

**NORTH OF SCOTLAND ARCHAEOLOGICAL SOCIETY**

**SURVEY OF PETTY SALT WATER MILL**



*Figure 1 Aerial view of Petty mill site (© SCAPE TRUST)*

A. Coombs and M. Ruscoe 1/3/2024

## **Introduction**

The site was visited by members of the North of Scotland Archaeological Society (NOSAS) on 25<sup>th</sup> March 2023. The site had been visited previously as part of the SCAPE Coastal Survey during spring 2022. The site was surveyed by NOSAS and after the visit M. Ruscoe and A. Coombs consulted the Moray Estate archives in the National Record Archive Scotland and Highland Archives and a number of online documents. UHI student L. Morrison kindly provided further information from her research.

## **Desk based survey**

The remains of the Petty salt water mill (MHG36425, Canmore 173951) lie on the north shore of Petty bay where the Rough Burn flows into the south side of the Moray Firth. Castle Stuart (MHG2893, Canmore 14209) sits at the head of the bay. Old Petty Church (MHG25211, Canmore 14246), Glebe Cottage motte (SM 3141, MHG437, Canmore 14218) and the recently built Castle Stuart golf courses are on the raised beach above the mill and its associated features.

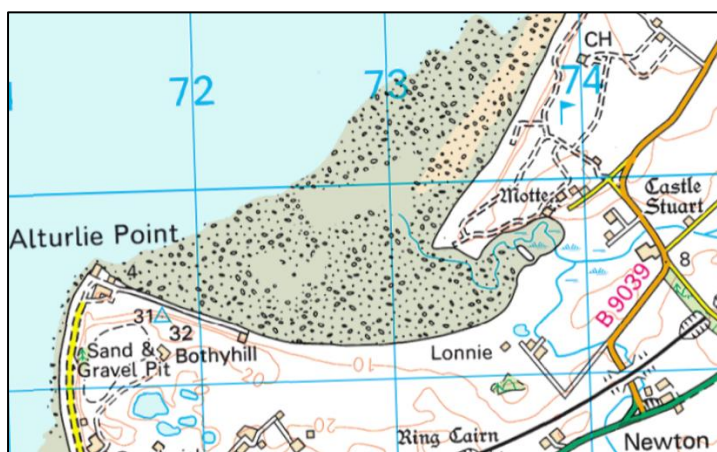


Figure 2 Ordnance Survey map of Petty ( National Library of Scotland)

Canmore and HER both record the site as Scottack

A single unroofed building is depicted on the 1st edition of the OS 6-inch map (Inverness-shire 1874, sheet iv), but it is not shown on the current edition of the OS 1:10000 map (1982). Information from RCAHMS (SAH) 6 June 1996

There is also a second record in HER, MHG36425-Tide Mill-Scottack (Petty), which includes Farrell's report<sup>i</sup> This is replicated in Canmore 173951.

The site is recorded on the SCAPE Trust web site 14458<sup>ii</sup>

## **History**

The history section of this report expands on the report entered by Farrell, and the description of the site adds further details including a description of the present condition.

At Castle Stewart the second day of July Jajvic' and seventy three years it is apoynted agreed and condiscended betuixt Alexander Earle of Murray etcetera on the ane pairt and Robert Niklesone measone..... ane salt water milln.<sup>iii</sup>

In July 1673 an agreement between Alexander, Earl of Murray and Robert Niklesone, mason, was drawn up for the building of a salt water mill on the shore beside Castle Stuart. The above quotation from a document held in the National Archives gives a start date of 1673 for the building of the mill. The mill was to be 36 foot (10.97m) by 16 foot (4.87m) and 10 foot (3m) high with 3 doors and 5 windows. There is also mention of 'the inner and utter wheels' confirming the generally held view that there were two water wheels in the mill.

Thomas Kirk describes the bulwark built to create the mill dam when he crossed it in 1677.

We crossed a bank by a mill, near Stewart Castle, a quarter of a mile over, in the middle whereof were a pair of flood-gates, whereby the dam was filled with the tide, and supplied the mill at low water<sup>iv</sup>

This description appears to confirm our conclusion that water gates had been built in the bulwark to control the tidal flow and that of the Rough Burn, to provide power for the mill.

