

Coastal Zone Assessment Survey South Ayrshire Report

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Key Findings

The August 2023 survey of the South Ayrshire coastline, focused on areas of vulnerable soft coastline between Maidens and Dipple and Ballantrae and Bennane. We observed the most notable example of net erosion in the southern half of Ballantrae Bay. Other stretches of erodible coast e.g., Turnberry Bay to Girvan were stable and vegetated at the time of the survey and showed either slight accretion or little change in the position of the coastline since the second Ordnance Survey edition surveyed in 1894.

Forty-four archaeological and built heritage sites were visited and documented by SCAPE officers and volunteers. Four of these were not previously recorded in heritage records.

The largest categories of site types were maritime in nature, with 50% (22) of the sites visited being harbours & landing places, followed by 20% (9) sites being related to maritime safety and navigation.

Two of the surveyed sites have been identified as a priority for monitoring due to a combination of their vulnerability to coastal erosion and structural deterioration, and their archaeological, historical, and social significance. These are:

- *Turnberry castle* [[SCAPE ID: 15863](#)], an historically significant monument on the cliff edge and vulnerable to wave action especially during storm events.
- The wooden wreck of *The Richard*, Corseclays [[SCAPE ID: 16176](#)], vulnerable to decay and dispersal. The wreck would be suitable for active citizen photographic monitoring.

1. Introduction

This report presents the results of a Community Coastal Zone Assessment Survey (CCZAS) of South Ayrshire. The survey was conducted over two days by SCAPE officers and volunteers and primarily targeted sections of vulnerable soft coast between Maidens and Dipple and Ballantrae and Bennane (Figure 1).

The survey extends the 2003 Coastal Zone Assessment Survey (CZAS) from Troon to Maidens (Sneddon, 2003) to the southern South Ayrshire district boundary just north of Cairnryan.

The aim of the CCZAS was to characterise and assess the condition and vulnerability of the coastal archaeological resource along stretches of coastline identified as being at moderate to high risk of erosion by 2030. The surveys greatly benefited from information from volunteers about local heritage and recent coastline change.

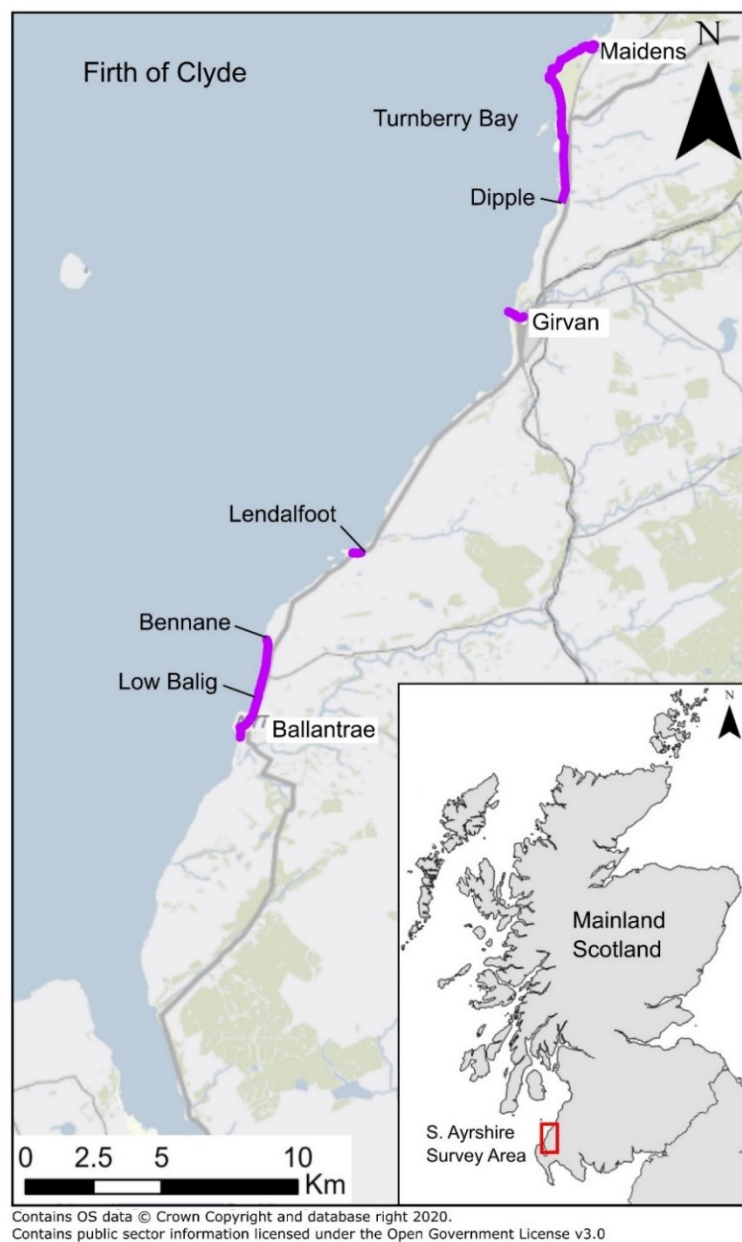


Figure 1. Surveyed coastline highlighted in purple (approximately 10km of coastline).

2. Project aims and objectives

The overarching aim of the survey was to identify and characterise archaeological sites and areas that are likely to be impacted by coastal erosion and other threats in the short to medium term.

Survey objectives were to:

- Identify the most vulnerable sections of coastline through desk-based assessment to target fieldwork to coastlines experiencing erosion,
- Involve volunteers from local communities and societies in the field surveys,
- Locate and record archaeological sites at the coast edge and intertidal zone,
- Assess the condition and vulnerability of the sites,
- Assess the field evidence for coastline change during the walkover survey,
- Share results with West of Scotland Archaeology Service (WOSAS) and Historic Environment Scotland.

