime press. Shipwreck narratives and logbooks of American and British vessels are also employed to demonstrate that knowledge of how to exploit the resources of the Crozets was crucial for the survival of sealers and the success of sea elephanting enterprises.

The final chapter of this work quantifies the number of elephant seals killed by the Cape based sealers on the Crozets. Due to the fact that not all Cape vessels returning from the islands listed the quantity of elephant seal oil, it was necessary to estimate the missing
cargoes. It is estimated that 4955 tons of elephant seal oil were produced by Cape sealers on the Crozets between the years 1832–1869. Statistical models have been developed to estimate the number of elephant seals necessary to produce this cargo. The thesis estimates a minimum harvest over the period 1832–1869 of 8258 elephant seals and a maximum take of 28931 animals.
Chapter 1: The natural history of the southern elephant seal and its human hunters

1.1) Introduction

To understand sea elephanting, it is crucial to understand the annual cycle of the elephant seal. Their seasonal movements govern the movements of their human hunters. What follows is thus a summary of seal biology, with the focus being on the annual cycle of the southern elephant seal *Mirounga leonina*, one of eight seal species in the Southern Ocean. Four of these – the crabeater seal *Lobodon carcinophagus*, the leopard seal *Hydrurga leptonyx*, the Ross seal *Ommatophoca rossii* and the Weddell seal *Leptonychotes weddellii* – occur primarily south of the Antarctic Convergence, and were inaccessible to commercial sealers in the nineteenth century.19 Three Southern Ocean seal species were commercially hunted in the nineteenth century – the Antarctic (or Kerguelen) fur seal *Arctocephalus gazella*, the sub-Antarctic (also known as the Amsterdam) fur seal *Arctocephalus tropicalis*, and the southern elephant seal. The two fur seal species (whose fur was described as being “rich and the under fur thick and abundant” and was far more valuable than the “short and poor” quality fur of the South African fur seal *Arctocephalus pusillus*) were rarely taken by Cape-based sealers who only entered Southern Ocean sealing after fur seal populations had already been hunted to the brink of extinction.20 The primary target of Cape sealers therefore was the southern elephant seal.

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The main reason for the late arrival of Cape sealers on the Southern Ocean sealing frontier was the monopolistic practice of the Dutch East India Company (VOC). The VOC prohibited colonists from chartering or outfitting their own ships for trade in Eastern waters and this prohibition was only lifted in 1792, two decades after the sealing trade first opened up on the sub-Antarctic islands in the Indian Ocean in the late 1770s.21 Under British administration, the position of Cape Town’s merchant community remained parlous, due partly to the English East India Company’s monopoly on eastern goods resulting in numerous bankruptcies among the British settlers in the town.22 These conditions were not conducive to Cape Town merchants entering Southern Ocean sealing, which required substantial start-up capital ventured at high risk. When Cape merchants finally moved onto the Southern Ocean frontier in the third decade of the nineteenth century, only the southern elephant seal remained in sufficient numbers for commercial exploitation.

1.2) The southern elephant seal Mirounga leonine

1.2.1) Nomenclature

The name ‘Mirounga’ comes from the Australian native name for the elephant seal, which is Miouroung (a name given by the anatomist James Gray in 1827),23 while

23 Nigel Bonner, Seals and Sea Lions of the World, at page 121.
‘leonina’ means lion like (which refers to both their size and their roaring).24 The loud roaring of the male elephant seal is made possible by its prominent proboscis, an inflatable nasal sac which, when limp, overhangs the mouth but when inflated, acts as a resonating chamber (Fig. 1.1).25 This sound explains why the regal lion’s name was appropriated for this rather less regal creature of the sub-Antarctic. Nigel Bonner, however, believes that ‘leonina’ was applied due to confusion over Anson’s description of a sea lion in the Falkland Islands (an animal which is certainly more lion-like than its neighbour the sea elephant).26

Figure 1.1: The distinctive proboscis of the male southern elephant seal.27

26 Nigel Bonner, *Seals and Sea Lions of the World*, at page 121.
27 Ibid, at page 122.
There are two species of elephant seal, the northern elephant seal *Mirounga angustirostris*, and the southern elephant seal *Mirounga leonina*. The former occurs mostly on the eastern side of the North Pacific Ocean along the western seaboard of the United States, while the latter occurs throughout the Southern Ocean (Fig. 1.2). Since Cape sealers only hunted southern elephant seals, the term ‘elephant seal’ in the chapters that follow will refer to the southern elephant seal.

Figure 1.2: Distribution of the southern elephant seal.²⁹

²⁹ Marianne Riedman, *The Pinnipeds: Seals, Sea Lions and Walruses*, at page 76.
1.2.2) Distribution

Modern science recognises four distinct populations of southern elephant seals on the basis of their genetic divergence and the limited gene flow between them: the Peninsula Valdés population in Argentina and the Falklands; the South Georgia population; the Kerguelen population, found throughout the southern Indian Ocean on Iles Crozet, Iles Kerguelen, Heard Island and the Prince Edward Islands; and the Macquarie population on Macquarie Island. Because there is no evidence that Cape sealers hunted substantial numbers of elephant seals at any islands other than the Prince Edward Islands, Crozet Islands, Kerguelen Island, and Heard Island, we can assume that Cape sea elephanting was concentrated on the so-called ‘Kerguelen population’.

Although a few voyages were made to Heard and Kerguelen Islands by Cape vessels in the nineteenth century, the large majority of Cape sea elephanting took place on the Prince Edward and Crozet Islands. The Prince Edward Islands consist of two islands. The larger, Marion Island, measures 24 km by 17 km, with a surface area of 290 km², while Prince Edward Island, lying 22 km north-northeast, is one sixth the size of Marion with a

surface area of about 45 km². The islands are 2400 km south east of Cape Town and the nearest point on the African mainland is Algoa Bay about 1600 km away. The islands lie south of the sub-tropical Convergence, but north of the Antarctic Convergence, and have been described as bleak and windswept with little vegetation, similar climates, and rich in birdlife and seals. The Crozet Islands lie 1067 km further east of the Prince Edward Islands and about 3300 km from Cape Town, halfway between southern Africa and Australia (Fig. 1.3). They too lie south of the sub-tropical Convergence, but north of the Antarctic Convergence.

The Crozet Islands are made up of five volcanic islands as well as numerous rocks (Fig. 1.4). Île de la Possession (Possession Island) is the largest of the islands with an area of 130 km². The other two islands of a substantial area are Île aux Cochons (Hog Island, sometimes referred to as Pig Island), and Île de l’Est (East Island). Hog Island has an area of 70 km², and East Island measures 120 km². These three islands are mountainous, those on East Island reaching ‘about 5000 feet [1524 m] high and snow covered’.

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two remaining islands are Îles des Pingouins - a rock 152 m high with one small outlier -
and Île des Apôtres, a group of rocky pinnacles.43

Figure 1.3: Distance of the Crozet Islands from the nearest land masses.44

3 (Sep., 1961), pp. 310-316, at page 310.
Figure 1.4: Position of the islands of the Crozet group.\textsuperscript{45}

The southern elephant seal’s range is large, encompassing all of the Southern Ocean north of the pack-ice zone, including all the sub-Antarctic islands (Fig. 1.2).\textsuperscript{46} The extent of its range makes estimating the total number of animals harvested from the Kerguelen population in the eighteenth and nineteenth centuries impossible without a global archival inventory. This thesis will thus focus only on Cape involvement in the southern elephant seal trade on the Prince Edward and Crozet Islands between the years 1832–1869. This will enable a detailed analysis of the practices and trends in elephant seal harvesting by Cape sealers on these islands over this period.

\textsuperscript{45} http://www.biocrawler.com/w/images/7/7b/Map_of_Crozet_Islands.jpg accessed on the 02/03/2010.
\textsuperscript{46} Julian Priddle, \textit{Antarctic Whales and Seals}. 
1.2.3) Appearance

The southern elephant seal is large. The maximum length of breeding males is 4.9 m and the maximum weight is 4 tons (comparable to that of the Asian elephant *Elephas maximus*, which averages 5 tons).\(^{47}\) The female southern elephant seal is smaller than the male with length ranging between 2.6–2.8 m and a weight of 0.5–1 tons.\(^{48}\) Figure 1.5 conveys the sheer size of the elephant seal. The large sexual dimorphism in size is visible by age three, when males are already beginning to develop the characteristic proboscis, a feature absent in females.\(^{49}\)

Southern elephant seals attain such impressive size for a number of reasons. Their body mass protects them from the cold, as their ratio of surface area to mass is small, they lose heat less quickly than small mammals.\(^{50}\) Their thick layer of blubber also helps to smooth out their body contours, making them more streamlined and thus improving movement in water.\(^{51}\) The large blubber layer serves as an energy reservoir for the long periods of fasting they undertake every year.\(^{52}\) The females, although they have shorter fasts, use the fat from their blubber to produce large quantities of milk to feed their pups.\(^{53}\) The elephant seal’s blubber is also incompressible, an important physiological advantage allowing them to dive to great depths to feed (see Section 1.2.5).\(^{54}\)


\(^{48}\) Julian Priddle, *Antarctic Whales and Seals*.  

\(^{49}\) Nigel Bonner, *Seals and Sea Lions of the World*, at page 122.  

\(^{50}\) Marianne Riedman, *The Pinnipeds: Seals, Sea Lions and Walruses*, at page 15.  

\(^{51}\) Nigel Bonner, *Seals and Sea Lions of the World*, at page 25.  

\(^{52}\) Marianne Riedman, *The Pinnipeds: Seals, Sea Lions and Walruses*, at page 16.  

\(^{53}\) Nigel Bonner, *Seals and Sea Lions of the World*, at page 25.  

\(^{54}\) *Ibid*, at page 25.
Figure 1.5: A southern elephant seal being fed at Hagenbeck Zoo, Germany.\textsuperscript{55}

\textsuperscript{55} http://www.zoochat.com/22/elephant-seal-exhibited-steel-pier-atlantic-126996 accessed on the 02/03/2010.
1.2.4) Breeding

Southern elephant seals are polygynous, and breed in dense colonies, mostly on the islands on either side of the Antarctic Convergence (Fig. 1.6), although births have been recorded on the coasts of South Africa, Australia and New Zealand. This optimises the

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reproductive success of the species due to the large, seasonally constant biomass of zooplankton in the circumpolar zone of the Antarctic Convergence.59 The males reach sexual maturity at the age of four years, and females mature between two and six years of age.60 Southern elephant seals gather on the breeding islands in the southern hemisphere spring between September and November.61 The first bulls arrive from late August, though most do not haul out until the cows start arriving, and all congregate mainly on open sandy beaches.62 According to Bonner, “the beaches used are traditional [with] cows returning to the same site (probably where they were born) year after year”.63 This breeding site fidelity is greater for older females than younger ones.64

Once on the beaches, males monopolise several females to form harems and then defend their territory against rival males.65 These dominant males (known as ‘beachmasters’) may sometimes control up to 100 cows, but harems average around 30 females.66 In order to retain control over their territory, ‘beachmasters’ are unable to go to sea to feed and must rely on stores of blubber laid down over the previous winter.67 Breeding males fast for more than 100 days while fighting for social rank and competing for mates, their three

67 Julian Priddle, *Antarctic Whales and Seals*.
month long fast ensuring beachmasters achieve 98% of all copulations, confirming the transmission of their genes to the next generation. The distinctive roar of the sea elephant is used to mark their territory by warning off male intruders and advertising their presence to females. In ritual combat, bulls raise the front part of their body clear of the ground and swipe at each other with open jaws (Fig. 1.7). The resulting scar tissue causes the characteristic thick rough skin on their necks. Ironically, this threat display facilitated commercial hunting by exposing bulls’ soft underbelly to sealers, making them relatively easy to kill by lancing them through the heart.

Figure 1.7: Two male elephant seals competing for beachmaster status.

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69 Nigel Bonner, Seals and Sea Lions of the World, at page 131.
70 Ibid.
71 Richard J. Harrison and Judith E. King, Marine Mammals, at page 115.
Due to the strain of the breeding season, beachmasters seldom enjoy more than a few breeding seasons of dominance.\textsuperscript{74} The three month breeding season fast makes bulls “lean to the point of emaciation”.\textsuperscript{75} They return to the ocean to feed and then haul out again for the annual moult from late December to mid-April.\textsuperscript{76} Thereafter, they go back to sea to build up their reserves again for the next mating season. Due to the philopatric nature of the species (they return to their natal area to breed and/or moult), there is limited exchange between the different southern elephant seal populations.\textsuperscript{77}

By the end of October, the majority of the pups have been born after an approximately eleven month gestation period, including four months of delayed implantation, which allows birth and mating to take place at the same time.\textsuperscript{78} This minimizes the female’s time on land and allows her time to recover from lactation.\textsuperscript{79} At birth, a pup weighs about one fifteenth the weight of its mother (c. 46 kg).\textsuperscript{80} After giving birth the females fast for about 24 days while nursing her pups.\textsuperscript{81} This allows the mother to transfer a great deal of milk energy to her pup in a short time, which frees her to forage without encumbrance in

\textsuperscript{74} Nigel Bonner, \textit{Seals and Sea Lions of the World}, at page 135.
\textsuperscript{75} \textit{Ibid}.
\textsuperscript{79} Nigel Bonner, \textit{Seals and Sea Lions of the World}, at page 162.
\textsuperscript{80} \textit{Ibid}, at page 133.
order to restore her reserves once her pup is weaned. After weaning, the mothers mate with the peak mating season occurring in November. They then abandon their pups and return to sea for about 70 days to restore fat reserves before hauling out again from mid-December to mid-March for the energetically expensive annual moult.

The pups remain ashore for a further six weeks of fasting – a feat only made possible by trebling their birth mass during suckling. By the time they finally depart the breeding site, pups will have lost, on average, one third of their weaning mass. For this reason, it is generally the pups which are heaviest at weaning that survive the fast with sufficient reserves to find food once they leave the islands. The importance of weight at weaning can be seen by the fact that pups weighing more than 135 kg at weaning have a 72% chance of first year survival whereas those weighing less than 95 kg only had a 54% chance of surviving their first twelve months.

Research also suggests that amongst northern elephant seals, older females (six years onwards) are better mothers. Females three to five years old successfully weaned 38% of

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85 Ibid.
86 Ibid.
87 Ibid.
88 Ibid.
their pups, compared to 73% weaning success by older females.\textsuperscript{89} The average time spent weaning was five days longer in older females and the weight of the pups at weaning increased with the mother’s age.\textsuperscript{90} Recent research into the effects of breeding experience on offspring survival in southern elephant seals on Macquarie Island confirms these findings. McMahon and Bradshaw’s results showed that the mean mass of females increased with age and that this in turn had a positive effect on first year pup survival rates.\textsuperscript{91} This may be due in part to older females producing milk with a higher protein content.\textsuperscript{92} McMahon and Bradshaw’s study also showed that females chose to breed in larger harems as they aged and this may also contribute to the survival rate of pups by providing a better rearing environment.\textsuperscript{93} In addition, Riedmann suggested that another factor accounting for the improved survival of pups produced by older females is that they have more mothering experience and this is important in successfully rearing young.\textsuperscript{94} Age at birth may effect the survival rate of the mother as well as the pup.\textsuperscript{95} As Marianne Riedman notes, “[s]imply put, the earlier a female elephant seal reproduces, the sooner she will probably die. Females that pupped for the first time at age four had a higher survival rate each year than those who pupped for the first time at three years of age”.\textsuperscript{96} 

\textsuperscript{89} Marianne Riedman, \textit{The Pinnipeds: Seals, Sea Lions and Walruses}, at page 295.  
\textsuperscript{90} \textit{Ibid.}  
\textsuperscript{92} Marianne Riedman, \textit{The Pinnipeds: Seals, Sea Lions and Walruses}, at page 295.  
\textsuperscript{94} Marianne Riedman, \textit{The Pinnipeds: Seals, Sea Lions and Walruses}, at page 296.  
\textsuperscript{95} Nigel Bonner, \textit{Seals and Sea Lions of the World}, at page 135.  
\textsuperscript{96} Marianne Riedman, \textit{The Pinnipeds: Seals, Sea Lions and Walruses}, at page 241.
When the annual moult is complete, the majority of the elephant seals abandon the beaches for the winter. However, young elephant seals of both sexes, and occasionally some adults, haul out on the islands again in what is known as the ‘resting’ or ‘winter haulout’. These haulout periods are, according to Mulaudzi et al, characterized by a high degree of synchronization and annual regularity at Marion Island, and are similar to those occurring at other elephant seal breeding grounds. Participation and timing of the different haulouts depend on the age, sex and social status of the animals.

1.2.5) Feeding

Relatively little is known about the feeding habits of the southern elephant seal. Studies have shown that they feed predominantly on cephalopods and fish, with crustaceans and other invertebrates constituting only a small part of their diet. However, where and how they catch their prey remains a mystery. Time-depth recorders attached to elephant seals have shed some light at least on their diving patterns. In 1983, a team of researchers from the University of California, Santa Cruz, attached recorders to two northern elephant seal cows, which revealed that they averaged 61 dives a day with a mean depth of 333 m and only 11% of their time was spent at the surface. A study of eight bull northern elephant seals in 1990 recorded maximum dive depths of 1529 m (the

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99 Ibid.
100 Ibid.
102 Nigel Bonner, *Seals and Sea Lions of the World*, at page 126.
103 Ibid., at page 127.
greatest depth known for any seal), with each dive averaging between 21 to 24 minutes.\textsuperscript{104} A female southern elephant seal at Macquarie Island registered a dive that lasted 120 minutes.\textsuperscript{105} Elephant seals at Macquarie Island spent approximately 90\% of total time at sea diving while approximately 99\% of surface times between dives were less than 10 minutes duration.\textsuperscript{106} Due to the fact that the main diet of elephant seals is squid, their diving patterns appear to mirror the movements of their main prey.\textsuperscript{107} Squid migrate towards the surface at night, descending again at dawn.\textsuperscript{108}

The feeding habits of the elephant seal, along with the fact that there is no evidence that they sleep while at sea (some scientists suggest that they sleep with only one side of the brain at a time to maximise available foraging time), means they remain submerged for long periods, and this protected them historically from pelagic sealing, unlike many of the commercially harvested fur seal species.\textsuperscript{109}

\textsuperscript{104} Nigel Bonner, \textit{Seals and Sea Lions of the World}, at page 128.
\textsuperscript{107} Nigel Bonner, \textit{Seals and Sea Lions of the World}, at page 128.
\textsuperscript{108} \textit{Ibid}.
1.2.6) Hunting elephant seals

Unlike fur seals, elephant seals do not take refuge in the sea at the first sign of danger. They often ignored sealers, preferring to keep a watchful eye on their harems instead.110 According to Fanning, sealers killed younger elephant seals with a club and older ones with a lance; the largest bulls were killed with a musket shot through the roof of their upper jaw or by holding the gun near their head and firing a shot into the brain.111 In order to economise their stored energy (blubber) while on land elephant seals – when not fighting, mating, or nursing – sleep.112 Because the loudest noises often did not wake the animals, the hunter could proceed through the whole rookery shooting and lancing as many elephant seals as he wanted.113 Sometimes, after being lanced, the animals would take up to 30 minutes to die.114 This rather brutal process led L. Harrison Matthews, who worked as an elephanter, to state that this slaughter “always degrades and brutalises those who do it”.115

Elephant seals were not completely defenceless, however, being surprisingly fast on land and biting if cornered.116 They also sometimes grabbed hold of the lance with their teeth and if the sealer did not release it in time, “you [would] pick yourself up about twenty

feet distant, and when you come to look at your lance, you will find the tip of it gone”.\textsuperscript{117} Though, in general, even if the elephant seal did attempt to bite their attacker, men with a reasonable amount of agility were able to avoid it.\textsuperscript{118}

Once the elephant seals had been killed, the sealers would begin butchering. The blubber was cut away in situ and then carried or transported by boat to where large cauldrons (known as try-pots) were located.\textsuperscript{119} Fosdick claimed this process was “heartily despised by the men” because the loads were heavy and they had to be carried across the rocks and tussock bogs that lay between the spot where the elephant seal was killed and the production site.\textsuperscript{120}

Oil production required only a low level of technology.\textsuperscript{121} According to Fosdick, large pits were dug and filled with water near the try-pots so that once the blubber arrived it could be washed clean of blood and sand.\textsuperscript{122} The blubber was then cut into smaller pieces five–eight cm$^2$ at a mincing table, where as much as possible of the skin was detached.\textsuperscript{123}

\textsuperscript{123} Briton Cooper Busch, \textit{The War Against the Seals: A History of the North American Seal Fishery}, at page 166.
It was then put in the try-pots where it was boiled to extract the oil.\textsuperscript{124} The oil was decanted into casks which were then coopered and stored on the vessel for the return voyage.\textsuperscript{125}

1.2.7) Has the annual cycle of the southern elephant seal been altered by commercial exploitation?

The earliest detailed account of the annual cycle of elephant seals on the Crozet and Prince Edward Islands comes not from a naturalist but from Charles Medyett Goodridge, who was shipwrecked on the Crozet Islands for two years in the early 1820s. The boredom of maroon life led Goodridge and those marooned with him to study elephant seals more closely than they otherwise would have done. They gave names to certain of the animals which they recognised by their scars and in this way they were able to identify them when they reappeared at different times of the year.\textsuperscript{126}

According to Goodridge, the male elephant seals would make their appearance in about the middle of August while the females arrived in September to have their pups, which they suckled for about five weeks before returning to the sea in mid October having lost nearly all their fat.\textsuperscript{127} He similarly reported the males leaving the islands from the beginning of December being “nearly reduced to skeletons”.\textsuperscript{128} According to Goodridge, the males started returning in February (though the fact that Goodridge states that South-

\begin{thebibliography}{9}
\bibitem{124} J.J. Boshoff; D. Hart; J. Loock, \textit{Survey of Historical Sites on Marion Island}, at page 6.
\bibitem{126} Charles Medyett Goodridge, \textit{Narrative of a Voyage to the South Seas and the Shipwreck of the Princess of Wales Cutter, with an Account of Two Years Residence on an Uninhabited Island}, at page 70.
\bibitem{127} \textit{Ibid}, at page 71.
\bibitem{128} \textit{Ibid}, at page 71.
\end{thebibliography}
seamen called these bulls ‘March Bulls’, suggests that the majority of them only arrived in March).\textsuperscript{129} The close agreement between Goodridge’s historical account and modern observation of elephant seal behaviour suggests that the animal’s annual cycle has not been significantly altered by commercial hunting.

1.3) The effect of the annual cycle of the southern elephant seal on the Cape Town elephant seal hunters

With an understanding of the annual cycle of the southern elephant seal, we can now appreciate how closely adapted the Cape Town sealers operations were to it. Table 1.1 summarises the annual haulout patterns of the southern elephant seal, while Figure 1.8 shows the results of a 14 month study by Hindell and Burton of the haulout patterns of southern elephant seals on Macquarie Island in 1984–1985.\textsuperscript{130} Figure 1.9 integrates the results of the research done by Hindell and Burton as well as that of Laws to provide an indication of the number of elephant seals that can be found ashore on a typical rookery throughout the annual cycle.

\textsuperscript{129} Charles Medyett Goodridge, \textit{Narrative of a Voyage to the South Seas and the Shipwreck of the Princess of Wales Cutter, with an Account of Two Years Residence on an Uninhabited Island}, at page 71.

Table 1.1: The months in which southern elephant seals can be found ashore on the sub-Antarctic islands.

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Key.
- Red: Pupping season
- Pink: Mating season
- Blue: Bulls haul-out
- Green: Moulting period
- Gray: Winter/resting haul-out

Figure 1.8: Number of southern elephant seals hauled out over 14 months in a rookery on Macquarie Island.\(^{131}\)

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Cape sealing voyages to the Crozet Islands and Prince Edward Islands between the years 1832–1869 clearly mirrored the elephant seal’s annual cycle (Fig. 1.10 and 1.11). Voyages to the Crozets peaked in August–October and December–February. When one considers that the down run could last for anything between two to three weeks depending on winds and visibility, the vessels leaving Cape Town in August would arrive at the islands just as the bulls and cows began hauling-out for the pupping and mating season. The next peak in December to February coincided with the annual moult. These are the periods when elephant seals were at their fattest and most numerous on the islands, having re-built their blubber reserves before both haulouts.

