

Research Article

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Logbooks and Antarctic sealing. Approaching early- and late-19th-century exploitation strategies and their archaeological footprint

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Abstract

In the 19th century, sealing vessels visited the South Shetland Islands to exploit animal resources for the global skin and oil markets. The captains or mates of these vessels were responsible for keeping a logbook in which they recorded daily observations of weather conditions, hunting activities, etc. Despite the value of these documents as a source of information, archaeologists studying Antarctic sealing have not always relied on them. This paper examines the potential of logbooks for providing information that is relevant to the archaeological study of sealing in the South Shetland Islands. In particular, it discusses how documentary analysis of exploitation strategies can provide insight into the dynamics that influenced the configuration of sealers' sites. To this end, we propose a methodology for investigating exploitation strategies, taking into account several archaeologically sensitive variables, including the number, location and duration of landings, as well as the activities carried out during these events. We have taken four logbooks dating from the early and late 19th century – specifically those of the *Aurora* (1820–1821), the *Huron* (1820–1822), the *Thomas Hunt* (1873–1874) and the *Sarah W. Hunt* (1887–1888) – as case studies to test the proposed methodology.

Introduction

From the late 18th century onwards, sealing vessels began to look for new hunting grounds in the South Seas. Although they worked for capitalist companies from different nations, the ships of American and British companies played a leading role in the region (Busch, 1985). Fur seal skins were sold in various markets. Canton (China) was probably the first major buyer of sealskins, closely followed by London and New York (Fanning, 1924; Smith, 2002). Fur seal skins served as pelts with the fur still attached to the skin, or the fur could be removed and felted. Pelts were used to make coats and hats, decorate cuffs and collars, etc., while felted fur was used to make hats and fine cloth. Skins with their hair removed could be tanned and used to cover trunks and to make shoes, gloves and some other items (Burton, 2018; Chapman, 1810; Kirker, 1970; Zarankin, Pearson & Salerno, 2023). In the 18th and 19th centuries, the whaling industry provided high-quality oil for lighting, lubricating clocks and machinery, etc. Whales also provided other products such as ambergris for the perfume industry and baleen for making ribs for corsets, skirts, umbrellas and suitcases. Despite the importance of whales, oil was also extracted from other species, such as elephant seals. The skin of these animals was far less valuable than that of fur seals but provided significant amounts of blubber (Caviglia, 2015). The exploitation of fur seals and that of elephant seals were closely related activities, often carried out by the same companies (Stackpole, 1955). In this paper, we use the term “sealing” to refer to both activities.

Commercial sealing was an extractive industry. Sealers were constantly on the lookout for hunting grounds, overexploiting resources until it was no longer profitable for them to operate in a particular area. Whenever sealers discovered a new hunting ground, they tried to keep its location secret to avoid competition. However, it was only a matter of time before the secret was revealed. Sealers often worked in remote areas where there was no policy governing exploitation, or where local authorities lacked the power to prevent ships from operating (as in the case of Patagonia). In this context, sealers sailed the South Seas in the late 18th century, visiting places such as the Malvinas/Falkland Islands, Patagonia, Tierra del Fuego, etc. (Caviglia, 2015; Mayorga, 2017; Tapia Calisto, Mayorga & Maldonado, 2007). The arrival in the South Shetland Islands (an archipelago located approximately 120 km north of the Antarctic Peninsula and 800 km southwest of Cape Horn) took place in the early 19th century, expanding the boundaries of the then known world. The circumstances surrounding the discovery of the archipelago, however, are not the focus of this article. Suffice it to say that the best-documented and most widely accepted version of the event involves the sighting of the South Shetland Islands by a

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British captain in February 1819, followed by his landing in October of that year (with alternative versions involving people and ships from different nations) (Fitte, 1962; Miers, 1820; Stackpole, 1955). In any case, the discovery of the region proved that it contained a remarkable wealth of marine mammals.

Nineteenth-century sealing in the South Shetland Islands took place in different cycles, depending on the availability of animal resources, and the dynamics of supply and demand for specific products on world markets (Berguño, 1993a, 1993b). The first exploitation cycle occurred between 1819 and 1827, when more than 130 vessels visited the archipelago (the vast majority belonging to American and British companies) (Headland, 2009, 2018; Pearson, 2018c), and took an estimated 300,000 sealskins. The second cycle lasted from the 1830s to the 1850s, and the third one from the 1870s to the 1890s (a small number of sealing vessels also visited the archipelago in the early 1900s). In each case, the number of vessels visiting the South Shetland Islands and the size of the catches were significantly smaller compared to the first cycle. This was an effect of the animal colonies having been placed on the brink of local extinction in the 1820s and the subsequent challenges they faced while trying to recover.

Both historians and archaeologists have studied the sealing era from different perspectives. Historians have analysed various documents, including logbooks, to develop chronologies of sealing voyages to Antarctica (Headland, 2009, 2018), identify exploitation cycles and establish the economic importance of the Antarctic sealing industry (Basberg & Headland, 2013). Historians have also focused on the role of sealers in the early exploration of the South Shetland Islands, describing the operations of a number of sealing vessels in the region (Bertrand, 1971; Campbell, 2000; Gould, 1941; Jones, 1985a, 1985b; Stackpole, 1955; among others).

Meanwhile, archaeologists have contributed to the identification and study of sealers' camps in the South Shetland Islands (see Stehberg, 2003; Zarankin & Senatore, 2007; Zarankin et al., 2023; among others). Their work has sought to understand the daily lives of sealers in the region, focusing on subsistence and leisure practices, as well as specific aspects of their work (Cruz, 2019; Raddichi, 2015; Salerno, 2006, 2011; Zarankin & Salerno, 2016; among others). In general, the potential range of exploitation strategies that may have led to the establishment of sealers' camps, and which may have shaped some aspects of their diversity, has not yet been systematically or thoroughly investigated (although Pearson & Stehberg, 2006, provide some insights into the links between different types of beaches and the length of workers' stay).

In addition to investigating sites and their material remains, archaeologists working in the South Shetland Islands also have the opportunity to examine documentary sources describing the presence of sealers in the archipelago. While previous studies have focused on specific records describing the activities of sealers at their camps (see below), further research is needed to review a wider range of documents and to pursue new lines of inquiry, such as the impact of exploitation strategies on the configuration of the archaeological record, that is, where and how evidence for sealers' camps exists in the region, and why.

This paper examines the potential of logbooks for providing information that is relevant to the archaeological study of sealing in the South Shetland Islands. In particular, it discusses how documentary analysis of exploitation strategies can provide insight into the dynamics that influenced the distribution, abundance, visibility and diversity of sealers' sites. To achieve this aim, we propose a methodology for investigating exploitation strategies, taking into account several archaeologically sensitive variables,

including the number, location and duration of landings, as well as the different activities carried out during these events. We have taken four different logbooks from the first and third sealing cycles as case studies to test the proposed methodology.

Sealing logbooks as documentary sources

Logbooks are an important source of information for the study of the sealing era in Antarctica and other regions of the world. Captains and mates of merchant vessels were responsible for keeping a daily logbook detailing their voyages (Adler, 2015). Particular attention was paid to weather conditions and the course of the vessel, ensuring standardisation across most documents. Other data included the collection and use of provisions, and various situations faced by the crew or the vessel (including illness, death, disputes and riots, sightings of other vessels and animals, interactions with indigenous groups, maintenance and repairs, shipwrecks, etc.). Sealing logbooks are valuable in revealing the characteristics of exploitation during specific voyages.

In the case of the South Shetland Islands, sealing logbooks describe the movements of vessels around the archipelago and offer evidence of anchoring locations. The documents record the presence of other competing vessels on the islands and the establishment of agreements between captains. Generally, they consider the distribution of sealing gangs on the beaches and the duration of their stay ashore, as well as the logistics involved in moving people, equipment and resources between the ships and the islands (using tenders, boats and other means). As logbook keepers usually stayed on board, the documents lack essential details about the organisation of the camps and the daily life of sealers on the islands. However, the logbooks do mention the type and quantity of resources taken from different locations, as well as specific production activities carried out there. Occasionally, the documents refer to the construction of shelters, the area covered by the sealers through boat movements and specific events that occurred during hunting, processing, etc. (Salerno & Cruz, 2019).

Sealing logbooks are mostly unpublished records. Researching Antarctic sealing history through these documents is challenging for several reasons. First, logbooks are usually scattered across different countries, towns and institutions. Researchers therefore need to know where to find them, visit different locations and manage the costs involved. Second, although some libraries, museums and historical societies may offer copies of microfilmed or scanned documents, or allow researchers to take their own photographs of the original records, access to certain documents may be denied because of their poor state of preservation. Third, logbooks are usually voluminous records, running to hundreds of pages and containing daily entries. As a result, to gain full understanding of the activities of sealing vessels and their crews, a meticulous and time-consuming reconstruction of events is necessary before delving into the study of specific topics.

Logbooks that provide information about the Antarctic sealing era have been approached primarily from a historiographical perspective. Within this framework, many researchers have focused on the analysis of documents from the early 19th century, given the importance of this period for the exploration and exploitation of the South Shetland Islands. In particular, the work by Edouard Stackpole (1955) and Kenneth Bertrand (1971) has been crucial in providing an ordered account of the activities of the captains and crews of various American ships.

Archaeologists interested in Antarctic sealing have rarely relied on logbooks (although Pearson, 2018a, and Salerno & Cruz, 2019,

provide some preliminary approaches). While the aforementioned challenges to the study of sealing logbooks may have influenced archaeologists' decisions, their interest in the daily lives of sealers and in the role that material culture may have played in the production and reproduction of subsistence and labour activities at camps has been crucial. With this in mind, archaeologists have generally relied on the analysis of published sealers' journals as providing more comprehensive evidence of social practices at camps than logbooks – including the journals written by James Weddell (1827), Nathaniel Ames (1830), Thomas Smith (1844) and Cyrene Clarke (1854), among others. However, as we will argue in this paper, logbooks can also be relevant to archaeological research by revealing the strategies that may have shaped the configuration of sealers' sites.

Sealers' camps as archaeological evidence

Sealers' sites in the South Shetland Islands were first discovered in the 1950s and 1960s by British scientists, who recognised their archaeological significance (Hobbs, 1968; O'Gorman, 1963; Simpson, 1959). Non-archaeologists were involved in the early efforts; although these included site descriptions and excavations, they failed to address in detail the archaeological context and material evidence. Surveys, excavations and material analysis by professional archaeologists began in the 1980s with Rubén Stehberg (Stehberg, 2003; Stehberg & Cabeza, 1984; Stehberg & Lucero, 1985). Further research was carried out in the 1990s by Andrés Zarankin and María Ximena Senatore (Senatore & Zarankin, 1999; Zarankin & Senatore, 2005, 2007). The Landscapes in White project, led by Zarankin and based at the University of Minas Gerais (Brazil), began in 2007 as a continuation of Zarankin's previous work, including the collaboration of archaeologists from different countries. Over the last 15 years, the project (in which the authors of this paper are involved) has carried out one of the most comprehensive archaeological excavation programmes on the islands (Zarankin & Salerno, 2017; Zarankin et al., 2011; Zarankin et al., 2023).