3. Methodology

3.1. Prioritisation of field walkover survey areas

In advance of the walkover surveys, desk-based analysis of models of national coastal susceptibility and national coastal change were undertaken to understand the vulnerability of the coastline and target areas for walkover survey. Two models were combined; a coastal erosion susceptibility model (Fitton et al. 2016) and a model of projected coastal erosion rates by 2030 (Dynamic Coast, Hurst et al. 2021). The coastline was divided into 0.5km x 0.5km grid cells and each cell assigned a score based on the combined results from each model. Grid cells coloured yellow, orange, and red contain coast which will experience erosion by 2030, with red cells having the highest vulnerability to or highest predicted rate of erosion according to the underlying models. The methodology used to combine the models is outlined in a short [methodology report](#), available on the SCAPE website.

The resolution of 0.5 km grid cells was chosen to give a broad overview of the nature of the coastline for walkover planning purposes (Figure 2). Within a red or orange grid cell there may be areas of accretion or no erosion, however the cell will also contain coastline with moderate to high susceptibility of erosion by 2030.

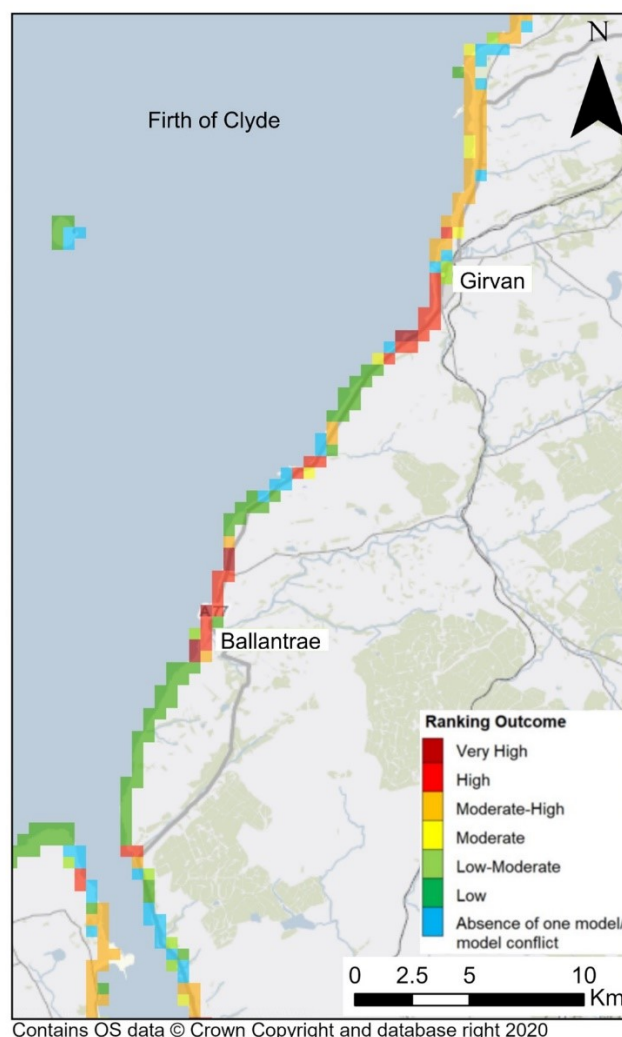


Figure 2. Modelled vulnerability of the South Ayrshire coastline. Red, orange, and yellow cells denote coast which is experiencing erosion and therefore targeted during the 2023 CCZAS survey. Green cells denote coast that is not experiencing erosion and blue cells denote areas where there is a conflict between the models, or which are only included by one model.

3.2. Preparation of coastal heritage baseline

Historic Environment Scotland and the West of Scotland Archaeology Service (WOSAS) provided information and point data of all existing known heritage sites on the coastline of South Ayrshire, extending 500m seaward of the mean high-water springs line and 100m inland. The zone was extended further inland if Dynamic Coast 2 modelling suggests the area could face erosion greater than 100m by 2100. This data was imported into ArcGIS 10.7. The selected sites were then refined to screen out sites not relevant to the surveys. Table 1 presents information on main categories of sites removed from the coastal heritage baseline.

Site Category	Reasoning
Shipwrecks and other poorly located sites	<p>Site records with only approximate coordinates (e.g. bottom left corner of a km grid square) were removed from the database due to the inability to accurately locate during fieldwork.</p> <p>Shipwreck records are often poorly located with multiple wrecks plotted in the same grid square corner.</p> <p>When wrecks were noted on our surveys, these were checked against the shipwreck database and linked to the correct record where identifiable.</p>
Urban records	Records which are not at threat from coastal processes in urban coastal areas. This includes listed buildings, market squares, plaques, and memorials.
Findspots and relocated heritage	Site records where finds were discovered and are no longer there or sites recording the original locations of objects which are now held in museums.
Miscellaneous	e.g. General location records such as General Views

Table 1. Categories of sites removed from database.

The resulting sites were uploaded to SCAPE's interactive Sites at Risk web map and published to the linked SCAPE Coastal Archaeology Recording App (Figure 3). This app was developed for the project. It allows users in the field to access the location and summary information about known sites, update existing site information and create new site records, including photographs and point and polygon location information. Satellite imagery and historic map layers provide additional information. All features of the app are fully functional offline.

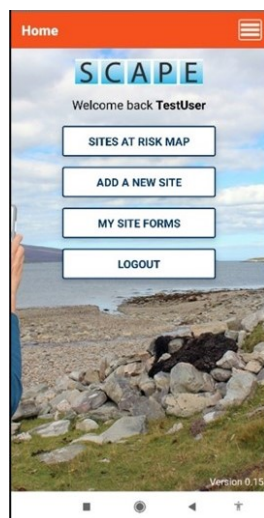


Figure 3A. App Home Screen

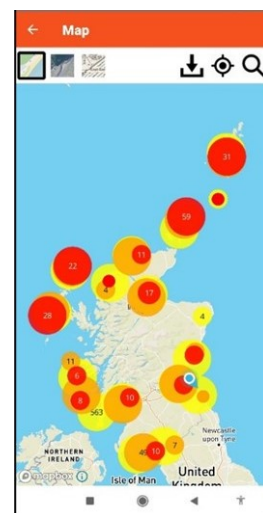


Figure 3B. Interactive Sites at Risk Map

Site markers are initially coloured green to indicate that they have not yet been visited and updated during the CCZA survey. Once visited and moderated, a colour code is assigned to each marker to reflect the priority status of the site based on archaeological significance and physical vulnerability (see section 3.4).