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Figure 1.10: The percentage of total voyages departing Cape Town to the Crozets per month, 1832–1869.

Figure 1.11: The percentage of total voyages returning from the Crozets to Cape Town per month, 1832–1869.
We can see in Figure 1.11 that the very large majority of vessels would depart the Crozets in October and November when the number of elephant seals remaining on the islands would begin to fall and those left on the islands would have already lost large amounts of their blubber reserves during the breeding fast. There is a similar increase in vessels departing the Crozets in January and February, when once again the number of elephant seals on the islands began to dwindle and whatever elephant seals remained would have lost large portions of their blubber reserves due to the moulting fast. Figure 1.10 also clearly shows that very few vessels departed for the islands during the winter haulout, which suggests that not enough animals hauled out during this period to make sending multiple vessels to the Crozets worthwhile. Although some sealing gangs wintered on the islands, this was done not primarily to produce oil, but to secure ‘ownership’ of prime beaches against foreign competitors for the next summer hunting season. This explains why the average quantity of oil returned was highest for vessels leaving Cape Town to arrive at the Crozets during the breeding and moulting seasons (Fig. 1.12).

![Graph showing oil returned and vessels departing]

*Figure 1.12: The amount of oil returned (in tons) to Cape Town by voyages departing Table Bay in a particular month.*
Figure 1.12 clearly shows that the number of vessels sent to the islands was highest during the breeding and moulting haulouts and there was a corresponding increase in the amount of oil returned by these vessels. When looking at Figure 1.12 however, one must keep in mind that the date of departure for many of the vessels is not given in any of the archival sources while some of the vessels where the departure date was known did not list the amount of oil that they returned with. Because of this, only 50% of all the voyages made could be used when compiling Figure 1.12. Despite this, one can clearly see that the number of vessels and the amount of oil procured from the islands would peak at the same time as the number of elephant seals on the islands peaked.

1.4) Conclusion

The fixed haulout patterns and breeding site fidelity of elephant seals was important for the Cape Town based owners of the sea elephanting vessels as, once they knew the annual movements of the elephant seal and where they could be found, the sealers could easily adapt their movements to dovetail with those of the elephant seals. The fixed haulout patterns meant that the sea elephanting trade was a seasonal one with the large majority of vessels sent to the islands in early spring and summer. This allowed the owners of the sea elephanting vessels to employ their vessels for other pursuits during the winter months. In addition to this, the spring and summer haulout pattern of the elephant seal aided the sealers because, although the weather on the islands remained extremely changeable, the average temperature was higher, and there were more hours of daylight,
making for a warmer and longer working day. The habits of the elephant seals while on land during the haulout periods also played into the hands of sealers. The sealers knew that once the elephant seals hauled out they would remain on land for a lengthy period of time and, because the elephant seals had no natural predators on land, the only competition the sealers faced was that of rival sealing gangs. Elephant seals behaviour on land – raising their bodies in combat, their preoccupation with maintaining their harems, and the deep sleeps they entered in order to store energy – meant that despite their great size, they were easy to kill. The elephant seals habits while at sea though did protect them from the pelagic sealing that played a role in the decimation of fur seal species and meant that the almost all of the elephant seals killed by sealers would have been transferred into oil.

Chapter 2: The history of sealing in the Southern Ocean with a particular focus on the Prince Edward Islands and the Crozet Islands

2.1) Introduction

In the previous chapter, the annual cycle of the elephant seal was sketched in order to contextualise the analysis of the Cape elephant seal oil trade that follows. This chapter provides a brief history of the global fur seal and elephant seal oil trades for the same purpose and examines two of the Southern Ocean island ‘factories’ where the oil was produced.

2.2) The rise of the fur seal trade

2.2.1) The Canton trade

While human exploitation of pinnipeds goes back to the Pleistocene, it was only in the 1770s that sealing became a major commercial enterprise.\(^{134}\) Sealing in the Southern Ocean emerged in response to two drivers; the first was the demand for fur seal skins in Canton (modern China) and the second was the discovery of fur seal rookeries on the islands of the Southern Ocean. While some of these islands were discovered by sealers themselves in search for new hunting grounds, the majority were reconnoitred by the voyages of maritime exploration launched by competing European nation states in the late eighteenth century. Published accounts of these voyages made the approximate

position of new islands public knowledge.\textsuperscript{135} Colonial expansion also played an indirect part in the increase of southern hemisphere sealing as the establishment of ports in South America, South Africa and Australasia created forward bases that provisioned and refitted the whaling and sealing vessels in the Southern Ocean.\textsuperscript{136} In some of these regions, such as New Zealand, the exploitation of seals for fur and oil was the first settler industry and an important reason for a sustained European presence there during the late eighteenth and early nineteenth centuries.\textsuperscript{137}

Although the American, British and French whaling industries were well established by the 1780s, it was only after the end of the American War of Independence (1775–1783) that the sealing trade boomed.\textsuperscript{138} The American War of Independence was disastrous for American whaling. Not only was there a whale oil glut in the American market which depressed prices, but Britain also placed an import duty on whale oil from foreign producers thus closing off a potential alternative market.\textsuperscript{139} The search for a new commodity and buyers led to fur seals and the Chinese market.

Fur seal skins were in demand in Canton because the Chinese had developed an economical method of separating the coarse outer hair of the fur seal from the soft undercoat to render the skin thin and flexible.\textsuperscript{140} This method, which was first developed

\begin{flushleft}
\textsuperscript{135} James Kirker, \textit{Adventures to China: Americans in the Southern Oceans 1792–1812}, at page 14.
\textsuperscript{136} Ian W.G. Smith, \textit{The New Zealand sealing industry: History, archaeology, and heritage management}, at page 4.
\textsuperscript{137} \textit{Ibid}, at page 1.
\textsuperscript{139} Alan Gurney, \textit{Below the convergence: Voyages Towards Antarctica, 1699-1839}, at page 146.
\textsuperscript{140} James Kirker, \textit{Adventures to China: Americans in the Southern Oceans 1792–1812}, at page 17.
\end{flushleft}
in the mid-eighteenth century, allowed seal pelts to be used for clothing, and made Canton the first global market for seal skins.\footnote{Ian W.G. Smith, \textit{The New Zealand sealing industry: History, archaeology, and heritage management}, at page 3.} Cook’s account of his last Pacific voyage (published in 1783 and 1785) described the enormous demand and high prices for furs in North China.\footnote{Ibid.} This provided the intelligence about both the product and the market that the sealing trade required.

In 1784, the year the first American ship sailed for Canton, Captain Benjamin Hussey left on a sealing voyage in the vessel \textit{United States} to the Falkland Islands.\footnote{James Kirker, \textit{Adventures to China: Americans in the Southern Oceans 1792–1812}, at page 10.} He returned to New York in 1786 with thirteen thousand fur seal skins as an experiment to test their value, and 300 tons of elephant seal oil.\footnote{Edouard A. Stackpole, \textit{Voyage of the Huron and the Huntress: The American sealers and the discovery of the Continent of Antarctica}, at page 75 and Briton Cooper Busch, \textit{The War Against the Seals: A History of the North American Seal Fishery}, at page 6.} Hussey sold his skins in New York for $6,500 and they were shipped to Canton on the brig \textit{Eleanora} where they sold for $65,000, initiating the China trade in fur seal skins from the southern hemisphere.\footnote{Edouard A. Stackpole, \textit{Voyage of the Huron and the Huntress: The American sealers and the discovery of the Continent of Antarctica}, at page 75 and Alan Gurney, \textit{Below the convergence: Voyages Towards Antarctica, 1699-1839}, at page 147.} This triggered an indiscriminate slaughter as vessels sought to procure as many skins as possible for the Canton market.\footnote{Arthur C. Watson, ‘A Voyage on the Sealer \textit{Emeline} and the journal from Washington Fosdick’s manuscript preserved in the museum of the old Dartmouth Historical Society at New Bedford’, \textit{New York Zoological Society}, Vol. 9 (1931), pp. 475-549, at page 476.} The skins taken to Canton were exchanged for teas, silks, and other well-known Asian products for re-sale on the North Atlantic rim.\footnote{Dr. J.A. Allen, ‘Fur seal hunting in the Southern Hemisphere’ in \textit{The fur seals and fur-seal islands of the North Pacific Ocean}, Part 3, (1899) pp. 307-317, at page 307.} These profits did not go unnoticed and in 1791 there were no less than 102 vessels, manned by 3,000 sailors,
engaged in securing fur seals and oil in the Southern Ocean.\textsuperscript{148} Canton remained the major market until 1803 when oversupply caused a price crash (Fig. 2.1).\textsuperscript{149} However, in the interim, the prices of seal skins in Britain had improved dramatically after 1796.\textsuperscript{150}

\textbf{Figure 2.1: Estimate of numbers of Southern fur seal skins sold at Canton between 1788–1833.}\textsuperscript{151}

\begin{footnotesize}
\begin{enumerate}
\item H.R. Mills, \textit{The Siege of the South Pole}, at page 88.
\item Ian W.G. Smith, \textit{The New Zealand sealing industry: History, archaeology, and heritage management}, at page 3.
\item \textit{Ibid}, at page 4.
\end{enumerate}
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A huge number of fur seals were killed in the Southern Ocean to supply the northern hemisphere skin trade. These seals had evolved without terrestrial predators, so that when sealers arrived they were naïve about the threat. This helps to explain the huge numbers of seals taken in such a short period of time. According to Kirker, in the peak years of 1800 and 1803, over a million skins from the southern hemisphere were exchanged on the Canton market for nine hundred thousand dollars in teas and other merchandise. The price of skins varied depending on “their quality and condition, the number currently offered or just previously sold, the time of the year, and the strength of competition from the Russians”. As a result, the price of the skins in Canton fluctuated from a low of forty-two cents per skin in 1792, to a high of one dollar and twelve cents in 1801. These high prices led to the rapid depletion of known colonies and a continual search for new hunting grounds.

2.2.2) London enters the fray

Until 1796, only the Chinese knew how to remove the fur seals’ long stiff guard hairs and retain the soft inner fur. However, in 1796, an employee of Thomas Chapman (a skinner and trunkmaster from Bermondsey in east London) devised and patented an equivalent method of removing the guard hairs. This patented process also allowed for the separation of salt and oil from the fur which enabled sealers to salt the fur seal skins immediately after taking them, “[t]his not only increased their commodity value, but also

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153 Ibid, at page 167.
154 Ibid, at page 167.
155 Ibid, at page 167.
157 Alan Gurney, *Below the convergence: Voyages Towards Antarctica, 1699-1839*, at page 147.
made it possible to preserve the skins for storage and transport by salting, rather than drying”, an important consideration in the cold and wet Southern Ocean. Chapman’s method helped London to partly displace Canton as the main market for fur seal skins. But by the end of the first decade of the nineteenth century, the price of fur seals in London also decreased sharply due to oversupply and a national economic crisis. This downturn was exacerbated between 1810 and 1820 by the depletion of fur seal stocks, war with the United States, and a decline in trade with Canton.

![Figure 2.2: Southern fur seal skins sold at London as listed in the London Custom Ledgers between 1788–1833.](image)

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160 *Ibid*.
2.2.3) The spread of sealers across the Southern Ocean

Before the price of fur seal skins collapsed, large profits could be made in the sealing trade. Sealers therefore valued secrecy above all else so as to keep newly discovered hunting grounds to themselves for as long as possible. Jeremiah Reynolds stated before the U.S. House of Representatives in 1836 that for sealers, “secrecy is what they know has been deemed a part, and a most important part, of their capital”.  

This was so because most islands could only be worked for a few seasons before they were completely abandoned by seals. So when a new hunting ground was found, the slaughter even by a single crew could be enormous, as seen by the 100,000 skin haul of the Betsey in 1798 at Mas-á-Fuera off the coast of Chile.

In the absence of international control over newly discovered islands, sealers enjoyed a free hand and, as Kurk Dorsey has noted in his analysis of sealing in the Pribilofs, “in a system with no rewards for forbearance, the harvesters will quickly exhaust the natural resource in question”. In a textbook case of Garret Hardin’s ‘tragedy of the commons’ seals were killed regardless of age or sex and those that survived did so only due to the inaccessible nature of their haunts.

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163 Alan Gurney, *Below the convergence: Voyages Towards Antarctica, 1699-1839*, at page 148.
165 Alan Gurney, *Below the convergence: Voyages Towards Antarctica, 1699-1839*, at page 147.
The sealers’ effectiveness in locating seal rookeries was impressive, and by 1810, almost all of the fur and elephant seal breeding islands were being exploited.168 Sealing on a commercial scale began on the Falkland Islands around 1774, with Mas-á-Fuera and Juan Fernandez being worked in 1793 followed by South Georgia as well as the Chilean and Patagonian coasts and the islands around these coasts (such as Tierra del Fuego, St. Mary’s Island and the St. Felix group) in about 1800.169 Not long after Cook’s discovery of South Georgia, both British and American sealers descended on the islands. The extent of the slaughter here can be gauged from one Captain Fanning’s catch in 1800. While master of the Aspasia (one of 18 sealing vessels on the island at the time) Fanning and his crew took 57,000 skins.170 Captain James Weddell claimed that 20,000 tons of elephant seal oil was also taken from the island before his arrival, as British sealers focused on oil at this time because furriers in England still had no method of dressing fur seal skins and the Americans dominated the Canton market.171 Unsurprisingly, the seal populations on South Georgia were quickly depleted by this slaughter. In 1825, Weddell estimated that 1.2 million seals had been harvested there in just over three decades, and all species of seal on the island were “almost extinct”.172 Indeed, the historian of American sealing, Briton Cooper Busch reports no record of any American sealing voyages to South Georgia between 1830 and 1870.173

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The fur seal and elephant seal oil trade in the Indian Ocean had already been opened by the time of the pinniped slaughter on South Georgia. The first islands worked by sealers here were St. Paul and Amsterdam as well as Kerguelen and the Prince Edward Islands in the early 1790s. Sealers then moved on to the coast of Australia and in 1803, landed on the Crozet Islands. Well before this date however, dwindling fur seal numbers forced sealers to embark on longer voyages and engage in more extensive hunting. In 1799 the orders to a New England sealing captain specifically mentioned “the Falklands, South Georgia, Island of Amsterdam, and Más Afuera”, with instructions to visit “all or either.”

The fur seal trade underwent a brief revival with William Smith’s discovery of the South Shetland Islands in 1819 while on a voyage from Buenos Aires to Valparaiso. The Hersilia, the first vessel to go sealing at the South Shetlands, took 9,000 pelts in 15 days before she ran out of salt. Soon after, numerous American and British sealers arrived and Weddell estimated that during the years 1821 and 1822, 320,000 seals were killed and 940 tons of elephant seal oil produced. He also estimated that a further 100,000 seal pups perished due to the loss of their mothers. The large number of seals killed

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177 Ibid.
179 Alan Gurney, Below the convergence: Voyages Towards Antarctica, 1699-1839, at page 178.
confirms the indiscriminate nature of the harvest.\textsuperscript{180} The fur seal herds on the South Shetlands were commercially extinct by 1822, just three years after their discovery.\textsuperscript{181}

2.3) The rise of the elephant seal oil trade

British and American whalers had encountered elephant seals on the Falkland Islands before the American War of Independence, but they were largely ignored because the price of elephant seal oil was considerably less than that of seal skins.\textsuperscript{182} Sealing voyages, however, often included the hunting of elephant seals, though during the fur seal bonanza, elephant seal oil was very much “a cargo for disappointed fur sealers or even successful ones wishing to fill the last corner of their holds before heading home”.\textsuperscript{183}

After the collapse of the London seal skin market in 1809 and the rapid devastation of the fur seal population, the roles were reversed with sealers focus shifting to the elephant seal so that by 1820, elephant seals were the primary target and fur seals the filler whenever available.\textsuperscript{184} A second wave of sealing moving eastwards thus passed through the

\begin{footnotesize}
\begin{itemize}
\item[]\textsuperscript{180} Alan Gurney, \textit{Below the convergence: Voyages Towards Antarctica, 1699-1839}, at page 233.
\end{itemize}
\end{footnotesize}
Southern Ocean in the first half of the nineteenth century in search of elephant seals.\textsuperscript{185} As the South American coast, the Falklands, Tristan da Cunha, the South Orkneys, South Shetlands and South Georgia were cleared of elephant seals, the trade moved to the islands of the Indian Ocean.\textsuperscript{186} This shift occurred at different times on different islands, depending on when they were discovered and where they were located.

The thick blubber of the elephant seal yielded a white oil similar to that of the right whale and commanded a price slightly higher than that of right whale oil.\textsuperscript{187} The oil was used as a lubricant, and was valued as an odourless and smoke-free fuel for lighting.\textsuperscript{188} In addition, it was ‘slow of combustion and never became rancid’.\textsuperscript{189} The skins of the elephant seal were also used in the manufacture of carriages and harness.\textsuperscript{190} The industrial revolution in Europe and North America created a growing demand for oil as a lubricant in machinery, as well as for softening wool in the manufacture of cloths.\textsuperscript{191} Factories also required elephant seal oil for lighting as did the streets of the expanding

\textsuperscript{188} Ian W.G. Smith, \textit{The New Zealand sealing industry: History, archaeology, and heritage management}, at page 3.
\textsuperscript{189} Nathaniel W. Taylor, M.D., \textit{Life on a Whaler or Antarctic Adventures in the Isle of Desolation}, Howard Palmer (ed.), at page 144.
\textsuperscript{190} \textit{Ibid}, at page 143.
\textsuperscript{191} Alan Gurney, \textit{Below the convergence: Voyages Towards Antarctica, 1699-1839}, at page 197 and Nathaniel W. Taylor, M.D., \textit{Life on a Whaler or Antarctic Adventures in the Isle of Desolation}, Howard Palmer (ed.), at page 144.
urban centres. Due to its multiple uses, there was a steady demand and price for elephant seal oil in many markets.

Although elephant seal oil was always a saleable commodity, the industry was also prone to the same boom-bust cycles as the earlier seal skin trade. In the words of Zarankin and Senatore:

“The discovery and exploitation of new colonies of maritime mammals produced an overabundance of derived products such as oil and furs in international markets. This overabundance resulted in the fall of international prices, which forced an increase in the volume of exploitation. As overexploitation reduced the mammal population, the companies moved elsewhere in search of greater profits. This 4- or 5-year cycle was repeated several times during the nineteenth century”.

Despite the sometimes episodic nature of the industry, elephanting voyages brought excellent returns until the 1870s, when diminished demand for animal oils following the introduction of coal-oil, as well as dwindling elephant seal numbers brought the global trade to a close.

192 Alan Gurney, Below the convergence: Voyages Towards Antarctica, 1699-1839, at page 197.
194 Ibid, at page 165.
2.4) A short history of sealing on the Prince Edward and Crozet Islands

When the first sealers arrived on the Prince Edward Islands is unclear, but it would appear to be soon after the account of Cook’s final voyage of exploration was published in the late 1780s. According to Thomson and Murray, who wrote a narrative of the voyage of the *H.M.S. Challenger* in 1885, “[f]rom 1776 to the present time both islands have been much frequented by whalers and sealers”.197 While the Prince Edward Islands began being exploited soon after news of their rediscovery was made public, the Crozets do not appear to have been visited by sealers until 1803.198 The first men to set foot on the Crozet Islands (as neither Cook nor Du Fresne had been able to land due to poor weather) are generally assumed to be the crew of the New York ship *Catherine* under Henry Fanning.199 The *Catherine* went in search of the Crozet Islands in mid-1803, the year “the manuscript of the discoverer of [the Crozet Islands] was received”.200 Fanning stopped at the Prince Edward Islands and dropped off a sealing gang before setting out in search of the Crozet Islands. Fanning’s account is also the first record of a sealing gang being stationed on the Prince Edward Islands, though it is unlikely to have been the first group left to hunt there.

Fanning finally located and landed on Possession Island (the largest of the Crozet Islands) in late 1804, owing to the meagre and inaccurate sailing directions at his disposal, the islands being found more than 100 miles south of the latitude laid down in

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After obtaining a fine cargo of skins, Fanning left a sealing gang on the Island and sailed for Canton. While Fanning was in Asia, two other American vessels also rediscovered the Crozet Islands. The *Favourite*, a Nantucket vessel, found the islands in 1805 after searching for a few months, and took between 17,080 and 25,000 skins. The other vessel, *Criterion* which arrived at about the same time, took some 13,000 seal skins. Once the real location of the Crozet Islands became better known, they “became the scene of a massive slaughter of seals during 1805 and 1806”, one of the more important centres of the fur-seal fishery and later, when the fur seal numbers began to dwindle, the elephant seal fishery.

As explained above, sealers turned their attention to the oil-bearing elephant seals as fur seal numbers and the market price of their skin declined. Members of the crew of the American vessel *Pickering*, left on the Prince Edward Islands for two years in 1818, were the first on record to have been instructed to harvest both skins and oil.  This shift is unsurprising because when Goodridge arrived at the Prince Edward Islands in November 1818...

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203 *Ibid*, at page 64.


205 *Ibid*.


1820 on board the *Princess of Wales*, he found the fur seals to be ‘very scarce’ whereas there were elephant seals in great numbers.\(^{208}\)

By the 1830s, the expansion of the French whale fishery led to some vessels arriving at the Crozet Islands specifically to take elephant seals and American whaleships also began visiting the ‘Crozettes Grounds’,\(^{209}\) with many listing the area as their main whaling ground.\(^{209}\) American whaleships in this area were so numerous during the 1840s that one emigrant vessel on its way from the Cape to Tasmania reported that “hardly 24 hours elapsed without our passing a vessel occupied in flensing (‘cutting-in’) a whale”.\(^{210}\)

These whalers however would “seldom or never communicate with the shore”.\(^{211}\) According to Rhys Richards, a slump in the price of seal skins in the late 1830s, despite their increasing scarcity, led to a growth in the number of vessels hunting elephant seals on the islands, which peaked in the latter half of the 1840s.\(^{212}\)

By the end of the 1840s, whales on the ‘Crozettes Grounds’ were in decline and the abundance of whales on the north west coast of America, the California gold rush of 1849 and economic problems in New England combined to divert the attention of American

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\(^{209}\) The ‘Crozettes Grounds’ consisted of the area surrounding the Crozet and Prince Edward Islands.

\(^{210}\) Ibid.

\(^{211}\) Jeremiah Hughes (ed.), *Niles’ National Register containing Political, Historical, Geographical, Scientifical, Statistical, Economical, and Biographical Documents, Essays and Facts: together with Notices of the Arts and Manufactures and a Record of the Events of the Times*, at page 262.

American sea elephanting voyages to the Southern Ocean also relocated from the Crozets to Kerguelen, which had large numbers of elephant seals and also boasted safer harbours. There was also a diminishing demand for elephant seal oil with the introduction of coal oil into general use. The declining number of American vessels at the islands by the late 1840’s saw the elephant oil trade at the Crozets pass largely into the hands of the Cape based sealers, led for the most part by a man named John Jearey.

2.5) Nomenclature issues regarding the Prince Edward and Crozet Islands

The Prince Edward Islands were discovered by Barent Barends Lam, commander of the Dutch East Indiaman Maarsseveen on the 4 March 1663, while en route to Java. Upon their discovery, he named the two islands ‘Dina’ and ‘Maarsseveen’. The islands were rediscovered almost a century later on 13 January 1772 by Marion Du Fresne when he was in charge of a surveying expedition on the frigate Le Mascarin. Du Fresne, convinced he had discovered the long sought after southern continent, named the one island ‘Isle de l’Esperance’ (Isle of Hope), while the other island was named ‘Ile de la Caverne’ (Cavern Isle) after a large cave that was clearly visible on its north east side. But once he discovered his error, he changed their name to ‘Iles de Froides’ (The Frigid

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214 Ibid, at page 17.
Islands). After failing to land on the islands, Du Fresne sailed eastwards and discovered the Crozet Islands. The honour of naming the islands however fell to Captain James Cook. In March 1775, Cook met Julien Crozet (who was second in command under du Fresne) while at the Cape and he was given a chart showing the discoveries made by Du Fresne as well as those of Captain Kerguelen (the discoverer of Kerguelen Island). Because the islands had no names on the French Chart that Cook received, he named the Prince Edward’s Islands after the fourth son of King George III and the “four others [islands] which lie from nine to 12 degrees of longitude more to the east, and nearly in the same latitude… by the name of Marion’s and Crozet’s Islands, to commemorate their discoveries”. This suggests that Cook did not name either of the two islands that today form the Prince Edward Island group ‘Marion’ (Fig. 2.3).