To date, researchers have identified 53 sealing sites in the South Shetland Islands (Zarankin et al., 2023). In particular, 38 sites have been reported on Livingston Island, including 28 on Byers Peninsula, with additional sites at Elephant Point, Cape Shirreff and Siddon's Point. Eight sites have been identified in the eastern region of King George Island, five of which are on Fildes Peninsula. Two sites have been found on Rugged Island, two on Desolation Island and one on Snow Island. While the abundance and distribution of archaeological sites may reflect sealers' repeated use of certain areas, they also explain the geographical extent of the archaeological fieldwork in a context of logistical challenges. With this in mind, it has been suggested that there may be many more sites yet to be discovered in unexplored areas (Zarankin et al., 2023).

As shown on the map (Fig. 1), a number of sealers' sites are clustered on certain beaches, often close to each other (for more information on the definition of site clusters on Byers Peninsula, see Zarankin & Senatore, 2007). While in some cases it has been suggested that neighbouring sites may have been part of the same occupation process by the crew of a particular ship, in most cases archaeologists are uncertain whether these sites were related to one another or the result of activities that took place during different sealing seasons (Zarankin & Senatore, 2007; Zarankin et al., 2023). Further study of the use of sealing camps, the characteristics of the surrounding landscape and the complementarity of sites within

production sequences, among other things, is likely to provide valuable insights into this important issue.

In a few cases, archaeological evidence shows the use of caves as shelters and the possible remains of low-visibility boat camps (involving simple stone arrangements and low walls for lifting one side of the boats; Pearson, 2018b). Most archaeological sites consist of structures that vary in number, size and shape. Material remains (including food and clothing remains, as well as whale vertebrae used as furniture) have shed light on the use of larger shelters as residential units, while smaller structures were probably used as workspaces. Although some of the small structures clearly served as resource storage places, the specific use of many others remains unknown (Zarankin et al., 2023). Ongoing research highlights the need for a systematic and comprehensive investigation to determine whether sealing sites were exclusively devoted to the exploitation of fur seals or elephant seals, or to a mixed exploitation of both resources (Cruz, Salerno and Zarankin, in preparation; Senatore, 2018). It is possible that specific forms of exploitation may have influenced the design and use of structures.

In addition to building materials, archaeological evidence found at sealing camps includes animal bones, fragments of glass bottles and stoneware vessels, clay pipes, clothing and shoe remains, and working tools. Researchers have suggested the late 18th or early 19th century as a possible date for some of the artefacts found at most sites (especially glass bottles) (Codevilla, Pena, Rosa, & Joia, 2016; Moreno, 2000; Zarankin & Senatore, 2007; Zarankin et al., 2023). In a few cases, objects from the late 19th century have been identified (Pearson & Stehberg, 2006). However, despite these interpretations, current work suggests the need for further chronological studies to determine whether most of the identified sites actually date from the first sealing cycle, or whether camps from later periods have been underrepresented as a result of generalisations (Senatore, 2018).

Archaeologists have outlined the configuration of sealers' sites in the archipelago, taking into account some of the characteristics that define the archaeological record – such as the abundance, distribution, visibility and diversity of the material remains that account for the presence of camps. However, as noted above, more work is needed to learn more about the multiple forms that the archaeological record might take in the region and the socio-historical dynamics that have shaped it. This would be relevant for better informing interpretations of the materiality of sealing. Undoubtedly, the analysis of documentary records such as logbooks describing sealing voyages to the region can help in this endeavour.

Sealing strategies: from documents to archaeological evidence

The archaeological record consists of the material remains that people have left behind while carrying out different activities (and which have been exposed to, and survived, a number of factors over time). To learn more about the human activities that led to the creation of the archaeological record, researchers make contextual interpretations based on different lines of evidence. In contexts where there are no written documents, archaeologists must rely solely on material evidence and sometimes on ethnographic analogies that highlight the complexity of living systems. In contexts where there is written evidence, researchers can draw on the study of archaeological and documentary evidence (Funari, Jones & Hall, 1999; Johnson, 1999; Orser, 1996). This is not an easy task, as each type of evidence must be studied separately, taking

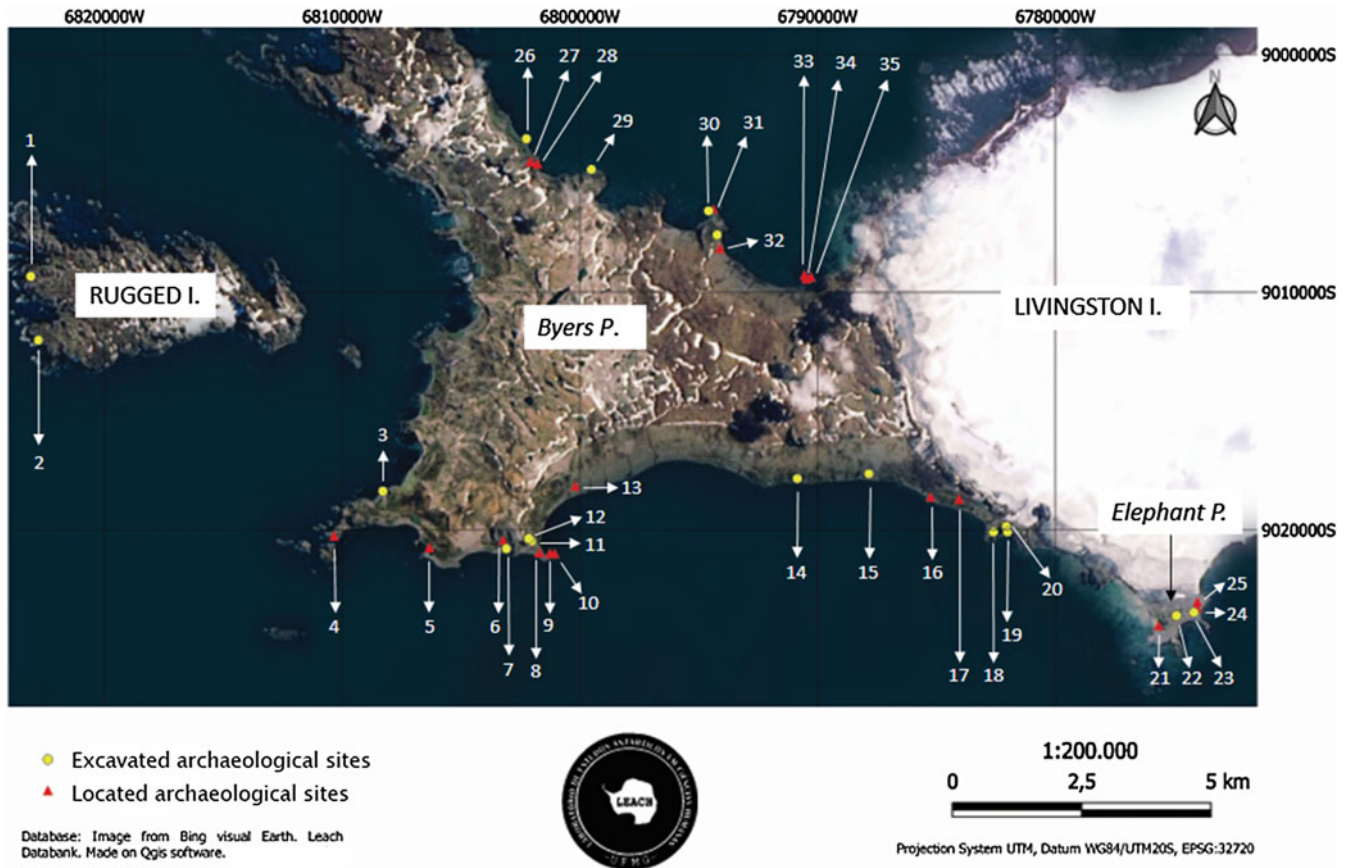


Figure 1. Map showing the distribution of archaeological sealing sites in the South Shetland Islands (Photo by LEACH 2022).

into account its specific nature. Unlike historians, archaeologists approach written documents by asking questions about people's sociocultural life, while maintaining an interest in the material world. Finally, a dialogue is possible between the results of archaeological and documentary analyses in order to interpret similarities, differences, complementarities, etc. (Little, 1994; Senatore & Zarankin, 1996; Wilkie, 2006).

As noted above, logbooks documenting sealing voyages to the South Shetland Islands contain important information about how vessels carried out the exploitation. By recording daily entries, logbooks provide detailed and high-quality data on the dynamics that characterise living systems; this information is not readily available from alternative sources of evidence. At the same time, logbooks provide a broad geographical coverage of sealers' activities, allowing researchers to gain insights into the complexity of productive landscapes in the archipelago. To assist in gathering data for the archaeological analysis of sealers' camps, we will present a methodology for investigating exploitation strategies and their potential material effects using logbook analysis.

Exploitation strategies involved a complex set of activities resulting from multiple decisions aimed at achieving the best possible production outcomes (Schendell & Hatten, 1972). Forward planning informed some decisions, while others were improvised and depended on the unique conditions of the hunting grounds. Sealers faced numerous challenges and had to develop practical and spontaneous solutions (Zarankin et al., 2023), either derived from conventional practices within the sealing industry or from their own creativity and innovation.

Exploitation strategies were influenced by several factors, such as the type of exploitation carried out by each vessel (as different products required specific hunting and processing methods) and the abundance and distribution of resources (which changed considerably as a result of successive hunts). The availability of specific means of production had a significant impact on the definition of sealing strategies, taking into account whether vessels sailed alone or with others, the use of tenders for logistical support, and the allocation of workers to different locations. The presence of other sealing vessels in the region, either as competitors or potential partners in working agreements, also proved critical, as did geographical knowledge and the prevailing weather and sea conditions.

This paper examines a range of activities that helped to shape exploitation strategies, with a special focus on those that shed light on the configuration of sealers' sites in the South Shetland Islands. The analysis first considers the movement of vessels and/or their anchoring at specific sites, and the logistics involved in transporting people, equipment, resources and supplies between beaches and vessels. Although these activities did not always leave an archaeological trace, they typically influenced the material footprint of other activities. Second, the study evaluates the landings made for the exploitation of animal resources, taking into account a number of variables that may indicate the abundance, distribution, visibility and diversity of sealers' sites.

1. Number of landings: Boats with men landed on specific beaches via the main vessel or a tender, or they landed independently (e.g. when the main ship was anchored and

boats were sent to different beaches). Some landings were made for the purpose of hunting or processing animals, while others were meant for exploration or to support groups that had landed before (supplying camps or collecting skins or blubber/oil).

Assessing the number of landings made by crews can provide information on the potential abundance of sealers' sites in different regions of the archipelago over time. However, this information only becomes archaeologically significant when considered in conjunction with other factors, such as the location and duration of landings (see below).

Given the analytical objectives of this study, we have only documented those landings made for the purpose of hunting and/or processing resources, regardless of their productivity. We have not included other subsequent landings in the same locations to meet logistical needs, as they did not involve the creation of new sites, and including them would artificially double the figures.

2. Landing locations: The logbooks do not contain the geographical coordinates of the landing sites on the hunting grounds. This is because, in a context of intense competition, captains chose to keep productive areas secret (Caviglia, 2015). However, the logbooks do provide geographical information on where landings took place, including place names, distances between geographical features and descriptions of locations.

Landing locations can provide valuable data for archaeological research. Documented concentrations of landings in certain areas (particularly extended landings) can indicate potential clusters of archaeological sites, even in regions not yet subject to survey. In addition, where detailed geographical information is available for specific landings, it can help to establish a strong correlation between archaeological sites and historical references.

