

Sk-013 / **Wallace's House, Dumfries
and Galloway**

Aerial Survey and Imaging

Report

March 2020



Wallace's House, Dumfries and Galloway, Stirling

Archaeological Aerial Survey and Imaging

On Behalf of:

Forest and Land Scotland Head Office
1 Highlander Way
Inverness Business Park
Inverness

National Grid Reference: NY 0344 9084

Prepared by: David Connolly

Date: March 2020

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Skyscape Survey would like to thank Matt Ritchie; Forestry and Land Scotland, The project was undertaken by David Connolly (*Pilot*), with the Hana Kdolska (*Flight Safety Officer and Photographer*).

The report was written by David Connolly

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OASIS ID: connolly1-388625

Introduction

Skyscape Survey was commissioned by Matt Ritchie of Forest Enterprise Scotland to carry out aerial works at the fort of Wallace's House, Dumfries and Galloway (Ref: SK-013) in the Forest of Ae.

The site lies 3 km to the west of Callander town, at NN 6014 0759.

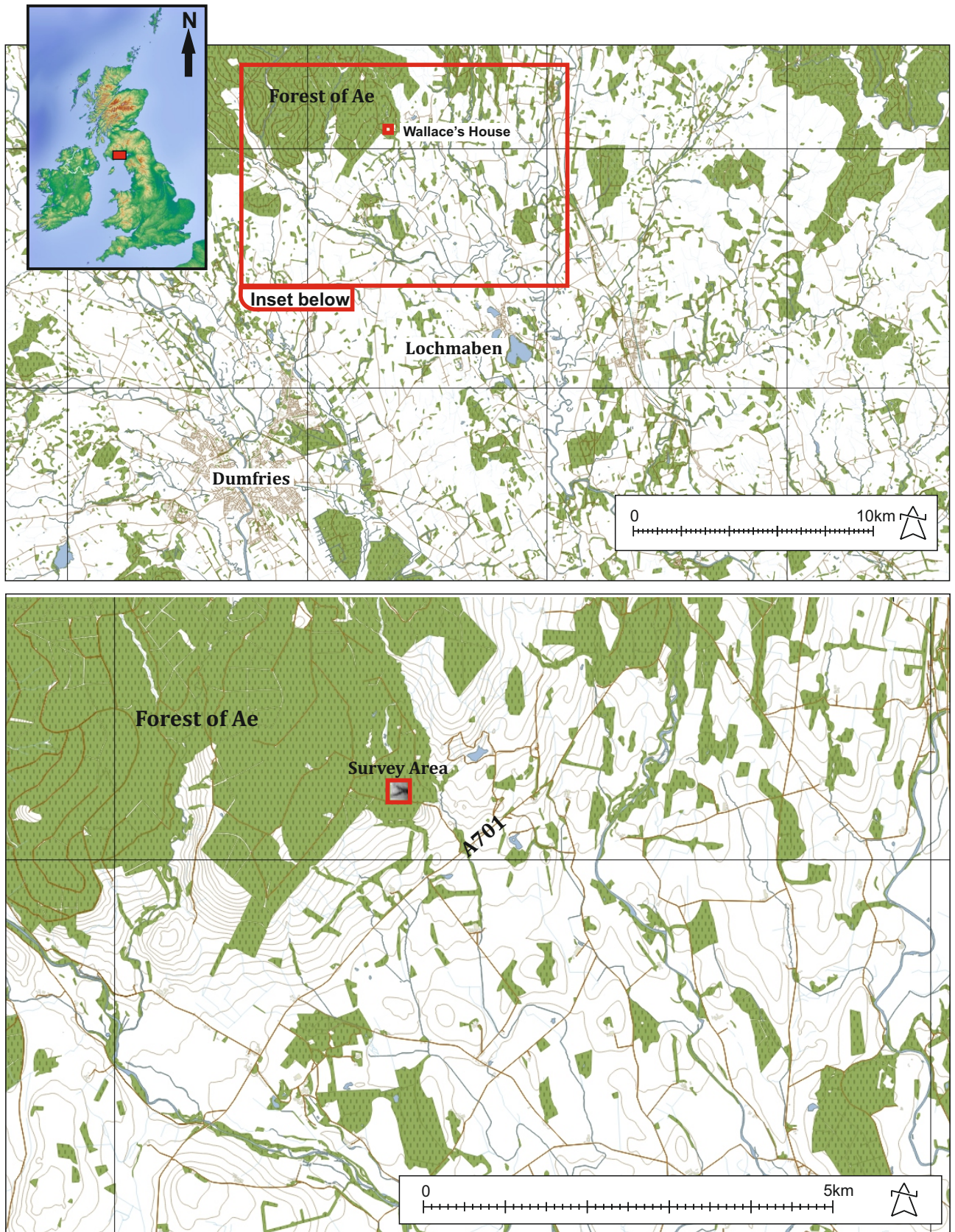
Although the site has been subject to survey in the past by Rubicon Heritage, the need was recognised to enhance the most recent survey and interpretation, as well as provide a 3D model and aerial images.