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223 Three Voyages of Captain James Cook Round the World complete in Seven Volumes, Vol. 5, at page 137.
The waters were further muddied in the early nineteenth century, when certain publications dropped ‘Crozet’ from the name. For example, in 1815, James Hingston Tuckey (a commander in the Royal Navy) listed what are today known as the Crozet Islands as ‘Marion or Desert Isles’.

Yet John Purdy, one year later, used the name ‘Prince Edward’s Island’ to refer to the smaller of the two islands in the Prince Edward Islands group and ‘Marion Island’ to refer to the larger of the two. He also used the term

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224 James Cook and James King, *A Voyage to the Pacific Ocean: undertaken by the Command of His Majesty, for making discoveries in the northern hemisphere performed under the direction of Captains Cook, Clerke, and Gore, in the years 1776, 1777, 1778, 1779, 1780*, Volume 4, Plate 1.

‘Crozet’s Isles’ when referring to the Crozet Island group.\textsuperscript{226} The inconsistency with regards to the nomenclature of these islands was not helped by the inexact nature of the maps used during the nineteenth century, which often placed the islands at the incorrect longitude. As late as 1820, these errors led the crew of the \textit{Princess of Wales} to believe that the islands of Dina and Maarsseveen were different to the Prince Edward Islands as they only steered for the Prince Edward Islands after unsuccessfully searching for Dina and Maarsseveen.\textsuperscript{227}

By the time Cape vessels entered the sea elephant oil trade in the early 1830s, the term ‘Crozets’ included both the Prince Edward and Crozet Islands. For example, the \textit{Mary}, one of the first vessels to leave the Cape on an elephanting voyage to the Southern Ocean, is listed in the 1833 Commercial Exchange shipping register as returning from the Crozets,\textsuperscript{228} though from her logbook it seems she may have also reconnoitred the Prince Edward Islands.\textsuperscript{229} On her second voyage to ‘the Crozets’, the \textit{Mary} was wrecked on Prince Edward Island on 4 September, 1833, and her master reported that he had been sent to the Prince Edward Islands to establish a ‘sea elephant oil fishery’ for Messrs William Liesching and George Twycross.\textsuperscript{230}

\footnotesize{\textsuperscript{226} John Purdy, \textit{Tables of the Positions or of the latitudes, of places, composed to accompany the ‘oriental navigator,’ or sailing directions for the East-Indies, China, Australia, etc.}, at page 32.  
\textsuperscript{227} Charles Medyett Goodridge, \textit{Narrative of a Voyage to the South Seas and the Shipwreck of the Princess of Wales Cutter, with an Account of Two Years Residence on an Uninhabited Island}, at page 35.  
\textsuperscript{228} \textit{Commercial Exchange Shipping List}, CC 2/12.  
\textsuperscript{230} \textit{Commercial Exchange Shipping List}, CC 2/12, and \textit{Cape Archives}, CO Vol. No. 3992 Ref 139, Memorial received. John Curran. Protection of the Fisheries Established by Him on the Prince Edward Islands. 1837.}
Similarly the *Conservative* left Table Bay in August, 1855, for the Crozets but was wrecked two months later at the Prince Edward Islands, and the *Maria* left for the Crozets in May, 1857 only to suffer shipwreck two weeks later while unloading stores at Prince Edward Island.\(^ {231}\) The Crozet and Prince Edward Islands were thus intimately linked, even though separated by more than 1000 kilometres of open ocean, constituting a unified field of operation for nineteenth century Cape sealers. For this reason, I shall use the term ‘the Crozets’ throughout, as it was used by Cape sealers, to denote both island groups.

\(^{231}\) *Cape of Good Hope and Port Natal Shipping and Mercantile Gazette*, No. 640, 4 April 1856, and No. 733, 15 January 1858.
Chapter 3: The Cape Town/Crozets elephant seal oil Trade (1832–1869)

3.1) Introduction

Between the years of 1832 and 1869, Cape Town vessels made at least 100 voyages between the Cape and the Crozets to hunt for elephant seals. This chapter traces the history of this trade and considers the factors that shaped it. The Cape Town/Crozets sea elephanting trade can be broken down into three distinct phases: pioneering (from 1832–1838); the Jearey era (c 1838–1858); and a brief revival (1865–1869). A complete list of all Cape based vessels that departed to and/or returned from the Crozets can be found in Appendix A.

Figure 3.1: The number and overall tonnage of Cape based vessels returning to Cape Town from the Crozets for each year from 1832–1869.
3.2) Testing the waters (1832-1838)

The rise of the elephant seal oil trade at the Crozets discussed in the previous chapter did not go unnoticed at the Cape, but local merchants lacked the cartographic intelligence necessary to locate the Crozets. The accidental arrival of Captain Samuel Lingard at the Cape was to change this. Lingard was master of the brig *Hebe*, which was wrecked on the Crozets on 16th August 1831, and he arrived in Table Bay on the 20 February 1832 after being rescued by the *Phocion*. Soon after his arrival, Lingard was placed in charge of the *Flamingo* (whose agents were the Cape Town merchants Thomson and Co.), and made the first recorded voyage by a Cape based vessel to the Crozets for elephant seal oil. The *Flamingo* returned to the Cape on 15 June, 1832, with an unknown quantity of oil. The maiden voyage appears to have been a success as five more voyages were made by Cape based vessels to the Crozets over the course of the following eighteen months.

However, it seems the Cape merchants who pioneered the elephant seal oil trade from Table Bay were unable to earn a sufficient or consistent profit from their Crozet enterprises. Thomson and Co. left the trade after the second voyage of the *Flamingo*, and may have been financing Lingard rather than venturing on their own account. Samuel Lingard was described as the ‘master, agent, and overseer of the fishermen at the Crozets’

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232 *Commercial Exchange Shipping List. CC* 2/12.
234 These vessels were the *George 4th*, the *Flamingo*, the *Mary*, and the *St. Helena.*
when the *Hebe* was sent there, and it is likely that he organised the *Flamingo*’s voyages to the Crozets to relieve some of his crew from the *Hebe* who had stayed behind elephanting, probably under the command of the *Hebe*’s Chief Mate, John McDonald. Soon after Lingard returned from the Crozets in the middle of 1833, he ran into financial difficulties and died at Cape Town an insolvent two years later. After his death, Thomson and Co. temporarily withdrew from the elephant seal oil trade.

The second vessel to leave Cape Town for the Crozets was the *George 4th*, which had William Liesching and George Twycross listed as her agents. Both had earlier been involved in the coastal sealing trade, and entered the Crozets sea elephanting trade in 1832. Their voyages were a disaster, plagued by deficient logistics, mutinous labour and very little oil. Part of the reason for Liesching and Twycross’ failure was their gang’s inability to live off the land, making the sealers ill and unable, or unwilling to work. In all, their enterprise produced about 70 tons of elephant seal oil, and after deducting costs Liesching and Twycross were left with a profit of about 440 rixdollars. From this they had to pay labour, the legal costs from a court case arising from the undertaking, and deduct losses caused by the wreck of the *Mary*, which went down off Prince Edward Island in September, 1833. In the face of these poor returns and reverses, Liesching and

Twycross soon abandoned sea elephanting on the Crozets. For Liesching however, the economic damage was too great and he was declared bankrupt in 1836.239

The master of the Mary on her Crozet voyages, John Curran, continued elephanting on Prince Edward Island after his principals withdrew. Curran claimed that when Liesching and Twycross abandoned the Crozets in 1834, they made him a present of all their property that remained on the islands “in consideration of his faithful services”.240 Curran appears to have continued the fishery on his own account, claiming to have invested £1500 in a house, tryworks and cooperage and another £1,000 on outfitting costs but that the fishery “has been visited and worked much to my [Curran’s] injury by the American Barque ‘White Oak’ of New York”.241 Curran accordingly asked the Governor to afford him “an exclusive Right or Protection from the intrusions of foreigners” on the grounds that Cook’s discovery of the islands made them British territory.242 His request was bluntly refused, with a reply that summed up the nature of life and sealing on the sub-Antarctic islands: “…the Island is not a dependency of the Cape of Good Hope…It is a part of the Right of Nations where ‘might is right’”.243 This suggests that although the Cape Government was unwilling to recognise it, Cape sealers had already begun to view the Crozets as an extension of the Cape frontier.

239 Cape Archives. MOOC Volume No. 13/1/69 Reference 24. Leisching, William. Liquidation and Distribution Account. 1836. Unfortunately this liquidation and distribution account could not be found at the National Archives in Cape Town.
240 Cape Archives. CSC Volume No. 2/6/1/19 Reference 128. Motion. Petition of John Curran in Re J. Curran Versus John Dean and William George Anderson. 1840.
242 Ibid.
243 Ibid.
Curran returned to the Crozets in 1837 after entering a contract with John Deane and George Herbert. Only three vessels are listed as returning from the Crozets between 1834 and 1838 and the only cargo enumerated was the meagre 10 tons of oil and 2 tons of blubber returned in 1834 by the Matchless, hardly a successful voyage. Curran returned to Table Bay in 1838 to discover that George Herbert had left for England and William George Anderson, a sleeping partner in the business, advertised the sale of the house, tryworks and other stores on the island which were sold for seven shillings and six pence to Mr John Jearey.

3.3) The Jearey years (1838–1858)

Jearey was to dominate the elephant seal oil trade for well over two decades and the Cape of Good Hope and Port Natal Shipping and Mercantile Gazette described him as ‘the founder’ of the fisheries branch at the Cape. The extent of Jearey’s domination of the Crozets trade is evident from the fact that he dispatched over two thirds (69) of the voyages sent from the Cape to the Crozets between 1832–1869. Between the years 1838–1858 his domination of the trade was almost total, of all the voyages made during these two decades, only 4 of the 73 voyages made did not have Jearey listed as the agent or consignee.

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244 Cape Archives. CSC Volume No. 2/6/1/19 Reference 128. Motion. Petition of John Curran in Re J. Curran Versus John Dean and William George Anderson. 1840.
245 Ibid.
246 Cape of Good Hope and Port Natal Shipping and Mercantile Gazette, No. 108, 23 January 1846.
John Jearey* was born in 1800 in Norfolk, England. It is unclear when he first became a sailor, but it must have been at a relatively young age as in 1822 he was master of the *Sir Edward Paget* when she stopped off at the Cape bound from England to Calcutta.\(^{247}\) Jearey first applied to remain in the Colony in order to create what he called ‘a boating business’, presumably offloading cargo from vessels that put in at Table Bay.\(^{248}\) It is unclear whether this request was granted as Jearey remained master of the *Sir Edward Paget* until 1828. Jearey’s first foray into the sealing industry came in 1829 when he sent men to hunt on the Robben Steen at the mouth of the Oliphants River.\(^{249}\) He was forced to abandon this venture, however, as the islet had already been leased to George Twycross.\(^{250}\) There is no indication that Jearey again tried to enter the coastal sealing trade and this may have been due to the fact that competition for fur seals amongst the coastal islands was fierce and by the 1840s, the African guano rush had severely disrupted seal populations on these islands.\(^{251}\) By 1832, Jearey had added an inn called the ‘Ship Tavern’ to his boating business, allowing him to keep a watchful eye on the shipping and seamen making landfall in Table Bay.\(^{252}\) Jearey also bought the remains of shipwrecks and salvaged what he could from them. For example, in 1834, he purchased the remains of the French ship *L’Aigle* from which he saved seven tons of whale oil

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\(^*\) There are various spellings of his surname, ranging from Jerry to Jeary to Geary and even Jeavey, but for the sake of consistency I shall be using Jearey as this is the name that appears most often in the archival records.

\(^{247}\) *The African Court Calendar*, 1823.


\(^{249}\) *Cape Archives*. CO Volume No. 3943 Reference 461. Memorials Received. John Jerry. Permission to Seal on Robben Steen Island. 1829.


which he exported.\footnote{Cape Archives. CO Volume No. 3971 Reference 22. Memorials Received. John Jeavey. Request to Sell Seven Tons of Oil to the Public. 1834.} By 1837 he had acquired a vessel of his own, the *Friends Good Will*.\footnote{Commercial Exchange Shipping List. CC 2/14.}

3.3.1) *Might is right*, re-establishing the Cape Town/Crozets elephant seal oil trade

The captain of the *Friends Good Will* was John McDonald,\footnote{* He is also sometimes referred to as John MacDonald.} almost certainly the same John McDonald who had been Chief Mate on the *Hebe* under Samuel Lingard when it was wrecked on the Crozets in 1831 and subsequently the leader of a sealing gang encountered by the crew of the *Mary* in 1833. McDonald returned to the Cape, being called as a witness in a court case regarding the insolvent estate of Samuel Lingard in 1835.\footnote{Cape Archives. CSC Volume No. 2/1/1/31 Reference 18. Record of Proceedings of Illiquid Case. Harrison Watson, Trustee of Insolvent Estate of Samuel Lingard Versus John MacDonald. Debt. 1835.} By December, he had signed as the master of *Friends Good Will*, whose agents at the time were Dickson and Co.\footnote{Commercial Exchange Shipping List. CC 2/12.} McDonald remained in charge of the vessel after its ownership passed to John Jearey. We can only speculate on the reasons Jearey decided to enter the Crozets elephanting trade when those before him had tried and failed but John McDonald’s elephanting experience on the islands was no doubt crucial to his decision. Thus less than a year after John McDonald entered his employ Jearey decided to purchase the sealing station on Prince Edward Island and McDonald commanded Jearey’s first six voyages to the Crozets beginning in December 1838. The line of descent from Lingard, via Curran to McDonald confirms that cartographic knowledge and practical experience were paramount for merchants who wished to enter the elephant seal oil trade. Few
masters knew how to find the islands, navigate safely around them, and live off the land when ashore.

Jearey took care to conserve this valuable capital by promoting people through the ranks who had been elephanting on the Crozets under John McDonald. In this way information and experience was retained in the business, expanded, and passed from one master to the next. An example of this was George Whitley. Whitley entered Jearey’s employ in 1836 with over a decade of experience as a mariner. He first worked ‘before the mast’ for Jearey before being promoted to mate, and then master. He made his first voyage as the captain of a vessel in August, 1841, and made another 12 voyages to the Crozets until 1847. No less a navigator than Sir James Clark Ross, commanding the HMS’s Erebus and Terror, reported that that the Crozet Islands were not where they had been laid out on the charts and that they would have lost much time searching for them had a more accurate description of their whereabouts not been provided by a Cape Town merchant (probably Jearey), at whose request Ross undertook to convey some provisions to Possession or East Island for the sealing gangs he had left there.

Sailing to the islands was made even more difficult by the conditions experienced en route. Fernández-Armesto has described the sea as being the most hostile type of environment in the biosphere, apart from permanent ice. Those involved in the Cape

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258 Sir James Clark Ross, Voyage of Discovery and Research in the Southern and Antarctic Regions During the Years 1839-43, Vol 1, at page 49.  
Town/Crozets elephant seal oil trade worked in extreme conditions. Not only did they have to deal with the constant gales of the ‘roaring forties’, where 50-80 kilometre per hour winds were common with gusts more than twice this speed often arriving without warning. They also had to deal with the 4 or 5°C temperature drop that occurs after crossing the sub-tropical Convergence. The area between the Antarctic and the sub-tropical Convergence is known as the sub-Antarctic region and this is where the Crozet and Prince Edward Islands are located (Fig. 3.2). The sealers had to stay warm in this environment with nothing but the clothes on their back as no fire was used on vessels except for cooking food, and for trying out the blubber at the islands.

In addition to the wind and the cold, the region around the Crozets is often cloudy or is covered in dense fog that made sailing in the vicinity of the islands a dangerous task. The fog became so thick around the Crozets that there have even been instances of vessels colliding with each another. The dense fog was one of the main reasons for the wreck of the Richard Dart in 1849, and the wreck of the Strathmore in 1875. Vessels

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265 For more on these two shipwrecks see the Cape of Good Hope and Port Natal Shipping and Mercantile Gazette, No. 307, 16 November 1849, and Ian Church, Survival on the Crozet Islands: The Wreck of the Strathmore in 1875.
bound to the Crozets also had to beware of icebergs which provided another dangerous and unpredictable hazard. While cruising between the Prince Edward and Crozet Islands in mid-summer 1842, the *Ontario* of Sag Harbour frequently sighted icebergs amid the fogs and gales.266

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The strong winds often proved to be the most dangerous hazard of all. Van Zinderen Bakker Sr., while on Marion Island as part of the South African Biological and Geological Expedition of 1965–1966, described how a scene of calm could abruptly change “into a turmoil of wind and water while enormous waves will crash against the steep shores, dissolving into clouds of spray. Under these conditions the ship has for safety reasons to leave without delay and ride out the storm, away from the treacherous shores, to return perhaps on a perfect sunny day”.\textsuperscript{268} He and the rest of the team calculated that for 150 days of the year, the windspeed at the island reached moderate or full gale force with gusts of 130–200 km per hour and that the steadiness of the circumpolar winds were constantly interrupted by cyclones which passed the islands in a south-east direction.\textsuperscript{269} During such weather, a certain Captain Dixon while at the Crozet Islands described the sea breaking on:

> “stark, pinnacled cliffs…with a fury that is absolutely hellish. You had to see it to appreciate the blood-chilling fury of it. Terrific walls of water smash against the cliffs in a thunderous rage. It is a stupendous spectacle, a maelstrom of spray and leaping water”.\textsuperscript{270}

The logbook of the *Mary* in 1833 constantly remarks on the ‘hard gales’, ‘heavy seas’, ‘squalls of wind and hail’, and ‘thick fog’ she endured on her voyage to the Crozetts and on more than one occasion she tore some of her sails.\textsuperscript{271} Curran, the Captain of the vessel, described how at times, the sea would break completely over the vessel, which

\begin{flushleft}
\textsuperscript{269} Ibid, at page 5.
\textsuperscript{270} Ian Church, *Survival on the Crozet Islands: The Wreck of the Strathmore in 1875*, at page 93.
\end{flushleft}
required them to pump the ship every hour to remove the water, and on the 17 April 1833, ‘strong gales carried away some of the bulwark forward on the larboard side’ while on the 12 April ‘some of the bulwark [was] carried away’.

More than one vessel fell foul of the tempestuous winds in the vicinity of the Crozets in the nineteenth century. At the best of times calculating one’s position at sea was a difficult proposition made even more difficult by the sky being three-fourths or more obscured by clouds throughout the year.272 Another factor to keep in mind is that in the lower latitudes the length of day is only 8.6 hours long in winter.273 Being in the vicinity of the islands in the dark was a grim affair. There was a chance of being blown right past the islands or worse still, of hitting one of the islands, or the many submerged rocks along their shores.274 This happened to the Conservative, which was lost on the Prince Edward Islands in 1855 “during a dark night and a heavy sea”.275 On the 28th October 1841, the American vessel Uxor was wrecked on Marion Island after a gale caused her to part from her moorings while the Fluminence was also wrecked in the same gale with the loss of 14 of her 19 man crew.276 The report of the wreck of the Maria on Prince Edward Island in 1857 contained an account written by the Captain of the vessel which gives a good idea of just how difficult it must have been to sail a ship in this region. According to Captain Hamilton, the Maria set sail on the 2nd May 1857, and soon entered the roaring forties

275 Cape of Good Hope and Port Natal Shipping and Mercantile Gazette, No. 640, 4 April 1856.
276 Cape of Good Hope Shipping List, No.117, 29 March 1842.
where ‘thick weather prevailed’. But the weather cleared when they reached the Prince Edward Islands at which point Captain Hamilton:

“Steered between the islands, and brought up at the Cave at 20:30 p.m., in 17 fathoms water, with the wind from the N.E. At 6 p.m., the wind shifted to the N.W., blowing a heavy gale. On the 15th, at noon, the wind shifted to the S.W., and the ship drove off the bank. At midnight, the wind moderated, and the ship was then steered for North Island. At 9 a.m., May 16, the wind being light from the W.S.W., anchored in 13 fathoms water and commenced taking off the produce, stores etc. At midnight it was calm with swell from the southward. Sunday, May 17th, at 4 a.m., a breeze sprung up from the S.E., with showers of snow, the sea making. At 5, the best bower cable parted, let go the small bower which brought her up, as she was close to the rocks. At 5:20, she parted and went broadside onto the rocks, the sea making a clean breach over her”.277

The boats were then lowered, but the sea rolled so violently that the crews had no command over them, with one being driven onto the rocks and the other capsizing, forcing the crew to swim for their lives.278 Fortunately, none were lost. The wreck of the Prince in June 1866, occurred in similar circumstances. The Prince was at anchor on the 21st June when a severe N.E. gale came up and at 10 a.m. the next morning, the vessel finally parted from her anchors and was driven ashore.279

Just as the sudden appearance of gale force winds could lead to shipwreck, so could the sudden cessation of wind. When the Princess of Wales was anchored off one of the Crozet Islands in 1821, a gale accompanied by a heavy swell came in and the Captain decided to stand out to sea. But before they had gone any great distance from the Island, the wind died away so the crew lost all command of the vessel and, since the swell

277 Cape of Good Hope and Port Natal Shipping and Mercantile Gazette, No. 734, 22 January 1858.
278 The Cape Argus, 16 January 1858.
279 The Cape Argus, 30 October 1866.
continued, aided by a strong current, the vessel was driven towards the numerous rocks protruding into the sea upon which it was eventually wrecked. According to Goodridge, the crew were “not a sacrifice to the violence of a present storm, but victims to the unspent power of a raging sea, lashed into fury by winds which now seemed hushed into breathless silence, the more calmly to witness the effects of the agitation raised by them in the bosom of this immense ocean”.

Knowing when and where to anchor and when to beat out to sea were crucial. Sometimes this knowledge was gained only through bitter experience. Hickley (who was in charge of the sealing gang left on Possession Island by John McDonald) told Sir James Clark Ross that the western coast of Possession Island was unapproachable for ships of any size on account of the heavy swell that constantly rolled in upon its shores. One of the boats belonging to McDonald’s party and all six members of its crew was lost there while searching for elephant seals. According to Hickley and his men however, the eastern side of the Island had three bays, America Bay, Lively Bay, and Ship Bay (also known as Navire Bay), where vessels at anchor were well protected from the prevailing westerly winds. Hickley warned however that at Lively Bay and Ship Bay, as soon as an easterly wind sprang up vessels should leave as America Bay was the only bay where

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280 Charles Medyett Goodridge, *Narrative of a Voyage to the South Seas and the Shipwreck of the Princess of Wales Cutter, with an Account of Two Years Residence on an Uninhabited Island*, at page 43.
281 Sir James Clark Ross, *Voyage of Discovery and Research in the Southern and Antarctic Regions During the Years 1839-43, Vol 1*, at page 49.
282 Cape of Good Hope Shipping List, No. 7, 18 Feb 1840.
284 Sir James Clark Ross, *Voyage of Discovery and Research in the Southern and Antarctic Regions During the Years 1839-43, Vol 1*, at page 55.
there was room for a ship to beat out when such a wind arose.  

285 Hickley claimed that two English whalers were wrecked in Ship Bay by trying to ride out easterly gales there.  

286 These dangerous S.E. winds were reported as rarely blowing between November and the end of February.  

287 This was the kind of local knowledge acquired only through experience.

Once a vessel was safely anchored near one of the islands of the Crozets, the sealers still had to make their way onto the islands themselves. This was done by using rowing boats between the vessel and the shore. The terrain at most of the potential landing places was extremely rugged and landing through the surf was dangerous and sometimes led to loss of life.  

288 The travails of the men sent sea elephanting to the Crozets did not end once they had safely landed on the islands, as they still had to find ways to survive the rough conditions and lack of stores that often awaited them once ashore.

