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ARCHÆOLOGICAL  
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# Survey Report

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Reference: **Survey Report No. 68**

Author: **George Johnston &  
Liz McShane**

Location:

**Survey of Revolving Summer  
House, Sea Plantation,  
Mount Stewart  
County Down**

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In association with:

 **National Trust**



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Cover illustration: View of Revolving Summer House, looking north

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## 1. Summary

### 1.1 Location

A site survey was undertaken at the remains of a revolving summer house, in the townland of Mount Stewart, County Down on 24 March 2018. This feature was one of several in the area of an abandoned swimming pool, which was also surveyed by the Ulster Archaeological Society (Johnston and McShane 2019). The survey was the first in a series of planned surveys undertaken by members of the Ulster Archaeological Society (UAS) during 2018.

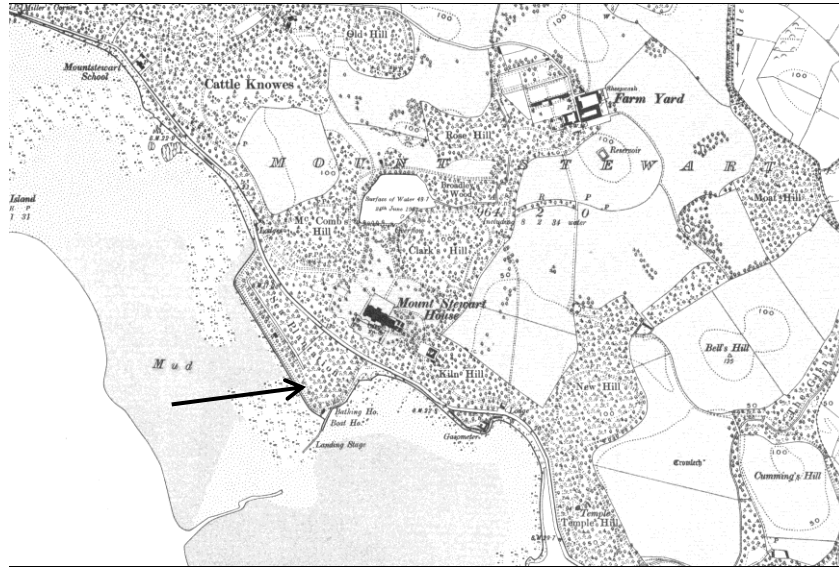


Figure 01: Location map *Ordnance Survey*

### 1.2 Aims

In order to enhance the archaeological record of this site, the aims of this survey were to produce accurate plan drawings of the monument and carry out a photographic survey. This information was compiled into a report and copies submitted to the National Trust and to the archives of the Ulster Archaeological Society.



Figure 02: Survey Group members at the summer house, 2018

## 2. Introduction

### 2.1 Background

The survey of the Mount Stewart revolving summer house was undertaken on Saturday 24 March 2018. It was carried out by members of the Ulster Archaeological Society, in response to a decision taken by the committee of the society to extend an opportunity to members to participate in practical surveys of archaeological monuments that had not previously been recorded. This followed a bequest to the society from the late Dr Ann Hamlin, from which the items of survey equipment were purchased. During discussions with Malachy Conway, Archaeologist of the National Trust in Northern Ireland, it was noted that many archaeological sites on National Trust property had not been subject to a detailed archaeological survey. It was therefore agreed that members of the society would commence a programme to survey these sites and the revolving summer house was subsequently chosen to be the sixty-eighth of these.

### 2.2 Previous archaeological surveys

As far as is known, there have not been any previous archaeological surveys at this feature.

### 2.3 Cartographic Evidence

There is no record of the swimming pool or revolving summer house on any of the Ordnance Survey County Series maps, but it is clear that swimming activities took place in the area prior to 1834.



Figure 03: OS County Series, First Edition, Down Sheet 11 (part of) 1834



Figure 04: OS County Series, Second Edition, Down Sheet 11 (part of) 1859



Figure 05: OS County Series, Third Edition, Down Sheet 11 (part of) 1904

## 2.4 Archiving

Copies of this report have been deposited with the National Trust and the Ulster Archaeological Society. All site records have been archived by the National Trust at Rowallane, Saintfield, County Down.