Topography

The site lies 1km to the northwest of the Garvald Church junction on the A701, at NY 03447 90832 off a forestry track. Set on a knoll at the confluence of the Black Linn and the Tor Linn in the headwaters of the Garrel Water there are steep slopes on all but the west side where the promontory is cut off with a large ditch and bank. The site itself is free of trees though there is extensive forestry around the site.



Plate 1: View to west over site, with the steep sided gullies visible on either side.



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Figure 1: Site Location Map

Site Survey Background

Canmore: <https://canmore.org.uk/site/66416/wallaces-house>

Site Number NY09SW 2 (Fort)

Wallace's House was first described, and sketch planned by RCAHMS at 1:2500 in 1920.

A detailed archaeological measured survey was undertaken at the site in late June 2013. by Rubicon Heritage Services Ltd. (Plate 2: Plan of fort by Rubicon Heritage).

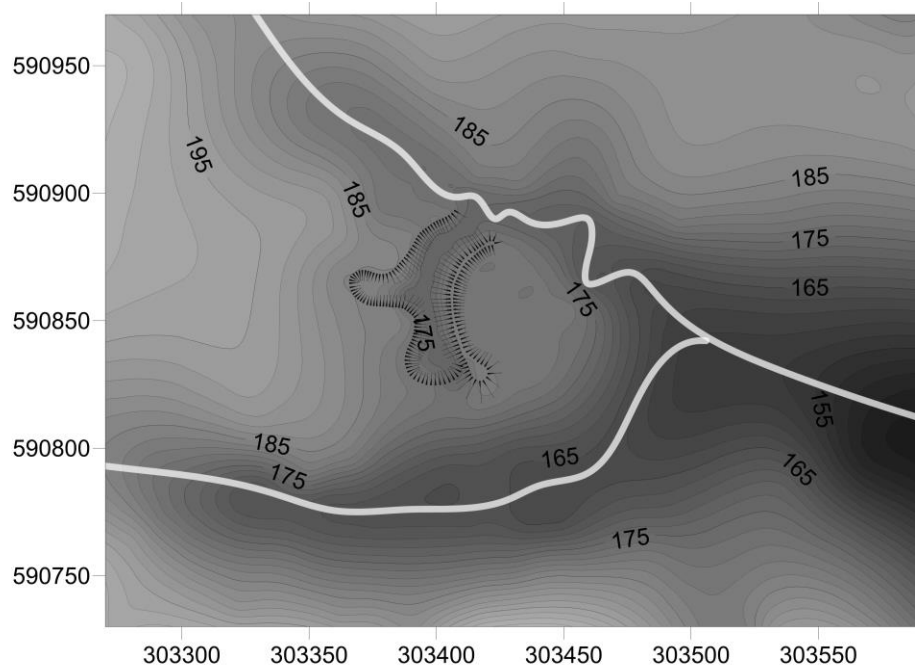


Plate 2: Plan of fort by Rubicon Heritage Services Ltd



Plate 3: Oblique image to the east down into the valley beyond with Lochmaben and Lockerbie in the distance. .