Other documents listed by the National Archives include multures (grain or flour due to a miller in return for grinding corn) for the millers and maps. The mill is recorded on a map by George Brown dated 1808<sup>v</sup>. This shows in detail the features around Castle Stuart including the mill, the mill dam with its bulwark, yards and the miller's croft. The mill lies at the northern end of the bulwark with the mill dam lying inland to the east. North of the mill building there is a large rectangular building with a further four smaller buildings and two small enclosures identified as yards. To the west of the buildings there is an area of land described as Miller's croft and appears to be in rig and furrow cultivation.



Figure 3 Extract form 1808 Brown map (© Moray Estates)



Figure 4 Close up extract of the mill complex from 1808 Brown map (© Moray Estates)

An earlier map of c.1748 held by the British Library also shows the mill building at the northern end of the bulwark with other buildings to the north and the mill dam<sup>vi</sup>.



Figure 5 Close up extract of 1748 map (British Library)

The 1760 survey by Winter; a copy is held in the Highland Archive Centre (Inverness); also shows the mill<sup>vii</sup>.

Further documentary evidence of there being a house and barns beside the mill building comes from a letter published by the Royal Society of Edinburgh in 1817. Thomas Lauder Dick describes speaking to the miller, Alexander Macgillivray, who told Dick he had left his dwelling during a snow storm and was unable to reach the nearby barns<sup>viii</sup>.

The First Edition Ordnance Survey map of 1869-72 shows the very straight line of shore where the bulwark would have been but there is no indication of the mill building and no notation of the bulwark or mill dam. There is however a rectangular building shown on the north shore of the bay, this appears to be the building which is referred to as Scottack in HER and Canmore and is recorded as a dwelling until 1861. The Second Edition Ordnance Survey map of 1904 shows the same shore line indicating the 'Saltings' where the mill dam lies but the building is no longer shown. In the 1861 census the building, a cottage, is recorded as the residence of John Cameron, a labourer, and his family<sup>ix</sup>. However it was not mentioned in the 1871 census so presumably it has been abandoned by this point.



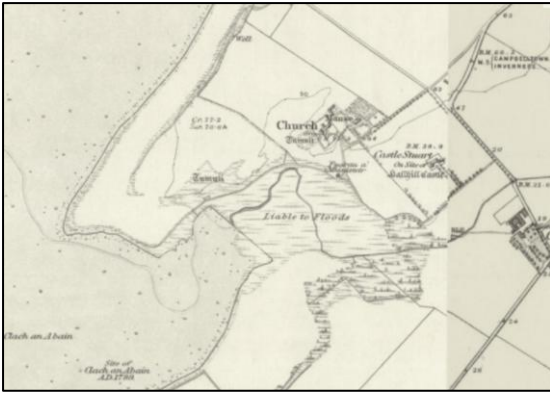


Figure 6 1st Ed Ordnance Survey map of Petty ( National Library of Scotland)

The mill is not mentioned by name in the Old Statistical Account but there is a full and extensive description in the New Statistical Account.

The fourth was a salt water mill, which was double, or had two wheels. Its ruins still stand towards the entrance of the bay near the church. Across this bay a dike was erected, and the keeping repair of so many feet of the dike was assigned to each tenant on the Earl of Moray's estate. A considerable supply of water for this mill was obtained from a burn which flows into the bay; but the object of the dike is not merely to dam up the waters of this burn, but, first to exclude and then to admit the flow tide at sluices so constructed, as that the mill might be turned both by the flow and the ebb-tide. This mill was given up about 15 years ago. The following extract of the minute of the kirk session show its erection was of an old date:- 17<sup>th</sup> Sept 1682 "P. F. and M. English, millers of the salt water mill, charged by the officer for setting the mill it, and grinding on the Lord's day<sup>x</sup>.

The minister reports the mill dam was silted up and become a bog and his comment about the mill being given up 'about 15 years ago' suggests an end date of around the late 1820s. The Comprisement<sup>xi</sup>(the valuation at the end of the lease) suggests an earlier date of 1821 which would explain the condition of the mill dam by the time of the NSA.