In this paper, we have recorded the location of each landing. While in some cases the logbooks provided explicit information, in other cases the definition of landing locations required a process of reconstruction based on multiple references. This study has demanded particular attention to changing place names. For some landings, it was possible to define more or less precise locations, while for others only general references were available. The study of the distribution of landings has helped to define the geographical range of the production activities of each vessel (from those covering the entire archipelago to those that were concentrated in specific areas).

3. Duration of landings. The duration of landings varied. The amount of resources sealers found was crucial, because, once the animals had been swept from one beach, the men were ready to start work again in another location. The duration of landings also depended on logistical factors: the men often had to wait for the vessel to pick them up, they could be assisted by a tender, or they could simply return to the ship in their boats (if the vessel was nearby).

The duration of landings is a crucial factor in archaeological research, as it may have influenced the visibility of sealers' camps (a valuable tool in assessing the differential representation of archaeological sites resulting from different exploitation cycles). If landings lasted for a few hours, sealers did not need to set up camp but quickly returned to the main vessel or tender. If landings

lasted for a few days, they could use their upturned boats as shelters, as this option was not overly time-consuming. For landings lasting weeks or months, the investment of time and effort to build structures was considered justifiable (Pearson, 2018b; Zarankin et al., 2023). As a result, the longer sealers remained at a given landing location, the greater the likelihood that archaeologists will find sealers' camps (due to the construction of more obtrusive shelters and the discarding of greater amounts of remains by the gangs).

In this paper, we have defined the duration of the landings by recording the date of arrival and the time of departure. This has required carefully tracking all references to each landing location in the documents. Although accurate information was often available, we have divided landings into time categories to facilitate comparison: from a few hours to 2 days, from 3 to 15 days, from 16 days to 1 month, and over 1 month. We have also documented all explicit accounts of how sealers sheltered on the islands, including the use of upturned boats, built structures, use of caves, etc.

4. Production activities at the landing sites. Although the logbooks do not provide specific details of the daily activities carried out at sealers' camps, we were able to glean some information about production activities from references to the type and quantity of resources obtained, the range of the exploitation activities carried out at each site (assuming that in some locations most of the hunting and processing activities took place, while in others only hunting and initial processing, or just final processing, occurred), and the activities members of the gang sometimes did in the vicinity (including movements, exploitation of animal resources and the possible establishment of satellite camps).

This information is archaeologically relevant for a number of reasons. First, it helps to identify the type of exploitation that took place in particular landing locations, leading to the identification of areas or sites where only fur seals or elephant seals were exploited, or where there was mixed exploitation. As noted above, this is a topic that requires further archaeological study, and the correlation between documented landings and archaeological sites could help to determine specific site characteristics for different types of exploitation. Second, the study of production activities through logbooks shows that sealers' sites were not necessarily self-contained. On the contrary, they were part of a complex network in which production activities were distributed across different locations. Sites could therefore have maintained different types of relationships, including complementary ones. The documents can help to define links between archaeological sites – not only between nearby camps but also between more distant locations. Third, evidence for the mobility of landed groups, the pursuit of production activities in the vicinity and the establishment of satellite camps can also provide insights into the connections between sites within a given area.

The approach to recording the amount and type of resources varied depending on the target species. For fur seals, the logbooks provide information on the number of skins taken in each hunting location. Accurate information can be difficult to obtain due to the partial records provided in logbook entries (each time a certain number of skins was transported to vessels or processing sites), making it necessary to calculate totals by adding up the individual quantities. In the case of elephant seals, the logbooks provide

limited information on the number of animals harvested at hunting sites, and reported figures generally indicate the volume of oil extracted at processing sites. It is therefore difficult to assess the productivity of landing locations in the context of elephant seal exploitation.

In this paper, we have recorded the production activities carried out in each landing location taking into account the level of detail provided by each logbook. We have paid particular attention to explicit information on the use of structures and equipment for production purposes, where available. We have also analysed the movements of the groups that had previously landed by recording the different areas or locations for production activities and the establishment of new camps.

The methodology proposed in this paper requires thorough documentary analysis. On the basis of the data collected, it is possible to interpret the exploitation strategies of the different vessels and to establish a pattern of activities (with emphasis on landings). Subsequently, archaeological expectations for site configuration can be outlined considering these actions.

Selected logbooks

We analysed four 19th-century sealing logbooks to test the methodology. These were collected by members of the Landscapes in White project between 2015 and 2017 as part of documentary research in various historical archives on the east coast of the United States (where most of the country's sealing ports were located). The data provided by the chronologies of maritime voyages to Antarctica guided the search (Headland, 2009). The decision to collect records from the American fleet was based on its significant involvement in the Antarctic sealing industry, as well as the regular presence of American vessels during different sealing cycles in the archipelago, which also offered an opportunity to document changes in exploitation.

Two of the selected logbooks are from the first sealing cycle, while the other two are from the third. Specifically, they describe the voyages of the *Aurora* (1820–1821), the *Huron* (1820–1822), the *Thomas Hunt* (1873–1874) and the *Sarah W. Hunt* (1887–1888). The selection aims to assess the power of the methodology for different time periods in the history of Antarctic sealing, considering that the documents may allow an understanding of the range of exploitation strategies and their material footprint over time. The selection of two logbooks for each sealing cycle seeks to show possible similarities and differences in the strategies of different vessels during the same period. Each logbook was selected to provide information in this regard, as shown in the analysis results and the conclusions.

Analysis results

First exploitation cycle

The Aurora

The *Aurora*, a brig from New York, NY, commanded by Robert Macey, set sail for the South Shetland Islands in 1820. It was part of the New York fleet sponsored by James Byers, which included other vessels such as the *Jane Maria*, the *Henry* and the tender *Sarah* (Stackpole, 1955). The *Aurora* was condemned in the Malvinas/Falkland Islands on its return voyage and was subsequently dismantled and sold. A peculiarity of the logbook is that its keeper (the brig's first mate) left the *Aurora* and joined the crew of the *Charity* because of a disagreement with Captain

Macey. He took the logbook with him, and what began as a description of the *Aurora's* activities ended up detailing those of the *Charity* (Log of the *Aurora* –LA, 1820–1821). This article focuses exclusively on the activities of the *Aurora*.

The *Aurora* spent about 3 months in the South Shetland Islands, from late December 1820 to March 1821, exclusively engaging in the exploitation of fur seals. One of the main factors that seems to have influenced the *Aurora's* exploitation strategy was the limited knowledge that the captain and the crew had of the archipelago. Geographical information was scarce and zealously guarded by those who had visited the region during the 1819–1820 season. Finding a safe anchorage was a challenge. On 7 December 1820, the logbook recorded:

... without chart or particular description of the land, & not having any opportunity of seeing a length of coast, to ascertain in what direction the land trends – & nine tenths of the time involved in thick fog or snow, we have had reason to be in perpetual apprehension – for we do not even know whether the position of the land given in our instructions is of the north part of it or of the centre. (p. 59)

After visiting “West Island” (possibly Elephant Island¹) and finding it difficult to drop anchor, the vessel finally harboured at Potter's Cove (King George Island). Here, Captain Macey “learned from Cap. [Roberts] of the King George² that this land or archipelago³ of islands goes by the appellation of New South Shetland and this harbor, Potters” (LA, 30 January, 1821, p. 84). The *Aurora* explored the western region of the South Shetland Islands, including Elephant, King George and Greenwich islands (Fig. 2). The vessel operated independently throughout these expeditions – the only exception would have been a planned survey trip with the *Huron* and its tender, the *Cecilia*. As mentioned in the logbook, some men “embarked in the schooner *Cecilia* [...] the schooner tender to ship *Huron* of New Haven [...] with whom we had agreeing to mate in a cruise to [...] eastern islands” (LA, 22 February 1821, p. 89). However, although all the necessary preparations had been made, the expedition was cancelled when news arrived of another ship returning from the East. Although it was part of a larger fleet, the *Aurora* did not exploit the animal colonies or share the resources taken with other crews. Moreover, no tender supported its operations.

To hunt seals, the *Aurora* landed boats and men first on “West Island” and later at Potter's Cove and Yankee Harbor, both on Greenwich Island. The vessel spent 20 days close to “West Island,” “standing off & on near the place appointed for our boats rendezvous” (LA, 13 January 1821, p. 70). The *Aurora* spent 8 days anchored at Potter's Cove, but over a month at Yankee Harbor. Considering the time spent in the South Shetland Islands, the number of landings was small (about six – including two on “West Island,” one at Potter's Cove, two at Yankee Harbor and one in an unspecified location) (Table 1). In general, each landing involved two boats and men, who departed from the vessel and worked in specific locations before returning on board with the product of the hunt: “we intended to have landed two boats crew to take seal, as it appeared from report of the boats crew who circumnavigated the

¹According to the *Aurora's* logbook, the western end of the “West Island” was called “Cape Voluntine” (Cape Valentine) by English sealers. In addition, the “West Island” was close to Gibraltar Rock, which the English called “Clearance Island” – Clarence Island (LA, 24 January 1821, p. 72). It is therefore possible that the logbook keeper used “West Island” to refer to Elephant Island.

²According to Headland (2018, pp. 185), the vessel *King George*, from Liverpool (Britain), visited the South Shetland Islands in 1820–1821. John Roberts was the captain on this voyage.

³All quotations in this article have retained their original spelling.



Figure 2. Map of the landings made by the *Aurora* in the South Shetland Islands (1820–1821).

island that the seals were more abundant here than at any other part” (LA, 8 January 1821, p. 70); “Dispatched [...] Cook & Tilboot in the boats Tiklau & Clapmatch on a sealing expedition” (LA, 11 February 1821, p. 88). The gangs usually returned after 3 to 10 days. The *Aurora*’s logbook gives little insight into the variety of production activities carried out during the landings, apart from the number of skins collected. There is no explicit mention of how the sealers found shelter. In total, the vessel took 1540 skins in the South Shetland Islands.

The *Huron*

The *Huron* was a ship from New Haven, CT, commanded by John Davis. Its tender was the shallop *Cecilia*, also known as the *Young Huron*. It sailed in company with the *Huntress* from Nantucket, MA, to the South Shetland Islands in 1820 (Headland, 2018). After wintering in the Malvinas/Falkland Islands, the *Huron* and its tender returned to the South Shetland Islands in 1821. Although the first and last parts of the *Huron*’s logbook are missing, the remaining pages provide relevant details of activities in the archipelago (Log of the *Huron* –LH, 1821–1822). Stackpole (1955) and Bertrand (1971) have previously examined the *Huron*’s logbook from different perspectives. However, the present analysis includes references by these scholars to the *Huntress*⁴ which proved useful in understanding the *Huron*’s operations.