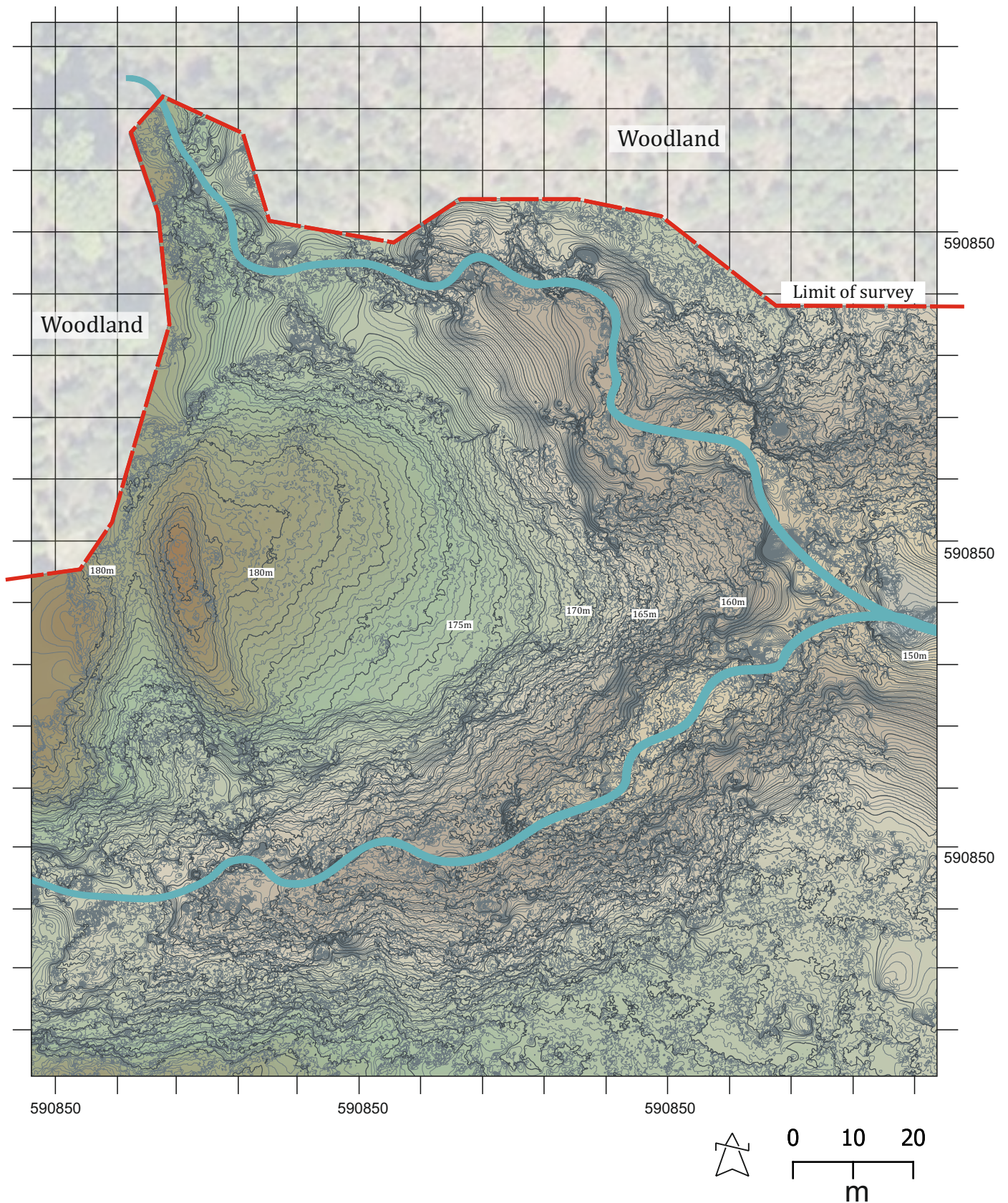


Figure 2: Site Plan (contours at 0.25m intervals - heights are maOD)

Results

Forest Enterprise Scotland Archaeologist Matt Ritchie requested oblique photographs of site for publication and promotional. A vertical shot of the site – potentially created from stitched images and a SUA based aerial survey for creation of a detailed topographic image. Which would allow onsite interpretation and engagement with local groups.