Knowledge of where to live and work on the islands and how to live off the land in order to conserve and supplement scarce provisions was also important for both sealer and merchant. Subsisting off the islands could drastically reduce the cost of provisions, and thus the total cost of the voyage, and also ensure that the gangs remained mentally and physically fit for work under harsh and lonely conditions (see Chapter 4).

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285 Sir James Clark Ross, *Voyage of Discovery and Research in the Southern and Antarctic Regions During the Years 1839-43, Vol 1*, at page 55.  
286 Ibid.  
288 Nigel Bonner, *Seals and Sea Lions of the World*, at page 188.
Finding and landing on the Crozets did not guarantee a cargo of elephant seal oil as competition for the elephant seals was intense, and hence control of the breeding beaches was crucial. At a time when few sealing vessels had a crew of more than twenty hands, Jearey relied on permanent occupation and numbers ashore to assert his control of key sites on the Crozets commons. Washington Fosdick’s journal of his Southern Ocean sealing voyage aboard the Connecticut schooner *Emeline* in 1843 records that Hog Island was inhabited “by a party of forty Englishmen from the Cape”.289 One startled New England master, Ellery Nash of the Stonington bark *Bolton*, intent on joining them on Long Beach (Hog Island) was bluntly informed by Jearey’s men that half of the beach belonged to them and the other half to John Barnum, the master of the Stonington schooner *United States*. A member of Jearey’s gang stated that “they would defend it and no one would take blubber off the beach but them as long as they could hold a lance”.290 The response Nash received from Captain Barnum was no less belligerent. Barnum told Nash that if he put any men on Long Beach he would work against him “in every shape”.291 When Nash proceeded to land his men regardless, as there were no prospects for ‘sea elephants’ other than on Long Beach, Barnum’s gang took their blubber while the Cape men took both their blubber and 28 unskinned elephant seals off them.292 In addition they drove the rest of the elephant seals into the surf rather than letting Nash’s men hunt them


291 Ibid.

292 Ibid.
and told Nash that his “voyage was up”.\footnote{293 Briton Cooper Busch, \textit{The War Against the Seals: A History of the North American Seal Fishery}, at page 169-170.} This finally persuaded Nash to relocate to Penguin Beach where elephant seals were scarce and he only managed to secure 43 barrels of blubber on Hog Island.\footnote{294 Rhys Richards, ‘The Commercial Exploitation of Sea Mammals at Iles Crozet and Prince Edward Islands before 1850’, \textit{Polar Monographs 1} 1992, at page 17.} At the start of 1844 Nash left Hog Island, “[t]he opposition being so strong and the elephants so scarce”, and moved to East Island where he remained for close to two months and took about 66 tons of elephant seal oil.\footnote{295 Rhys Richards, ‘The Commercial Exploitation of Sea Mammals at Iles Crozet and Prince Edward Islands before 1850’, \textit{Polar Monographs 1} 1992, at page 17 and \textit{Cape of Good Hope and Port Natal Shipping and Mercantile Gazette}, No. 10, 9 Mar 1844.}

When the \textit{White Oak} under Captain Nory joined the \textit{Emeline} at Possession Island later in the season, Nash and the shore party of the \textit{Emeline} marched to American Bay, spear in hand, to take possession of the beach.\footnote{296 Arthur C. Watson, ‘A Voyage on the Sealer \textit{Emeline} and the journal from Washington Fosdick’s manuscript preserved in the museum of the old Dartmouth Historical Society at New Bedford’, \textit{New York Zoological Society}, Vol. 9 (1931), pp. 475-549, at page 517.} However, Nory’s men had killed all the elephant seals in Little American Bay and 50 in Shallop Bay in order to secure them, but left them unskinned, conduct that Fosdick denounced as “unmanly and outrageous.”\footnote{297 \textit{Ibid}, at page 521.}

The relations between sealing gangs were fluid and alliances would change over time as can be seen by the collaboration between Jearay and Barnum. This collaboration, so successful in repelling the \textit{Emeline} from Hog Island, was not without its tensions as Jearay sued the American in the Cape courts in 1850 over a disputed cargo of oil. The evidence put forward in this case included a letter from Barnum addressed to ‘the Headman of ‘S.W. Bay’ (East Island’) stating that Barnum intended to get oil in S.W.
Bay without being troubled by the Cape party. Barnum went on to state that ‘I do not wish to make any threats about what I am going to do [if hampered in his attempts to kill elephant seals]’. It would seem that Barnum also poached some of Jearey’s men as he stated that “…you may depend as I tell you I shall, I shall ship some more of your men if I can but that will not hurt your party for you have nothing to eat for what is left of your party now”.

Nash’s strategy of moving to East Island suggests that Jearey did not have men on all the islands simultaneously. Rather, it would seem that he focussed his efforts on a couple of islands at a time, moving on when elephant seal numbers began to dwindle. When Clark Ross arrived at Possession Island in 1840, the leader of Jearey’s gang reported that the weather had been so tempestuous that they had been unable to launch a boat for the five weeks prior to his arrival with the result that production of oil had been poor. The men were disappointed to find that they were not to be removed to ‘Pig Island’ for the winter, where they felt that elephant seal numbers would be more numerous. When the Cape Argus reported the loss of the Maria at Prince Edward Island on 17 May, 1858, it stated that “[a] gang of eleven men had been employed on the islands for two years engaged in capturing sea elephants and seals. After taking their produce on board, the Maria was to have removed the gang to the Crozetts, and then returned to Table Bay”.

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299 Ibid.
300 Ibid.
301 Sir James Clark Ross, Voyage of Discovery and Research in the Southern and Antarctic Regions During the Years 1839-43, Vol 1, at page 53.
302 The Cape Argus, January 16, 1858.
survivors 44 days before they came across two members of Jearey’s sealing gang (which consisted of 12 men), suggesting that sealing gangs split up on the Prince Edward Islands.\textsuperscript{303} This was perhaps due to the scattered nature of elephant seal herds or the limitations of local subsistence on those islands. Being on the beaches before any competitors could be crucial to the success of an elephanting enterprise and without this advantage, they would have to “share the cream”.\textsuperscript{304}

3.4) The effect of elephant seal oil prices in Cape Town and London on the Cape Town/Crozets elephant seal oil trade

Needless to say the price of elephant seal oil was also a key factor in Jearey’s decision to embark on a elephant seal fishery at the Crozets. In 1837 the price of whale oil in London peaked at £40 per ton (elephant seal oil was a close substitute for whale oil, and consequently the price of elephant seal oil was almost identical).\textsuperscript{305} Unfortunately, we only have the price of ‘Sea Elephant Oil’ in Cape Town for the years 1844–1861, but the number and tonnage of Jearey’s voyages to the Crozets closely correlated to the prevailing market price of elephant seal oil in Cape Town and when that price collapsed in 1852, it was mirrored by a corresponding sudden sharp downturn in Jearey voyages to the Crozets (see Figures 3.3 and 3.4).

\textsuperscript{303} Cape of Good Hope and Port Natal Shipping and Mercantile Gazette, No. 307, 16 November 1849.
Figure 3.3: The number of vessels returning to Cape Town from the Crozets and the price of elephant seal oil in Cape Town, 1843–1861.

Figure 3.4: The overall tonnage of Cape based vessels returning to Cape Town from the Crozets and the price of elephant seal oil in Cape Town, 1843–1861.
What the oil returned to the Cape was used for is unclear, but the fact that there was little industry to speak of in Cape Town and Jearey had a contract to sell some of the elephant seal oil collected to the Civil Engineering Department prior to 1845 suggests that the oil was used to light the streets of Cape Town.\(^\text{306}\) The first serious attempt to light the Heerengracht and Keizersgracht by means of oil lamps was made in 1809, and oil was the main illuminant until the use of gas lighting was first mooted in the mid-1840s.\(^\text{307}\) In August 1844, the Cape of Good Hope Gas Light Company called for tenders to supply a gasometer and cast iron pipes, the mains were laid down two years later and on the evening of 5 March 1847, Cape Town streets were illuminated by gas for the first time.\(^\text{308}\) The coming of gas, which was cheaper and produced a brighter light, no doubt meant the end of Jearey’s contract to provision the state with elephant seal oil and this could explain why he began to advertise it for sale by the gallon for domestic consumption between the years 1844–1848.\(^\text{309}\) This oil was most likely sold to burghers who were reluctant to introduce gas lighting into their homes, fearing explosions.\(^\text{310}\) Jearey also made an audacious attempt to slash his production costs in the face of competition from gas. In 1848 he chartered the vessel \textit{St. Helena} to bring a cargo of as many live elephant seal pups as it could conveniently carry from the Crozets for the purpose of establishing a elephant seal colony on the African mainland.\(^\text{311}\) Despite these efforts, his local market

\(^{306}\) \textit{Cape Archives. CO Volume No. 4025 Reference 307. Memorials Received. J. Jearey Regarding Irregular Payment of Account by Civil Engineering Department. 1845.}


\(^{308}\) Alan F. Hattersley, \textit{An Illustrated Social History of South Africa}, at page 75.

\(^{309}\) See the \textit{Cape of Good Hope and Port Natal Shipping and Mercantile Gazette}; No. 11, 15 March 1844, No. 93, 10 October 1845, No. 94, 17 October 1845, No. 109, 30 January 1846, No. 157, 1 January 1847, No. 158, 8 January 1847, No. 173, 23 April 1847 and No. 250, 13 October 1848.

\(^{310}\) Alan F. Hattersley, \textit{An Illustrated Social History of South Africa}, at page 75.

\(^{311}\) \textit{Cape of Good Hope and Port Natal Shipping and Mercantile Gazette}, No. 257, 1 December 1848. This was not the only time that an attempt was made to bring live sea elephants to the Cape. On 11 December
for elephant seal oil was slowly eroded by gas consumption, which doubled in Cape Town between 1848 and 1852.\footnote{Cape of Good Hope and Port Natal Shipping and Mercantile Gazette, No. 423, 6 February 1852.} In 1852, the Cape of Good Hope Gas Light Company signed a contract with the Cape Town municipal council to supply it with 625,000 hours of gas illumination per annum,\footnote{Ibid., No. 455, 17 September 1852.} and the 1853 Blue Books stated that the Gas company supplied about 250 street lamps and “nearly all public and mercantile buildings, and a considerable number of private residences”, terminating the local demand for sea elephant oil.\footnote{Blue Books for the Cape of Good Hope, 1853, at page 451.}

Fortunately for Jearey, in 1844 he concluded an agreement with Cape Town wholesale merchants Thomson, Watson and Company who advanced him a line of credit in return for his Crozet oil output being shipped to their agency in England.\footnote{Cape Archives. CSC Volume No. 2/1/1/96 Reference 27. Record of Proceedings of Illiquid Case. John Jearey Versus John Robert Thomson, Harrison Watson, James Duncan Thomson and Thomas Watson, Trading as Co-Partners in Firm of Thomson, Watson and Company. Cancellation of Deed. 1860.} So by the time gas consumption rose, and the price of elephant seal oil in Cape Town collapsed in the early 1850s, Jearey had managed to diversify onto the London market and this allowed him to continue sealing on the Crozets until 1857. The price of Common Oil in London began to rise just as the consumption of gas began to increase in Cape Town (Fig. 3.5). This allowed Jearey to divert a growing percentage of the elephant seal oil taken from the Crozets to London, as shown in Fig. 3.6. There is no evidence to suggest that Jearey exported elephant seal oil prior to 1843, and the quantities exported after 1844 have been compiled from an incomplete list of shipping manifests for vessels departing Table Bay.
between the years 1844–1857 published in the *Cape of Good Hope and Port Natal Shipping and Mercantile Gazette* and the numbers given should therefore be seen as the minimum amount of oil exported. Unfortunately, there is no way of telling whether all the elephant seal oil exported was Jearey’s, as in most cases the name of the exporter is not given. However, since Jearey was the only person producing elephant seal oil in the colony during this period, it is safe to assume that most, if not all, of the oil exported was his.

![Figure 3.5: Prices for seal oil, sperm oil and whale oil, London, 1832–1880.](image)

*Figure 3.5: Prices for seal oil, sperm oil and whale oil, London, 1832–1880.*

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Figure 3.6: Amount of elephant seal oil entering and leaving Cape Town.

Figure 3.7: Amount of elephant seal oil entering and exiting the Cape plotted against the price of elephant seal oil in Cape Town.
Figure 3.8: Percentage of the total elephant seal oil catch exported from the Cape plotted against the price of sea elephant oil in Cape Town.

The Cape Town Crozet sea elephanting trade ended abruptly in 1858, with the sealers based on the islands being removed,\textsuperscript{317} and no voyages were made again until 1865. The most obvious reason for the sudden termination appears to be a sharp drop in the price of whale oil in London (between 1857 and 1858, the price dropped by a third from £48 per ton to £33). Since 1852, when the Cape Town elephant seal oil price collapsed, Jearey’s oil production on the Crozets decreased substantially, as presumably, did his profits.

Another clue as to the cause of his downfall can be found in a court case between Jearey and Thomson, Watson and Co. in 1860. Jearey stated that in consequence of “misfortunes by the loss of his (Jearey’s) vessels and otherwise”, he had to mortgage his property to the value of £6000.\textsuperscript{318} The harsh weather conditions at the Crozets made shipwreck a

\textsuperscript{317} Blue Books for the Cape of Good Hope, 1858, at page FF3.
unavoidable production hazard that Jearey had the misfortune to fall foul of on more than one occasion. In 1845, the *Regent Packet* was wrecked on Possession Island, and there is evidence to suggest that the *Susan* was wrecked at Prince Edward Island in 1850. The long gap between these two shipwrecks most likely meant that their losses could be absorbed by Jearey but when the *Conservative* was wrecked at the end of 1855, Jearey replaced her by purchasing the bark *Maria* for £1100 which was wrecked on Prince Edward Island in May 1857 on her first voyage to the Crozets with a master making his first island run in charge of a vessel.

The double blow of two wrecks in quick succession would have depleted Jearey’s reserves, their loss compounded by an economic depression in the colony caused by the bursting of the copper bubble. His sudden shortage of transport also forced Jearey to charter vessels from other Cape Town merchants to service his sealing gangs and so unwittingly provided competitors with the necessary intelligence to embark on sea elephanting voyages to the Crozets on their own account. Thus, following the loss of the *Conservative* in 1857, Jearey chartered the *Fox* belonging to De Pass, Spence and Company to retrieve oil left on the islands by the shipwrecked crew. Shortly afterwards De Pass, Spence and Company sent the *Charlotte* to procure oil at the Crozets, followed by the *Eblana* in 1857. The loss of vessels also hampered Jearey’s participation in the colonial coasting trade in between Crozets voyages. Even prior to the shipwrecks in the mid-1850s, profits from the coasting trade would have been greatly

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319 *Cape of Good Hope and Port Natal Shipping and Mercantile Gazette*, No. 92, 3 October 1845.
320 *Ibid*, No. 640, 4 April 1856 and No. 733, 15 January 1858.
322 *Cape of Good Hope and Port Natal Shipping and Mercantile Gazette*, No. 671, 14 November 1856.
reduced by the introduction of the Navigation Act in 1850, which opened the trade to foreign vessels in a bid to reduce seaborne freight costs for merchants and farmers.

Jearey’s third income stream, the Ship Tavern on the corner of Bree and Waterkant street, was also stymied by the Mercantile Marine Act in 1855, which established a ‘Sailors Home’ in Bree Street with the specific aim of “destroy[ing] the vocation of lodging-house keepers, crimps, slop-sellers, publicans, and agents of every description, who hitherto have found an easy prey in the unprotected and susceptible seaman”.324

Taverns were often poorly looked upon by the upper classes at the Cape despite the fact that they provided an important source of income in Cape Town at every level of society.325 In an 1854 case brought before Major Wolfe regarding the Ship Tavern (which was being run by John Jearey’s son Robert), Wolfe claimed that of the 137 licensed canteens, “two thirds of them were sinks of abomination and iniquity, that ought never to have been licensed [and that he] would certainly object to the defendant’s licence being renewed”.326 Wolfe’s negative view of canteen keepers was not unique, another Resident Magistrate some years before stated that licences should only be granted to respectable parties, “at least as far as they can be considered as such, who choose to resort to that mode of livelihood”.327 Canteens also came in for scathing criticism from the middle

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324 Cape of Good Hope and Port Natal Shipping and Mercantile Gazette, No. 399, 22 August 1851.
325 Nigel Worden, Elzabeth van Heyningen and Vivian Bickford Smith, Cape Town, the Making of a City: An Illustrated Social History, at page 146-147.
326 Cape of Good Hope and Port Natal Shipping and Mercantile Gazette, No. 563, 13 October 1854.
classes who regarded them as “mere receptacles of vice, and dens of thieves” and “pigsties which ought not to be allowed to exist”.328

Despite their reputation as ‘sinks of iniquity’, taverns played an important role in the life of the seaman. When they reached port, sailors often had nowhere to go and no one to see and taverns provided them with lodgings and company ashore. Seltzer claims that taverns acted in the same way as halfway house programs for newly released convicts and former mental patients, that is, the tavern was not a total institution in the way that vessels at sea were nor did they contain all the elements of wider society, though some of the elements of that society may make their presence felt in the tavern.329 In the taverns, amongst his fellow seamen even the unemployed or unpaid seaman could drink his frustrations away in a place where he was often allowed credit.330 In Cape Town, where there were few alternative venues for daily recreation, liquor and recreation were inseparable.331

But the taverns were not merely places for drink and other less socially acceptable forms of recreation. Since seamen would sign on for a specific voyage or for a specific length of time and had no guarantee of another job when the voyage was over, the canteens also functioned as an informal labour exchange where seamen sourced information about

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328 Nigel Worden, Elzabeth van Heyningen and Vivian Bickford Smith, Cape Town, the Making of a City: An Illustrated Social History, at page 147.
available jobs.\textsuperscript{332} The close link between taverns and employment has led to them being described as ‘embryo labour exchanges’.\textsuperscript{333} Taverns were also often used as a meeting place where payment for work done was received. Since the sailor was unemployed when on land, they were often forced to borrow money between voyages and would be forced to go to sea to pay these debts off, thus becoming what Chapman describes as “economic hostages to a life at sea”.\textsuperscript{334}

By owning a tavern Jearey had easy access to the supplies of labour his sea elephanting and coastal trade interests required, all the while receiving money from these men while they were ashore. Jearey’s tavern may very well have provided him with a ready source of crimped labour for the Crozets. Crimping referred to the often highly organised practice where hotel, hostel and brothel owners helped seamen desert, provided accommodation and entertainment, and then re-engaged the indebted seaman to another ship for a commission.\textsuperscript{335} Since the seaman had become so indebted to the boardinghouse keeper, he would have no choice but to accept the employment that the crimp arranged.\textsuperscript{336} Some sailors were men who had been accosted by shipping agents who would often give them money and the promise of a short voyage, which was accepted

\textsuperscript{332} Jesse Lemisch, \textit{Jack Tar vs. John Bull: The Role of New York’s seamen in precipitating the revolution}, at page 57.
while under the influence of alcohol and they were kept in a state of intoxication until they found themselves at sea.337

The Sailors Home on the other hand offered “a fair charge, with cleanliness, sobriety, and good order [where the] habits of the seamen will not be polluted by the impure contact to which he was formerly exposed, in sinks of iniquity where his class habitually resorted”.338 The London Nautical Magazine described the general object of the Home as providing ‘Jack’ a “safeguard against the many evils and corrupting influences to which his kind heart, inexperienced and joyous nature, expose him when temporarily on shore”.339 It then goes on to describe one of its objects as being “to protect them [sailors] from imposition and extortion, and encourage them to husband their hard earned wages; to promote their moral, intellectual, and professional improvement; and to afford them the opportunity of receiving religious instruction”.340

However, the Home also attempted to control and reshape seamen in the image of the ruling classes at the Cape. This is clearly seen in a statement made by the Secretary of the Sailors’ Home Society, Captain Samson, stating that, according to him, the Sailors’ Home was not created to “afford a comfortable dwelling to seamen”, but to “to improve their temporal and spiritual condition, and raise them in the scale of civilization”.341 An extract from the Nautical Standard also stated that “[d]runkenness, extortion, and

338 Cape of Good Hope and Port Natal Shipping and Mercantile Gazette, No. 399, 22 August 1851.
341 Ibid, No. 874, 5 October 1860.
debauchery being rooted out by the Sailors’ Homes and by the provisions enacted for the protection of seamen in the Merchant Seaman’s Act, we may anticipate a rapid and important reform in the general conduct of the class – a reform which, while it will strengthen the merchant, and add vigour to the effort in the execution of which he is now exposed to the competition of the civilized globe, will also supply to the seaman new means for the employment of life, and the cultivation of the higher sources of gratification”. 342 They also did not hide the fact that the introduction of a Sailors’ Home at the Cape would also help to provide “masters who may be in want of hands at this port” and act as a one stop shop for obtaining labour. 343 All of this fell into a more widespread attempt to “shape the working class from above” by channelling them “into pursuits that did not in any way threaten the social order”. 344 According to Forsyth, these so-called ‘friends societies’ may have purported to protect the seamen from exploitation, but they also wished to protect society from these men. 345 By the end of the 1850s almost half the seamen discharged in Cape Town boarded at the Sailors Home, to the detriment of tavern keepers like Jearey. 346 The success of the Sailors Home would have cost Jearey in terms of money as well as labour, denying him the opportunity to crimp indebted seamen.

Jearey’s final income stream, his boating interests, were also negatively affected by improvements made to the Table Bay harbour in the 1860s. These improvements enabled

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342 Cape of Good Hope and Port Natal Shipping and Mercantile Gazette, No. 399, 22 August 1851.
343 Ibid, No. 591, 27 April 1855.
345 Craig J. Forsyth, The American Merchant Seaman and His Industry: Struggle and Stigma, at page 51.
346 Cape of Good Hope and Port Natal Shipping and Mercantile Gazette, No. 852, 4 May 1860.
ocean-going vessels to load and unload at a wharf, instead of having to lie out in the roadstead and transfer cargo, passengers and crew by lighters and small boats.³⁴⁷

The sheer scale of the two thirds reduction in the quantity of elephant seal oil produced on the Crozets after 1852 suggests that more than an unfavourable economic climate was involved and that the Crozet sea elephanters may have overharvested their stock. At the very least, there were not enough elephant seals available to make sending multiple vessels to the Crozets a profitable venture. This may have occurred because the number of vessels sent to the Crozets in the years 1848–1850 were the highest recorded during the period in question (Fig. 3.10), and the number of men on the islands rose from between 40–50 men between the years 1842–1846 to 70 men between the years 1847–1852.³⁴⁸ Despite the increase in the number of vessels and men on the islands between 1847–1852 the amount of oil returned to the Cape fell drastically in 1851 compared to the previous year and 1852 saw the lowest quantity if oil returned for over a decade (Fig. 3.11). The overall length of sea elephanting voyages increased to well over 100 days by 1850, and remained well above the overall average of 79.7 days per voyage over the period 1832–1869 after this date (with the exception of 1856) as can be seen in Fig. 3.9 below. The rise in the average length of voyages was mirrored by a corresponding drop in the number of sea elephanting voyages departing the Cape from 1851 onwards (Fig. 3.10), as well as a decrease in the amount of sea elephant oil listed as being returned to the Cape (Fig. 3.11). The results for Fig. 3.10 are skewed by the fact that 27 voyages did

³⁴⁸ Blue Books for the Cape of Good Hope, 1842 at page 339, 1845 at page 345, 1846 at page 395, 1847 at page 447, 1849 at page 463, 1859 at page 463, and 1852 at page 451.
not have a departure date listed, though 15 such voyages occurred prior to 1851 and 12 post 1851, eight of which occurred post 1864 and therefore do not nullify the conclusion that there was a drop in the number of vessels leaving Cape Town for the Crozets from 1851 onwards.

![Graph showing the length of sea elephanting voyages from the Cape for the Crozets.](image)

**Figure 3.9:** Length of sea elephanting voyages from the Cape for the Crozets.

![Graph showing the number of sea elephanting voyages departing Cape Town for the Crozets each year.](image)

**Figure 3.10:** Number of sea elephanting voyages departing Cape Town for the Crozets each year.
Figure 3.11: Amount of elephant seal oil listed as being brought back to Cape Town by voyages departing Table Bay in a particular year.