The first visit to the South Shetland Islands lasted more than 3 months, from December 1820 to mid-March 1821, and was entirely devoted to the exploitation of fur seals. As with the *Aurora*, exploration of the newly discovered archipelago played an important part in the exploitation strategy. This led to extensive surveying, mainly by the tender *Cecilia*. The exploratory

expeditions had the purpose of understanding the geography of the area and gathering data on the distribution of resources, as well as on the activities of other ships and fleets that might serve as potential allies or competitors. The *Huron* crew surveyed the western region of the South Shetland Islands, visiting places such as Yankee Harbor (Greenwich Island); Low Island; South Beach, Cape Shirreff and Johnsons Bay (on Livingston Island); and Blythe Bay (on Desolation Island) (Fig. 3). Occasionally, crews from other vessels joined the *Cecilia* on its missions:

at 7 Pm got under way with the shallop [...] having on board capt. Barnard⁵ & several mates belonging to the vessels in this Port with a number of men. our intentions is to proceed as far as Blighs Harbor where we are to be met by Capt. Bruno⁶ who has gone to examine the beaches at Sherriffs cape now in possession of the English. (LH, 26 January 1821, p. 2)

The logbook describes a series of encounters between the *Huron* and several other vessels during its first visit to the archipelago. The execution of a special working agreement between the *Huron* and the *Huntress* was particularly important in defining the exploitation strategy. The two vessels met in the Malvinas/Falkland Islands, with the *Huntress*’ captain offering to take the *Huron* to the new South Shetland Islands sealing ground. In return, the *Huron*’s captain offered to use the tender *Cecilia* for logistical purposes. The crews teamed up to work on the islands, dividing the hunt in certain proportions: the *Huron* received about three-quarters of the skins to supply the shallop and more crew (Bertrand, 1971; Stackpole, 1955). One particular entry in the *Huron*’s logbook states that: “Commenced taking onboard the skins we brought in which was 1670 skins, 1230 for the ship and 440 for the schooner

⁵This may have been Charles H. Barnard, the captain of the *Charity* during her 1820–1821 voyage to the South Shetland Islands (Headland, 2018).

⁶This may have been Benjamin J. Brunow, the captain of the *Henry* during her 1820–1821 voyage to Antarctica (Headland, 2018).

⁴It is worth noting that the *Huntress*’ logbook, at some point in its history, was transformed into a sort of scrapbook.

Table 1. Landings made by the *Aurora* in the South Shetland Islands (1820–1821).

Location	<i>Aurora</i> (1820–1821) – landings					Resources taken
	Duration					
	Between hours and 2 days	Between 3 and 15 days	Between 16 days and a month	Over a month	Unspecified	
Elephant I. -C. Valentine	—	2	—	—	—	516 skins
Greenwich I. -Yankee H.	—	2	—	—	—	67 skins
K. George I -Potter's C.	—	—	—	—	1	N/D skins
Unspecified	—	—	—	—	1	330 skins
Total (n = 6 landings)	—	4	—	—	2	1540 skins

Huntress” (LH, 10 February 1821, p. 5). A month later, Captain Davis noted that: “we are now separated from the schooner Huntress. the time of our agreement being up” (LH, 5 March 1821, p. 8).

During its first visit to the South Shetland Islands, the *Huron* was anchored at Yankee Harbor and acted as a base for outfitting boats for sealing in nearby locations. In addition, the shallop *Cecilia* was to conduct expeditions further afield (see above). The number of landings for exploitation purposes was relatively high (about 18), especially when compared to those made by the *Aurora* (Table 2). Landings at various points in Yankee Harbor involved individual boats and men. These gangs spent as long as from a few hours to 5 days away from the vessel, returning with the product of the hunt to resupply and start again: “At 8 Am sent the Boatswain to the head of the sound with a boat and crew on sealing (. . .) at 7 pm the Boatswain returned with 13 seal skins” (LH, 13 March 1821, p. 10). Apart from the number of skins taken, the logbook does not say much about the production activities carried out at these landing spots. There is also no indication of how the sealers found shelter.

When sealing further afield, the shallop played an important role in transporting boats and men. Landings to explore the potential for sealing in different locations lasted from a few hours to 1 day. In contrast, landings to seal in clearly identified productive areas (such as the South Beach of Livingston Island) often took at least 1 month. The shallop was in charge of delivering provisions and collecting the skins taken. It is unclear whether these gangs established a single camp or moved from place to place during their stay in a particular area. Again, the logbook does not provide any information on the production activities carried out in these landing locations (other than the number of skins taken) or how sealers managed to find shelter. It is worth noting that they made an additional landing on the beaches of Yankee Harbor. This was primarily a mooring site but facilitated various production activities beyond hunting, including the salting of the sealskins that boats and the tender brought in from some of the other beaches.

The *Huron* finally reached the Malvinas/Falkland Islands on 10 April 1821. A week later there were 8121⁷ skins on board.

The second visit of the *Huron* lasted almost 4 months, from mid-October 1821 to mid-February 1822. While the sealers continued to gather information on the geography of the region and the distribution of resources, their explorations were less extensive than those of the previous season, as they had already collected significant data on these subjects. In all, the *Huron* crew

visited several locations, including: Yankee Harbor (Greenwich Island); South Beach, Johnsons Bay, Penguin Point, New Plymouth and Cape Shirreff (on Livingston Island); and Blythe Bay (Desolation Island) (Fig. 4). It should be noted that some of the surveys were conducted in conjunction with other vessels from the New York fleet:

Capt. Johnson⁸ & Blovet⁹ has agreed to take two of our Boats and crews to the beach in the Jane maria who is bound up to the westward as soon as the weather will permit. which I take as a great favor. (LH, 27 October 1821, p. 52)

This time, the *Huron* was mainly interested in killing and processing elephant seals, although fur seals were also taken. The previous visit had shown that the size of the fur seal colonies had begun to decline, while elephant seals were still available in large numbers, providing an opportunity to redefine the exploitation strategy (Bertrand, 1971). During the second visit, the *Huron* established a new working agreement with the *Lynx*¹⁰, while the two vessels met in the Malvinas/Falkland Islands (Pearson, 2018a). Captain Davis agreed “to join cruise next season with Capt. Siddens in shearing two thirds to his one for the use of the shallop [Cecilia]” (LH, 14 June 1821, p. 27). The captain of a vessel identified in the logbook as *George*¹¹ may also have entered into the agreement. As the entry of 25 October 1821 shows:

at 9 Am got 2 Boats and crew over the ice and started for the beach to Procure Elephant blubber in company with two boats & crews from the Brig Lynx in the afternoon got our Large whale boat over the ice and the Brig Lynx Big boat likewise and all ready to start in the morning. (LH, p. 52)

The *Huron* dropped anchor again in Yankee Harbor between October 1821 and February 1822. The sealers set up try pots at the mooring site, which was used for processing and some activities other than hunting. The try pots, brought from the Malvinas/Falkland Islands, were shared by the crews of the three vessels involved in the agreement. The *Huron*'s logbook reports that its crew “landed some Empty casks and one of the Brig Lynx try pots

⁸This may have been Robert Johnson, captain of the *Wasp*, from New York, during her 1821–1822 voyage to the South Shetland Islands (Headland, 2018).

⁹This may have been Abraham Blauvelt, the captain of the *Jane Maria*, from New York, during her 1821–1822 voyage to Antarctica (Headland, 2018).

¹⁰According to Headland (2018), the vessel *Lynx*, from Port Jackson, Australia, visited the South Shetland Islands between 1820 and 1822, under the command of Richard Siddens.

¹¹The *Huron*'s logbook indicates that the schooner *George* was from Stonington, CT, and was captained by Wilcox. No details of this voyage were found in the chronologies of Antarctic voyages examined in this study. However, the American Offshore Whaling Voyages Database (New Bedford Whaling Museum & Mystic Seaport Museum, Inc, 2021) lists a voyage made between 1821 and 1822 by a vessel called *George* from Stonington, CT, captained by Stephen Wilcox.

⁷This information is taken from the first pages of the *Huron*'s logbook.

Table 2. Landings made by the *Huron* during her first visit to the South Shetland Islands (1820–1821).

<i>Huron</i> (1820–1821) – landings						
Location	Duration				Unspecified	Resources taken
	Between hours and 2 days	Between 3 and 15 days	Between 16 days and a month	Over a month		
Greenwich I.	2	2	—	1	1	157 skins
-Yankee H.	2	—	—	—	—	26 skins
-Yankee H.	—	2	—	—	—	81 skins
-Yankee H. (mooring site)	—	—	—	1	—	—
-Yankee H.	—	—	—	—	1	50 skins
Low I.	6	—	—	—	—	1580 skins
Livingston I.	—	1	1	3	—	8663 skins
-South beach	—	—	1	—	—	334 skins
-South beach	—	—	—	3	—	8277 skins
-North beach	—	1	—	—	—	52 skins
Smith I. -M. Pisgah	1	—	—	—	—	10 skins
Unspecified	—	—	—	—	1	207 skins
Total (n = 19 landings)	9	3	1	4	2	10617 skins

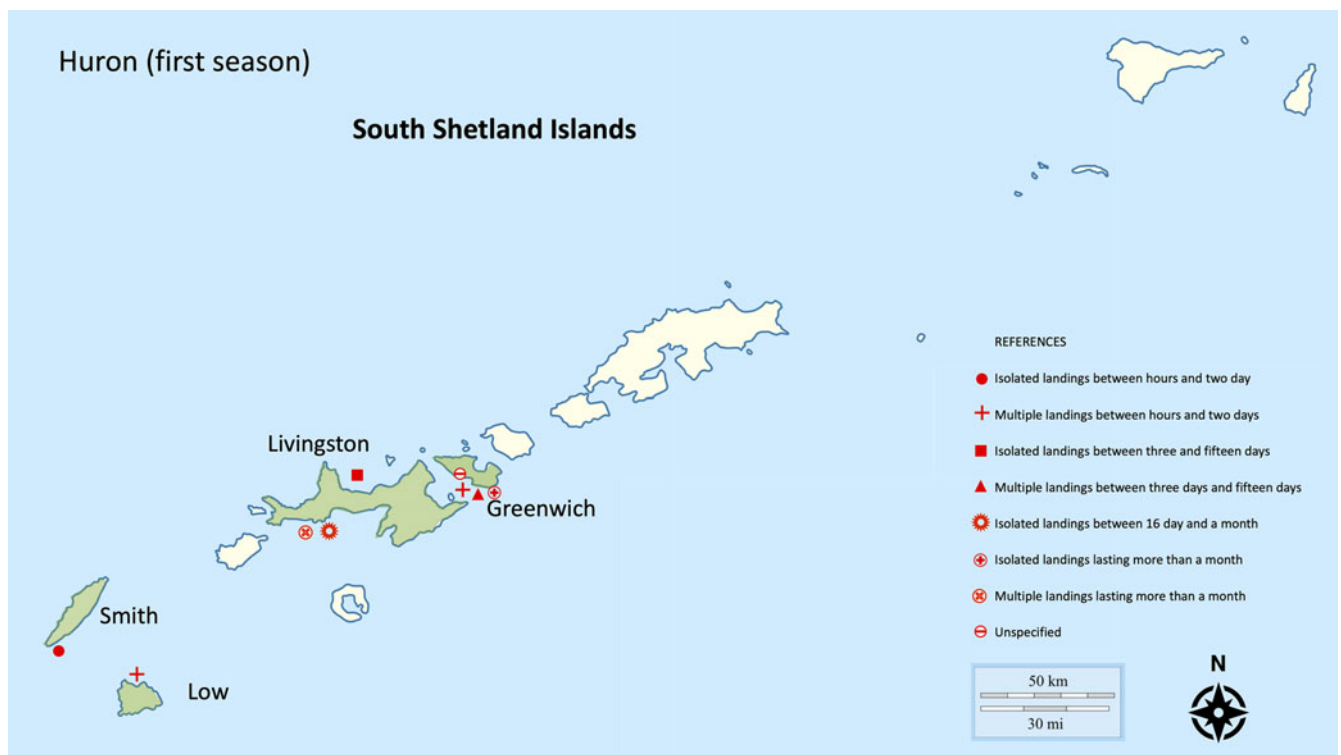


Figure 3. Map of the landings made by the *Huron* during her first visit to the South Shetland Islands (1820–1821).

all hands on shore setting up the tryworks” (LH, 12 November 1821, p. 56).