Using over 220 oblique images across the site, a high resolution 3D model of the site was created using Agisoft Photoscan – the resulting Data Surface Model (DSM) was processed to remove vegetation, to leave a Data Terrain Model (DTM).

The resulting high resolution model was transformed into a referenced GeoTIFF Digital Elevation Model (DEM) used as the base for a 5cm interval contour model in CAD and as GIS shp files. In addition, a georeferenced ortho-image of the site (Plate 5) was produced and 3d model viewable on html browser.

The area covered by the survey included the site and up to 60m from the outer ramparts to all directions.

The final project archive comprises:

- ❖ A summary statement of results
- ❖ A location plan of the site and works
- ❖ A folder of Publication images
- ❖ A folder of Terrain Modelling images
- ❖ A georeferenced CAD format flat file of the contours
- ❖ A georeferenced contour file and DEM and orthographic image
- ❖ A pointcloud ply file

A digital copy of this report with plans in PDF format has been supplied to the **Forest Enterprise Scotland** on a usb. Photographs, plans and illustrations fall within the current guidelines for archival standards set by the Archaeology Data Service. A full copy of all digital photographs and digital data is included on the usb in archive stable format. A DES Entry has been created and presented at the end of this report as well as submitted for inclusion within the relevant year for publication.

In addition to the above requirements, the project details are recorded via the online OASIS (Online AccesS to the Index of Archaeological InvestigationS).



Plate 4: Near vertical view of whole site, with bank and ditch to middle foreground. Note the rectangular house to the left of the grey tree on the bank.



Plate 5 Orthographic image of the site...

Interpretation notes

Although the intention of the project was not to re-interpret the site in any great detail, the following points are worth noting after the site was examined on the ground as part of the survey

See Figures 2-4 for visual clarification for each point

1. The large bank that cuts off the promontory continues further round to the north as a decreasingly smaller bank.
2. There seems to be evidence for a small bank surrounding the top of the promontory, which represents either the edge of forestry plantation OR a palisade.
3. It is clear that a palisade would be required to complete the circuit, given the effort in creating the earthen bank to the west.
4. The ditch may have a routeway in from the west, with a ramp down into the feature leading to an entrance in the northwest corner.
5. There is confirmation of the square building hard against the earthen bank with an entrance facing east.
6. There is a further structure to the centre north of the enclosed area, again square.
7. The track leading up the northern slope of the promontory is visible.

The nature of the site is impossible to describe without intrusive investigation and dating.