3.3. Field survey

We target coasts identified as being susceptible to erosion for walkover surveys, which are undertaken three hours either side of low tide to gain the most visible exposure of the intertidal zone. We generally walk along the coast edge with good views over the intertidal zone and hinterland, deviating to visit known sites and to check features and anomalies. The SCAPE Coastal Archaeology Recording App is our primary recording tool. We also document the field evidence for coastline change and condition in general.

A pre-survey field recce was undertaken in April 2023 with the purpose of visiting areas modelled to be most vulnerable to erosion and to identify safe and accessible CCZAS routes along the coast. Although modelled to be vulnerable to erosion, the sand beach immediately south of Girvan was not included in the survey due to both the robust coastal infrastructure of the Girvan urban area, including the A77 immediately south of Girvan, as well as there being a lack of known coastal heritage sites along this stretch.

3.4. Moderation of records

After each walkover, survey records are submitted to the website and moderated by SCAPE officers. Moderation ensures that site types and descriptions are consistent and meet the standard required by historic environment records. During moderation, the significance, condition, and vulnerability of each site is also assessed, and each site is given a priority based upon site significance and threat from erosion. We apply a colour code to denote priority for action. Yellow indicates no action and is applied to sites of either low archaeological significance, and/or sites generally not threatened by erosion. Orange indicates monitor and is applied to sites of medium to high significance, or potential significance, under potential threat from coastal erosion. Red denotes action required and is applied to sites of high archaeological significance or potential significance which are observed as being impacted by coastal erosion (Hambly 2017, p. 11). These categories are not fixed and updated information, either not available during the survey, or as a result of monitoring or further investigation may result in the priority status of a site changing. Moderated sites are then published on the SCAPE Sites at Risk web map. Sites not visited in the surveys retain their green marker and are visible only to registered users.

4. Results

4.1. RESULTS: Coastal Change

4.1.1. Summary of coastal change

Overall, we found short stretches of notable erosion and retreat of the coast edge between Low Balig and Ballantrae, and significant erosion and deterioration of the concrete breakwater and western pier at Maidens harbour. However, in general, much of the low-lying soft coast between Turnberry and Dipple and also Bennane and Ballantrae is generally characterised by dynamic equilibrium, i.e. cycles of erosion and recovery. During the time of the survey much of the low-lying coast edge backing the sandy beaches was well vegetated. These soft sediments could be at risk of erosion during severe storm events or future sea level rise, however in recent years the coastline has evidently been largely stable.

4.1.2. Notable areas of erosion

Maidens Harbour

A lack of upkeep of harbour infrastructure at Maidens has resulted in a severely deteriorated east breakwater ([SCAPE ID: 7658](#), Figure 4A,B) with the breakwater surface broken up into a number of large slabs and rubble. Concrete degradation and collapse were also evident on the west pier.





Figure 4. Deterioration of concrete breakwater, Maidens. A. Breakwater with concrete broken up into large fragments, looking north; B. Undermining of breakwater concrete wall, looking north (<https://scapetrust.org/sites-at-risk/site/7658>).

Low Balig to Ballantrae

Between Low Balig and Ballantrae stretches of coastline are showing exposed superficial sediments and evidence of recent erosion and slumping (Figure 5). Along one section, agricultural fencing has been completely undermined through recent erosion (Figure 5A) and dumping has occurred further along the same stretch of coast, acting as ad-hoc coastal defence (Figure 6B).



Figure 5. Recent erosion of coast edge between Low Balig and Ballantrae.



Figure 6. Erosion between Low Balig and Ballantrae. A. recent erosion of coast edge undermining fencing; B. dumping of concrete over coast edge as ad-hoc coastal defence.

4.1.3. Notable areas of stability

Bennane to Low Balig

The stretch of coastline from Bennane to Low Balig was largely stable at the time of survey with vegetation extending into the upper shore zone (Figure 7). This section of coastline could be described as being in dynamic equilibrium and will undergo episodic erosion, followed by recovery.



Figure 7. Vegetated and currently stable coast edge between Bennane and Low Balig, north of Ballantrae, looking north.

Maidens to Dipple

Walking south from Maidens around Turnberry golf course, the coast is mainly composed of basalts and basaltic andesite, which is largely resistant to erosion. Long-term erosion of the cliffs through wave action could cause episodic cliff collapse which could affect heritage situated right at the coast, e.g., the remains of Turnberry Castle which is precariously placed on the cliff edge. The coast opens out to the south into the long sandy beach of Turnberry Bay (Figure 8). At the time of survey, the bay appeared to be largely stable, with the coast edge vegetated and little sign of recent erosion or exposed sediments. There has been little change in the position of the coast edge when compared to the second edition Ordnance Survey, surveyed 1894. In fact, slight accretion was observed along the Turnberry golf course north of Milton Burn.



Figure 8. Typical view of stable, vegetated, coastline of Turnberry Bay, looking south.

4.2. RESULTS: Built heritage and archaeology

Sites were categorised into broad site types to aid discussion (Table 2) and a breakdown of the percentage of each site type recorded during the survey is provided (Figure 9). An overview of the main findings is given below followed by a short section highlighting notable sites and examples.