## 2.5 Credits and Acknowledgements

The survey was led by Harry Welsh and included Michael Catney, David Craig, June Welsh, Lee Gordon, Liz McShane, Duncan Berryman, Hilary Boyd, Colin Boyd, Janna McDonald, David Irving, George Johnston, George Rutherford, Randal Scott and Grace McAlister. The Ulster Archaeological Society is particularly grateful to Malachy Conway, Archaeologist of the National Trust, who worked closely with the survey team in choosing the site and facilitating access.

## 3. The 2019 UAS Survey

### 3.1 Methodology

It was decided that the survey would take the form of the production of plan drawings and elevations, accompanied by a photographic survey. This report was compiled using the information obtained from these sources, in addition to background documentary material.

### 3.2 Production of plan drawings

Plan drawings and elevations were completed, using data obtained from the field survey. Measurements were obtained by using the society's *Leica Sprinter 100* electronic measuring device. Sketch plans at 1:50 scale were completed on site by



recording these measurements on drafting film secured to a plane table and backing up the data on a field notebook for subsequent reference. Field plans were later transferred to a computer-based format for printing.

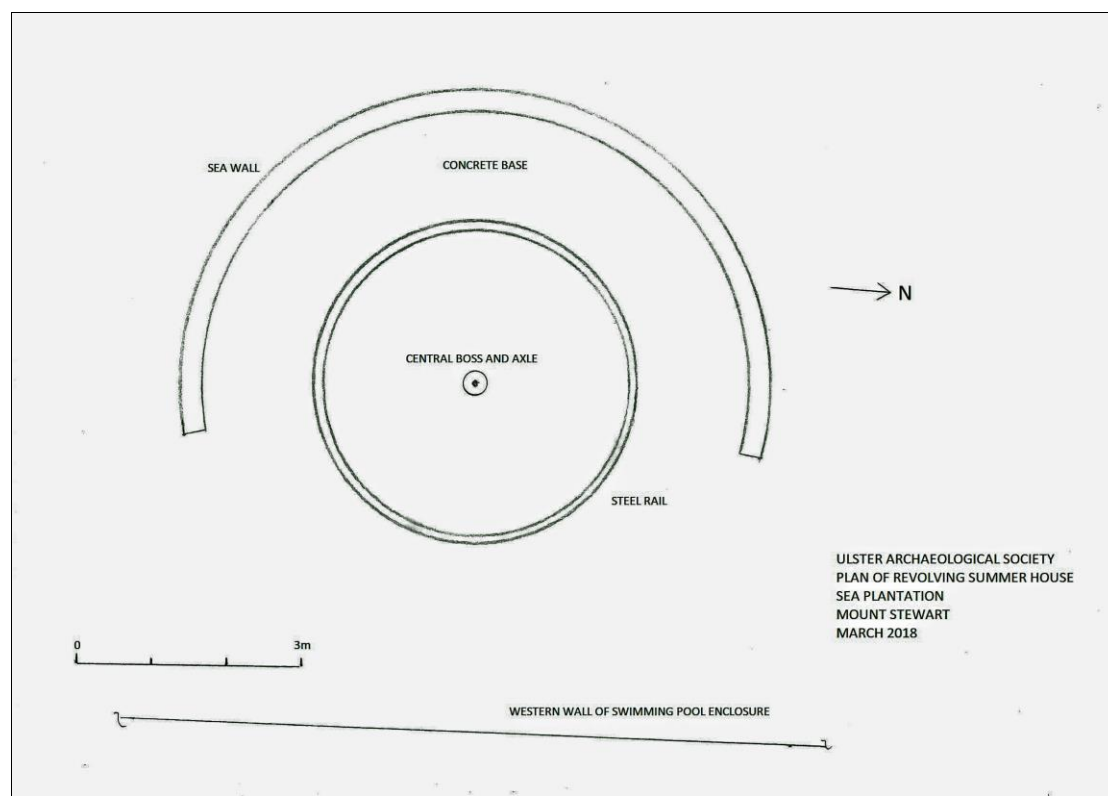


Figure 06: Plan of revolving summer house base

### 3.3 Photographic archive

A photographic record of the site was taken by using a *Ricoh G600* 8 megapixel digital camera and a photographic record sheet was employed, corresponding to photographs taken during the site survey on 24 March 2018 and subsequent visits. The National Trust provided photographs of the site when in use. These were probably taken by Lady Rose and are held at the Public Record Office of Northern Ireland. Copies are held at the National Trust and attributed here where appropriate. The archive has been compiled in jpeg format and saved to compact disc. A photographic archive sheet was compiled to accompany this report.