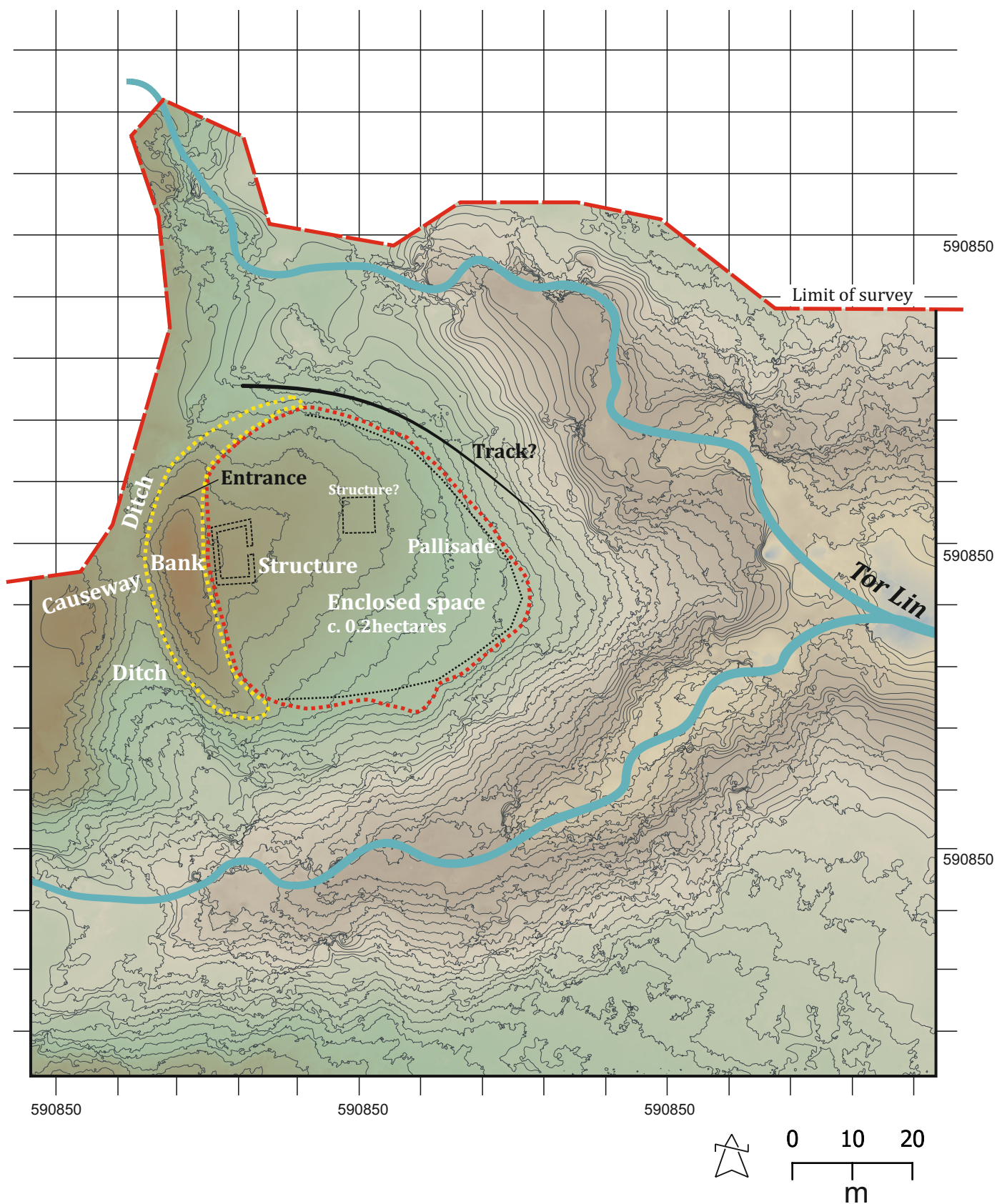


Figure 3: Interpretation site plan (contours at 1m intervals)