In order to find and exploit elephant and fur seals, the landings were expected to be more or less similar to those of the first voyage. There were many landings (about twelve) for the purpose of

hunting. Landings on the beaches of Yankee Harbor – not far from the anchorage – involved boats and men and usually lasted between 1 and 7 days. Once again, the tender was expected to take boats and men from Yankee Harbor to distant locations. On this occasion, however, with the *Huron* arriving in October and the



Figure 4. Map of the landings made by the *Huron* during her second visit to the South Shetland Islands (1821–1822).

harbour still covered with ice, weather conditions clearly influenced the exploitation strategy. As the sealers could not use the shallop immediately, they had to leave the *Huron* in boats and land in various locations, usually staying for a month or more. Some gangs, such as those operating on the South Beach of Livingston Island, focused on elephant seals, while some others, such as those operating at Cape Shirreff, were particularly interested in fur seals (Table 3).

The logbook contains no information on how sealers found shelter in any of these places. Information on production activities is limited, with only references to the number of skins taken (but no specification of the amount of blubber). Once out of Yankee Harbor, the tender was used in a similar way to the previous season to resupply the gangs and gather resources. The shallop was particularly key for transporting large quantities of elephant seal blubber to the try-works site. Yankee Harbor became important for processing activities, including skin salting and oil rendering. On its second visit to the archipelago, the *Huron* may have taken 947 sealskins and an estimated 70,000 litres of elephant seal oil, based on the volume and number of casks brought on board.

Third exploitation cycle

The *Thomas Hunt*

The *Thomas Hunt* was a schooner from Stonington, CT, commanded by William Henry Appleman. It sailed alone to the South Shetland Islands in 1873 and made three further voyages to Antarctica in the 1870s. Notably, the last pages of the *Thomas Hunt*'s logbook contain a summary of the seals taken on specific dates and in certain locations (Logbook of the *Thomas Hunt* –LTH, 1873–1874).

The *Thomas Hunt* spent 4 months in the South Shetland Islands between October 1873 and February 1874, exclusively focusing on

the exploitation of fur seals. According to the logbook, several factors influenced the decision to pursue a particular sealing strategy, including the need to gain knowledge of the distribution and abundance of animal resources, and the impact of weather conditions at the time of arrival. Initially, the vessel spent about 15 days searching for a suitable place to land and set up camp. The *Thomas Hunt* sailed around Smith Island, the western region of Livingston Island, and Window and Rugged islands. The sea remained partially frozen, and navigating around icebergs was a hazard. On 27 October 1873, Livingston Island was sighted, and the vessel “Penetrated the ice in hopes of reaching Cape Shirreff But became so thick packed it was imprudent to attempt farther. hauled aft and worked out and to windward for Start Point ice appearing less in that direction which afterwards proved erroneous” (LTH, p. 16).

Meanwhile, boats and men were sent out to explore various beaches. They took only a few seals from Window Island and Start Point (Byers Peninsula, Livingston Island):

Launched one boat [on Window Island] and sent her in. First, second, and fourth officer with crew found a landing between the Rocks and took and brought on board 10 prime skins. Sent them over to Start Point to search the beach and found 4 seals and returned. (LTH, 29 October 1873, p. 17).

The main problem was that the shore was “so Densely covered with snow and ice to its waters edge its not possible to leave men” (LTH, 29 October 1873, p. 17). Furthermore, animals found it difficult to haul themselves out (LTH, 3 November 1873, p. 19).

The *Thomas Hunt* continued to explore the archipelago in search of fur seals. Overall, the voyage combined the establishment of a few camps and several short landings (Fig. 5). On 9 November 1873, the captain sent three boats to “Start Point and Window Island [the two places where the men hunted the first seals of the season] in hopes of Landing and leaving second mate and Boats crew with Provisions for a month. Returned in the evening after

Table 3. Landings made by the *Huron* during her second visit to the South Shetland Islands (1821–1822).

<i>Huron</i> (1821–1822) – landings						
Location	Duration				Unspecified	Resources taken
	Between hours and 2 days	Between 3 and 15 days	Between 16 days and a month	Over a month		
Greenwich I.	2	1	—	1	—	5 skins blubber
- <i>Yankee H.</i>	2	—	—	—	—	1 skin
- <i>Yankee H.</i>	—	1	—	—	—	—
- <i>Yankee H. (mooring site)</i>	—	—	—	1	—	4 skins
Livingst. I.	1	—	1	4	—	898 skins blubber
- <i>C. Shirreff</i>	—	—	1	—	—	160 skins
- <i>C. Shirreff</i>	—	—	—	2	—	539 skins
- <i>South beach</i>	—	—	—	1	—	197 skins blubber
- <i>Penguin Pt.</i>	1	—	—	—	—	2 skins
- <i>Johnsons B. (surround.)</i>	—	—	—	1	—	blubber
Desolation I. -<i>Blythe B.</i>	3	—	—	—	—	44 skins
Total (n = 13 landings)	6	1	1	5	—	947 skins blubber



Figure 5. Landings made by the *Thomas Hunt* in the South Shetland Islands (1873–1874).

successfully effecting a landing” (LTH, p. 20). A few days later, the vessel “found the boys all right trying to fix up there shelter” (LTH, 12 November 1873, p. 21). Almost immediately, the captain decided to “[steer] Northeast for Elephant Island and seals Rocks to leave a Boat and crew” (LTH, 14 November 1873, p. 22). The men remained in the western region of the South Shetland Islands for over 2 months, until 14 January 1874, when the vessel “Reached Start Point 12 midnight. Starten boat ashore and if not taking any seals to break encampment and return on

board, which was done arriving at 4 am with camp Equipage and 29 skins” (LTH, p. 31). Meanwhile, “In passing Window Island ordered a survey of the beaches which was taken by boats crew found all hands asleep but no seals up” (LTH, p. 31). It seems likely that while the main camp was being set up at Start Point, the men visiting Window Island were only a fraction of the gang exploring the area by boat.

Another camp was established at the eastern end of the “Seals Rocks” (i.e. the Seal Islands, a group of small islands and islets

about 7 km north of Elephant Island). Because of the sea conditions, there were several attempts to settle there. On 16 November 1873, a boat commanded by the first mate landed successfully but lost its oars, and another boat commanded by the third officer (Mr. Maynard) lost food and clothing (LTH, p. 23). While the third officer's party returned to the ship for help, the first mate's party took refuge in a cave and subsisted on local resources. Eventually all the men returned to the ship to refit and wait for favourable landing conditions. The first mate was in charge of the party between 22 November and 24 December 1873 (LTH, pp. 25–27). Meanwhile, the *Thomas Hunt* sailed to Start Point and returned, and the logbook keeper resumed his duties when the third officer (Mr. Maynard) took charge of the gang. The men camped at the eastern end of the “Seals Rocks” for 2 months, until 19 January 1874 (LTH, p. 32). The document states that: “In the time we have been able to [thoroughly] seal all the Islands almost daily and also visit Elephant Island and Cape Lindsay with our Boats. Seals have however been scarce (remarkably so)” (LTH, 24 December 1873, p. 25). Clarence Island was also visited, as the logbook mentions that a number of seals were caught there (LTH, 24 December 1873, p. 25). It is worth noting that the camp was set up in a cave, probably the same one used on 16 November 1873. While there, the men killed “. . . sea dogs, sea Tigers, Elephants and Leopards on an average of one a day and occasionally a Dozen Penguins . . .” for cooking and fire (LTH, 24 December 1873, p. 26).

While the gangs stayed at Start Point and the “Seals Rocks,” the *Thomas Hunt* sailed seven times from one end of the archipelago to the other, visiting camps and landing boats and men in various locations. There were over 30 landings for hunting purposes on Window, Livingston, Rugged, Smith, Low, Desolation, Elephant and King George islands, and the “Seals Rocks.” These landings usually involved two boats and lasted for a few hours, until the men had hunted as many seals as possible. Some of these events are described as follows: “Stood in to Smith Is. lowered our Boats and Landed. sea rugged. took thirty seven prime seals and returned on Board” (LTH, 9 January, 1874, p. 30); “Stood in to round Point Georges Island. Lowered two Boats and Landed took 72 prime seals and returned on board” (LTH, 15 January, 1874, p. 31); “Landed last evening on Walkers Point [on Elephant Island] and took 10 seals. This day sealed Clarence Island and took 17 seals and started westwards. Seals scarce” (LTH, 20 January, 1874, p. 33). In some cases, the logbook gives details of hunting and processing activities. Some entries describe searching for seals both on the coast and inland: “Stood into Cape Shirreff and went in with two boats. Landed and searched the beaches, hills and valleys [thoroughly] found and took forty prime skins and returned on board. Kept [off] and ran to Desolation. searched high and low found nothing” (LTH, 16 February 1874, p. 38). Working in certain areas, including the “Seals Rocks,” was potentially dangerous due to rough sea conditions and topography: “. . . sent two boats in to Seals Rocks [. . .] one not returning feared some causality [. . .] found the second & fourth mates and Boatsteerers with one man on the outer Rock. Reports the loss of their boat with four men” (LTH, 21 January 1874, p. 33). Some entries suggest that at least some of the beaming and salting took place on board: after taking some fur seals, and while “Laying [off] Round Point. men Employed Beaming skins” (LTH, 12 February 1874, p. 38).

The *Thomas Hunt* took over 1400 skins in the South Shetland Islands (Table 4). The logbook shows that there were several vessels operating in the archipelago at the time. For example,

On the Eastern Point [of Desolation Island] met two boats, one from schooner Flying Fish & one from the Franklin¹² both of New London just arrived out two days previous. Capt. Glass found one sea dog and slew him for oil for his lamps. Reports Francis Allin and Simmons.¹³ Bound for Potters cove. (LTH, 13 November 1873, p. 22)

Similarly, “Laying off and on saw the bark Greenland¹⁴ this day heading westward”; “Anchored at Potter’s Cove found schooners Franklin, Golden West & Flying Fish ready to sail for home first fair wind” (LTH, 13 November 1873, p. 22). However, none of these ships was associated with the *Thomas Hunt*, and other records suggest that there was tension with both the *Greenland* and the *Lizzie Simmons*: Some seals

. . . were taken from us by the German Bark Greenland Piloted and associated with Capt. Potts of schooner Lizzie Simmonds of New London whose motive or motto seems to be if he cannot make a voyage himself, others shall not. But it’s only the old adage verified misery loves company Human nevertheless, and coming in on Sunday to destroy & that without taking all the skins which I admit were worthless on account of the scars and sores upon them . . . (LTH, 24 December 1873, p. 26).

On 23 February 1874, the vessel set sail for home. The logbook keeper thought this was a wise decision, as he found the “weather and winds treacherous.” He added:

Some time believe that with sails and rigging to stand the storms I could add from two to three hundred seals to our voyage. Its not only a loss to the owners which I regret. But one to myself to which I am partially to blame having said & thought her sails would stand the voyage before leaving home which was a mistake. (LTH, 23 February 1874, p. 40)

The Sarah W. Hunt

The *Sarah W. Hunt* was a schooner from Stonington, CT, commanded by James W. Budington. It sailed alone to the South Shetland Islands in 1887 and returned twice the following seasons. According to the logbook, the cargo was completed in Tierra del Fuego (Log of the *Sarah W. Hunt* –LSH, 1887–1888).