This, along with the extensive research by M. Ruscoe, confirms the presence of two water wheels which worked on the ingoing and outgoing tide. This could potentially extend the working time of the mill and require the presence of two millers to tend the wheels. The building to the north of the mill shown on the Brown map is relatively large and may have provided the 'dwelling' described by Dick. The Comprisement<sup>xii</sup> of 1754 also mentions 'the above designed dwelling house', and certainly suggests that there was a house for the miller provided beside the mill. The other ancillary buildings shown on the map may have been the barns for storage of grain and processed meal.

## Survey

NH 73597 49705.



*Figure 7 Aerial view of Petty ( National Library of Scotland)*

The site has changed considerably since the report of 2001 (Farrel). The fence depicted in the report photographs has been reduced to just the posts with the sea encroaching and the shore covered with seaweed. The track remains and is regularly used as a footpath but the land is no longer farmed. Castle Stuart golf course was opened in 2009 and is situated above the mill site. The ground immediately to the north of the track is now covered with rough vegetation and scrubby trees before rising up to the golf course.

NH 73569 49710

The only building presently on the site, named Scottack, depicted on the 1<sup>st</sup> Ed OS is covered with small trees and the definition of the walls of the building are considerably blurred although they stand at least 0.25m above the general ground level on the south side where they are visible. The 2001 report shows the low walls of the building as grass covered but they are now much less visible and the details of entrances are not clear. The building can be located by the north east and south west corners but the gorse and scrubby trees prevented accurate measuring. In the 2001 plan the gap in the walls was recorded as the sluice of the mill building. However the present reading of the various map and documentary sources suggest this building was probably accommodation for the millers or storage or both with the mill being situated on the northern end of the bulwark.





*Figure 8 View of scrub covering building remains looking N*

NH 73600 49711

There is a raised area with many stones below the turf. The documentary evidence indicate the mill had gone out of production at the latest by 1830 and according to the minister of Petty was in ruins. It is likely that the mound of stones at the end of the bulwark are all that remains of the mill building.



*Figure 9 View of building remains, looking N*



*Figure 10 View of building remains, looking E*

NH 73621 39573

The main upstanding feature on the site is the bulwark and this was recorded by taped offset. As the bulwark is split in two by the Rough Burn, only the north side of the bulwark



was plotted. It lies north east by south west across the bay. The bulwark would have held back a considerable area of water in the mill dam.



*Figure 11 View of bulwark looking SE*

The Rough Burn flows from the east into the Moray Firth to the west and meanders across what is now a grassy, boggy area with an expanse of rushes at the east edge. When the tide is at its highest it covers a large proportion of this area almost to the top of the bulwark. The tide was at its lowest at the time of the survey in order to access the bulwark to the edge of the Rough Burn. The bulwark remains as a substantial bank across the bay and must have been a remarkable structure when it was first built and later regularly maintained.



*Figure 12 View of seaward side of bulwark looking E (©SCAPE Trust)*





*Figure 13 View of bulwark with stones on seaward side looking NW*



*Figure 14 View of bulwark with stones on landward side looking NW*

There are two rows of stone set along the top of the bulwark 3m apart with a possible second stone setting below the top of the bulwark on the seaward side. The bulwark is presently 70m long from the north shore to the Rough Burn with the remains of a modern post and wire fence along the top. At this point when the tide is low there is a gap of c.14m wide with silt and the deep Rough Burn creating a barrier.

Although the end of the bulwark is a squared shape beside the Rough Burn there is no structure or wall. There are, however, a lot of large stones across most of the gap. This apparent setting of stones visible on the aerial photos is likely to indicate the position of the sluice gates. At the north end of the bulwark the raised stony mound are likely to be the remains of the mill. This has no structural shape but immediately to the south there is a small and shallow branch of the Rough Burn which may indicate the route of a mill lade,



however there is definitely no structure to confirm this idea. Maybe there was no need for a lade.



Figure 15 View of gap in bulwark with Rough Burn looking SE



Figure 16 Aerial view of bulwark with Rough Burn. Stones across burn may be remains of sluice gates. (©SCAPE Trust)





*Figure 17 View of bulwark looking NW (©SCAPE Trust)*

### **Conclusion**

What was originally a small mechanized but significant site is now surrounded by a golf course and has almost disappeared.