## 4. Discussion

### 4.1 The revolving summer house when in use.

Revolving summer houses, or sun houses, were popular during the Victorian and Edwardian periods and in recent years they have become popular again. The revolving summer house at Mount Stewart can be seen in photographs of the swimming pool taken in the 1930's, see below, but it was removed long before the pool complex was demolished (local knowledge).

The swimming pool was constructed to a very high specification with its ornate pavilion, planned gardens and stone features. It used innovative technology to manage the flow of water for drainage and replenishment, employing tidal ranges (PRONI D 654/N5/18). It is clear that the revolving summer house would have been designed to an equally high standard, but with its exposed location, was much more vulnerable to erosion damage. Efforts to control this had clearly been taken on a number of occasions. The existing remains of the revolving summer house are testament to the high standard of construction and repeated repairs that have taken place in the past. The concrete base, protective sea wall, circular iron rail and axle are all still in place, although damage due to lack of maintenance is evident (discussed further below).

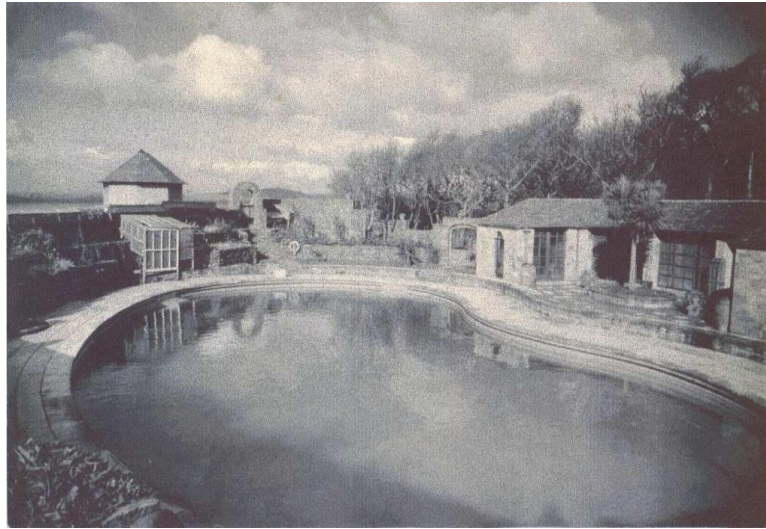


Figure 07: View of swimming pool with the summer house at the lough shore outside *National Trust*



Figure 08: Revolving summer house and the wall protecting it from the sea. The wooden gate is the most westerly entrance, without an arch into the swimming pool enclosure. *National Trust*

#### 4.2 How the revolving summer house worked

The wooden summer house was set on a chassis which ran on a circular metal rail, the chassis was six-sided, each corner had a wheel like a very large castor and a spoke connecting it to a central shaft or axle on which the bearing of the summer house turned. It was moved manually to follow the sun in this open location.



Figure 09: The chassis of a modern revolving summer house on which the wooden structure would be built. The original Mount Stewart one would have been very similar.

#### 4.3 The revolving summer house at the time of the survey.

The circular platform structure of the revolving summer house is still in place.



Figure 10; The Mount Stewart summer house protective wall, circular platform, iron rail and central axle, looking west.





Figure 11: View of the central iron axle with a mounting plate



Figure 12: Close-up of the base of the axle showing corrosion

#### 4.4 The remains of the summer house from the beach

The photograph below shows the position of the summer house on the bank above the beach, the structure of the wall and the foundation base and the present condition of both.



Figure 13: Summer house, viewed from the beach, showing the base, protective wall and the foundation, looking east



Figure 14: Hole in the wall showing cracks going right through the wall.





Figure 15: Vertical and horizontal cracks. The horizontal cracks follow the junction of the protective wall and the platform, looking east



Figure 16: Cracks on the concrete circular platform for the sun house near the iron rail

#### 4.5 The summer house base

The foundation base of the summer house below the protective wall is made up of different layers of concrete with different mixes in and several concrete patches. The base has been eroded by the water and weather condition has begun to fall away



especially from the red clay of the bank. Repairs using concrete have been made at different times.



Figure 17: The summer house base foundation, looking east

Figure 17 shows the remains of the wooden shuttering at the base of the structure that would have contained the wet concrete mix until it set. This illustration also shows three separate concrete mixes, characterised by their individual matrices of composite materials. Also shown is the layer of red clay on which the base was constructed, now exposed due to erosion.