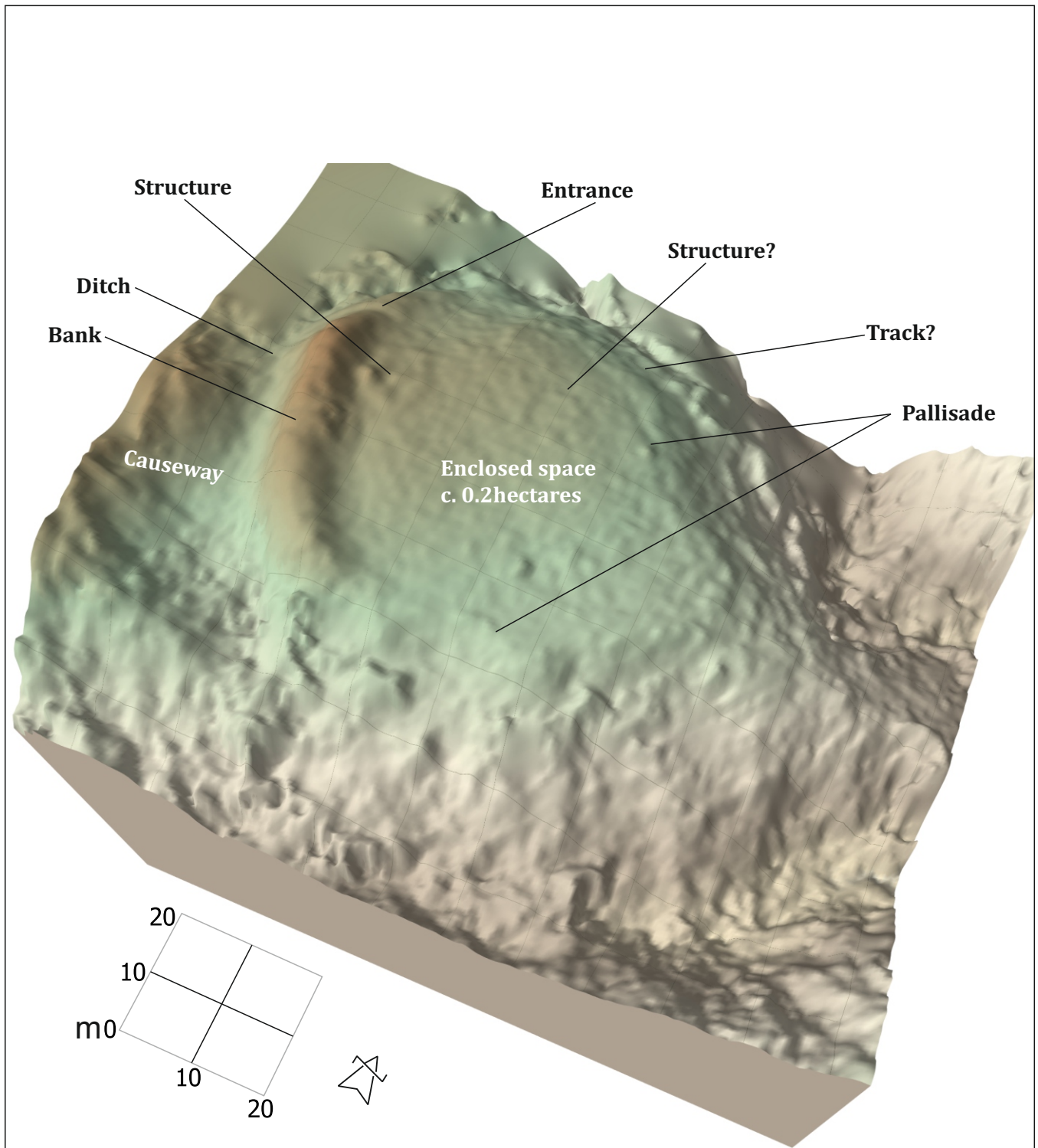


Figure 4: 3D perspective model Interpretation site plan

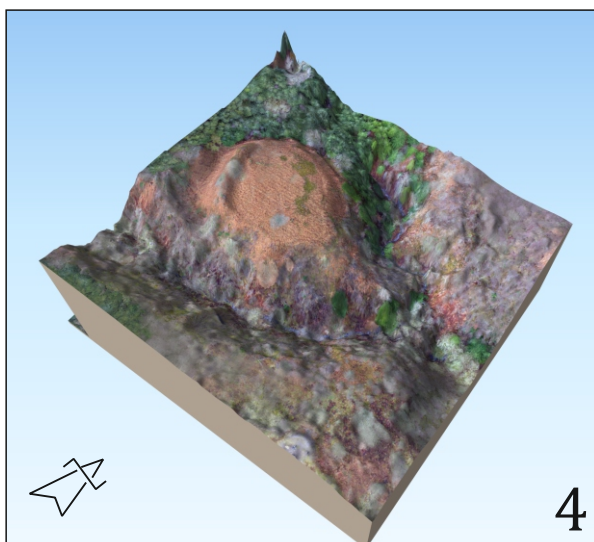
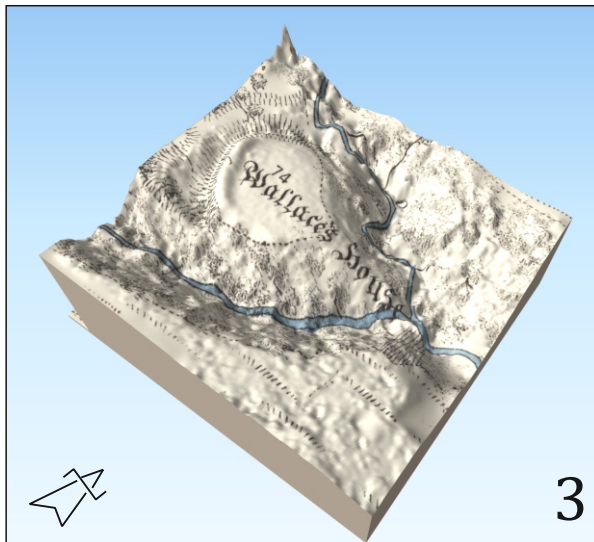
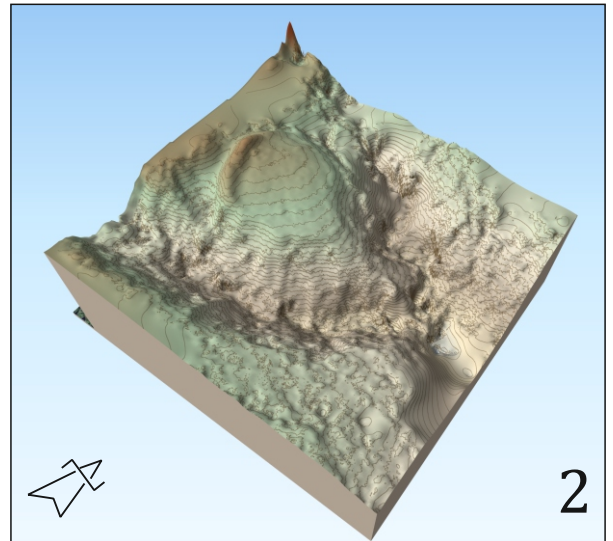