The documentary research and survey give a picture of the rare survival of a salt water mill. Petty parish had four mills but the most notable is the salt water mill. During the late 1600s the presence of the mill and bulwark were sufficiently remarkable to figure in travellers' memories and recorded in their journals. At that time it would have been a substantial structure in the landscape. The mill operated until the early 1800s and as such was an important contributor to the local economy.

Salt water or tidal mills do not often figure in the archaeological record. A search of CANMORE produced only seven results. The statistical accounts for Scotland only has the record of Petty mill. Highland HER has two records; Petty mill and Slagacharn, Munloch where tradition has two possible mills which however, appear to have been lost due to road building and drainage in modern times. The lack of similar sites make Petty salt water mill even more remarkable with both documentary evidence and structural remains survive.





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<sup>i</sup> Stuart Farrell, (2001b), Scottack, Highland, Petty parish, Tide Mill, in Turner, R. (ed) *Discovery and Excavation Scotland, Volume 2*, p.60. The Council for Scottish Archaeology. Edinburgh and Report on the site of Petty Tide Mill N735/497 (unpublished report for Highland Council)

[https://her.highland.gov.uk/api/LibraryLink5WebServiceProxy/FetchResourceFromStub/1-0-0-3-8-5-436f912aOeeOcac-100385\\_f734d7a9c6c762.pdf](https://her.highland.gov.uk/api/LibraryLink5WebServiceProxy/FetchResourceFromStub/1-0-0-3-8-5-436f912aOeeOcac-100385_f734d7a9c6c762.pdf) [accessed 28/02/2024]

<sup>ii</sup> SCAPE Trust Skottack (14458) <https://scapetrust.org/sites-at-risk/site/14458> [accessed 27/02/2024]

<sup>iii</sup> National Register of Archives for Scotland (NRAS), NRS217, Box 20.1196 Contract 2.7.1673, Stuart family, Earls of Moray: Darnaway Castle, deeds, estate papers, family and household papers. Collection held privately.

<sup>iv</sup> Peter Hume Brown, (1892), *Tours in Scotland 1677 & 1681 by Thomas Kirk and Ralph Thoresby*, p. 27. Edinburgh: David Douglas. <https://archive.org/details/toursinscotland00kirkgoog/page/n38/mode/2up> [accessed 04/02/2020]

<sup>v</sup> NRAS217, RHP14303, George Brown, (1808), Volume of plans. Plan of the farms of BALNLASKAR, Lonnie, Mains of Castle Stewart, Mill Croft and the Glebe. Collection held privately.

<sup>vi</sup> British Library (BL), George iii, George IV, and William Skinner (1750). A SURVEY of PART of the MURRAY FIRTH Shewing the Situation of the NEW FORT of ARDERSEER. Print.

<https://www.flickr.com/photo/britishlibrary/50264191862> [accessed 26/02/2024]

<sup>vii</sup> Highland Archive Centre (HAC) ref Thomas Winter (1760)

<sup>viii</sup> Thomas Lauder Dick, )1817), Account of the Travelled Stone near Castle Stuart, Inverness-shire, in (1821) *Memoirs of the Wernerian Natural History Society* Vol.III. For the years 1817-18-19-20, pp 251-259. Edinburgh. <https://archive.org/details/memoirsofwerner31821wern/page/252/mode/2up?q=XIII> [accessed 26/02/2024]

<sup>ix</sup> Scotland's People Census Results <https://www.scotlandspeople.gov.uk/record-results/64942752765df08832973d> [accessed 28/02/2024]

<sup>x</sup> John Gordon, ed (1845), *The New Statistical Account of Scotland/by the ministers of the respective parishes. Under the suferintendance of a committee of the Society for the Benefit of the Sons and Daughters of the Clergy, Pettie, Inverness*, Vol. 14, p. 401. Edinburgh: Blackwoods and Sons. University of Edinburgh, University of Glasgow. (1999) The Statistical Accounts of Scotland online service:

<https://stataccscot.edina.ac.uk:443/link/nsa-vol14-p375-parish-inverness-pettie> [accessed 26/02/2024]