The *Sarah W. Hunt* focused on the exploitation of fur seals and spent only 15 days in the archipelago between January and February 1888. The need to learn more about the distribution and abundance of animal resources was key to its sealing strategy. The vessel sailed across the archipelago from west to east and then in the opposite direction in search of seals. Seven landings were made on Smith, Rugged, Livingston and Desolation islands, and the “Seals Rocks” (Fig. 6). These landings involved an unspecified number of boats and lasted only for a few hours due to resource constraints. Small numbers of seals were found on Window Island, Robbery Beach and Cape Shirreff (on Livingston Island), and the “Seals Rocks.” Other sites were completely disappointing: “At 6 hrs Am lowered the boats and went in and looked at the rocks around Cape James. Came on board at noon saw nothing” (LSH, 20 January 1888, p. 33); “At 6 hrs PM lowered the boats and worked Rugged Island. Came on board at 11 hrs got nothing” (LSH, 22 January 1888, p. 34).

¹²The *Flying Fish*, the *Franklin* and the *Golden West* were from New London, CT, and visited the South Shetland Islands during their 1873–1874 sealing voyages. The captain of the *Flying Fish* was Simeon Church, the master of the *Franklin* was Chester, and that of the *Golden West* was John L. Williams (Headland, 2018).

¹³The *Francis Allyn* and the *Lizzie Simmons*, both from New London, CT, visited the South Shetland Islands during their 1873–1875 sealing voyages. The captain of the *Francis Allyn* was Robert H. Glass, while the captain of the *Lizzie Simmons* was Potts (Headland, 2018).

¹⁴This was probably the Gerszman vessel *Grönland*, captained by Eduard Dallman (Headland 2018).

Table 4. Landings made by the *Thomas Hunt* in the South Shetland Islands (1873–1874).

<i>Thomas Hunt (1873–1874) – landings</i>						
Location	Duration				Unspecified	Resources taken
	Between hours and 2 days	Between 3 and 15 days	Between 16 days and a month	Over a month		
Window I.	2	—	—	—	—	16 skins
Livingst. I.	3	—	—	1	—	178 skins
-Start P.	1	—	—	—	—	4 skins
-Start P.	—	—	—	1	—	124 skins
-C. Shirreff	2	—	—	—	—	50 skins
Rugged I.	1	—	—	—	—	—
Smith I.	17	—	—	—	—	517 skins
Low I.	5	—	—	—	—	131 skins
Desol. I.	2	—	—	—	—	—
Elephant I.	2	—	—	—	—	25 skins
-C. Lindsay	1	—	—	—	—	15 skins
-Walker’s P.	1	—	—	—	—	10 skins
K. George I. -Round P.	3	—	—	—	—	217 skins
Seal Islands	1	—	—	1	—	327 skins
-East. end	—	—	—	1	—	322skins
-East. end	1	—	—	—	—	5 skins
Clarence I.	1	—	—	—	—	17 skins
TOTAL (n = 39landings)	37	—	—	2	—	1428 skins

Note: Although the document provides a summary of the number of skins taken at different hunting locations, there are a number of inconsistencies with the data provided by the entries. As the analysis in this article focuses on the narratives provided by the entries, this information is given priority for the sake of consistency.

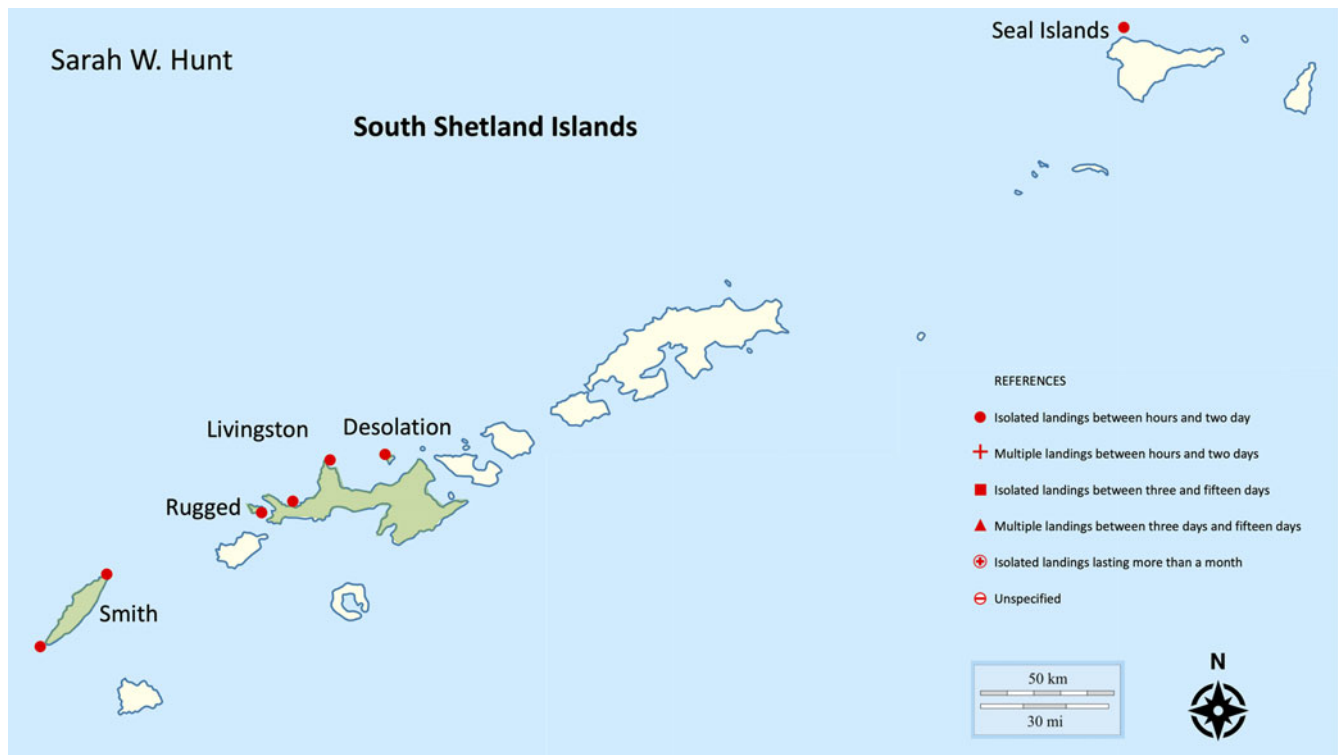


Figure 6. Map of the landings made by the *Sarah W. Hunt* in the South Shetland Islands (1888).

Table 5. Landings made by the *Sarah W. Hunt* in the South Shetland Islands (1888).

<i>Sarah W. Hunt</i> (1888) – landings						
Location	Duration				Unspecified	Resources taken
	Between hours and 2 days	Between 3 and 15 days	Between 16 days and a month	Over a month		
Smith I.	2	—	—	—	—	—
-C. James	1	—	—	—	—	—
-C. Barlow	1	—	—	—	—	—
Rugged I.	1	—	—	—	—	—
Livingst. I.	2	—	—	—	—	24 skins
-Robbery B.	1	—	—	—	—	3 skins
-C. Shirreff	1	—	—	—	—	21 skins
Desol. I.	1	—	—	—	—	—
Seal Islands	1	—	—	—	—	15 skins
Total (n = 7 landings)	7	—	—	—	—	39 skins

In total, the *Sarah W. Hunt* took 39 skins in the South Shetland Islands (Table 5). The logbook does not record any sightings of other vessels operating in the area during this period. The *Sarah W. Hunt* took most of its cargo (1355 skins) on Tierra del Fuego and Diego Ramírez islands, reflecting the scarcity of fur seals in the South Shetland Islands, and the geographical and historical relationship between Antarctica and these other South Sea regions.

Conclusions: reflecting on exploitation strategies and their archaeological footprint

During the first sealing cycle, the logbooks of the *Aurora* and the *Huron* (especially during the *Huron*'s first visit to the archipelago) reveal that exploration of the South Shetland Islands played an important role in defining exploitation strategies. As the archipelago had only recently been discovered, sealing captains had limited knowledge of the location of islands, the coastal features or the existence of safe anchorages. In this context, exploration may have been crucial for understanding the distribution of resources. Although animal colonies were considerable in size, sealers may have been interested in identifying the most profitable hunting grounds in terms of time and effort. However, as ships continued to visit the South Shetland Islands, knowledge of the archipelago and the abundance and distribution of animal resources may have changed. The *Huron*'s second visit to the islands probably supports this hypothesis, as the captain decided to focus on the exploitation of elephant seals due to the declining fur seal population.

In the early 19th century, many vessels sailed together to the South Shetland Islands, often serving the interests of the same companies. Agreements were made on the spot to deal with local challenges. Some agreements, such as those between the *Aurora* and the *Huron*, focused primarily on exploration (see more on exploitation agreements below). The ability to combine crews and share shallows or vessels to gain knowledge of the region was another important factor in defining exploitation strategies. However, solidarity was not the only driving force in the archipelago, where sealers wanted to take as many animals as possible. Exploration was therefore essential for determining the location of competing vessels and their activities.

During the third sealing cycle, geographical knowledge of the archipelago was still based on Powell and Weddell's charts dating back to the 1820s, but at least sealers had the benefit of this knowledge and greater access to the journals and accounts of earlier expeditions. The logbooks of the *Thomas Hunt* and the *Sarah W. Hunt* show that exploration was still essential to understand the distribution of resources and to define exploitation strategies. By the last quarter of the 19th century, animals were scarcer than when sealers first arrived in the region. Furthermore, the size of the animal colonies decreased with each successive hunting season. The selected documents show that sealers did not always determine where it was most profitable to hunt (as in the case of the *Thomas Hunt*), but rather where and to what extent hunting was possible at all (as in the case of the *Sarah W. Hunt*). In the third sealing cycle, most ships sailed alone to the South Shetland Islands, as some companies found that it was no longer profitable to send a whole fleet to the region. Ships carried out most of the exploration work individually. However, there may have been some exceptions at the beginning of the period, when resources still allowed for some collective effort.

For the early seasons of the first sealing cycle, the logbooks of the *Aurora* and the *Huron* show that sealing strategies were geographically limited, focusing on specific areas within the archipelago. Given the abundance of animal resources, this strategy may have been sufficient to fill cargoes. Limited geographical knowledge and the existence of fleets that dominated some areas in a competitive scenario may have reinforced this approach. Exploitation agreements were common during this period, as they were perceived to increase productivity, reduce risk and create alliances against competitors. The *Huron*'s logbook states that the captain had an agreement with some other captains to catch fur seals in the 1820–1821 season, and elephant seals (along with fur seals) in the summer of 1821–1822. The *Huron*'s tender played a key role in the logistics, resulting in greater returns for the vessel compared to other parties to the agreements. The *Huron*'s logbook also describes an agreement between several American ships to counter the British, who took possession of some productive beaches in 1820–1821. In the end, however, there was no confrontation (Bertrand, 1971; Stackpole, 1955).

Looking at the time spent in the archipelago, it is clear that the logbooks from the first sealing cycle contain fewer landings focused on hunting than those from the late 19th century. Landings in the early 19th century were characterised by two distinct patterns. First, when the ship was close to the hunting beaches, landings were made by boat and lasted for a relatively short time, ranging from a few hours to a maximum of 10 days. This was standard practice for all landings made by the *Aurora* crew, as well as those made by the *Huron* crew at Yankee Harbor, and allowed the men to move between ship and shore without expending too much time and energy. Sealers would return to the ships when their work was done, when they had gathered enough resources to fill the boats, or when they needed to resupply. In some places, it may have taken only a few days to catch most of the animals. However, it is unclear from the logbooks whether the men visited several sites or returned to the same sites repeatedly as the boats went back to the ships and set off for new landings. The latter possibility may have extended the occupation of some sites.