Site Type	Definition
Maritime Fishing	Fixed sites or objects with a direct link to fishing industry e.g., fish traps, fishing stations, bothies, boat houses, icehouses, winches.
Maritime Craft	Craft, ballast mounds, components of crafts such as timbers, boilers, capstans.
Maritime Harbours & Landing Places	Formal harbour structures associated with and serving settlements, e.g., built harbours, piers, jetties, breakwaters, docks. Informal and small-scale, landing areas or structures, e.g., cleared slipways, piers, jetties, breakwaters.
Maritime Safety and Navigation	Infrastructure related to navigation e.g., lighthouses, beacons, and maritime safety e.g., rocket apparatus sites
Industry Processes and Works	Industry not directly related to fishing, e.g., rope works, brick works, tide mills, lime kilns, salt pans.
Industry Extractive	Extractive industries, e.g., coal mining, quarrying.
Transport, Infrastructure & Engineering	Railways, tracks, bridges, embankments, drainage.
Settlement & Agriculture Domestic	Buildings related to settlements
Settlement & Agriculture Agricultural	Buildings related to agriculture
Settlement & Agriculture Boundaries	Boundary stones, fences and walls demarking property or land boundaries.
Landscapes of resource exploitation & repeated human activity	Middens, shell middens, artefact scatters, lithic scatters, burnt stone, buried anthropogenic soils/ ground surfaces
Religious, Ritual & Funerary	Churches, burial sites, holy wells, crosses.
Defended Buildings, Castles, and Forts	Remains of brochs, duns, castles, and promontory forts.
Military WW2	Military sites constructed as part of Second World War coastal defences e.g., pillboxes, observation posts, gun emplacements, anti-tank cubes, anti-glider posts or roadblocks.
Military Other	Military sites which are not solely Second World War, e.g., Napoleonic or WW1 targets and rifle ranges or military bases and airfields.
Natural Features	Geologic or geomorphologic features e.g., sea stacks, mounds, intertidal peat, unmodified caves, unmodified springs.
Miscellaneous	Sites out with the outlined site types.

Table 2. Site type categories and definitions

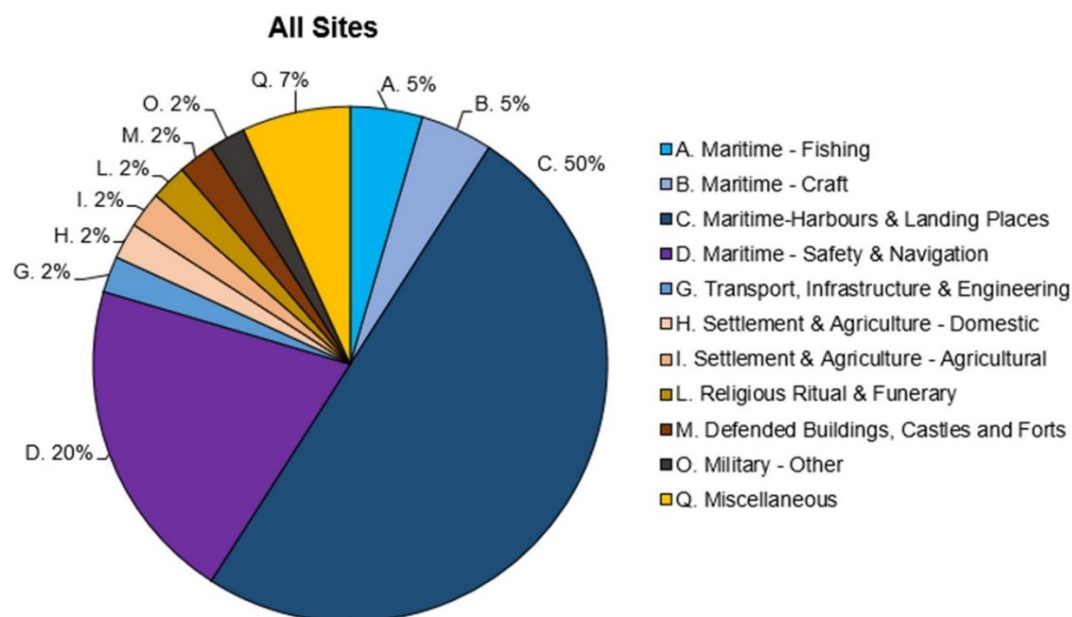


Figure 9. All South Ayrshire sites updated during survey, arranged by category (n=44); Four of the sites are new sites.

4.2.1. Maritime

Fishing

The two main locations with surviving fishing heritage were observed at Lendalfoot and Ballantrae harbour. The Carleton Fishery was built at Lendalfoot in 1832 (Ballantrae.org.uk, 2023, Figure 10A). The site consists of a row of small, terraced fishing cottages strung out along the main road, a concrete slipway leading down to the shore, and a cleared landing place lined with boulders on either side, known as Carleton Port (Figure 10B). Beside the slipway is a disused cast iron winch. On the rocky coast edge, the ramshackle remains of fishing sheds are still visible and in the nearby vegetation are the remains of a wooden boat (Figure 10C). The cottages are marked on the OS Six Inch (surveyed 1855) and OS 25 Inch (surveyed 1894), and both the Carleton Fishery and Carleton Port are named, however the fishing sheds are not mapped.

In the OS Name Books the Carleton Fishery was described as the property of Sir John Cathcart, who built the fishery to

‘establish on the coast of Scotland a place for preparing the haddocks known as finnan haddocks. Undertaking did not succeed’.

Ayrshire OS name books (1855-1857)

At Ballantrae harbour are the remains of a boathouse, situated at the coast edge (Figure 11, [SCAPE ID: 15884](https://scapes.org.uk/entry/15884)). The boathouse is stone-built with sections rebuilt in brick and it is now roofless. A nearby information panel at Ballantrae harbour describes the fishing along this coastline from Lendalfoot to Finnarts Bay as being predominantly salmon fishing, carried out using bag nets.



Figure 10. A. General view of Lendalfoot with row of small, terraced fishing cottages to east of road, and slipway to shoreside of road. Fishing sheds visible in the background. B. Concrete slipway and cast iron winch, with the cleared landing place visible in the background. Looking northwest; C. Fishing shed with remains of wooden boat in foreground, Lendalfoot. Looking northeast. (<https://scapetrust.org/sites-at-risk/site/15906>).