The crash in price would have led to fewer voyages being undertaken in order to minimise outfitting costs. As a result, the vessels that did make voyages would have had to stay at the islands for a longer period of time in order to maximise the amount of elephant seal oil produced per voyage. The change in the voyage patterns caused by the 1852 price crash can be seen in Fig. 3.12. There are two clear peaks with regards to the month that voyages departed the Cape over the period 1852–1869. The vessels departing in June would most likely try to arrive at the islands well before the breeding season haulout in order to occupy the beaches, prepare them for the process of rendering blubber into oil, as well as to drop off extra sealers on the islands who would return in the vessels arriving at the Crozets later in the year.
Figure 3.12: Percentage of total voyages departing Cape Town to the Crozets per month over the periods 1832–1851 and 1852–1869.

From the vessels that listed the cargo returned from the Crozets, an average of 259.2 tons of oil per annum was landed in Cape Town between 1842–1851 while from 1852–1858 annual landings averaged only 79 tons. Between 1842–1851, the average oil cargo per vessel was 61.7 tons, dropping in 1852–1858 to 46.5 tons per vessel. When Robert Granger started sending vessels into the Southern Ocean in 1859, he did not send any vessels to the Crozets, instead sending his ships 1480 km beyond the Crozet Islands to Desolation Island.\textsuperscript{349} This seems to corroborate Washington Fosdick’s report of their being very few elephant seals left on Possession Island when he visited again in 1864.\textsuperscript{350} One of Fosdick’s shipmates described the decrepit state of the infrastructure of the Crozet fishery at the time:

\textsuperscript{349} The 3 vessels sent by Granger to Desolation Island were the \textit{Isabel} (\textit{Cape of Good Hope and Port Natal Shipping and Mercantile Gazette}, No. 789, 18 February 1859), the \textit{Atlas} (\textit{Cape of Good Hope and Port Natal Shipping and Mercantile Gazette}, No. 789, 19 February 1859) and the Annie (\textit{Cape of Good Hope and Port Natal Shipping and Mercantile Gazette}, No. 790, 25 February 1859).

Near the beach, we found the ruins of an old shanty that had some time sheltered the elephant hunters of years before. A rusty, broken try-pot was half buried in the sand, scraps of hoop iron, pieces of rotting oak staves, weather-beaten clubs that had once been used in the slaughter of the innocents, and an iron blubber fork were among the evidence of a former occupancy of the island.  

3.5) The last hurrah (1865–1869)

Despite Fosdick’s bleak assessment, the elephant seal oil trade between Cape Town and the Crozets reopened just over one year later. A sharp rise in the price of oil occurred in London following the American Civil War and in 1865, the price of oil reached its highest point in almost a decade (see Fig. 3.5). This increase led to the resumption of sea elephanting by Cape Town merchants on the Crozets after a hiatus of eight years and suggests that elephant seal numbers had recovered quickly but did not exist on the islands in large enough numbers to justify the expenses and risks of sending vessels to the Crozets. To reopen the elephant seal oil trade, Poppe and Company enlisted one Jearey to captain their vessels going to the Crozets. This was presumably John Jearey’s son, Robert, because when Jearey senior died in 1869, Robert was reported to be “at present at Crozettes”. A second merchant house, Goodliffe and Company, also dispatched vessels to the Crozets in 1865. The first trips of both merchants returned empty (‘in

ballast’), suggesting that their purpose was to re-establish sealing factories and gangs on the islands.\textsuperscript{354}

As the \textit{Cape of Good Hope and Port Natal Shipping and Mercantile Gazette} went out of print in 1861, and the shipping registers of the Commercial Exchange give no record of the quantity of elephant seal oil returned to the Cape during the period 1865–1869, the only source for the quantity of oil returned are the \textit{Blue Books for the Colony of the Cape of Good Hope}. Unfortunately these records are rather confusing. Given that no fewer than 18 voyages were made to the Crozets during this five year period we must assume that elephant seals were readily available. This is confirmed by the \textit{Blue Books} which, although listing only 150 gallons of elephant seal oil entering the Colony (at Port Natal) in 1865, record 184 tons of elephant seal oil being imported from the Crozets in 1866 and 261 tons in 1867 (of which only 10 tons are listed as being for home consumption).

During these years, the \textit{Blue Books} also listed large amounts of fish oil being returned into the Colony and in 1868 and 1869, only records for fish oil imported into the Colony from the Crozets are listed. It is unclear whether elephant seal oil was considered as falling under the heading of ‘fish oil’ during these years, though this may very well have been the case as according to Dr. Karl-Hermann Kock in his analysis on the Antarctic fisheries, “the only information on effective fishing from the Indian Ocean sector appears to be the description of the use and preservation of fish by drying from a group of sealers living on the Crozet Islands [from Ross in 1847]”.\textsuperscript{355} Despite the confusion regarding these figures, what is clear is that the large majority of both the elephant seal oil and fish

\textsuperscript{354} \textit{Commercial Exchange Shipping List}, CC 3/7/2/1.

\textsuperscript{355} Karl-Hermann Kock, \textit{Antarctic Fish and Fisheries}, at page 173.
oil returned from the Crozets was exported, which suggests that other than for lighting, there was no major demand for elephant seal oil in the Cape Colony during the nineteenth century. This oil was most likely exported to Britain, so when the return of American sealers to the Southern Ocean after the conclusion of the civil war led to a drop in the price of whale oil in London, the elephant seal oil trade no longer remained a profitable enterprise. Since scientists from the _HMS Challenger_ and _Monongahela_ found the elephant seals on Marion Island and the Crozet Islands to be numerous when they landed there in 1873,\(^{356}\) we can conclude that it was the drop in the price of oil in London rather than a lack of elephant seals that led to the termination of the Cape Town/Crozets sea elephanting trade when the _Esther_ returned with 28 fishermen in December, 1869.\(^{357}\)

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\(^{357}\) _Commercial Exchange Shipping List_, CC 3/7/2/2.
Chapter 4: Production

4.1) Introduction

Maritime history has often had little to do with the common seaman with the focus being on trade, exploration, and the great navigators, but rarely on the men who sailed the ships.358 This has been particularly true with regard to the history of the Cape Colony even though sailors formed a large and heterogeneous floating population in the town.359 This chapter is an attempt to shed some light on the living conditions encountered by the Cape Town/Crozets sealers both en route to the islands and while on the islands.

While men like Liesching, Twycross and Jearey risked their capital in the hunt for elephant seals, those who went to the Crozets to carry out this task on their behalf often risked their lives and always risked their health. Apart from the meagre evidence from the case between Liesching and Twycross and some members of their sealing gang, there are no records of what these men were paid. From the records of this one case however, we can see that the ordinary sailors earned one hundred and twenty lays (if the vessel returned with £120 worth of elephant seal oil, they would be paid £1).360 If the records of the sealing industries of other nations during this period are anything to go by sealers


359 Nigel Worden, Elizabeth van Heyningen and Vivian Bickford Smith, Cape Town, the Making of a City: An Illustrated Social History, at page 93.

were poorly compensated. This was partly due to the fact that after the initial rush at the beginning of the century, catches declined sharply, so the sums earned were smaller. In addition to this, sealers were also vulnerable to many deductions made from their earnings by their employers. Being paid on the lay may have maximised efficiency, as the crew knew that the higher the catch the higher their income, but it certainly did not maximise crew earnings, a factor which could go some way towards explaining the intense competition between rival sealing gangs on the sealing grounds and the violence and deception that often accompanied this rivalry.361

4.2) To the islands

4.2.1) Sailing to the Crozets

The closest distance between the Prince Edward Islands and the coastline of South Africa is the 1600 or so kilometres that separate the Prince Edward Islands from Algoa Bay, while the Crozet Islands lie 1000 kilometres to the east of the Prince Edward Islands, some 3300 kilometres from Cape Town.362 As can be seen in Figure 4.1 below, the length of time spent on a sea elephanting voyage to the Crozets could be anywhere between 43 to 201 days. The shortest recorded voyage was that of the Mountain Maid which took a mere 26 days to go to the Prince Edward Islands and back in March 1848. However, most voyages were longer and even though large parts of the time were spent at anchor at the islands, at least part of the crew would have remained on the ship. The average return journey from the Crozets to Table Bay took 30 days (Fig. 4.2), but the time taken to reach

362 H.W. Tilman, ‘Voyage to the Îles Crozet and Îles Kerguelen’, The Geographical Journal, Vol. 127, No. 3 (Sep., 1961), pp. 310-316, at page 310. Also, see Figure 1.4.
the Crozets from Cape Town cannot be known for certain. The *Mary* took 36 days to reach the Crozets, though a large portion of this was spent in the vicinity of the Crozet Islands trying to find land. Voyages to the islands would most likely have been quicker as they would have travelled using the “roaring forties” – the prevailing winds in the sub-Antarctic region – and would have also have been helped by the ocean currents in the region as can be seen in Figures 4.3 and 4.4. The length of return voyages stayed relatively constant throughout the year with the exception of September (Fig. 4.5). This can be explained by the fact that only two vessels departed the Crozets in September and one of these vessels departed in ballast and was therefore lighter and travelled faster than the average oil laden vessels.

**Figure 4.1:** Overall length of voyages going from Cape Town to the Crozets and back again.

**Figure 4.2:** Length of return voyages from the Crozets to Table Bay.
Figure 4.3: Diagram showing the prevailing winds in the Indian Ocean. Blue arrows indicate westerly winds while brown arrows represent the south-easterly trade winds.

Figure 4.4: Diagrammatic representation of the principal ocean currents of the Southern Ocean.

Figure 4.5: Average length of voyages returning from the Crozets according to the month of departure.

From the limited evidence available on voyages by Cape based vessels to the Crozets, it is difficult to establish what their route to the islands would have been. Judging by the only remaining logbook of such a voyage, and remarks made in the Cape of Good Hope and Port Natal Shipping and Mercantile Gazette, Crozets bound vessels from the Cape would either follow the coast to Algoa Bay and from then veer south into the ‘roaring forties’ or they would go south directly from Cape Town into the ‘roaring forties’. When returning from the Crozets, they would work their way back up the latitudes to escape both the cold and the westerlies and then lay a course for Cape Town.

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Figure 4.6: The course of the brig Mary during her voyage to the Crozets in 1833. The section in the rectangle is enlarged in Fig. 4.7.

<table>
<thead>
<tr>
<th>Key:</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Departure from Cape Town</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Point 1</strong> = 3 Feb. 1833</td>
<td><strong>Point 12</strong> = 21 Feb. 1833</td>
<td><strong>Point 24</strong> = 19 Mar. 1833</td>
</tr>
<tr>
<td><strong>Point 2</strong> = 5 Feb. 1833</td>
<td><strong>Point 13</strong> = 22 Feb. 1833</td>
<td><strong>Point 25</strong> = 19 Apr. 1833</td>
</tr>
<tr>
<td><strong>Point 3</strong> = 7 Feb. 1833</td>
<td><strong>Point 14</strong> = 23 Feb. 1833</td>
<td><strong>Point 26</strong> = 21 Apr. 1833</td>
</tr>
<tr>
<td><strong>Point 4</strong> = 9 Feb. 1833</td>
<td><strong>Point 15</strong> = 24 Feb. 1833</td>
<td><strong>Point 27</strong> = 22 Apr. 1833</td>
</tr>
<tr>
<td><strong>Point 5</strong> = 11 Feb. 1833</td>
<td><strong>Point 16</strong> = 26 Feb. 1833</td>
<td><strong>Point 28</strong> = 23 Apr. 1833</td>
</tr>
<tr>
<td><strong>Point 6</strong> = 12 Feb. 1833</td>
<td><strong>Point 17</strong> = 27 Feb. 1833</td>
<td><strong>Point 29</strong> = 25 Apr. 1833</td>
</tr>
<tr>
<td><strong>Point 7</strong> = 13 Feb. 1833</td>
<td><strong>Point 18</strong> = 28 Feb. 1833</td>
<td><strong>Point 30</strong> = 26 Apr. 1833</td>
</tr>
<tr>
<td><strong>Point 8</strong> = 14 Feb. 1833</td>
<td><strong>Point 19</strong> = 1 Mar. 1833</td>
<td><strong>Point 31</strong> = 27 Apr. 1833</td>
</tr>
<tr>
<td><strong>Point 9</strong> = 15 Feb. 1833</td>
<td><strong>Point 20</strong> = 2 Mar. 1833</td>
<td><strong>Point 32</strong> = 28 Apr. 1833</td>
</tr>
<tr>
<td><strong>Point 10</strong> = 16 Feb. 1833</td>
<td><strong>Point 21</strong> = 3 Mar. 1833</td>
<td><strong>Point 33</strong> = 29 Apr. 1833</td>
</tr>
<tr>
<td><strong>Point 11</strong> = 17 Feb. 1833</td>
<td><strong>Point 22</strong> = 4 Mar. 1833</td>
<td><strong>Point 34</strong> = 2 May 1833</td>
</tr>
<tr>
<td></td>
<td><strong>Point 23</strong> = 6 Mar. 1833</td>
<td><strong>Arrival at Cape Town</strong></td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>Town</strong> = 16 May 1833</td>
</tr>
</tbody>
</table>
This trajectory can clearly be seen in the voyage of the *Mary* which was made in 1833 (Fig. 4.6). This voyage was atypical when one considers that they departed on the 31 January 1833, when the sea elephanting season was already nearing its end, and met with multiple setbacks. While sailing to the islands, one of the members of the crew, J. Hillin, fell overboard in stormy weather and died on 21 February, 1833. The logbook of the *Mary* makes clear just how difficult sailing to the Crozets could be. Curran, the Master of the vessel made constant references to ‘hard gales’ and ‘dense fog’ and sometimes weeks would go by between observations of their position. The poor nature of their instruments can also be seen by the observations that were made.

*Figure 4.7: Detail from Fig. 4.6 showing the recorded course of the Mary while near the Crozet Islands. The Crozet Islands are situated within the rectangle.*
The *Mary* spent weeks searching for the Crozet Islands and Curran comments in the logbook suggest that he did not know where the Crozets were located. For example, on 3 March 1833, (point 21) he states ‘Gave up hopes of finding land in this quarter’. When they did find the Crozets (between points 23 and 24) the observations recorded were over 250 km off the actual position of the Crozets. The *Mary* only found the Crozet islands on the 7 March, 1833, near the end of the elephant seals annual moult when there are not many left on the islands and those that remained had lost a great deal of weight during the moulting fast. While at the islands Curran stated on the 18 March, 1833, that the brig was ‘not in a fit state’ and that “from the inclemency of the weather my sails being old/not being fit to set and my crew getting dissatisfied I determined on standing to the northward to improve my weather and repair my sails”. After this they returned to the islands where they began to run short of provisions and soon after one of the men, Thomas Rowlands, became insolent and was charged with embezzling provisions and another member of the crew, Russel, threatened Curran. Shortly afterwards, the *Mary* left the islands sailing to the northward with a mere 7 tons of oil to show for their efforts.367

As can be seen in Figure 4.1 above, those involved in the sea elephanting voyages spent a large proportion of their time either at sea or on the islands (the large majority of the sea elephanting voyages would take between 60 and 110 days before arriving back at the Cape). Admittedly these voyages did not last as long as certain whaling voyages (which

might last for up to four years), but it was long enough for sealers to face many of the dangers and deprivations of life at sea.

4.2.2) Life on a wooden world

It is easy to forget that prior to the Industrial Revolution ships were the largest and most complex objects produced by most societies, and according to Larry Murphy, they are still the largest and most complex mobile structures produced.368 Their effectiveness was increased by the fact that once the structure was built, all that was needed were navigational devices and information to reach one’s destination and, in areas of piracy or times of war, weapons to repel attack.369 Lenihan claims that the technological advancement of ships and the fact that many voyages were of an exploratory nature, means that the modern equivalent of the ship would be a manned space vehicle.370 Since the sailing ship was the most technically advanced man-made artefact before the age of steam and iron seamen had to learn a language totally divorced from that of the land in order to grapple with the complexities of running and standing rigging, mast and spars, knots and splices, blocks and tackles and sails and steering, a language Joseph Conrad described as “a flawless thing for its purpose”.371 The language of the sea was often rough and abrupt, something necessary in a world where communication needed to be clear and quick in situations where the rapid transmission and understanding of an order may be the difference between life and death. Such use of language obviously had social

371 Alan Gurney, Below the convergence: Voyages Towards Antarctica, 1699-1839, at page 279.
implications on land and could go some way towards explaining the tension that existed between Capetonians and the transient sailors that stopped off in Cape Town. It could also go some way towards explaining why there are no cases of any slaves or cheap coloured menial labourers being used on the Crozets bound vessels as at least a portion of the men leaving on these voyages would have had to be skilled seamen.

Lack of technology in the nineteenth century inevitably meant that once the vessel left port there were long gaps in communication between owner and master of the ship, so the latter enjoyed considerable freedom to exercise his judgment. This required a high degree of trust between the Master and owner. The master was the representative of merchant capital hired to manage the navigation of the vessel, tending the compass, steering the vessel, transacting the business throughout the voyage and everything else related to the running of the vessel. The master of a vessel would often face conditions over which he had little or no control and in an age of sail, he would have to adapt his course and how the crew were treated depending on an unknown set of variables. For example, Curran had to leave the Crozets and sail north in order to fix his sails and relieve his men from the poor weather conditions before once again returning to the islands. It was therefore not uncommon for younger members of the family of the owner to serve as

\[375\] Marcus Rediker, Between the Devil and the Deep Blue Sea, at page 84.
shipmaster, or to form some part of the crew.\textsuperscript{376} This was the case in the Cape Town/Crozets sea elephanting trade where Robert Jearey, the son of John Jearey, often went to the Crozets aboard his father’s vessels.

The successful operation of a vessel required a strict chain of command,\textsuperscript{377} and life at sea as a Master was not for the fainthearted as it was a difficult task to bring together a largely random selection of individuals (the majority of whom were unknown to each other), working as an effective unit under his control.\textsuperscript{378} The Master also had the unenviable task of maintaining discipline among the men, which was far from easy as can be seen by the insubordination shown by both Rowlands and Russel to John Curran during the voyage of the \textit{Mary} to the Crozets.\textsuperscript{379} This was not helped by the high turnover among seamen, creating a workplace that has little stability as far as personnel is concerned.\textsuperscript{380}

To accomplish the task of maintaining discipline on board, the Master was given wide powers. According to Rediker, the ship was a ‘total institution’ in which the captain had formal powers over the labour process, the dispensing of food, the maintenance of health, and general social life on board the ship. Although Rediker was writing about the

\begin{itemize}
\item \textsuperscript{376} Olaf U. Janzen, ‘A World-Embracing Sea: The Oceans as Highways, 1604-1815’ in Daniel Finamore (ed.), \textit{Maritime History as World History}, at page 107.
\item \textsuperscript{377} Larry Murphy, ‘Shipwrecks as Data Base for Human Behavioral Studies’ in Richard A. Gould (ed.), \textit{Shipwreck Anthropology}, at page 67.
\item \textsuperscript{378} Warren H. Hopwood, ‘Some Problems Associated with the Selection and Training of Deck and Engineer Cadets in the British Merchant Navy’ in Peter H. Fricke (ed.), \textit{Seafarer and Community}, at page 101-102.
\end{itemize}
eighteenth century Atlantic, it is clear that the same was often true for the nineteenth century Indian Ocean. Such formal and informal controls invested the captain with near-dictatorial powers and made the ship one of the earliest totalitarian work environments.\footnote{Marcus Rediker, \textit{Between the Devil and the Deep Blue Sea}, at page 212.}

According to an article from the \textit{Cape of Good Hope and Port Natal Shipping and Mercantile Gazette}, this was both acceptable and necessary as:

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“The English law is jealous of the personal rights of the meanest subject; and any individual however humble, who resists the injustice of the most powerful oppressor, is sure of its protection. The only and necessary exception to this rule, in civil life, is in the case of a seaman, who, when he enters on board a vessel, voluntarily renounces this right of resistance so long as the voyage endures. In this respect, his situation resembles that of a soldier in a campaign. Disobedience to orders in a soldier may lead to the ruin of an army; and a mutinous sailor may cause the loss of a ship. It is for this reason that the law does not, and the courts should not, countenance the slightest departure from this rule of implicit obedience, on the part of the crew, to all commands of the master, except in very rare and peculiar cases”.
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When sailors entered the wooden world of a ship at sea, they often did so knowing full well that the areas they would be travelling to may have been poorly mapped. Although it must be said that map-making improved dramatically in the nineteenth century and the British spent much time and effort on making accurate charts as they were aware of the fact that knowledge and power coexisted in a symbiotic relationship.\footnote{Cape of Good Hope and Port Natal Shipping and Mercantile Gazette, No. 269, 23 February 1849}

\footnote{Michael Pearson, \textit{The Indian Ocean}, at page 200.} However, even where maps were available, one must keep in mind that terrestrial maps were different to maps of the ocean. Terrestrial maps showed the position of places to which the observer could relate, at will, by processes of measurement whereas at sea, when out of sight of
the land, sailors found themselves in a place where “[there is no] observable relationship with known points, in an inherently hostile medium in which he is carried at rates and in directions which he can estimate but cannot accurately measure”.384 According to Cook:

“Assuming the seaworthiness of his vessel, and fair weather, the ‘safest part of any voyage is the period when the mariner is headed away from land to open ocean, and, with the problems in measuring his progress at sea, the most hazardous time is when he tries to approach land again (or arrives unexpectedly at unforeseen land). The sea chart allows the recording of progress or movement only by a series of estimates of daily position, not in relation to known topography, but by astronomical observations for latitude, and by compass bearing, modified by informed guesses for distance covered, and the effects of wind and current. Aboard ship the chart, as a means of recording progress of the voyage, was just another instrument, like the compass, the sextant (or backstaff), the sailing directions, the log and lone, and the log-book (or account)”.385

The difficulties of plotting ones position can be clearly seen in the logbook entries of John Curran during the voyage of the Mary. As can be seen in Fig. 4.5, Curran’s calculations of the position of the Crozet Islands were off by over 250 km.

At least the men involved in the Cape Town/Crozets elephant seal oil trade did not also have the additional worry of being accosted by pirates or of being boarded by enemy vessels. This was because the British had taken a series of vital ports in the Indian Ocean by the nineteenth century so that her hegemony in the Indian Ocean was uncontested, in effect turning the Indian Ocean into what Pearson describes as ‘a British lake’ during the nineteenth century.386

385 Ibid.
386 Michael Pearson, The Indian Ocean, at page 281.
Seafarers had to deal with the fact that once on board, the place where they lived would also act as their place of work as well as their place of leisure, and that this area was shared with other men as well as rats, cockroaches, and maggots, which infested every deep-sea vessel thus leading to poor hygienic conditions. Cases of frost-bite, influenza and rheumatism were also prevalent in vessels that travelled to the colder regions of the world, such as the sub-Antarctic. Despite these dangers, perhaps the most surprising thing I have found in my research on the Cape Town/Crozets elephant seal oil trade is that there were remarkably few reported instances of death caused by disease amongst the Cape sea elephanters. There are only two records I have been able to find of death by disease amongst these men. The first was the simple line “By the Courier, from Crozets, July 18, to this port. Lost both anchors and cables; also a hand by the scurvy on the 24th July”. The second was “Died from consumption, C. Engelbrecht”.

Space on the small sealing schooners for seamen was severely limited. According to the shipping register of the Commercial Exchange, the Guadelquivir (a 113 ton schooner) was listed as having 12 fishermen as passengers. The Liffey (a 134 ton schooner) was listed as having 14 fishermen as passengers while the Esther (another 134 ton schooner)

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389 Cape of Good Hope and Port Natal Shipping and Mercantile Gazette, No. 347, 23 August 1850.
390 Commercial Exchange Shipping List, CC 3/7/2/2.
391 Commercial Exchange Shipping List, CC 3/7/2/2.
had 28 fishermen listed as passengers. There is no indication in any of the archival sources what the dimensions of the Cape based vessels sent to the Crozets were, but we can assume that they would not have been very different from those of the other sealing schooners that visited the Crozets during the same time period. We do know the dimensions of two of the vessels that we have come across earlier in this work. The Emeline was a 92 ton schooner with one deck and a length of 20.5 m, while the United States was a 244 ton vessel with two decks and a length of 29.5 m. 135 ton schooners generally had one deck and a length of 27 m. These figures clearly show that deck space on these vessels was at a premium. Within the small confined area of the vessel, “they [the sailors] must eat, sleep, keep warm, interact, defecate, and reflect on their condition with no relief from each other”. Ashore, one can join and leave groups at will, but once at sea, they could not escape from colleagues or superiors – even when ill or off duty - due to the finite space on a ship. In addition to the limited personal space and the limited freedom of movement, the seaman would also be faced with a limited choice of society as well as limited choices of leisure activities.