Second, the use of a tender became important when landings were required at a considerable distance from the ship. Smaller and with less draft, shallops could reach shallow and rocky shores, as opposed to larger ships. Shallops saved time and energy as they could transport boats and men, deliver provisions to sealing gangs and retrieve resources caught on the beaches. However, there were times when shallops could not be used (due to weather conditions, the decision to restrict the use of the tender to certain voyages, etc.), leaving the men no choice but to use their boats to cover long distances. Sometimes, short landings were possible far from the vessels to explore the potential of certain beaches for hunting. However, most of the landings that took place far from the ship, in proven productive areas, lasted for a long time (between 1 and 2 months). The documents provide little information on the movements of gangs, so it is uncertain whether the men involved in extended landings stayed in one place or moved from one point to another (possibly within a limited area) in search of resources.

Although some landings may have taken place in close proximity to each other, the logbooks do not provide any hints on the possible links between hunting locations. However, some documents do suggest the existence of complementarities between hunting sites and some other locations where specific processing activities took place. Mooring sites involved extended landings. During the *Huron's* first visit to the South Shetland Islands, Yankee Harbor was used for beaming and salting sealskins brought in from other locations. In addition, during the *Huron's* second visit to the archipelago, the mooring site was used to establish try-works for processing elephant seal blubber from distant locations. Setting up try-works in a safe harbour facilitated the landing of heavy equipment, as the use of a tender made it easier to unload the blubber.

The selected logbooks from the third sealing cycle show that the geographical area of exploitation was wider than in the early 19th century, covering the entire archipelago. As the number of animals was smaller, sealers had to do their best to find their prey. These circumstances became more difficult as the century progressed, which may have led to different strategies. In the early portion of the third sealing cycle, when animal colonies had begun to recover from earlier exploitation, the captain of the *Thomas Hunt* used a combination of short and long landings, with a greater number of brief ones. Short landings lasted only for a few hours and were aimed at collecting scattered animals found on the beaches as the ship sailed around the archipelago. Longer landings, lasting for a month or more, took place in a few strategic locations where

resources were more abundant. These landings implied the establishment of camps where the gangs found shelter. However, some of the men may have spent some time in the vicinity looking for additional resources. During the final stage of the third sealing cycle, the captain of the *Sarah W. Hunt* made only short landings, as the reduced numbers of animals did not justify longer stays or the establishment of camps.

The exploitation strategies examined in this paper may have resulted in a unique material footprint. As mentioned above, the number of landings made by vessels in the third sealing cycle exceeded those in the first period. However, while these differences may have followed a general pattern, they do not necessarily correspond to the number of archaeological sites identified (or potentially identifiable) for each sealing cycle. Here, it is important to assess not only the number of voyages made in each period, which ranged from 130 in the first cycle to around 30 in the third one, but also the archaeological visibility of the landings in terms of their duration and potential to leave behind archaeologically detectable traces.

Concerning early-19th-century voyages, we found that while half of the landings with a known duration were fleeting or very short, the other half predominantly lasted between 16 days and 1 month. This would clearly increase the likelihood of leaving an archaeologically detectable footprint (other variables not addressed in this study, such as the number of people in the gangs, could be added to the equation). In any case, the material traces of landings with a different duration and character may vary, as we will suggest later.

In contrast, the late-19th-century logbooks selected for study recorded only two extended landings involving the establishment of camps capable of making a strong archaeological impact. Meanwhile, most of the documented landings lasted for only a few hours, did not require the construction of camps and had little capacity to leave a clear archaeological footprint. This could be one of the reasons for the relative invisibility of the archaeological sites from the late 19th century (which, as mentioned above, has been a subject of debate among archaeologists). Nevertheless, as some scholars suggest (Senatore, 2018), there is still a need to further investigate the chronology of the archaeological sites.

According to the data collected so far, the geographical distribution of landings was more limited in the first exploitation cycle than in the third. Not only were vessel operations more concentrated in certain parts of the archipelago, but also certain islands and beaches were also subject to more intensive exploitation. This may explain the clustering of archaeological sites, thought to date from the early 19th century, in certain areas studied by different projects (although it is worth noting that these clusters of sites may have resulted from landings made by the same vessel or by different ships, even at different times, during the first sealing cycle).

The two landing patterns identified in the selected logbooks from the first sealing cycle may also provide important archaeological insights. As mentioned above, if the landings were made close to the vessel, they may have lasted from a few hours to a few days. If the ship was anchored in a safe harbour, a mooring site may have been established on the nearby beach. These circumstances may have resulted in a distinct configuration of archaeological sites, including a mooring site with a strong archaeological footprint (due to its prolonged occupation) and a number of nearby sites bearing a more subtle trace.

Mooring sites would have distinctive features signalling the specific activities carried out there, such as the processing of

resources and ship repairs. Although archaeological investigation of such sites in the South Shetland Islands is limited, some work has suggested the possibility of recording anchorage locations, identifying potential mooring sites and studying their characteristics (Zarankin et al., 2023). In this context, sealing logbooks such as those analysed in this paper could provide an important insight into the historical use of different anchorages, as well as the occupation of neighbouring sites.

In the vicinity of the mooring sites, landings lasting for a few hours probably left little archaeological evidence, as the men may not have set up camps. If the landings lasted for a few days, the gangs may have turned up their boats to protect themselves from bad weather, as this alternative was less labour-intensive and time-consuming than building structures. Pearson (2018b) has outlined the distinctive footprint associated with this type of sites. The construction of shelters may have been an option for landings lasting for almost a week. On the one hand, it is difficult to determine the exact point at which a gang would have found it worthwhile to build a structure. On the other hand, it is worth recalling that some gangs may have returned to the same locations after resupplying and taking on board the resources they had collected, thus extending the duration of some occupations.

Landings far from the vessel's anchorage often lasted longer, almost a month. It is likely, therefore, that camps were established in these locations by building structures, especially where caves were not available. These landings were clustered in different sectors of the islands, and typically a single vessel could make several landings on specific coasts (albeit at varying distances between them).

The logbooks examined show that in the third sealing cycle landings were spread over a large geographical area. However, as explained above, the majority of these landings were fleeting and may not have left an archaeological footprint. In contrast, extended landings were rare and, as they lasted about a month, they had the potential to leave strong material traces, involving the construction of shelters for the gangs. These landings may have taken place in specific locations on some beaches, without being part of a wider network of nearby extended landings (this was not the case in the first exploitation cycle). The isolated findings of archaeological sites from the late 19th century may explain this situation.

Documentary evidence for specific extended landings may correspond to previously identified archaeological sites or may guide future fieldwork. For example, Pearson (2018a) has suggested that landings made by the *Huron* crew on the South Beach of Livingston Island during the 1820–1821 season may correspond to sites excavated by the Landscapes in White project. Meanwhile, a site like the one described in the *Thomas Hunt's* logbook at Start Point may be found with further exploration. Start Point covers a small area, with an extremely rugged coastline and few suitable beaches for landing and setting up camp. While Livingston has been extensively surveyed, logistical difficulties have prevented researchers from thoroughly investigating Start Point. However, this does not mean that the area cannot be systematically explored in the future.

Finally, the logbooks provide information on the species caught at each landing site. Given that the type of exploitation carried out at each archaeological site has not been sufficiently studied (see, however, Senatore, 2018), it could be relevant to attempt to define areas with predominant forms of exploitation or to establish matches between documented locations with known forms of exploitation and specific archaeological sites. Furthermore, recognising peculiarities in the spatial organisation and material

remains of archaeological sites with established forms of exploitation (whether exclusive or mixed exploitation of fur and/or elephant seals) could help to rethink the nature of exploitation at some other camps.

The documents show that exploitation activities may not have been fully accomplished in isolated locations. Processing activities sometimes took place in different locations, suggesting possible links between different sites (both close and distant) and revealing a complex exploitation landscape. A clear example of this is the second voyage of the *Huron*, where the mooring site centralised the extraction of oil from blubber collected in different locations.

In the future, researchers could use Geographic Information Systems to map data from numerous logbooks in order to visualise the diversity of sealing strategies employed both during particular sealing cycles and throughout the 19th century. The Landscapes in White project has recently collected and mapped archaeological information on the location and characteristics of sealing sites in the South Shetland Islands (Zarankin et al., 2023). All of this could be useful for deepening the dialogue between historical documents and material remains. Comparisons between logbooks and the archaeological record could provide an opportunity to identify similarities, differences and complementarities between the two sets of evidence. Undoubtedly, new perspectives and questions will emerge from such an approach.

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References

- Adler, R.** (2015). Introduction to whaling logbooks and journals. *New Bedford Whaling Museum*. <https://www.whalingmuseum.org/learn/research-topics/whaling-history/introduction-to-reading-logbooks-and-journals/> (accessed 07/07/2023).
- Ames, N.** (1830). *A Mariner's Sketches*. Providence: Cory: Marshall and Hammond.
- Basberg, Bjørn L., & Robert K. Headland.** (2013). The economic significance of the 19th century antarctic sealing industry. *Polar Record*, 49, 381–391.
- Berguño, J.** (1993a). Las Shetland del Sur: El ciclo lobero. Primera parte [The South Shetland Islands: The sealing cycle. First part]. *Boletín Antártico Chileno*, April, 5–13.
- Berguño, J.** (1993b). Las Shetland del Sur: El ciclo lobero. Segunda parte [The South Shetland Islands: The sealing cycle. Second part]. *Boletín Antártico Chileno*, October, 2–9.
- Bertrand, K. J.** (1971). *Americans in Antarctica. 1775–1948*. Burlington: Lane Press.
- Burton, R.** (2018). From shoes to shawls: Utilization of 'South Seas' fur seal pelts in late 18th and early 19th Century England. In R. Headland (Ed.), *Historical Antarctic Sealing Industry. Proceedings of an International Conference in Cambridge* (pp. 87–93). Cambridge: Scott Polar Research Institute.
- Busch, B. C.** (1985). *The War against the Seals: A History of the North American Seal Fishery*. Kingston: McGill-Queen's University Press.