Figure 11. Remains of stone-built boathouse at shore edge, Ballantrae. Looking northeast. (<https://scapetrust.org/sites-at-risk/site/15884>).

Harbours & Landing Places

Half of all surveyed records (50%, 22 sites) are included in the harbours & landing places category and include formal and informal harbours, slipways, jetties, and piers. Many of the records are associated with the established harbours of Maidens, Ballantrae and Girvan. However, this stretch of coastline is also home to numerous place-name records marking known landing points, which are largely natural safe harbours within the treacherous rocky coastlines.

The many landing places are a reminder of the strong maritime and fishing heritage of the area, as well as the past importance of seaports for the purpose of trade and communication along this stretch of rugged, and once geographically (by road) isolated, coast. A coastal road from Girvan to Stranraer is depicted on the late 18th century survey mapping of George Taylor and Andrew Skinner (1776), however, the OSA (1791) briefly mentions that land routes in the area were of poor quality, but improving:

“Till of late years there were few roads through the shire of Air that were barely passable...and by the assistance of government and a toll, one good road has been made through this parish: But it is little more than a road of communication.”

Ballantrae, County of Ayrshire, OSA, Vol. I, 1791

By the mid-19th century, the NSA (1845) reports a vast improvement of land transport networks in the area:

“The roads to both towns are now excellent. The length of turnpike roads in the parish is eleven miles in one direction, and about five in another, and two in a third. A number of excellent parish roads branch out from these.”

Ballantrae, County of Ayrshire, NSA, Vol. V, 1845



Figure 12. Port place-names on the Six-Inch Ordnance Survey Ayrshire map sheet XLIV surveyed 1857.

One of the few landing places not depicted on historic maps is the harbour associated with Turnberry Lighthouse ([SCAPE ID: 15957](#)). The 'harbour' is a modified natural rocky inlet extending to the base of the lighthouse enclosure with mooring rings lining the northern side. At the entrance to the inlet is a nicely constructed ashlar wall and smoothed section of rock and wooden shuttering which presumably represents the remains of a loading/ unloading point. Further into the inlet close to the base of the coast edge a spread of concrete over the rock platform leads to a further section of wooden shuttering to another loading/ unloading place. Construction of the Turnberry lighthouse started in 1871 and it was operation by 1873.



Figure 13. View of entrance to Turnberry Lighthouse harbour showing ashlar wall, mooring rings, and timber shuttering on smoothed rock. (<https://scapetrust.org/sites-at-risk/15957>).

On the shore at Corseclays around halfway along Ballantrae Bay is a substantial stone jetty which is distinct from other informal landing places in the survey area ([SCAPE ID: 15917](https://scapetrust.org/sites-at-risk/15917)). The feature, c. 5m in width and many times longer, stretches from the shore out to sea (Figure 14). It is constructed from large subangular boulders, likely sourced from the foreshore. The name 'Port, Old Pier' is depicted in this location on historic 1st edition OS mapping (1855). The site is located close to the present harbour at Ballantrae (c.1.8km south of the pier) which was improved in the 1840s, so this 'Old Pier' may have gone out of use then. It is an unusual location for such a feature towards the centre of a sandy bay.