According to Foulkes, the confined space of the vessel had other stressful effects on seamen. On land, human beings could gain a sense of freedom and power through

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392 Commercial Exchange Shipping List, CC 3/7/2/2.
activities like walking or running whereas at sea, motion is imposed upon one with temporary and debilitating effects.\footnote{Robert D. Foulke, ‘Odysseus’s Oar: Archetypes of Voyaging’ in Daniel Finamore (ed.), \textit{Maritime History as World History}, at page 190-191.} Sailors also found themselves in a confined space onboard while looking out into a horizon containing a seascape of monotonous regularity, “so seafarers find their sense of space suggesting infinity and solitude, on the one hand, and prison-like confinement on the other”.\footnote{Ibid.}

These various stressors often led to aggression amongst seamen, and the best way of relieving this stress, or at least of taking their minds off of it was to keep them busy for as long as possible. This was done by tightly regulating time while onboard the vessel.\footnote{Bryan Nolan, ‘A Possible Perspective on Deprivations’ in \textit{Seafarer and Community}, Peter H. Fricke (ed.), at page 88.}

Life on a merchant vessel in the 1830’s has been described as follows:

“The discipline of the ship requires every man to be at work upon something when he is on deck…you will never see a man, on board a well-ordered vessel, standing idle on deck, sitting down, or leaning over the side. It is the officer’s duty to keep every one at work, even if there is nothing to do”.\footnote{Michael Seltzer, ‘Haven an a Heartless Sea: The Sailors’ Tavern in History and Anthropology’, \textit{The Social History of Alcohol and Drugs: An Interdisciplinary Journal} 19 (2004), pp. 63-93 at page 64.}

The forces of nature dictated many of the tasks to be performed at sea, and the seaman’s work and leisure are continually influenced by changes in climatic and sea conditions.\footnote{Jan Horbulewicz, ‘The Parameters of the Psychological Autonomy of Industrial Trawler Crews’ in Peter H. Fricke (ed.), \textit{Seafarer and Community}, at page 68.}

But there were occasions when no repairs needed to be done and it was at these times that smaller but still crucial chores filled the hours.\footnote{Marcus Rediker, \textit{Between the Devil and the Deep Blue Sea}, at page 95.} The chores undertaken during the voyage of the \textit{Mary} included repairing the sails, being ‘employed variously about the
rigging’, ‘knotting yarns and other necessary jobs’, ‘breaking out the hold’, and ‘drying sails’.\textsuperscript{405} The menial nature of these tasks can be seen by the fact that Curran often did not even bother to mention what tasks the sailors were ordered to do, stating only ‘hands employed as most requisite’, ‘hands variously employed’, or that the crew were busy doing ‘sundry jobs’.\textsuperscript{406} Such maintenance made it possible for seafaring work to be almost perpetual.\textsuperscript{407}

However, the unabated anxiety that seamen had to live with placed them under considerable psychological pressure.\textsuperscript{408} Once seamen left shore onboard a vessel, not only did they relinquish all control to the Master, they were also cut off from all social ties with the land, both by distance and by physical barriers, leaving behind family and friends.\textsuperscript{409} The cultural patterns of any social group are always changing, and the sailor will not be aware of the changes that have occurred while he was away at sea, he will return to a new social environment which he may not always be able to adapt to.\textsuperscript{410} This will be especially true with regards to the family unit as during his time away, the sailor’s family may have had so many new experiences that the sailors return may represent a meeting of strangers.\textsuperscript{411} In short, the home he left is not the one he returns to nor is he the same man who left and this would hold true no matter what the length of absence, be it a


\textsuperscript{406} Ibid.

\textsuperscript{407} Marcus Rediker, \textit{Between the Devil and the Deep Blue Sea}, at page 95.


\textsuperscript{410} Craig J. Forsyth, \textit{The American Merchant Seaman and His Industry: Struggle and Stigma}, at page 32.

\textsuperscript{411} Ibid., at page 33.
sealer who would spend three months on the Crozets during the breeding season or one who spent multiple years wintering on the islands; the difference will be in degree, not kind.\footnote{Craig J. Forsyth, \textit{The American Merchant Seaman and His Industry: Struggle and Stigma}, at page 33.} Being at sea for long periods of time would also interfere with a seaman’s need for sexual gratification and emotional contact.\footnote{Jan Horbulewicz, ‘The Parameters of the Psychological Autonomy of Industrial Trawler Crews’ in Peter H. Fricke, \textit{Seafarer and Community}, at page 69.} This isolation would have been compounded by the fact that sailors often had very few real friends due to the extremely high rate of turnover at sea, limiting their opportunities to establish and maintain stable social relationships.\footnote{Michael Seltzer, ‘Haven an a Heartless Sea: The Sailors’ Tavern in History and Anthropology’, \textit{The Social History of Alcohol and Drugs: An Interdisciplinary Journal} 19 (2004), pp. 63-93 at page 79.}

4.3) Shelter and clothing

Due to the tempestuousness of the weather at the Crozet and Prince Edward Islands, one can assume that most of the vessels sent there would have left a sealing gang on the islands and a skeleton crew to man the ship so as to ensure that it could depart quickly if the weather turned. The weather was often so poor that weeks could pass before contact between the vessel and the shore was re-established, as can be seen by Hickley’s comment to Sir James Clark Ross that before Ross’ arrival, they had been unable to launch a boat for five weeks due to the tempestuousness of the weather.\footnote{Sir James Clark Ross, \textit{Voyage of Discovery and Research in the Southern and Antarctic Regions During the Years 1839-1843, Vol. 1}, at page 53.}
Since both island groups lie just south of the sub-tropical Convergence, they are not ice-clad but do have what Richards describes as a ‘wet, chilly and gloomy atmosphere’.

Recent research at the Prince Edward Islands suggests that low temperatures can occur throughout the year, while gale force winds are experienced on more than 100 days per year and last for extended periods (as can be seen in Table 4.1 below). The winds are so strong and frequent as to prevent the growth trees on the islands, making them so-called ‘wind deserts’. In addition to the strong and regular winds, some form of precipitation occurs on Marion Island on 311 days of the year, an average of 25 days every month, while temperatures are consistently low as can be seen in Fig. 4.8 below.

\[\text{Table 4.1: Average monthly and annual frequency of days with gales at Marion Island (1951–1960).}\]

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<tr>
<td><strong>Moderate gales</strong></td>
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419 Ibid.
420 Ibid, at pages 6 and 22.
When one also considers that in winter the length of day is only 8.6 hours (and 15.8 hours in summer), it becomes clear that finding adequate shelter would have played a crucial role in the ability of sea elephanting gangs to survive on the islands. In the winter at least, these shelters were the place where sealers spent most of their days thus making it a central feature of sealing life.

Sometimes sealing gangs would use the natural features available on the islands to find shelter. Caves were made habitable by the erection of a wall across the rear portion of the cavern. For example, the cave on the eastern side of Prince Edward Island was used for

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shelter by the shipwrecked crews of both the Richard Dart and the Maria. When caves were not available the sealers also used their boat as temporary shelters until they could construct a more permanent habitation from wood brought with them to the islands for the purpose. For temporary shelter, boats were turned upside down and ‘tussicked up’. This consisted of placing one edge of the upside down boat on the ground with the other edge being raised by three or four feet with a turf wall. An opening would be left in this wall which would act as a small doorway through which the men could move in and out. A fire would be made outside of the opening with elephant seal blubber and each man would retire to the part of the boat where he usually rowed.

Huts were built using stone and wood with the skins of elephant seals used as roofing. They were also built upwind of the sites where blubber was being rendered as the rancid smell was notoriously bad. These shelters did not have any windows however, so the entrance was also the only means of light and air entering the dwelling and when the weather forced them to close off this entrance, this was also shut out. Artificial light could be provided by making fires out of the remaining wood and/or elephant seal oil.

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426 Charles Medyett Goodridge, Narrative of a Voyage to the South Seas and the Shipwreck of the Princess of Wales Cutter, with an Account of Two Years Residence on an Uninhabited Island, at page 37.
427 Ibid.
428 Ibid.
429 Ibid.
430 Ibid, at page 48-49.
432 Charles Medyett Goodridge, Narrative of a Voyage to the South Seas and the Shipwreck of the Princess of Wales Cutter, with an Account of Two Years Residence on an Uninhabited Island, at page 49.
The drawback of this during times of poor weather was the smoke. Goodridge reported that after a few days of bad weather, the men “might well have been mistaken for a company of chimney-sweepers, our exterior being as sooty as might needs be, and our whole persons pretty tolerably smoke-dried into the bargain”.433

Once they had managed to erect a shelter under which “they huddled together far worse than sheep”, and found a way of ensuring that a fire could be started for both warmth and light, sealers could try and make their habitation as comfortable as possible.434 To do this, they would create beds out of the long tussock grass that rimmed the coast of the islands, and the skins of any seals that they found were used as sheets and blankets.435

The skins of seals and elephant seals were often used to provide clothing for the sealing gangs. Southern fur seal skins were used to make suits to provide warmth and were shaped into moccasins.436 The seal skins were made soft by rubbing them with stones and sand.437 They were then cut to shape and sewn together using needles made from the wing bones of albatross with the dried sinews of seals used as thread.438 These moccasins were an important part of the sealers gear as many of the areas where food was gathered required crossing the scoria slopes of the mountains. However, due to perspiration, seal

433 Charles Medyett Goodridge, *Narrative of a Voyage to the South Seas and the Shipwreck of the Princess of Wales Cutter, with an Account of Two Years Residence on an Uninhabited Island*, at page 51.
437 Charles Medyett Goodridge, *Narrative of a Voyage to the South Seas and the Shipwreck of the Princess of Wales Cutter, with an Account of Two Years Residence on an Uninhabited Island*, at page 69.
skin clothing would quickly rot and need to be replaced. The skins were also often accidentally soaked in elephant seal oil during the trying-out process which caused them, in the words of Sir James Clark Ross, to smell “most offensively”.

The skins of the king penguins were also used to make moccasins, though they were not as durable as those made from seal skins. The feathers were turned inward, and were drawn tightly over the feet to produce what was described as a comfortable, but not very durable shoe that would quickly break apart on the mountainous and rocky parts of the islands, which consisted of volcanic scree and scattered boulders. According to Goodridge, sometimes only half an hours wear could perish penguin skin moccasins so sealers always carried two or three spare pairs with them whenever they went on long excursions. The extra pairs of moccasins were quite possibly carried in pouches made out of the webbed feet of an albatross. The sealers would also use the beaks of the king penguins for the bowls of their pipes. To this they attached the long and slender bones

439 Charles Medyett Goodridge, *Narrative of a Voyage to the South Seas and the Shipwreck of the Princess of Wales Cutter, with an Account of Two Years Residence on an Uninhabited Island*, at page 82.
441 Charles Medyett Goodridge, *Narrative of a Voyage to the South Seas and the Shipwreck of the Princess of Wales Cutter, with an Account of Two Years Residence on an Uninhabited Island*, at page 53.
443 Charles Medyett Goodridge, *Narrative of a Voyage to the South Seas and the Shipwreck of the Princess of Wales Cutter, with an Account of Two Years Residence on an Uninhabited Island*, at page 41.
445 Charles Medyett Goodridge, *Narrative of a Voyage to the South Seas and the Shipwreck of the Princess of Wales Cutter, with an Account of Two Years Residence on an Uninhabited Island*, at page 53.
of an albatross to act as a stem. These pipes were used to smoke tobacco or, when there was no tobacco available, the dried grass that grew on the island.

Although archaeological studies of the structure of sealing shelters on the Prince Edward and Crozet Islands have not revealed a great deal about the organisation of the sealing gangs on shore, Zarankin and Senatore’s research on other sub-Antarctic islands has prompted some interesting conclusions about these shared living spaces. When they began their research they expected to find “architecturally standardized camps showing a high degree of space division according to hierarchy and functions”, but instead the material culture and the organisation of space suggested that once sealers landed on the islands the status differences that normally existed among them was no longer observed. The archaeological evidence suggests that many of the activities in the shelters were communal. There was evidence of games, tobacco and alcohol consumption and almost all the objects found could be considered for communal use or consumption, or related to activities of socialisation. Zarankin and Senatore believed that shelters were deliberately used in this way as a means of creating a common space that would not have any of the elements of conflict that the ship or work camps may have had so as to generate “an artificial feeling of equality that facilitates the exercise of power by

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447 Charles Medyett Goodridge, *Narrative of a Voyage to the South Seas and the Shipwreck of the Princess of Wales Cutter, with an Account of Two Years Residence on an Uninhabited Island*, at page 53.
decompressing tension and maximizing workers’ productivity”. 450 Such spaces where tension was released would have been crucial in a place where there were no police or judges to keep order.

The limited evidence that exists on the shelters of the Cape based sealing gangs on the Crozets suggests that they were not all housed in the same shelter. Captain J.J. Fuller, while en route to Desolation described staying overnight on Hog Island in what he termed ‘a substantial house’ that had been built by Cape sealing gangs. 451 When the Emeline visited Hog Island on a sealing voyage in 1844 she found a sealing gang of 40 Englishmen from the Cape residing there. 452 It seems highly unlikely that a shelter built from scavenged materials would have been capable of holding 40 men, or that there would always have been such a large number of men ashore. All other references to the number of Cape sealers on the Crozets give much lower numbers of men on an island.

When the Emeline passed the Prince Edward Islands on 26 November 1842, she reported a party of 20 men from the Cape of Good Hope on the south part of Marion Island though the Blue Books state that “[t]here are about 50 men (sent from Cape Town) who constantly reside upon the Islands mentioned, [the Prince Edward and Crozet Islands] and who are employed in killing seals and preparing the oil”. 453 The survivors of the Richard Dart, shipwrecked on Prince Edward Island in 1849, reported Jearey’s sealing gang

453 Blue Books for the Cape of Good Hope, 1842, at page 339.
consisted of 12 men.\textsuperscript{454} The\textit{ Blue Books} however state that for each year between 1847 and 1852, there were 70 men on the Crozet and Prince Edward Islands.\textsuperscript{455} Also, when the\textit{ Maria} was shipwrecked at Prince Edward Island in 1858, the\textit{ Cape Argus} reported that “[a] gang of eleven men had been employed on the islands for two years engaged in capturing sea elephants and seals”.\textsuperscript{456} This all suggests that the men were split into smaller sealing gangs with some based on the Prince Edward Islands, and others on the Crozet Islands.

It is possible that the number of men comprising a sealing gang was augmented or reduced by deserters to other sealing vessels that stopped off at the Crozets. For example, when Ellery Nash of the\textit{ Bolton} stopped over at Possession Island, one of his men ran away and another disappeared and may also have run away, while John Barnum of the schooner\textit{ United States} poached some of Jearey’s men.\textsuperscript{457} These men would no doubt have to join another of the sealing gangs on the islands in order to obtain certain necessities and to be able to gain passage off the islands. However, the most likely explanation for the 40 man shore party on Hog Island is that it consisted of both men who had been left behind on the island to produce oil and the crew of the ship that was sent to pick up the oil. While at the islands, members of the ship’s crew who had come to relieve the previous sealing gang, as well as those returning to the Cape were ashore to harvest and produce as much oil as possible before the vessel sailed. When Sir James Clark Ross

\textsuperscript{454} \textit{Cape of Good Hope and Port Natal Shipping and Mercantile Gazette}, No. 307, 16 November 1849.
\textsuperscript{455} \textit{Blue Books for the Cape of Good Hope}, 1847 at page 395, 1848 at page 447, 1849 at page 463, 1850 at page 463, and 1852 at page 451.
\textsuperscript{456} \textit{The Cape Argus}, January 16, 1858.
left the Cape, he was told that there were 11 seamen on Possession and East Islands, which again suggests that the sealing gangs may have been split into smaller groups and sent to different islands depending on the size of the island and the availability of elephant seals.458

The fact that extra men joined the sealing gang on Hog Island during the breeding season in 1844 to augment its numbers to 40 no doubt meant that large numbers of elephant seals would have been killed. According to Washington Fosdick of the Emeline, this resulted in elephant seals abandoning the Island and instead hauling out on other islands such as Possession and East Island.459 It would thus seem that the sealing gangs had to chase elephant seals from island to island in the Crozets depending on where they hauled out in the greatest numbers. Due to the fact that there is a high degree of synchronization and annual regularity in the haulout periods on the islands, it was important that sealers were spread out so as to ensure they had access to as many elephant seals as possible when they were at their fattest. If they were all congregated in one place where the elephant seals had been killed off they may have been unable to search for other rookeries for weeks if the weather was poor, an important consideration when one takes into account the fact that the rate of weight loss amongst males during the breeding season is 9 kg per day.460

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458 Ian Church, *Survival on the Crozet Islands: The Wreck of the Strathmore in 1875*, at page 27.
It seems likely that even these smaller sealing gangs did not all remain in the same dwelling, as can be seen in the reports of those shipwrecked on the Richard Dart who took 44 days before they encountered two members of Jearey’s sealing gang even though they spent several nights sheltering in one of the gang’s huts. This suggests that the sealing gangs had multiple huts. This may have been in order to split the men up into still smaller units. Tom Graham’s archaeological analysis of the Prince Edward Islands suggests that four men were housed per hut, while on Heard Island in 1858, the journal of John Harrison stated that each gang consisted of three men, “a killer who was provided with a gun and lance, a skinner to cut off the blubber and a third man to carry the blubber to the depot”. This may also have played a part in reducing tensions in the shore party by allowing men to choose their companions. It is also possible that multiple huts were built due to the distribution of the elephant seals around the islands so that the men would not have to travel far from shelter in order to hunt and could find shelter easily if required. According to Goodridge, the surviving crew of the Princess of Wales were split between two islands and even before these two groups were reunited large distances had to be travelled in harsh weather and over difficult ground to obtain sufficient resources to feed themselves. When the crew was reunited on one Island, their number rose to 15 men and Goodridge claimed there was scarcely sufficient food to provide them all with sustenance. So it may have been necessary to split the sealing gangs up into smaller units in order to ensure that the resources in their immediate vicinity would not be

461 Cape of Good Hope and Port Natal Shipping and Mercantile Gazette, No. 307, 16 November 1849.
463 Charles Medyett Goodridge, Narrative of a Voyage to the South Seas and the Shipwreck of the Princess of Wales Cutter, with an Account of Two Years Residence on an Uninhabited Island, at page 65.
464 Ibid., at page 76.
quickly depleted. By separating the gangs into smaller units spread out over different areas of the islands, the pressure on the natural resources that were crucial for the survival of the sealing gangs would have been lower.

4.4) The return of the hunter gatherer: survival on the Crozets

As was seen above, although supplies were sent with the vessel, in order for any of the sealing ventures to be a success it was important that the men sent to the islands knew how to live off the land. Rediker claimed that there was probably no one in the eighteenth century who was better steeled in the crafty art of self-preservation than the seaman and many of these skills were developed as ways to escape the exploitive nature of the wage system, especially as it related to the near-dictatorial control of food and drink on board the ship.465

The Prince Edward and Crozet Islands did not suffer from a lack of water. Some form of precipitation occurred on most days of the year and the islands held numerous streams as well as lakes.466 Often, the shelters of the sealing gangs were built close to a source of fresh water. Washington Fosdick described “[a] beautiful spring of crystal water, pure

and cold, [which] welled from the ground in bubbling freshness just beyond the old shanty”.467

Very little is known about the supplies that the Cape sealing gangs brought with them to the Crozets and the only record that we have of the type of stores they had are those from a single court case. This is unfortunate as a full inventory of ships stores (that is the materials taken along expressly for the subsistence needs of the crew), would give us an understanding of the nutritional budget of work on the islands.468

It is quite possible that Liesching and Twycross’ sealing gang were unaccustomed to life on the sub-Antarctic islands and did not know how to supplement the provisions sent from Cape Town with the natural resources of the islands and therefore saw the supplies as deficient and an insult to their self-worth. George Byworth, the supercargo of the St. Helena on its 1833 voyage to the Crozets (and a man who had experience of life on the sub-Antarctic islands) claimed that the sealing gang had ‘plenty of provisions’.469

Perhaps a baseline of what Byworth would have considered adequate was what he had received when he was a member of a sealing gang on Desolation during the years 1832 and early 1833. Byworth described the usual allowance for himself and his 13 colleagues as consisting of salt provisions, bread and ham. They also had an allowance of “four pieces of pork each weighing five pounds per week, a pound of bread each per day, three

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pounds of flour to each man per week, besides coffee, sugar and spirits”, though these supplies had to be supplemented with what was available on the island.470

Although the exact quantities of subsistence goods brought to the Crozets for the sealing gangs of Liesching and Twycross is unknown, from the archival sources it is possible to piece together what type of goods were sent to the islands. These goods included: beef, bread, flour, biscuits, beans, rice, salt, pepper, vinegar, curry powder, sugar, brandy, spirits, tea, and tobacco as well as guns, gunpowder, lances and hooks for fishing.471 What is clear is that these supplies were not nearly sufficient as three months before the men of Liesching and Twycross’ sealing gang were supposed to be relieved their provisions had already run out. The plaintiffs in the case remained on the islands for another six months after this (presumably having been reprovisioned) and claimed that “they were reduced to great sufferings and sickness from starvation and were so much enfeebled that [they] were obliged to leave the islands”.472 The fact that the plaintiffs won the case and were awarded £15 each minus deductions to repay what was owed to Liesching and Twycross for money forwarded to them before they departed suggests that they had good reason to complain that they had been poorly treated. But when one considers that they were asking for £45 plus interest due, we can see that this was a relatively hollow victory for the men involved.

471 Ibid.
472 Ibid.
What this case makes very clear is that in order to survive on the islands, sealers needed to be able to take full advantage of the natural resources. They ate all the animals available on the islands, not only to supplement their rations, but sometimes also to give them a change from their monotonous diet.  

For example, the meat of seals was roasted, fried, broiled, or stewed, while its tongue was salted and preserved. Hair seals were described as tasting like beef, while the fur seals tasted similar to lamb. The flippers of seals were used in soup and were, according to Kirker, considered superior to those of the green turtle of the Galapagos Islands (considered a great delicacy). Goodridge also described seals as making a “rare and delicious repast”. Seal meat was a source of ascorbic acid while the seal liver provided nearly ten times the amount of ascorbic acid that the meat did, therefore helping to ward off deficiency diseases such as scurvy. Seal livers were said to provide such an excellent dish that Scott claimed “there was a strong temptation to kill them for their livers only, and I think it is a creditable fact that we refrained from obtaining this luxury at a rate so expensive to life”. However, by the time the Cape sealers made their presence felt on the Crozets, few fur seals remained, so eating fur seal meat would have most certainly been the exception rather than the rule. The most readily available source of fresh meat available to the Cape sealers would have been that of the elephant seal.