Figure 18: Remains of wooden shuttering at the base





Figure 19: View of poorly-mortared matrix



Figure 20: View of intermediate concrete mix





Figure 21: View of base concrete mix, with larger stone matrix



Figure 22: Waves undermining the base on a typical tide.

A few metres to the east of the revolving summer house there are the remains of another circular concrete base, the base of another possible summer house. None of the photos of the swimming pool complex show any building or structure on this base. Perhaps nothing was ever built on it, as it is very close to sea level so would often be submerged and covered in seaweed. It is also not in a good position for the afternoon summer sun. There is no sign of a metal rail or central axle so perhaps it was a static summer house, not a revolving one.



Figure 23: Circular concrete base of a possible summer house. Note the sea weed on the grass on land ward side of the base, looking north-east



Figure 24: Undermining of the base of second summer house

#### 4.7 Conclusions

We know from contemporary photographs that the revolving summer house was part of the swimming pool complex when it was in use. Local knowledge also informs us that the summer house had been removed long before the swimming pool was filled in and abandoned. As with the design of the pool, it seems the design and construction of the summer house was to the same high standard.

The construction of the swimming pool followed a tendering process involving the best engineering firms of the time (PRONI D 654/N5/18). The standard of work is still evident in the remains, almost a century later. However, despite several attempts many years ago at repairing the damage caused by erosion, the base of the structure is being undermined by tidal erosion and the metal features are being damaged by corrosion.

## 5. Recommendations for further work

### 5.1

The 2018 survey of the remains of the revolving summer house identified the structural damage that has taken place there due to erosion and lack of maintenance. It is recommended that consideration be given by the National Trust to stabilising the existing structure before it is lost completely.

### 5.2

It seems likely that further images and documentary evidence for the construction and use of the revolving summer house are available in the archives of the National Trust and at the Public Record Office for Northern Ireland. Time constraints prevented further research at the time of this report. Indeed, such research material may be present for the many features around the Mount Stewart estate that are not currently accessible to the general public, such as the dove cote, stables and gas works. It is recommended that further research and archaeological survey into these features be undertaken at the earliest opportunity, in order to inform the National Trust management team at Mount Stewart about bringing these features into the realm of public access in the future.

## 6. Bibliography

Johnston, G.M. and McShane, L. 2019. *Survey of Swimming Pool, Sea Plantation, Mount Stewart, County Down*, Survey Report No. 58, Belfast: Ulster Archaeological Society.

Preston, R. 2017. *Military Base, Mount Stewart, County Down*, Survey Report No. 58, Belfast: Ulster Archaeological Society.

Stevenson, C. 2018. *Mount Stewart's Southern Quadrant Shelter, Mount Stewart, County Down, Northern Ireland*, Survey Report No. 70, Belfast: Ulster Archaeological Society.

Public Record Office of Northern Ireland: Londonderry Papers:  
 D 654, 1612-c.1940.  
 D 654/N5/18: Construction of swimming pool

## PHOTOGRAPHIC RECORD FORM

**Site:** Revolving Summer House, Mount Stewart, County Down

**Date:** 24 March 2018 and February-March 2020

**Make and model of camera:** Ricoh G600W and others (including from National Trust archives)

Frame no	Details
NT 01	View of summer house
RIMG 100	Outside west gate of swimming pool enclosure
NT 02	View of summer house from swimming pool
NT 03	Summer house and protecting wall
GMJ 01	Chassis of modern revolving summer house
RIMG 85	Summer house base, wall, iron rail and axle
GMJ 02	Close up of axle deterioration
RIMG 07	View of summer house from beach
RIMG 37	Hole in wall of base
RIMG 38	View through hole to swimming pool area
RIMG 39	Cracks in base wall
GMJ 03	Cracks in circular concrete base
GMJ 04	Foundations of the summer house base
GMJ 05	Remains of wooden shuttering on the base
GMJ 06	Three different concrete mixes on base
GMJ 07	Patched grey stone
GMJ 08	Close-up view of concrete base
GMJ 09	Close-up view of packing stone
GMJ 10	View of exposed red clay and fallen stone
GMJ 11	Concrete on triangular stone
GMJ 12	Undermining of base
GMJ 13	Base of second summer house
GMJ 14	Undermining of second base