- Campbell, R.** (2000). *The Discovery of the South Shetland Islands: The Voyage of the Brig Williams 1819–1820 as Recorded in Contemporary Documents and the Journal of Midshipman C.W. Poynter*. London: Hakluyt Society.
- Caviglia, S. E.** (2015). *Malvinas: Soberanía, Memoria y Justicia, voll II: Balleneros, Loberos, Misioneros, s. XVIII–XIX [Malvinas: Sovereignty, Memory and Justice, voll II: Whalers, Sealers, Missionaries, s. XVIII–XIX]*. Rawson: Ministerio de Educación de la Provincia de Chubut.
- Chapman, T.** (1810). *A Narrative of the Case of Mr. Thomas Chapman, who First Discovered the Means of Making the Fur of the Seal Available to the Manufacturers of Hats, Shawls, & Superfine Cloths: With the Evidence Adduced before a Committee of the Honorable House of Commons*. London: Kemmish and Son.
- Clarke, C. M.** (1854). *Glances at Life upon the Sea, or Journal of a Voyage to the Antarctic Ocean, in the Brig Parana, of Sag Harbor, L. I., in the Years '53 '54; Description of Sea–Elephant Hunting among the Icy Islands of South Shetland, Capture of Whales, Scenery in the Polar Regions, &c.* Middleton: Charles H. Pelton.
- Codevilla, F. S., Pena, W., Rosa, L., & Joia, T.** (2016). A (des) Construção da embriaguez em solos antárticos [The (de)construction of drunkenness in Antarctic soils]. In F. C. Soares (Ed.), *Comida, Cultura e Sociedade: Arqueologia da Alimentação no Mundo Moderno* (pp. 139–168). Recife: UFPE.
- Cruz, M. J.** (2019). *Memórias de um mundo congelado. A indústria lobeira e as experiências antárticas no século XIX [Memories of a frozen world. The sealer industry and Antarctic experiences in the 19th century]*. Belo Horizonte: Federal University of Minas Gerais, Anthropology and Archaeology Department (Unpublished PhD dissertation).
- Fanning, E.** (1924). *Voyages & Discoveries in the South Seas, 1792–1832*. Salem, MA: Marine Research Society.
- Fitte, E. J.** (1962). *El Descubrimiento de la Antártida: Crónica de los Hombres y Barcos que Exploraron las Aguas de las Shetland del Sur [The Discovery of Antarctica: An Account of the Men and Vessels that Explored the Waters of the South Shetland Islands]*. Buenos Aires: Emecé.
- Funari, P., Jones, S., & Hall, M.** (1999). Introduction: Archaeology in history. In P. Funari, M. Hall, & S. Jones (Eds.), *Historical Archaeology. Back from the Edge* (pp. 1–20). London: Routledge.
- Gould, R.** (1941). The charting of the South Shetlands, 1819–28. *The Mariner's Mirror*, 27(3), 206–242.
- Headland, R. K.** (2009). *A Chronology of Antarctic Exploration: A Synopsis of Events from the Earliest times until the International Polar Years, 2007–09*. London: Bernard Quaritch.
- Headland, R. K.** (2018). Antarctic sealing voyages (1786 to 1922). In R. Headland (Ed.), *Historical Antarctic Sealing Industry. Proceedings of an International Conference in Cambridge* (pp. 171–223). Cambridge: Scott Polar Research Institute.
- Hobbs, G.** (1968). The geology of the South Shetland Islands IV: The geology of Livingston Island. *British Antarctic Survey Scientific Reports*, 47, 1–34.
- Johnson, M.** (1999). Rethinking historical archaeology. In P. Funari, M. Hall and S. Jones (Eds.), *Historical Archaeology. Back from the Edge* (pp. 23–36). New York: Routledge.
- Jones, A.** (1985a). British sealing in New South Shetland 1819–26. Part I. *Great Circle*, 7(1), 9–22.
- Jones, A.** (1985b). British sealing in New South Shetland 1819–26. Part II. *Great Circle*, 7(2), 74–87.
- Kirker, J.** (1970). *Adventures to China: Americans in the Southern Oceans 1792–1812*. New York: Oxford University Press.
- Little, B.** (1994). People with history: An update on historical archaeology in United States. *Journal of Archaeological Method and Theory*, 1(1), 5–40.
- Logbook of the Aurora (LA)** (Jul. 1820 – Mar.1821). *Nantucket Historical Society*. Nantucket: Ships log collection, Log 33.
- Logbook of the Huron (LH)** (Jan. 1821– Apr. 1822). *New Haven, Yale University Library*. New Haven, CT: Whaling Log Collection, Reel II Frame 1.
- Logbook of the Sarah W. Hunt (LSH)** (Oct. 1887 – Dec. 1888). *Mystic Seaport Museum*. Mystic: G. W. Blunt White Library, Roll MR 2.
- Logbook of the Thomas Hunt (LTH)** (Jul. 1873 – May 1874). *Providence Public Library*. Providence: Nicholson Whaling Logbook Collection, Volume 487, Wh M6652 1865L.
- Mayorga, M.** (2017). Actividad lobera temprana en la Patagonia Oriental: Caza de mamíferos marinos [Early sealing activity in Eastern Patagonia: The hunting of marine mammals]. *RIVAR*, 4(11), 31–51.
- Miers, J.** (1820). Account of discovery of New South Shetland, with observations on its importance in geographical, commercial and political point of view: With two plates. *Edinburgh Philosophical Review*, 3, 565–567.
- Moreno, P.** (2000). Botellas de vidrio en la Península Byers, Isla Livingston, Shetland del Sur. In M. Y. Polverini (Ed.), *Actas del III Congreso Argentino de Americanistas* (pp. 207–228). Buenos Aires: Sociedad Argentina de Americanistas.
- New Bedford Whaling Museum & Mystic Seaport Museum, Inc.** (2021). *American Offshore Whaling Voyages Database*. Whaling History. <https://whalinghistory.org/?s=AV05587> (accessed 10/26/2022).
- O’Gorman, F.** (1963). The return of the Antarctic fur seal. *New Scientist*, 20, 374–376.
- Orser, C.** (1996). *A Historical Archaeology of the Modern World*. New York: Plenum Press.
- Pearson, M.** (2018a). Australian sealers in the Antarctic region – 1820–22. *The Great Circle*, 40(2), 105–121.
- Pearson, M.** (2018b). Living under their boats: A strategy for southern sealing in the nineteenth century – its history and archaeological potential. *The Polar Journal*, 8(1), 70–74.
- Pearson, M.** (2018c). Nineteenth century sealing vessels in the southern oceans — An introduction to their history, wrecks and archaeological potential. *Australasian Journal of Maritime Archaeology*, 42, 25–38.
- Pearson, M., & Stehberg, R.** (2006). Nineteenth century sealing sites on Rugged Island, South Shetland Islands. *Polar Record*, 42(4), 1–13.
- Raddichi, G.** (2015). *Os Sapatos dos lobeiros–baleeiros: práticas de calçar do século XIX nas Ilhas Shetland do Sul (Antártica) [The shoes of sealers-whalers: 19th-century shoe practices on the South Shetland Islands (Antarctica)]*. Belo Horizonte: Federal University of Minas Gerais, Anthropology and Archaeology Department [Unpublished Master’s dissertation].
- Salerno, M. A.** (2006). *Arqueología de la Indumentaria: Prácticas e Identidad en los Confines del Mundo Moderno [Clothing Archeology: Practices and Identity at the End of the Modern World]*. Buenos Aires: Del Tridente.
- Salerno, M. A.** (2011). *Persona y cuerpo-vestido en la modernidad: Un enfoque arqueológico [Person and the Dressed-Body in Modernity: An Archaeological Approach]*. Buenos Aires: University of Buenos Aires, School of Philosophy and Literature, Anthropology Department (Unpublished PhD dissertation).
- Salerno, M. A., & Cruz, M. J.** (2019). Between words and oceans. Logbooks and the Antarctic sealing industry. Work presented at SC-HAAS Conference 2019 – Antarctic Connections at the End of the World: Understanding the Past and Shaping the Future. Ushuaia, Argentina, 3–5 April 2019.
- Schendel, D. E., & Hatten, K. J.** (1972). Business Policy or Strategic Management: A Broader View for an Emerging Discipline. Paper No. 371.
- Senatore, M. X.** (2018). Antarctic historical sealing and material culture. In R. K. Headland (Ed.), *Historical Antarctic Sealing Industry. Proceedings of an International Conference in Cambridge 16–21 September 2016* (pp. 61–71). Cambridge: Scott Polar Research Institute, Occasional Publication Series.
- Senatore, M. X., & Zarankin, A.** (1996). Perspectivas metodológicas en arqueología histórica. *Páginas sobre Hispanoamérica Colonial. Sociedad y Cultura*, 3, 113–122.
- Senatore, M. X., & Zarankin, A.** (1999). Arqueología histórica y expansión capitalista. Prácticas cotidianas y grupos operarios en Península Byers, Isla Livingston de las Shetland del Sur. In A. Zarankin and F. Acuto (Eds.), *Sed Non Sataita. Teoría Social en la Arqueología Latinoamericana Contemporánea* (pp. 171–188). Buenos Aires: Ediciones del Tridente.
- Simpson, H.** (1959). The discovery of fur sealers’ relics in the South Shetland Islands. *British Antarctic Survey Archives Report*, No FIDScB 195/59.
- Smith, I. W.** (2002). *The New Zealand Sealing Industry. History, Archaeology and Heritage Management*. Wellington: Department of Conservation.
- Smith, T. W.** (1844). *A Narrative of the Life, Travels and Sufferings of Thomas W. Smith*. Boston, MA: W.C. Hill.
- Stackpole, E. E.** (1955). *The Voyages of the Huron and the Huntress: The American Sealers and the Discovery of the Continent of Antarctica*. Hartford: Connecticut Printers Incorporated.

- Stehberg, R.** (2003). *Arqueología Histórica Antártica: Aborígenes Sudamericanos en los Mares Subantárticos en el siglo XIX [Antarctic Historical Archaeology: South American Aborigines in the Sub-Antarctic Seas in the XIX Century]*. Santiago: Centro de Investigaciones Diego Barros Arana.
- Stehberg, R., & Cabeza, A.** (1984). Primera excavación de arqueología histórica Antártica. *Boletín Antártico Chileno*, 4, 15–17.
- Stehberg, R., & Lucero, V.** (1985). Contexto arqueológico del hallazgo de restos humanos en Cabo Shirref, Island Livingston. *Serie Científica del Instituto Antártico Chileno*, 45, 59–66.
- Tapia Calisto, C. E., Mayorga, M. P., & Maldonado, G. G.** (2007). *Loberos norteamericanos e ingleses en Patagonia, Tierra del Fuego e islas Subantárticas y Antárticas, entre fines del siglo XVIII y 1840 [North American and English Sealers in Patagonia, Tierra del Fuego and the Sub-Antarctic and Antarctic Islands, between the End of the 18th Century and 1840]*. Punta Arenas: University of Magallanes (Unpublished graduation dissertation).
- Weddell, J.** (1827). *A Voyage Towards the South Pole*. London: Longman, Rees, Orme, Brown & Green.
- Wilkie, L.** (2006). Documentary archaeology. In D. Hicks & M. Beaudry (Eds.), *The Cambridge Companion to Historical Archaeology* (pp. 13–33). Cambridge: Cambridge University Press.
- Zarankin, A., Hissa, S., Salerno, M. A., Froner, Y., Radicchi, G., & Resende, G. L.** (2011). Paisagens em branco: arqueologia e antropologia antárticas [Landscapes in white: Antarctic archeology and anthropology]. *Vestigios*, 5(2), 9–51.
- Zarankin, A., Pearson, M., & Salerno, M. A.** (2023). *Archaeology in Antarctica*. London: Routledge.
- Zarankin, A., & Salerno, M. A.** (2016). So far, so close. Approaching experience in the study of the encounter between sealers and the South Shetland Islands (Antarctica, nineteenth century). In R. P. Van der Watt & L. Howkins (Eds.), *Antarctica and the Humanities* (pp. 79–103). London: Palgrave Macmillan.
- Zarankin, A., & Salerno, M. A.** (2017). Antarctic archaeology: Discovering the history of the southernmost end of the world. In J. Symonds & V.-S. Herva (Eds.), *The Oxford Handbook of Historical Archaeology*. Online publication OUP.
- Zarankin, A., & Senatore, M. X.** (2005). Archaeology in Antarctica: Nineteenth-century capitalism expansion strategies. *International Journal of Historical Archaeology*, 9(1), 43–56.
- Zarankin, A., & Senatore, M. X.** (2007). *Historias de un Pasado en Blanco: Arqueología Histórica Antártica [Stories of a Blank Past: Antarctic Historical Archeology]*. Belo Horizonte: Argumentum.