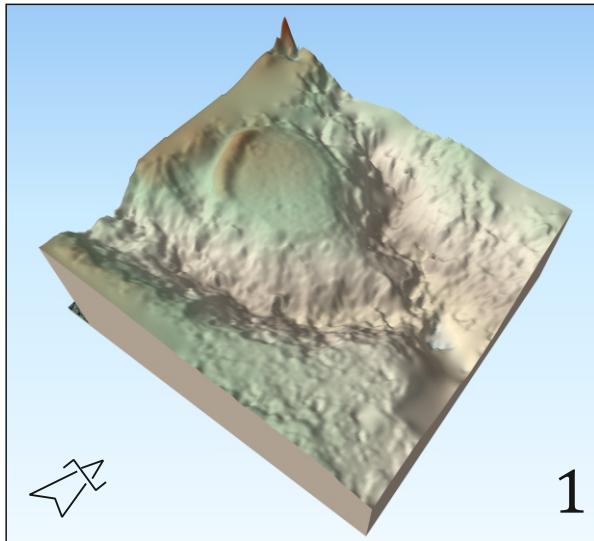


Figure 5: Interpretation site models

- 1) Shaded DEM model
- 2) Shaded DEM with 1m contours
- 3) 1857 Ordnance Survey map overlay
- 4) Orthographic photographic image overlay