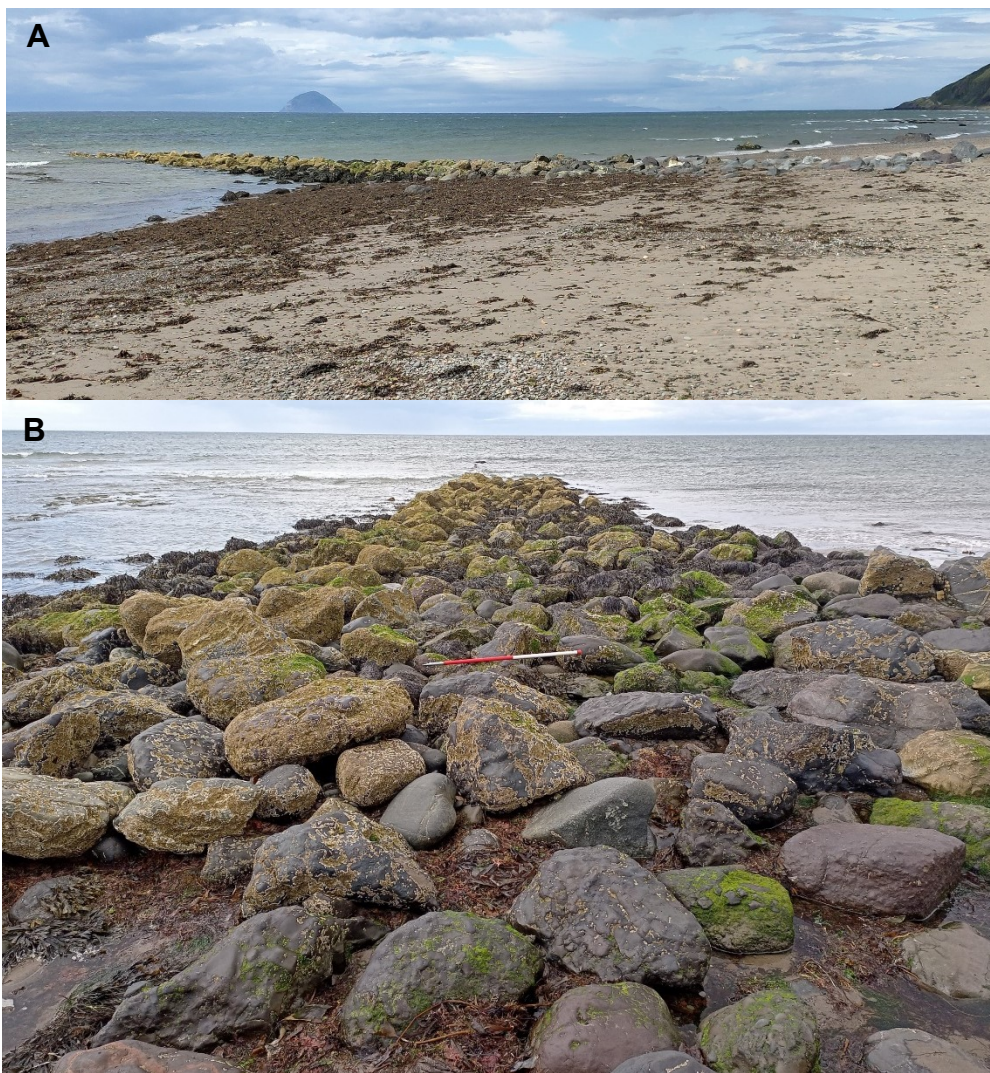


Figure 14. Boulder-built pier, Corseclays. A: General view, looking north; B: Detail of 5m wide intertidal section, looking west (<https://scapetrust.org/sites-at-risk/site/15917>).

Another interesting landing place is the remains of a concrete slipway located in the former Maidens Shipyard, constructed in WW1, and associated with the development of Turnberry Airfield. It served the WW1 Motorboat shed, now gone. The Motorboat shed was reused

between the wars as a lifeboat shed and for repairs of fishing boats (Morell, 2020). The track and sites of the former buildings are now in a private garden.



Figure 15. Concrete WW1 slipway at Maidens (<https://scapetrust.org/sites-at-risk/site/7659>).

Craft

A wreck located at Low Balig (Corseclays), approximately 50m from the Corseclays pier, is situated within the sand on the upper part of the beach and broken into two main sections ([SCAPE ID: 16176](#)). The southern part of the wreck has dimensions of 14m in length x 4m at its widest point (Figure 16A). There are 26 frames in pairs visible, the spacing between each pair 20cm. There is also evidence of external planking, iron fittings and trenails/dowels. A fragment of a stringer timber survives in the centre. This part of the wreck is interpreted as a piece of one side of the vessel - probably the lower part close to the keel. The northern part of the wreck has dimensions of 20m in length x 6m at widest point (Figure 16B). There are 52 frames in pairs, each pair of frames are 16-20cm apart (Figure 16B). There are iron fittings and trenails/dowels and evidence of both internal and external planking (Figure 17) and a very large stringer (Figure 16B). This part of the wreck is interpreted as the rear starboard side of the vessel.

These are the remains of the schooner, the Richard, which was recorded on the Lloyds Register casualty returns as wrecked in October 1926, on a voyage from Northern Ireland to Denmark (Lloyds Register of Shipping 1926). All six crew were rescued by Rocket Apparatus (from Ballantrae?) according to the 'Casualty reports' in The Times (1926). A James Valentine photograph, taken in 1932, shows the wreck of the Richard stranded on the sand (Figure 18). At this time the wreck was still intact, with only one mast visibly remaining of the original four masts. It is not hard to imagine that this wreck would have been a well-known local landmark over the last century as it slowly deteriorated to its current state.



Figure 16. Timber remains of *The Richard*. A: General view taken from southern end of wreck, looking north; B: View of northern part of wreck, looking northeast towards coast edge (<https://scapetrust.org/sites-at-risk/site/16176>).



Figure 17. A. Northern part of wreck detailing A: internal planking; B: paired frames and the visible inner and outer planking.



Figure 18. Photograph of The Richard wreck taken on 8 August 1932. Titled: Shore Road and Bennane Point, Ballantrae. James Valentine Photographic Collection. Courtesy of the University of St Andrews Libraries and Museums, ID: JV-217251.

The scant remains of a wreck were also recorded close to the Maidens breakwater ([SCAPE ID: 7657](#)). This wreck was previously recorded in the 2003 CZAS of the Firth of Clyde (Sneddon, 2003). Since 2003, the wreck has become more buried in sand. The current visible extent measures 8m wide and 6m long. The frame survives up to the first futtock and part of the stern post is also visible. Ends of frames stick out on either side and it appears as though the vessel has split apart. There is now no sign of a diesel engine (Figure 19).



Figure 19. Wreck of wooden boat with iron fittings, Maidens Breakwater (<https://scapetrust.org/sites-at-risk/site/7657>).

4.2.3. Defended Buildings, Castles, and Forts

Perched on the cliff edge, approximately halfway along the coastline between Maidens and Turnberry, are the remains of Turnberry Castle, alternatively known as Bruce's Castle (Figure 20, [SCAPE ID: 15863](#)). The exact date that the castle was built is uncertain, but it was occupied in 1274 by the Martha, Countess of Carrick, and Robert Bruce Earl of Annandale (OSA, 1794). The castle was already in ruins by the time of its description in the OSA:

'The situation of this castle is most delightful, having a full prospect of the whole firth of Clyde, as above described. Upon the land side, it looks over a rich plain of above 600 acres. This plain is bounded by the hills, which rise in a beautiful amphitheatre. Little now is known as to the extent of this antient building. There still remain the vestige of a ditch, and part of the buttresses of the draw-bridge. There is a passage, which opens towards the sea, arched above, leading to a large apartment in the castle, which by tradition is said to have been the kitchen. This castle has been built of whin stone, and is remarkable for the very strong cement that has been used in building it. The ruins, as they now lie, cover an acre of ground.'

Kirkoswald, County of Ayrshire, OSA, Vol. X, 1794



Figure 20. General view of Turnberry Castle. A: Remains of a stone archway over an inlet (a water gate?). At the back of inlet is an entrance within the wall built into the cliff face. Looking south; B: Remains of stone walling on coast edge, with Turnberry Lighthouse in background. Looking south (<https://scapetrust.org/sites-at-risk/site/15863>).