476 Ibid, at page 22.
477 Charles Medyett Goodridge, Narrative of a Voyage to the South Seas and the Shipwreck of the Princess of Wales Cutter, with an Account of Two Years Residence on an Uninhabited Island, at page 69.
479 Ibid, at page 42.
Nunn claimed that one elephant seal could provide food for seven or eight days, with the
tongue, heart, and kidneys being removed and cooked in various ways.480 The flippers,
which were described as resembling a “very coarse beef, to the eye, but was very hard,
and by no means palatable”, were boiled for a considerable length of time to form a kind
of jelly that would, with the addition of sea birds and eggs, make a very good soup.481
The trunk of the elephant seal (which consisted of a fleshy skin), was boiled in salt water
for hours, then served stuffed and roasted and was known as ‘snotters’.482 The tongues
and livers were considered to be good eating, so good in fact that in 1822, the Philo
stopped off at Marion Island especially to collect an elephant’s tongue for the Captain’s
dinner.483 Tongues, which could weigh up to ten pounds, were cooked in slices, fried in
fresh blubber, or preserved by placing them in empty beef or pork pickle casks and
brought home as a luxury.484 The brain of the elephant seal was also eaten either in a
soup, or in a raw state when it was said to taste as sweet as sugar.485

The blood of the elephant seal was also used to wash with as it removed both dirt and
grease.486 When Goodridge and his shipmates needed to wash anything they killed a
elephant seal, turned the carcass on its back, took out the intestines, and allowed the

37-57 at page 44.
481 Charles Medyett Goodridge, *Narrative of a Voyage to the South Seas and the Shipwreck of the Princess
of Wales Cutter, with an Account of Two Years Residence on an Uninhabited Island*, at page 52.
482 Briton Cooper Busch, ‘Elephants and Whales: New London and Desolation, 1840-1900’, *The American
37-57 at page 44.
485 Charles Medyett Goodridge, *Narrative of a Voyage to the South Seas and the Shipwreck of the Princess
of Wales Cutter, with an Account of Two Years Residence on an Uninhabited Island*, at page 54.
486 Ibid, at page 52.
blood to flow into the body cavity in which they washed dirty articles before rinsing them in a nearby stream.487

The meat obtained from elephant seals, though filling, could sometimes lead to illness. Washington Fosdick described how a man who had eaten a several day old elephant seal liver was taken ill and was in great agony due to stomach cramps and almost dead when Fosdick reached him.488 Also, Goodridge reported that their diet often caused their “bowels to become affected”.489 When the shipwrecked crew of the Maria were returned to the Cape in 1858 after spending seven months on Prince Edward Island, the Cape of Good Hope and Port Natal Shipping and Mercantile Gazette described how some of the men were “suffering from the effects of the inclement weather to which they were exposed, and the peculiar diet upon which they were compelled to subsist for such a length of time”.490 There is no evidence that the dietary habits of the sealing gangs had any long term ill-effects however.

After elephant seals, the multitude of seabirds were the most important source of food for sealing gangs. The eggs of albatross were said to “far exceed in flavour hen’s eggs and [were] five times their size”.491 They were so rich however that when the shipwrecked

487 Charles Medyett Goodridge, Narrative of a Voyage to the South Seas and the Shipwreck of the Princess of Wales Cutter, with an Account of Two Years Residence on an Uninhabited Island, at page 52.
489 Charles Medyett Goodridge, Narrative of a Voyage to the South Seas and the Shipwreck of the Princess of Wales Cutter, with an Account of Two Years Residence on an Uninhabited Island, at page 92.
490 Cape of Good Hope and Port Natal Shipping and Mercantile Gazette, No. 734, 22 January 1858.
passengers of the *Strathmore* first ate them, it made them ill. Nathaniel Taylor claimed that only the yolk of the egg was palatable as the white did not congeal when boiled. An additional advantage of albatross eggs was their thick shells that were used by sealers as oil lamps. The eggs of king penguins were also often eaten, while penguins were also used to make what Sir James Clark Ross described as an excellent soup whose colour and flavour resembled hare soup. The sealers found it easy to rob penguins of their eggs, simply knocking them down with a stick. Penguin eggs were available in limitless numbers between November and March because the birds laid new eggs to replace those taken by sealers. Goodridge’s shipmates also beat them up raw with hot water as a substitute for tea. So many different bird species could be found on the islands that George Byworth claimed “eggs are to be obtained all year round” and that one could pick up a thousand penguin eggs in half an hour.

The birds were not only important for their eggs but were often also eaten by sealers. Albatross were easy to catch as they are awkward on land, although the adult birds were

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496 Charles Medyett Goodridge, *Narrative of a Voyage to the South Seas and the Shipwreck of the Princess of Wales Cutter, with an Account of Two Years Residence on an Uninhabited Island*, at page 40.
rarely eaten,499 the young were described as being “a delicious meal surpassing in flavour any wild fowl that can be named, as tender as can be, and larger than any goose”.500 They were said to resemble veal in tenderness and flavour.501 The albatross nesting grounds were often located on higher ground, requiring sealers to climb steep ground in high winds, sometimes so fierce that the men would need to crawl back down.502

Aside from albatross, the sealers ate numerous other seabirds found on the islands. Trained dogs were used to catch wild ducks, while petrels were caught by thrusting a bone from the wing of an albatross into their nests and if a young bird pecked at this bone it would be dug out, boiled, and fried to provide a good meal “free from any unpleasant fishy flavour”.503 According to Byworth, a man could dig out three or four dozen birds in just a couple of hours.504 Other small seabirds, such as “Petrels, Blue Petrels, Black Eaglets, Night Hawks, Divers and several others” were caught by lighting a fire after dark at the foot of a cliff which attracted them in large numbers and they proceeded to fly with such force against the cliff that they were stunned and easily picked up.505

502 Ian Church, Survival on the Crozet Islands: The Wreck of the Strathmore in 1875, at page 47.
503 Ibid, at pages 28 and 47.
505 Charles Medyett Goodridge, Narrative of a Voyage to the South Seas and the Shipwreck of the Princess of Wales Cutter, with an Account of Two Years Residence on an Uninhabited Island, at page 65.
Sealing gangs also supplemented their diet with fish caught in the bay. Byworth claimed that these were easily caught with a line and hook and were very good eating. This sentiment was shared by Washington Fosdick who claimed that “[w]e have also fish in abundance. Whenever we wish a mess of fresh fish we have only to bait the hooks, throw the lines over the vessel’s sides, and then transfer the fish to the frying-pan”. The fish were then preserved by drying.

Some sealing gangs also tried to introduce alien animals to the islands to improve the dietary options available to them though none of these attempts seem to have been successful. Sealers informed members of the Challenger expedition that rabbits abounded on the islands but were unpalatable. Goodridge also described there being numerous pigs on some of the islands but these animals were large, ferocious and armed with tusks and although they succeeded in killing some of them, they found their flesh unpalatable due to their diet consisting of coarse grass and the bodies of dead penguins. There were also references to goats being introduced to the islands by an American ship, but no sources mention them being used for either milk or meat.

508 Ian Church, Survival on the Crozet Islands: The Wreck of the Strathmore in 1875, at page 28-29.
510 Charles Medyett Goodridge, Narrative of a Voyage to the South Seas and the Shipwreck of the Princess of Wales Cutter, with an Account of Two Years Residence on an Uninhabited Island, at page 40.
511 Ian Church, Survival on the Crozet Islands: The Wreck of the Strathmore in 1875, at page 28-29.
The animals brought to the islands by sealers ended up having just as big an effect on the ecology of the islands as the sealers themselves did as in the relatively simple ecosystems of these islands, alien species have a greater potential for disruption than in complex and more resilient ecosystems. While some of the species that were introduced onto the islands have since been exterminated, such as the goats and pigs on the Crozet Islands, this was not done before they almost eradicated the vegetation of many islands. Cats were introduced on many of the sub-Antarctic islands (often in an attempt to control rats that had been accidentally introduced by earlier sealing vessels) and have had detrimental affects on bird populations. For example, on the Kerguelen Islands, it was calculated that cats killed more than 1.2 million birds per year. The Crozet Islands have not suffered the same losses, at least in part because cats are present on only one of the five islands in the archipelago. Fig. 4.9 shows all of the alien mammal species that were still present on the sub-Antarctic islands in 1989.

515 Ibid.
Sealers on the Crozet and Prince Edward Islands also enjoyed the benefit of an abundance of Kerguelen cabbage Pringlea antiscorbutia a fresh though impalatable vegetable (a shipwrecked passenger of the Strathmore described it as ‘highly pungent’, with a ‘peculiar flavour and wholesome essence’). According to Bellingshausen, sealers scraped the stalks and roots, cut them up very fine and made soup out of them. The British botanist Joseph Dalton Hooker, who travelled with Sir James Clark Ross, described the cabbage root as tasting like horse-radish, “and the young leaves or hearts

resembled in flavour coarse mustard and cress”. The leaves of the Kerguelen cabbage were rich in ascorbic acid and their vitamin C helped ward off scurvy. This explains why there was only one recorded death of a Cape sealer from scurvy during this period. There is also evidence that those on the islands ate what was known as the ‘sea-carrot’, as well as a plant known as ‘red-root’ on which a certain Captain East claimed human beings could “not only exist, but get fat”.

4.5) Conclusion

What is clear from the available information is that the sealers that went to the Crozets were often highly skilled seamen and they also needed to have learnt the skill set required to make the most of the natural resources that the islands had to offer them. The above could explain why, when Clark Ross met up with Jearey’s sealing gang on Possession Island, he described them as being “quite contented”, and claimed that they seemed to have “no wish to return to the Cape of Good Hope, having plenty [of] food”. The islands thus generously supplemented the stores that sealing gangs brought with them. Although their diet may have been unusual, it provided the sealers with the energy required to perform the labour of killing elephant seals.

521 *Cape of Good Hope and Port Natal Shipping and Mercantile Gazette*, No. 347, 23 August 1850.
523 Sir James Clark Ross, *Voyage of Discovery and Research in the Southern and Antarctic Regions During the Years 1839-43, Vol 1*, at page 54.
In order to improve the dietary options available to them, sealers often introduced alien species to the islands that have continued to have a substantial impact long after sealing in these regions came to an end. We can thus conclude that sealers not only had a radical effect on the number of seals and elephant seals on the islands, they also impacted on all other island fauna and flora, by both hunting and gathering the available resources and by introducing alien species to the islands.
Chapter 5: How many elephant seals were taken by Cape sealing gangs on the Crozets?

5.1) Introduction

The question posed in the title of this chapter is not as simple as it first appears because a large number of variables need to be taken into account in order to estimate the number of elephant seals that were taken between the years 1832–1869 by Cape sealing gangs on the Crozets. This is a two-step process. Section 5.2 estimates how much elephant seal oil was imported to the Cape from the Crozets by Cape-based sea elephanting gangs. Second, section 5.3 uses this value to estimate the number of elephant seals that were killed on the islands. Due to the number of variables involved in this process, this estimate will have a wide range. However, the results will still play a part in helping to determine the number of elephant seals killed by sealers over the last two centuries as Busch, who has made an attempt to estimate elephant seal numbers killed, seems to have focused only on the elephant seals taken at Kerguelen and Heard Islands and gives no figures for the Prince Edward and Crozet Islands.524

5.2) What was the total amount of elephant seal oil returned to the Cape from the Crozets between the years 1832–1869?

The first problem we encounter is that the quantity of oil brought back from the Crozets was often not listed. The shipping manifests of vessels returning from the Crozets were

not always published in the *Cape of Good Hope and Port Natal Shipping and Mercantile Gazette* (see appendix A for the full list of vessels). In addition to this, the *Cape of Good Hope and Port Natal Shipping and Mercantile Gazette* and its predecessor the *Cape of Good Hope Shipping List*, were only published from 1840–1861. The shipping lists of the Commercial Exchange sometimes record the quantity of oil returned for the years 1832–1839 and 1862–1869 (though this is only true for a minority of the vessels returning from the Crozets during the time periods in question and for the most part cargoes were simply listed as ‘Oil’). In some cases, the quantity of oil was revealed in court cases. However, there are still 28% of voyages for which the amount of oil is not recorded in any source. This is a significant portion of the sea elephanting voyages undertaken and the quantity of oil returned by these voyages could have a substantial effect on the total amount of oil returned. Therefore in estimating the total amount of elephant seals killed by Cape sealers on the Crozets, it is necessary for us to develop a model that can estimate the quantity of oil returned by those vessels where no cargo manifest existed.

In estimating the size of the missing cargoes, the first question was whether the size of the vessel or the length of time spent at the Crozets had the greater effect on the quantity of elephant seal oil produced. By using multiple linear regression, it was shown that the only statistically significant variable in predicting the tons of elephant seal oil taken was the tonnage of the vessel. Using the full data set the relationship was \( Y = -25.4 + 0.572 \times X \), where \( Y \) is the predicted tonnage of elephant seal oil, and \( X \) is the tonnage of the vessel.
Figure 5.1: The relationship between the amount of oil returned by Cape vessels and the tonnage of the vessels.
This model accounted for 44.5% of the variance in elephant seal oil, and the slope coefficient (0.572, SE=0.080, t=7.18, P<0.001) suggests that for each ton of vessel, 0.572 tons of elephant seal oil was returned. However, the full dataset contained an outlier observation. The voyage of the *Vigilant*, a 404 ton vessel that went to the Crozets with a tender, the *Maid of Mona*, for the South African Whaling Company (in what was the company’s only voyage to the Crozets) was influential in determining the slope of the regression line. If this value is removed, the relationship becomes \( Y = 1.80 + 0.363 \times X \), with the smaller slope coefficient remaining statistically significant (SE=0.106, t=3.44, P<0.001). This model explains 14.9% of the variance in elephant seal oil landed at the Cape from the Crozets.

Of the 100 Cape based vessels that went to the Crozets during the time period in question, one was clearly a whaling voyage and did not return with any elephant seal oil, one was sent to the Crozets specifically to take live elephant seal pups and did not return any elephant seal oil, four vessels returned ‘in ballast’ which suggests that they were sent with the sole purpose of depositing sealing gangs on the islands and thus returned without any elephant seal oil, while six vessels were wrecked while at the Crozets. When these voyages are removed from the dataset, the relationship becomes \( Y = -0.70 + 0.408 \times X \). The slope coefficient (SE=0.098, t=4.19, P<0.001) is intermediate between the two earlier values, and suggests that for each ton of vessel, 0.408 tons of elephant seal oil was produced. I used this equation to estimate the amount of elephant seal oil for voyages for which only the tonnage of the vessel is available. The results can be seen in Appendix A and Fig. 5.2.
Because the *Blue Books* for 1866 and 1867 give us a total of oil entering the colony, we can compare the results of this model against these numbers. According to our model, a total of 188 tons of elephant seal oil would have been taken in 1866 while the *Blue Book* for that year records 184 tons entering the Colony. Our model has 253 tons of elephant seal oil being taken in 1867 while the *Blue Book* for 1867 lists 261 tons of oil entering the Colony. This suggests that our model is consistent in determining the amount of elephant seal oil returned by vessels where no amount is listed in the shipping manifest.

Assuming that each vessel that returned from the Crozets brought 0.408 tons of elephant seal oil per ton of vessel back to the Cape, an estimated total of 4955 tons of elephant seal oil were taken off the Crozets between the years 1832–1869.
5.3) Difficulties encountered in estimating how many elephant seals were killed by Cape sealers between 1832–1869

Our next objective is to transfer the estimated total quantity of elephant seal oil returned to the Cape from the Crozets between the years 1832–1869, into the number of elephant seals slaughtered to produce this. This calculation faces a number of variables.

The first difficulty is the fact that elephant seals are the most dimorphic of all mammal species. The variation in weight between males and females, and between adults and pups is extraordinarily large. Males are typically four times larger than females, and females are larger than their pups by the same order of magnitude. In addition, the weight differences within a gender is also large. Southern elephant seal bulls weigh between 1,500–3,000 kg. Females range from 350 to 800 kg, though most are in the range of 400–600kg. Weaned pups on the other hand have a relatively small mean mass of 119.5 kg.

* In this case, dimorphism relates to the large difference in size between male and female southern elephant seals.


The mass of the animal also undergoes drastic changes during its annual cycle. Elephant seals are at their heaviest when they return to the islands for the breeding season. The mean weight of males on the Falkland Islands on first arrival for the breeding haulout was 2,092±445 kg, with individual males ranging from 1,316–3,182 kg.\textsuperscript{530} The mean weight at the end of the breeding season however, was 1,541±323 kg,\textsuperscript{531} with the daily rate of weight loss being 9.1±2.9 kg/day.\textsuperscript{532} Galimberti \textit{et al.} calculated that males lost a mean of 551 kg by the time the breeding season ended, which constituted 25.8\% of their original body weight (Fig. 5.3).\textsuperscript{533} The amount of weight lost by males varies according to a number of factors. Weight loss in males increased by 113 kg for every one year increase in age, weight loss for breeding males was greater than that for peripheral males, and amongst breeding males weight loss increased with an increase in the number of females held in their harems.\textsuperscript{534} In addition to this, weight loss increased with the duration of presence on land.\textsuperscript{535}

\textsuperscript{531} \textit{Ibid.}
\textsuperscript{532} \textit{Ibid.}, at page 163.
\textsuperscript{533} \textit{Ibid.}, at page 163.
\textsuperscript{534} \textit{Ibid.}, at page 164.
\textsuperscript{535} \textit{Ibid.}, at page 164.
Females also showed drastic changes in weight during their annual cycle. McCann et al’s research showed that during the breeding season, the initial post-partum weight in females ranged from 346–803 kg. Fedak et al’s research, which was undertaken six years after McCann’s, indicated that the mean female mass at parturition was 513 ± 98 kg (163 kg of which was made up of fat), while the mean female mass at weaning was 325 ± 74 kg. Weight loss during both pregnancy and lactation also varies amongst females.

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depending on their size,\textsuperscript{539} with mothers losing on average 35% of their post-partum mass during the 23 day nursing period (Fig. 5.5).\textsuperscript{540} The difference in the proportion of fat used between different individual females during the lactation period is also high with large females using 30% of the total fat available while smaller and younger females can use up to 70% of their total body fat (Fig. 5.4).\textsuperscript{541}

\begin{figure}[h]
\centering
\includegraphics[width=\textwidth]{figure5.4.png}
\caption{Relationship between the percentage of fat used during lactation and the mother’s fat content at parturition. The dotted lines represent the two models of use as applies to fat (i.e., the curved line represents the percentage of fat expected if each female were to use the average amount, and the horizontal line is the average proportion used).\textsuperscript{542}}
\end{figure}


\textsuperscript{540} \textit{Ibid}.


Figure 5.5: Weight changes of mother-pup pairs as a function of time (date). ● = mothers of female pups and female pups; ↑ = mothers of male pups and male pups at South Georgia in 1986.\textsuperscript{543}
At birth the mean weight of male southern elephant seal pups is 45.1 kg while females weigh a mean of 40.2 kg. This size difference does not persist for long because male and female pups suckled for the same period grow at the same rate and are not significantly different in weight at weaning (Fig. 5.6). However, the proportion of body mass represented by fat at birth is less than 3%. However, these fat reserves are quickly developed over the course of the lactation period in which pups nurse on milk that frequently contains more than 40% lipids. The pups on the Crozet Islands are weaned 21.8 ± 2.4 days after birth and, at weaning, weigh 119.5 ± 13.0 kg. Weaning mass in southern elephant seals is however highly variable, with the heaviest pups being almost three times as heavy as the lightest ones. The proportion of body mass represented by fat at weaning in Carlini et al’s study was 37% ± 4%, and did not differ between the sexes (Fig. 5.7). However, after weaning, 47% of total mass loss was made up of fat.

547 Ibid.
550 Ibid.
551 Ibid.
Figure 5.6: Weight changes of male (arrows) and female (circles) pups.\textsuperscript{552}

![Figure 5.6: Weight changes of male (arrows) and female (circles) pups.](image)

Figure 5.7: Relationship between weaning mass of pups at King George Island and percentage of total body fat.\textsuperscript{553}

![Figure 5.7: Relationship between weaning mass of pups at King George Island and percentage of total body fat.](image)


\textsuperscript{553} A.R. Carlini, M.E.I. Márquez, S. Ramdohr, H. Bornemann, H.O. Panarello, G.A. Daneri, ‘Postweaning Duration and Body Composition Changes in Southern Elephant Seal (Mirounga leonina) Pups at King
In addition to the changes in weight experienced over the course of the breeding season, the weight of the same animal will change drastically at different points of the year due to fasting during both the breeding season and the summer moult. These large differences in weight and fat content make the estimation of the number of elephant seals killed to produce the estimated 4955 tons of oil procured by Cape sea elephanting vessels a difficult task.

5.4) How many elephant seals were killed?

According to Laws, elephant seals yield roughly a barrel of oil per cow, and up to seven or eight for a big bull. Six barrels of oil constitute one ton. If we use this ratio of six barrels to a ton of oil, then the Cape sea elephanting vessels returned an estimated 29730 barrels of oil. The archival record tells us nothing about the sex ratio of elephant seals killed by the Cape gangs, so we have to rely on models to estimate the number of elephant seals killed. All of the models below are based on the assumption that the hunters did not actively target elephant seal pups due to their low fat content at birth and because most sea elephanting vessels arrived on the islands at the beginning of the breeding season and would have focused on the far bigger male and female elephant seals. We will also assume that all the males killed filled up eight barrels with oil. Hence the models estimate the minimum number of elephant seals killed.


Law was the officer-in-charge and biologist at the Falkland Islands Dependencies Survey stations at Signy Island, South Orkney Islands, 1948–1950, and at Grytviken, South Georgia, 1951–1952.

5.4.1) Model 1: 50% of the elephant seals killed were male and the other 50% were female

If we assume that 50% of the elephant seals killed were male and the other 50% were female, then for every one male taken (8 barrels of oil) one female was taken (1 barrel of oil). So every nine barrels of oil consisted of one male and one female elephant seal. Therefore $29730/9 = 3303$, so the number of both male and females killed was 3303 each. That gives us a total of 6606 adult male and female elephant seals killed between 1832 and 1869. This represents an average of 174 elephant seals per year over the whole period. If we remove the eight years for which no sea elephanting was carried out on the islands, an average of 220 elephant seals were killed per year for 30 years.

We can safely assume that the majority of the pups of nursing mothers would also have died after their mothers were killed because elephant seal pups weighing less than 95 kg at weaning only have a 54% chance of surviving their first 12 months. Assuming that half of the cows killed had pups, we can add a further 1652 pups killed to the estimates of adults killed. This would give us a total of 8258 elephant seals killed at an average of 217 over the period 1832–1869, and an average of 275 per year for the 30 years during which sea elephanting took place on the islands.

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5.4.2) Model 2: Elephant seals killed were the same as the sex ratio

According to the research done by Guinet et al. the sex ratio amongst the elephant seals of the Crozet and Kerguelen Islands is 1 male per 14.6 females.\textsuperscript{557} If we assume that this ratio was also in effect throughout the time period under analysis, then for every 1 male killed (8 barrels) 14.6 females were killed (14.6 barrels). So for every 22.6 barrels returned to the Cape one male and 14.6 females were killed.

\[
\text{Therefore, } \frac{29730}{22.6} = 1315 \\
\text{Males killed } = 1315 \times 1 = 1315. \\
\text{Females killed} = 1315 \times 14.6 = 18411.
\]

So in total 19726 adult elephant seals were killed, that is an average of 519 elephant seals per year, or if we only take into account the years where Cape based vessels were present on the islands, 658 per year. If we were to again assume that half of the pups whose mothers were killed also died, this would give us pup deaths of 9205. If this is added to the total of adult elephant seals killed, we are left with a grand total of 28931 elephant seals killed at an average of 761 per year over the whole time period in question and 964 per year over the 30 years when Cape vessels were present on the islands.

5.5) Conclusion

It is most likely that the total number of elephant seals killed would have been somewhere between the estimates given by these two models. Sealers would most likely have focused on killing the far larger male elephant seals as more oil could be produced from them. From the two models above we can see that anywhere between 8258 and 28931 elephant seals were killed on the Crozets at an average of between 217 and 761 per year during the period 1832–1869.