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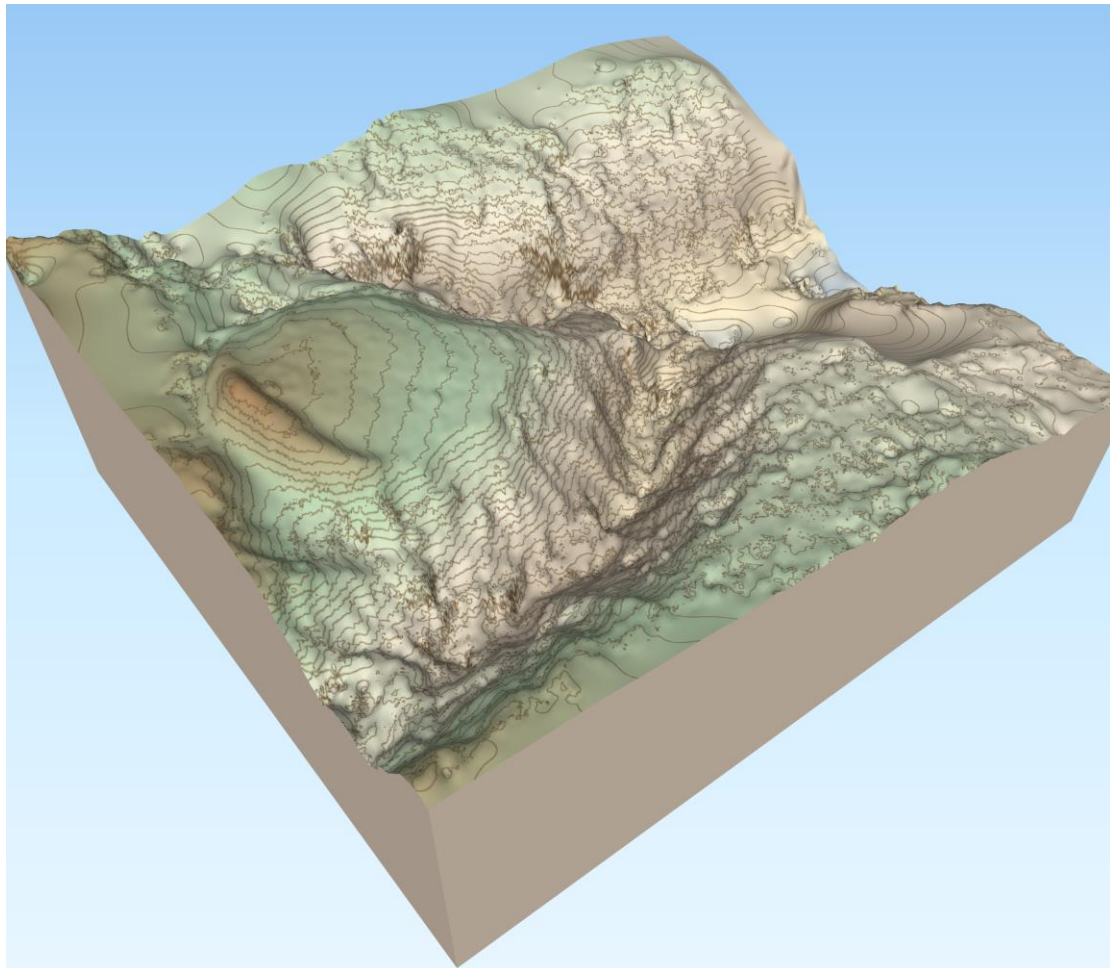


Plate 6: View to northeast across 3D contour model showing bank and ditch bisecting promontory.

DES Entry

LOCAL AUTHORITY:	Dumfries and Galloway
PROJECT TITLE/SITE NAME:	Wallace's House, Dumfries and Galloway
PROJECT CODE:	Sk-013
PARISH:	Kirkmichael
NAME OF CONTRIBUTOR:	David Connolly
NAME OF ORGANISATION:	Skyscape Survey
TYPE(S) OF PROJECT:	Aerial Survey
NMRS NO(S):	NY09SW 2
SITE/MONUMENT TYPE(S):	Fort
SIGNIFICANT FINDS:	N/A
NGR	NY 0344 9084
START DATE (THIS SEASON)	6 th February 2020
END DATE (THIS SEASON)	18 th February 2020
PREVIOUS WORK	Visual land surveys
MAIN (NARRATIVE) DESCRIPTION:	Aerial survey of the site was carried out using a camera mounted on a SUA (drone) in order to capture images for processing into a detailed contour plan of the site at 20cm interval, allowing for 3D modelling and survey interpretation. In addition, images were taken of the site from a variety of angles, placing it into the landscape
FUTURE WORK?:	-
FUNDING BODY:	Forestry Commission Scotland
ADDRESS OF MAIN CONTRIBUTOR:	Skyscape Survey Thornton Mill Cottage near Innerwick Dunbar EH42 1QT
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References

O'Flaherty (2013) Archaeological Measured Survey of Wallace's House Fort, Dumfries, Galloway unpublished report.

RCAHMS. (1920) *The Royal Commission on the Ancient and Historical Monuments and Constructions of Scotland. Seventh report with inventory of monuments and constructions in the county of Dumfries.* Edinburgh. Page(s): 126-7, No. 358 RCAHMS Shelf Number: A.1.1.INV(7)

RCAHMS (1997) Eastern Dumfriesshire, an archaeological landscape. The Stationary Office, Lorn, Edinburgh.

Cartographic references:

Ordnance Survey 25 inch to the mile 1st edition (1857) - 1855-1882 Dumfries Sheet XXXIII.9

Supplied digital files (usb)