4.2.6. Miscellaneous

Carved out of the towering, chert, cliff face at Bennane, is the naturally formed Bennane Cave ([SCAPE ID: 15903](#)), which has been modified as a shelter (Figure 21A). A stone-built outer wall has been constructed across the entrance of the cave, which contains an open entrance, a window opening, which is now blocked, and a fireplace (Figure 21B). Inside the cave, a second stone-built wall divides the cave into a larger outer compartment and a smaller inner compartment. Approximately 150m to the south of the cave is a memorial stone for Henry

Ewing Torbet (Snib) who lived from 1912-1983 and was a resident of the cave for a time (Figure 22). The cave itself appears to be in good condition with a small amount of litter and some graffiti evident.



Figure 21. A. General view of exterior of Bennane Cave; B. View of interior of outer compartment of Bennane Cave, looking towards entrance (<https://scapetrust.org/sites-at-risk/site/15903>).



Figure 22. Memorial to resident of Bennane Cave. Inscription reads “HENRY EWING TORBET (SNIB) OF BENNANE CAVE 1912-1983 RESPECTED AND INDEPENDENT”

Observed on the sandy beach of Turnberry Bay is an alignment of three wooden posts running out to sea ([SCAPE ID: 16164](#)). Two of the posts could be accessed at the time of survey and one was partially submerged and viewed from the beach. The landward post was c.1m tall and 0.15m in diameter protected by a concrete pipe (Figure 23). The post was concreted at its base and cobble stones were noted within the pipe. Approximately 50m further seaward, the middle post had similar dimensions but was protected within a metal surround, below water height. The furthest of the three in the alignment was under the waves and no post was visible but the remains of a container/structure could be seen.

It is possible that the posts are military; related to the nearby WW1 and WW2 RAF Turnberry, or anti-landing defences (as documented on many similar beaches on the east coast of Scotland). However, the true purpose of the wooden post alignment remains uncertain.



Figure 23. Photograph of wooden post set within the remains of a concrete sewage pipe (<https://scapetrust.org/sites-at-risk/site/16164>).

5. Priority sites and recommendations

Two sites have been assigned a priority 3, monitor status based upon their vulnerability to coastal erosion and archaeological, historical, and social significance (Figure 24). Both sites have existing Canmore or HER records associated with them (Table 3).

Turnberry Castle is of great historical significance and is vulnerable to further structural instability and collapse because of its precarious position on the cliff edge. The remaining stone walls are at risk from wave action, and especially susceptible to damage during storm events. As a scheduled monument [SM6183] HES will monitor its condition periodically, however, it is suggested that the site is visited every 3-5 years and after storm events.

The wooden wreck of the *Richard* is vulnerable to decay and dispersal. It has an interesting story and is well-known in the local area and a destination for walkers. We recommend regular monitoring, particularly after storms. This site would be suitable for interpretation at Ballantrae Harbour and for the installation of a fixed photo point for visitors to take photos to build up a timelapse photographic record showing seasonal and longer-term changes in the burial conditions of the wreck.

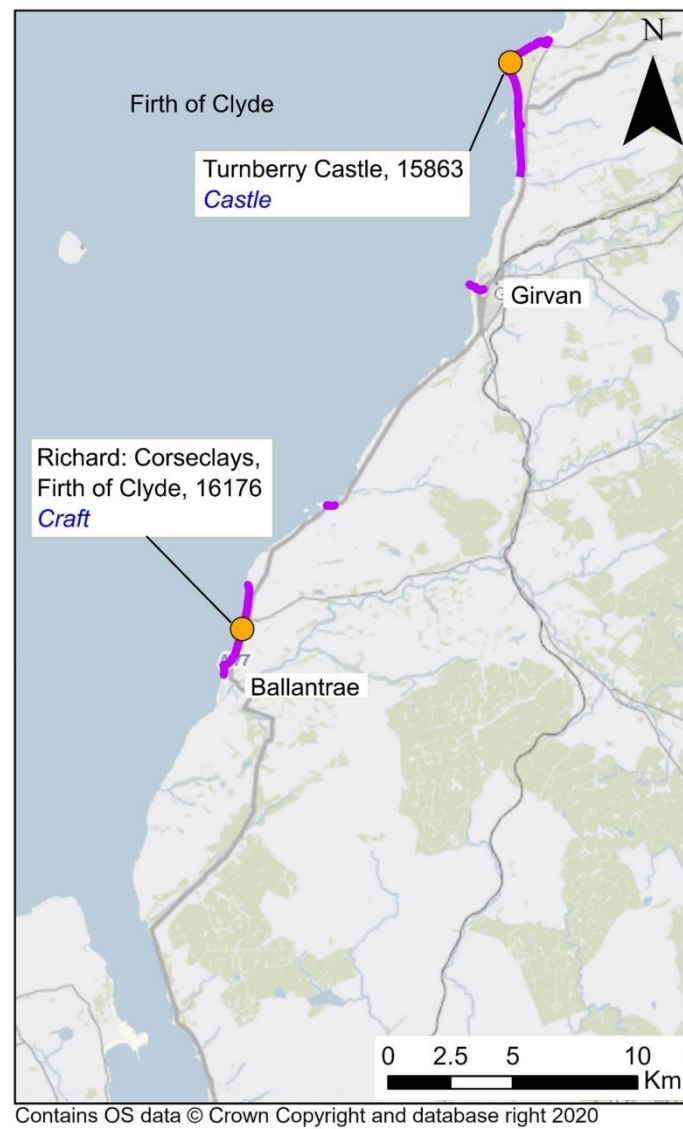


Figure 24. Two priority-3 sites (orange).

Summary of vulnerability and recommended action for each site is given below.

Scape ID	Canmore ID	HER ID	Site Name	Site Type	Summary of vulnerability	Recommended Action
<i>Maritime - Craft</i>						
16176	122142	-	Richard: Corseclays, Firth of Clyde	Craft	Deterioration and dispersal of timbers	Monitor
<i>Defended Buildings, Castles, and Forts</i>						
15863	40581	5159	Turnberry Castle	Castle	Coastal erosion/ landslip	Monitor

Table 3. Summary of priority sites.