When looking at these figures, one should not forget that Cape sealers were not the only ones hunting elephant seals at the Crozets at this time. Headland lists another 78 vessels besides the Cape based sealers as ‘sealing’ or ‘whaling and sealing’ on the Prince Edward and Crozet Islands between 1832 and 1869. In addition to this, sea elephanting would have had other knock-on effects on the population of elephant seals on the Crozets that are impossible to measure. For example, as seen in Chapter 1, females have an 11 month gestation period so any females killed after the breeding season would also result in the death of the unborn pup. In addition to this, older female elephant seals are better mothers with a 73% weaning success rate while females three to five years old only successfully weaned 38% of their pups. This indicates that an increase in the mean mass of females has a positive effect on pup survival rates. It has also been shown that larger harems

558 See Robert K. Headland, Chronological List of Antarctic Expeditions and Related Historical Events.
may contribute to the survival rate of pups by providing a better rearing environment.\footnote{561}{Clive R. McMahon and Corey J.A. Bradshaw, ‘Harem choice and breeding experience of female southern elephant seals influence offspring survival’, \textit{Behavioral Ecology and Sociobiology}, Vol. 55, No. 4 (Feb., 2004), pp. 349-362, at page 359.} Since it would be safe to assume that sealers would have targeted the male elephant seals first followed by the larger female due to the increased fat content of these animals, intensive hunting on the Crozets would have lowered the average age of available breeding females on the islands and the lower numbers of elephant seals on the islands may also have led to a decrease in harem sizes, all of which would have had a negative effect on pup survival rates, thus making it more difficult to replace the elephant seals killed. Riedman’s studies have also shown that the age at birth may effect the survival rate of the mother as well as the pup since the earlier a female elephant seal reproduces, the sooner she will probably die.\footnote{562}{Nigel Bonner, \textit{Seals and Sea Lions of the World}, at page 135.} This would have also made it more difficult for elephant seal populations to recover from intensive hunting.

According to Richard Laws, the estimated total population of elephant seals on Marion Island was 2009 in 1990, that of Prince Edward Island was 782, and that of the Crozet Islands was 2023.\footnote{563}{Richard M. Laws, ‘Elephant Seals: An Introduction to the Genus’ in Burney J. Le Boeuf and Richard M. Laws (eds.), \textit{Elephant Seals: Population Ecology, Behavior, and Physiology}, at pages 58-60.} This gives us a total of 4814 elephant seals at the Crozets. This is only a fraction of the estimated total population of 664,000 southern elephant seals (Fig. 5.8).\footnote{564}{\textit{Ibid.}, at page 58.}
Figure 5.8: Breeding distribution of southern elephant seals in 1990. Closed circles represent known breeding colonies (area proportional to the estimated population sizes except for colonies less than 5000). 565

The number of elephant seals at the Prince Edward and Crozet islands in 1990 is likely to be higher than the amount present between 1832–1869 as the modern population has remained relatively undisturbed and been allowed time to recover for a number of years. After Poppe, Schunhoff, Guttery and Company ended operations no sea elephanting voyages were recorded as going to the Crozets until the Victoria went to investigate the possibilities for resuming sealing on the Prince Edward Islands in 1906. 566

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566 Robert K. Headland, Chronological List of Antarctic Expeditions and Related Historical Events, at page 237.
returned in 1909 for the Southern Sealing Company of Cape Town to establish a settlement of about 20 men at Mixed Pickle Cove, Marion Island,\textsuperscript{567} while the Kerguelen Whaling and Sealing Company made occasional sealing expeditions to the Crozets between the years 1921–1929.\textsuperscript{568} The last Cape vessel sent sea elephanting on the Crozet Islands was the \textit{Kilfinora} in 1929 for the Irvin and Johnson (South Africa) Limited company.\textsuperscript{569} The \textit{Kildalkey} was sent to the Prince Edward Islands by the same firm in 1930 to investigate the possibilities of resuming sealing and she spent a month working off the east coast of Marion, but throughout that time was harried so much by gales that she left the islands empty-handed.\textsuperscript{570} Hence the percentages given below should be seen as a minimum.

The models above show that the Cape sealers may have taken anywhere between 4.5\% and 15.8\% of the total population (in 1990) of elephant seals on the Crozets per year. Because the reason for the termination of the elephant seal oil trade in 1869 may have had more to do with a fall in the price of oil than the number of elephant seals remaining on the islands (see Chapter 3) it seems as if the number of elephant seals harvested by Cape sealers in the final five years of the trade, that is an estimated 132 tons per year between 1865–1869, was sustainable (there is only one foreign vessels recorded as visiting the Crozets during this time). This may have also been helped by the fact that the number of sealers stationed on the island between 1865–1869 was far fewer than during the Jearey era. The Jearey era had anything between 40 and 70 men at the Crozets, while

\textsuperscript{567} Robert K. Headland, \textit{Chronological List of Antarctic Expeditions and Related Historical Events}, at page 245.
\textsuperscript{568} Ibid, at page 268.
\textsuperscript{569} Ibid, at page 284.
\textsuperscript{570} John H. Marsh, \textit{‘No Pathway Here’}, at page 52.
between 1865–1869, the number of ‘fishermen’ listed as returning from the islands ranged from 7 to 28.⁵⁷¹

This may have had to do with the fact, due to their polygynous nature – with males sometimes having harems of up to 100 females – males killed were quickly replaced. As much as 75% of the adult male elephant seal population remains at sea during the breeding season and only a small number of them is required to impregnate the adult female population.⁵⁷² Also, due to their far smaller sizes, females and pups may have been hunted to a far lesser extent than males, thus allowing the next generation to mature. So just as the biology of the elephant seal made them prime targets for sealers in the nineteenth century, the great differences in size between males and females, and between adults and pups, meant that the animals most important to the survival of the species (females and pups) often survived the hunting season in large enough numbers to ensure they did not come as close to extinction as fur seal species at the Crozets did.

⁵⁷¹ See the Commercial Exchange Shipping List, CC 3/7/2/1 and 3/7/2/2.
Conclusion

Although many authors have looked at the sea elephanting trade before, this thesis is the first to focus on the substantial Cape involvement in this trade. It is also the first to estimate the number of elephant seals harvested at the Crozets. Even Busch’s detailed account of the American sealing trade does not attempt to put a figure on the number killed on the Crozets, possibly because far greater yields were being harvested elsewhere and American sealers focussed on other sub-Antarctic islands during this period.

Through a careful analysis of the Commercial Exchange Shipping Lists and the Cape of Good Hope and Port Natal Shipping and Mercantile Gazette, a list of all Cape based vessels involved in the Cape Town/Crozets elephant seal oil trade has been compiled. Although some of the records do not list the quantity of oil returned to the Cape, a search through the Cape Archives for court cases and memorials involving those who took part in the sea elephanting trade has in some cases revealed the quantity of oil returned by certain vessels. This process has enabled us to get as much detail as possible regarding the amount of oil known to have been harvested by Cape sealers at the Crozets and in turn has allowed for the creation of statistical models that can estimate the amount of oil returned by vessels with no manifest with a greater degree of accuracy. These investigations are thus a crucial step in developing an accurate global census of elephant seals killed in the sub-Antarctic.
The use of statistical modelling has enabled us to estimate how much oil was returned by those vessels for which no shipping manifest was available. It is quite possible that further work in the Cape Archives may reveal yet more quantitative date concerning the sea elephanting trade. Through the use of statistical modelling, we estimate that between 1832–1869, 4955 tons of elephant seal oil was taken from the Crozets by Cape sealers. This harvest led to the estimated deaths of between 8,258–28,931 elephant seals at an average of 217–761 per year over the time period in question, a remarkable figure when one considers that the estimated population of elephant seals on the Prince Edward Islands and the Crozet Islands in 1990 was only 4814. These estimates must of course by read with caution. The first estimate (8,258) is based on a model that supposes that 50% of the elephant seals killed were male and 50% were female and that half of the females killed also lost their pups. This is likely to be an underestimate if we consider the fact that far more females than males were present on the islands during the breeding season and elephant seal pups weighing less than 95 kg at weaning only have a 54% chance of surviving their first 12 months. The second estimate (28,931) is based on the research of Guinet et al. which suggests that the sex ratio amongst the elephant seals of the Crozet and Kerguelen Islands is 1 male per 14.6 females and is therefore likely to be a more accurate estimate of the number of elephant seals killed.

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Due to the extreme dimorphism and huge annual weight variations in elephant seals due
to the breeding and moulting fasts, it is difficult to more precisely say how many elephant
seals were killed. However, because the *Cape of Good Hope and Port Natal Shipping
and Mercantile Gazette* often gave both the departure and return date of vessels to/from
the Crozets, we have a basic idea of how much oil was harvested during different periods
of the year. There is therefore the possibility that further research by seal biologists into
the fat content of elephant seals at different points in their annual cycle may improve the
accuracy of these estimates in the future.

The analysis of memorials and court cases relating to Cape sealers not only reveals the
quantity of oil returned by some vessels, but also sheds light on the production process
and in particular the life of sealing labour on the islands. The discovery of the only
known log-book of a Cape sea elephanting voyage as an addendum to a court case for
example, provides a daily diary of conditions both en route and on the islands. The
reconstruction of Cape seaborne traffic to the Crozets also enables the number of workers
involved in the trade to be accurately estimated. This should assist archaeologists in
interpreting the material remains of sealing on the Crozets along the lines of the work of
Zarankin and Senatore on sealers camps on the South Shetlands.\(^{575}\) Lastly, the place of
sailors within the social structure of nineteenth century Cape Town remains – with the

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\(^{575}\) Andrés Zarankin and María Ximena Senatore, ‘Archaeology in Antarctica: Nineteenth-Century
2005, pp. 43–56.
exception of Hamilton’s work on seamen and crime at the Cape - a remarkably under-researched topic.\textsuperscript{576}

Although the thesis has illuminated only a small part of Cape Town’s oceanic frontier, it demonstrates the substantial scope for further research on this forgotten frontier. Basberg and Headland have already pointed out that despite the fact that sealing was the first exploitative industry in the Antarctic region, no one has yet successfully managed to indicate the aggregate economic value and development of the industry.\textsuperscript{577} This is far too large a task for any one scholar, requiring the exhaustive inventory of many national archives. However, ‘national’ inventories such as this one could lead cumulatively to the global inventory envisaged by Basberg and Headland. However, for such an exercise to have more than antiquarian value, it is essential that the production site and quantity of produce be identified for each vessel. Headland and Dickson’s listing of vessels passing through the Antarctic without regard to their route or cargo is a step in the wrong direction.\textsuperscript{578} A complete inventory would go some way towards helping scientists determine what the ‘pristine’ (pre-exploitation) seal populations in the Southern Ocean may have been.

By looking at fields such as seal biology and statistical modelling, traditionally regarded as outside the purview of the historian, this work has shown the main drivers behind the

rise and fall of the Cape sea elephanting trade and its participants. It has also demonstrated that Cape involvement in the sea elephanting trade on the Crozets was sustained and substantial. The elephant seal oil trade was an international one as the Cape merchants involved in the trade, often funded by London merchant houses, exported substantial portions of their output to Britain and used an international labour force to produce it. According to Dunbabin, “[w]hen the whole interior of Australia was as little known as the other side of the moon, the remote [sub-Antarctic] islands, set in one of the stormiest seas on the globe, were better known and far more frequented than they are today”. Cape sealing on the Crozets suggests that the same was true for southern Africa where shortly after Dutch trekboers broke out of the Cape Colony onto the interior plateau in 1834, John Curran was already urging the Cape Government to annex the Prince Edward Islands. The extent of Cape participation in the sea elephanting trade shows that at least some Cape merchants were looking to the Southern Ocean rather than the African interior as a profitable frontier and the oil they imported both illuminated the streets of Cape Town and lubricated the Industrial Revolution in Britain. Further research into this oceanic frontier has the potential to provide a rich vein for further historical study.

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## Appendix A

<table>
<thead>
<tr>
<th>Vessel</th>
<th>Agent</th>
<th>Destination</th>
<th>Date of arrival in Table Bay</th>
<th>Size (in tons)</th>
<th>Cargo\textsuperscript{(581)}</th>
<th>Elephant seal oil returned (in tons)</th>
<th>Estimated total of elephant seal oil returned (in tons)\textsuperscript{(582)}</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flamingo</td>
<td>Thomson and Co.</td>
<td>Crozets</td>
<td>15/06/1832</td>
<td>80</td>
<td>Oil</td>
<td>Unknown</td>
<td>33</td>
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<tr>
<td>George 4th</td>
<td>Liesching and Co.</td>
<td>Crozets</td>
<td>Unknown</td>
<td>56</td>
<td>Unknown</td>
<td>23</td>
<td></td>
</tr>
<tr>
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<td>Thomson and Co.</td>
<td>Crozets</td>
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<td>Oil</td>
<td>Unknown</td>
<td>37</td>
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<tr>
<td>Mary</td>
<td>Liesching and Co.</td>
<td>Crozets</td>
<td>16/05/1833</td>
<td>129</td>
<td>1567 gallons</td>
<td>7</td>
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<tr>
<td>Mary</td>
<td>Liesching and Co.</td>
<td>Crozets</td>
<td>Wrecked</td>
<td>129</td>
<td>Wrecked</td>
<td>0</td>
<td></td>
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<tr>
<td>St. Helena</td>
<td>Liesching and Co.</td>
<td>Crozets</td>
<td>27/12/1833</td>
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<td>60 tons of oil</td>
<td>60</td>
<td>60</td>
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<tr>
<td>William Shand</td>
<td>Prince and Co.</td>
<td>Crozets</td>
<td>02/08/1834</td>
<td>285</td>
<td>10 tons oil, 2 tons blubber</td>
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<tr>
<td>Matchless</td>
<td>Ross and Co.</td>
<td>Crozets</td>
<td>15/12/1834</td>
<td>188</td>
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<td>Unknown</td>
<td>116</td>
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<tr>
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<td>Prince and Co.</td>
<td>Crozets</td>
<td>01/01/1835</td>
<td>285</td>
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<td>Unknown</td>
<td>116</td>
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<td>Regent Packet</td>
<td>John Jearey</td>
<td>Crozets</td>
<td>13/12/1838</td>
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<td>25</td>
<td>25</td>
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<tr>
<td>Regent Packet</td>
<td>John Jearey</td>
<td>Crozets</td>
<td>19/06/1839</td>
<td>112</td>
<td>Oil</td>
<td>Unknown</td>
<td>46</td>
</tr>
<tr>
<td>Regent Packet</td>
<td>John Jearey</td>
<td>Crozets</td>
<td>01/11/1839</td>
<td>112</td>
<td>Oil</td>
<td>Unknown</td>
<td>46</td>
</tr>
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<td>Regent Packet</td>
<td>John Jearey</td>
<td>Crozets</td>
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<td>80</td>
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<td>John Jearey</td>
<td>Crozets</td>
<td>14/11/1840</td>
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<td>160 csks S.E. Oil</td>
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<td>Crozets</td>
<td>23/05/1841</td>
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<td>Oil</td>
<td>Unknown</td>
<td>46</td>
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<tr>
<td>Hero</td>
<td>John Jearey</td>
<td>Crozets</td>
<td>21/12/1841</td>
<td>84</td>
<td>35 tons S.E. Oil</td>
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<td>35</td>
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<td>Crozets</td>
<td>21/12/1841</td>
<td>112</td>
<td>S.E. Oil</td>
<td>35</td>
<td>35</td>
</tr>
<tr>
<td>Regent Packet</td>
<td>John Jearey</td>
<td>Crozets</td>
<td>26/03/1842</td>
<td>112</td>
<td>S.E. Oil</td>
<td>Unknown</td>
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</table>

\textsuperscript{(581)} This column lists the cargo of the vessels as enumerated in the Cape of Good Hope Shipping List and the Cape of Good Hope and Port Natal Shipping and Mercantile Gazette.

\textsuperscript{(582)} ‘S.E. Oil’ is an abbreviation for ‘Sea Elephant Oil’.

Voyages where the amount of oil returned has been estimated using the model described in Chapter 5 are in bold.
<table>
<thead>
<tr>
<th>Vessel</th>
<th>Name</th>
<th>Date</th>
<th>Qty</th>
<th>Item Description</th>
<th>Casks</th>
<th>S.E. Oil</th>
<th>Hhd</th>
<th>Butts</th>
<th>Pnchns</th>
<th>Hhd</th>
<th>Black Oil</th>
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<td>Regent Packet</td>
<td>John Jearey Crozets</td>
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<td>32 csks S.E. Oil</td>
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<td>11</td>
<td></td>
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<tr>
<td>Regent Packet</td>
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<td>171 csks S.E. Oil</td>
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<td>19/12/1842</td>
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<td>162 csks S.E. Oil</td>
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<td></td>
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<td>23/02/1843</td>
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<td>191 csks S.E. Oil</td>
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<td>07/04/1843</td>
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<td>151 csks S.E. Oil</td>
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<td>194 csks S.E. Oil</td>
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<tr>
<td>Louisa</td>
<td>Richard Fryer and Co.</td>
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<td>Ghika</td>
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<td>150 csks S.E. Oil</td>
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<td>50</td>
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<tr>
<td>Ghika</td>
<td>John Jearey Crozets</td>
<td>15/03/1844</td>
<td>174</td>
<td>100 butts, 70 pnchns and 58 hhd s S.E. Oil</td>
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<td>Oil Unknown</td>
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<tr>
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<td>John Jearey Crozets</td>
<td>05/12/1844</td>
<td>112</td>
<td>153 csks S.E. Oil</td>
<td></td>
<td>50</td>
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<tr>
<td>Ghika</td>
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<td>31/01/1845</td>
<td>174</td>
<td>226 csks S.E. Oil</td>
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<td>88 csks S.E. Oil</td>
<td></td>
<td>88</td>
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</tr>
<tr>
<td>Regent Packet</td>
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<td>112</td>
<td>Wrecked</td>
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<tr>
<td>Courier</td>
<td>John Jearey Crozets</td>
<td>10/10/1845</td>
<td>136</td>
<td>124 csks S.E. Oil</td>
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<td>17/01/1846</td>
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<td>310 csks S.E. Oil</td>
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<td>102</td>
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<td>16/01/1846</td>
<td>136</td>
<td>156 csks S.E. Oil</td>
<td></td>
<td>52</td>
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<tr>
<td>Courier</td>
<td>John Jearey Crozets</td>
<td>21/05/1846</td>
<td>136</td>
<td>232 csks S.E. Oil</td>
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<tr>
<td>Regent Packet</td>
<td>John Jearey Crozets</td>
<td>Her tender, Maid of Mona, was lost on East Island, Crozets.</td>
<td>03/03/1846</td>
<td>404</td>
<td>1575 brls S.E. Oil, 200 brls Black Oil</td>
<td>263</td>
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<td>Vigilant</td>
<td>S.A. Whaling Company</td>
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<tr>
<td>Courier</td>
<td>John Jearey Crozets</td>
<td>16/04/1847</td>
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<td>403 csks S.E. Oil</td>
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<td>Ship</td>
<td>Captain</td>
<td>Cargo Site</td>
<td>Date</td>
<td>Load</td>
<td>Description</td>
<td>Load 1</td>
<td>Load 2</td>
<td></td>
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<tr>
<td>Courier</td>
<td>John Jearey</td>
<td>Crozets</td>
<td>07/10/1847</td>
<td>136</td>
<td>98 csks S.E. Oil (British taking) 22 csks S.E. Oil (Foreign)</td>
<td>32</td>
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<td>Osborne</td>
<td>John Jearey</td>
<td>Crozets</td>
<td>26/09/1847</td>
<td>197</td>
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<tr>
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<td>John Jearey</td>
<td>Crozets</td>
<td>18/04/1848</td>
<td>136</td>
<td>176 csks Oil</td>
<td>58</td>
<td>58</td>
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<tr>
<td>Mountain Maid</td>
<td>John Jearey</td>
<td>Prince Edward Island</td>
<td>11/04/1848</td>
<td>193</td>
<td>91 csks Oil, 7 csks Sea Skins</td>
<td>30</td>
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<td>Crozets</td>
<td>07/09/1848</td>
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<td>340 csks S.E. Oil</td>
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</tr>
<tr>
<td>Kate</td>
<td>John Jearey</td>
<td>Crozets</td>
<td>03/12/1848</td>
<td>85</td>
<td>59 csks S.E. Oil</td>
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<td>18</td>
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</tr>
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<td>Crozets</td>
<td>03/12/1848</td>
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<td>95 csks S.E. Oil</td>
<td>40</td>
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<tr>
<td>St. Helena</td>
<td>John Jearey</td>
<td>Crozets</td>
<td></td>
<td>142</td>
<td>Sent to bring back a cargo of S.E. pups</td>
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<td></td>
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<tr>
<td>Kate</td>
<td>John Jearey</td>
<td>Crozets</td>
<td>23/02/1849</td>
<td>85</td>
<td>29 csks S.E. Oil, 8 csks Seal Skins</td>
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<td>10</td>
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Bibliography

Notes on Bibliography

The list of vessels involved in the Cape Town/Crozet elephant seal oil trade listed in Appendix A has been compiled for the most part from an extensive search through the Cape of Good Hope Shipping List (1840–1843) as well as the Cape of Good Hope and Port Natal Shipping and Mercantile Gazette (1844–1861) for any vessels and people involved in this trade and any mention of the sea elephanting trade. The gaps in this record were filled through information obtained in the Commercial Exchange Shipping List, the African Court Calendar, and the Blue Books for the Cape of Good Hope. The bibliography has been split up between primary sources and secondary sources. The primary sources found in the Cape Town Archives Repository have been listed alphabetically according to their source code and volume number, while all secondary sources are listed alphabetically according to the surname of the author.
Primary Sources.

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**BO.**

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**CAD.**


CC.

Commercial Exchange Shipping Register, CC 2/12, 2/14, 3/7/2/1, and 3/7/2/2.

CO.

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CO Volume No. 3878 Reference 357. Memorials Received. John Fredrik Reitz. Application for Grant of Land in Table Valley (1810).


CO Volume No. 3881 Reference 64. Memorials Received. M. Smith. Application to Land Cargo from the American Ship Milwood (1811).

CO Volume No. 3885 Reference 127. Memorials Received. Melville and Johnson. Request to Seal and Cut Wood on an Island in the Mouth of the Orange River (1811).


CO Volume No. 3900 Reference 99. Memorials Received. Henry Alexander. Request Permission to Kill Whales Near the Hottentots Holland and to Kill Seals on a Small Island (1814).

CO Volume No. 3901 Reference 105. Memorials Received. WD Jennings. Application for Permission to Kill Seals on the Malagaasen and Dayars Islands (1815).

CO Volume No. 3904 Reference 96. Memorials Received. Woutersen and Company. Application for a Licence to Kill Seals (1816).

CO Volume No. 3907 Reference 181. Memorials Received. HG Timmer and J Bernard. Application for Permission to Kill Seals (1817).
CO Volume No. 3916 Reference 338. Memorials Received. Lauurence Antonio. Request to Kill Seals (1819).

CO Volume No. 3916 Reference 376. Memorials Received. Lourence Antonio. Request Permission to Kill Seals (1819).

CO Volume No. 3922 Reference 179. Memorials Received. John Curran. Request to Remain in the Colony (1822).

CO Volume No. 3923 Reference 421. Memorials Received. John Curran. Complaint Pertaining to a Sentence (1822).


CO Volume No. 3926 Reference 251. Memorials Received. John Curran. Request to be Exempted from Taking out a Licence for the Supply of Wine and Spirits (1824).


CO Volume No. 3935 Reference 247. Memorials Received. CM Stoffberg. Request to Kill Seals at a Certain Place (1827).


CO Volume No. 3951 Reference 238. Memorials Received. Willem Liesching. Request Pertaining to Seals (1831).

CO Volume No. 3952 Reference 156. Memorials Received. Robert Paton. Request to go to Hospital (1831).


CO Volume No. 3964 Reference 105. Memorials Received. Willem Liesching, Lease of Dyers Island (1833).


CO Volume No. 3971 Reference 22. Memorials Received. John Jeavey. Request to Sell Seven Tons of Oil to the Public. 1834.

CO Volume No. 3984 Reference 8. Memorials Received. John Archer. Lease of Seal Island Situated Between the Mouths of the Orange and Buffalo Rivers (1836).

CO Volume No. 3987 Reference 126. Memorials Received. DN Lond. Grant of Seal Island to Establish Whale Fishery (1836).

CO Volume No. 3987 Reference 133. Memorials Received. DN Lond. Grant of Pilot’s Licence (1836).


CO Volume No. 3993 Reference 120. Memorials Received. John Jeary. Rescue of Persons Stranded at Union Bay (1837).

CO Volume No. 3994 Reference 49. Memorials Received. Alex Manro. Request for Grant of Seal Island, Mossel Bay, for Seven Years (1837).

CO Volume No. 3995 Reference 69. Memorials Received. RO Scott. Request for Remission of Fine for Permitting Gambling in His Canteen (1837).

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