<sup>xi</sup> NRAS GD 23-4-173 Collection held privately

<sup>xii</sup> NRAS GD 23-4-173 Collection held privately

## **Photo list**

1. Aerial view of Petty mill site (© SCAPE TRUST)
2. 1<sup>st</sup> Ed Ordnance Survey map of Petty (National Library of Scotland)
3. Extract form 1809 Brown map (© Moray Estates)
4. Close up extract of the mill complex from 1809 Brown map (© Moray Estates)
5. 1st Ed Ordnance Survey map of Petty (National Library of Scotland)
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7. View of scrub covering building remains looking N
8. View of building remains, looking N
9. View of building remains, looking E
10. View of bulwark looking SE
11. View of seaward side of bulwark looking E (©SCAPE Trust)

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12. View of bulwark with stones on seaward side looking NW
  13. View of bulwark with stones on landward side looking NW
  14. View of gap in bulwark with Rough Burn looking SE
  15. Aerial view of bulwark with Rough Burn. Stones across burn may be remains of sluice gates.  
(©SCAPE Trust)
  16. View of bulwark looking NW (©SCAPE Trust)
  17. Taped offset plan of bulwark

### **Acknowledgments**

Our thanks to the Earl of Moray for the use of maps and documents from the Moray Estate Archives.

Thanks to L. Morrison for the use of her research.

Thanks to C. McLaren for transcribing on the documents.

Unless credited all photographs were taken by A. Coombs



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### **Contract 2<sup>nd</sup> July 1673**

NRAS217/BOX20/1196 Contract between Alexander, Earl of Moray and Robert Niklesone, mason in Calder, for the erection of a saltwater mill at the Kinogor of Castle Stewart within the sea mark

Transcript by Colin McLaren from the original document ref. in Moray Estate Records NRAS217/BOX20/1196

At Castle Stewart the second day of July Jajvic' and seventy three years it is apoynted agreed and condiscended betuixt Alexander Earle of Murray etcetera on the ane pairt and Robert Niklesone measone in Calder on the aither pairt in maner after specefeit that is to say the said Robert Nikelsone binds and obliges him his heirs efter or intromittours with his goods and gear whatsumever to big build and make rigs in sufficient measone worke to the said noble earle ane salt water milln at the [Kenōger] (related to Kerrogair?) of Castle Stewart within the sea marke of the lenth breadth and hight and other conditions as folloves videlicet the said milln to consist in breadth of threttie sex foott in measur within walls sexteine foott of breadth and tenn foott hight from the floor of the said millne when the samen is in la[v]ell. The lavell [~~that be~~] is nixt the water to be of asler werke without tuo foott above the vater wheel and also the wheel postes within and without bothe sydes to be of the same as it regards others postes and to be mented with flages under the inner and utter wheels, according as it shall be neidfull. As also shall three hewen doors wherof on is to be in the north gavell with ane sufficient stair leading therto with fyve windows and more if it be required and also the said Robert is heirby obliged to big the water wheel gaites of the said mill dame with asler werke untill the samen be suffiecent done and the cluse of the said milln is to be biged in the same forme with asler stone which werk is to be accomplished betwixt the dait heirof and the [space] day of [space] Jajvc' and seventy three yeirs under the failzie of [space] pounds scots mony as failze to pay be the pairty brecker to the pairty willing to performe and that by and attour performance of the premises the said serviable brecker is heirby obliged to pay to the said Robert Niklesone for the said werke the sowme of four scoir pounds scots money with twentie tuo bolls oat meale the samen to be payed as folloves videlicet the thrid pairt therof at his entry to the said werke the other thrid at accomplishment of the half therof and the last thrid at the compleiting of the samen as also the said noble earl is to furnishe all kind of materialls the said Robert finding upon his owne charges barrowmen therto. And for the mair security wee are content that thir presents may be registrate in any competent books within this kingdome that all letters neidfull on ane single charge of ten [dayes] may pass theirupon. In forme as effeirs therfor wee constitut [space] our profe. In witness herof writin be David Denoone notar public wee have subscrivit thir presents with our hand at Castle Stewart day and dait above wryttin befor thir witness James Irvin and David Denoone wryter theiroffe  
Jac. Irving wittnes, David Denoone wittnes, Morray