6. Acknowledgements

Special thanks to all our volunteers who made the surveys so enjoyable and informative.

We are grateful to Peter McKeague, Historic Environment Scotland who provided heritage data for the survey area and to Martin O'Hare and Hugh McBrien, West of Scotland Archaeology Service (WOSAS), who provided heritage data from the local HER.

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7. References

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Appendix 1. Known sites visited on 2023 survey

SCAPE ID	Site name	Site type	Periods	Easting	Northing	Canmore ID	HER ID
<i>Maritime - Fishing</i>							
15884	Ballantrae, Ballantrae Harbour	Boathouse	Post-Medieval	208217	583025	316642	90814
15906	Lendalfoot, Carleton Fishery	Cottage(s), Fishing Station	Post-Medieval	212535	589403	201464	76186
<i>Maritime - Craft</i>							
7657	Maidens Breakwater	Craft	Modern	221134	608170	-	54563
16176	Richard: Corseclays, Firth of Clyde	Craft	Modern	208883	584470	122142	-
<i>Maritime – Harbours & Landing Places</i>							
7658	Maidens Harbour	Harbour/Breakwater	Post-Medieval, Modern	221131	608171	151709	54565
7659	Maidens	Track/Slipway/Shed	First World War	220768	608034	-	54544
15864	Maidens Harbour, West Breakwater	Breakwater	Modern	221003	608215	281881	86909
15865	Cove Port	Landing Point	Period Unknown	219557.1	607085	281923	55514
15867	John O'Groats Port	Landing Point	Period Unknown	220412	607811	281928	55517
15868	Port Murray	Landing Point	Period Unknown	220500	608000	281930	55518
15872	Lochan Port	Landing Point	Period Unknown	219400	606900	281956	55524
15874	Cross Port	Landing Point	Period Unknown	220093	607628	281924	55515
15875	Turnberry Bay	Landing Point	Period Unknown	219000	605000	281926	55516
15881	Maidens Harbour	Harbour	Post-Medieval	221040	608089	151709	42051
15890	Ballantrae, Harbour Pier	Pier	Post-Medieval	208094	583036	200712	42675
15916	Bennane	Landing Point	Period Unknown	209000	585500	281964	55527

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SCAPE ID	Site name	Site type	Periods	Easting	Northing	Canmore ID	HER ID
15917	Corseclays	Pier	Post-Medieval	208833	584550	331911	92803
15931	Girvan Harbour, South Pier	Breakwater	Post-Medieval	217973	598323	281849	86943
15932	Girvan Harbour, North Pier	Breakwater	Post-Medieval	218030	598342	281851	86945
15935	Girvan Harbour	Harbour	Post-Medieval	218196	598250	203289	42754
15937	Girvan Harbour, Timber Jetty	Jetty	Modern	218336	598169	281853	86947
15939	Girvan Harbour, Inner Breakwater	Breakwater	Post-Medieval	218168	598281	281858	86924
15942	Girvan, Newton Kennedy, Boatbuilding Yard	Shipyard	Modern	218490	598170	207187	43163
15947	Girvan Harbour, Slipway	Slipway	Period Unknown	218359	598198	281855	86949
15957	Turnberry Lighthouse	Landing Point, Jetty	Modern	219610	607165	-	69192
<i>Maritime – Safety & Navigation</i>							
15869	Turnberry Lighthouse and Keepers' Houses	Lighthouse, Lighthouse Keepers House(s)	Post-Medieval	219629	607210	40584	5162
15921	Brest Rocks, Beacon	Beacon	Post-Medieval	219007	604824	374200	-
15924	Girvan Harbour, Lifeboat Station	Lifeboat Station	Modern	218429	598079	281854	86948
15936	Girvan Harbour, South Pier, Harbour Light	Beacon	Post-Medieval	217972	598322	281850	86944
15938	Girvan Harbour, Coastguard Station	Coastguard Station	Post-Medieval, Modern	218377	598193	281856	86950
15940	Girvan Harbour, Beacon	Beacon	Period Unknown	218170	598230	281859	86829
15943	Girvan Harbour, Inner Breakwater, Beacon	Beacon	Post-Medieval	218168	598281	281857	86923

SCAPE ID	Site name	Site type	Periods	Easting	Northing	Canmore ID	HER ID
15946	Girvan Harbour, North Pier, Beacon	Beacon	Modern	218031	598343	281852	86946
<i>Settlement & Agriculture - Domestic</i>							
15956	Low Balig	Farmstead	Post-Medieval	208873	584225	-	51334
<i>Settlement & Agriculture - Agricultural</i>							
15954	Duhorn Burn	Building; Enclosure	Modern	209190	585520	-	17132
<i>Religious Ritual & Funerary</i>							
15870	Balkenna	Cairn	Bronze Age	220000	604000	40899	5476
<i>Defended Buildings, Castles, and Forts</i>							
15863	Turnberry Castle	Castle	Medieval	219652	607221	40581	5159
<i>Military - Other</i>							
15911	Lendalfoot, Varyag Memorial	Commemorative Monument	Modern	212344	589425	304836	89316
<i>Miscellaneous</i>							
15892	Balig, Ballantrae Golf Club	Golf Course	Post-Medieval	208867	584242	348876	96864
15903	Bennane Cave	Cave	Medieval, Post-Medieval	209150	586170	60931	11242

Appendix 2. New sites visited on 2023 survey

SCAPE ID	Site name	Site type	Periods	Easting	Northing
<i>Maritime – Safety & Navigation</i>					
16175	Ballantrae	Lifeboat station	Post-Medieval	208189	582991
<i>Transport, Infrastructure & Engineering</i>					
16162	Turnberry Bay	Post alignment	Modern	219909	605853
<i>Maritime – Harbours & Landing Places</i>					
16163	Turnberry Bay, Matthews Port	Landing Point	Period Unknown	220043	603633

<i>Miscellaneous</i>					
16164	Turnberry Bay	Post alignment, military training site?	First World War, Period Unknown	219947	605018