

<Title> New dates for enclosed sites in north-east Scotland: results of excavations by the Northern Picts project

<Abstract>

This article presents the results of a program of investigation into the enclosed settlements/forts and promontory forts of north-east Scotland, undertaken as part of the Northern Picts project. Reconnaissance excavations are reported on for nine sites: Crathie Point and Durn Hill, northern Aberdeenshire (Banffshire); Barmkyn of North Keig, Hill of Keir, Hill of Christ's Kirk and Cnoc Cailliche (Wheedlemont), central Aberdeenshire; and Doune of Relugas, Knock of Alves and Wester Tulloch, Moray. Targeted excavation was undertaken at all examples and in the majority of cases produced a basic chronology for key phases of occupation/defence at the sites in question. Thirty-two new radiocarbon dates are presented, with a number of sites producing Iron Age dates, but a smaller number also revealing early medieval phases of occupation and use.

<A> Introduction

One major lacuna in the archaeological record for first millennium AD Scotland is the dearth of settlement sites from the mainland and that has a major impact on addressing the social changes that occurred in this period (eg Wainwright 1955a; Wainwright 1955b; Ralston 1980; Ralston 1987; Alcock 1988; Shepherd 1993: 85; Ralston 1997; Alcock 2003: 27; Ralston 2004; RCAHMS 2007: 130; Driscoll 2011: 263; Noble et al 2013). In north-east Scotland, in the areas that became core regions of Pictland (Woolf 2006; Woolf 2007; Fraser 2009; Evans 2014), the settlement evidence post the end of the second century AD is very sparse and this sparsity has constituted one of the major 'problems' of Pictish archaeology

(eg Wainwright 1955a, Wainwright 1955b; Carver 2011). However, the situation has improved markedly in the last decade with new excavations in north-east Scotland revealing new site-types and producing a more robust chronology for Iron Age to early medieval enclosed and unenclosed settlement (eg cf Haselgrove et al 2001: 25, 86; Cook 2010; Cook 2011a, Cook 2011b; Cook 2013a, Cook 2013b; Noble et al. 2013). This article builds on the recent progress, outlining the results of a series of excavations that have begun to flesh out even further the number of dated examples from this region. The results outlined help address the nature, chronology and social dynamics of a range of enclosures. The sites investigated, which are presented in local groups below, are: Crathie Point and Durn Hill in northern Aberdeenshire (former Banffshire); Barmkyn of North Keig, Hill of Keir, Hill of Christ's Kirk and Wheellemont in central Aberdeenshire; and Doune of Relugas, Knock of Alves and Wester Tulloch in Moray (Illus 1). Site selection was based on proximity to major sites investigated as part of the Northern Picts project, but a range of smaller enclosures were also targeted in order to test examples thought most likely to yield early medieval occupation evidence.

<Illus. 1 here> Illus 1 The study area and sites targeted for excavation.

<A> Aims and Methods

The sites in question were excavated from 2014-2017. The project built on recommendations of the ScARF Iron Age and medieval panels that recommended keyhole excavation to collect dating evidence for enclosures/forts to provide rapid assessment of the basic chronologies of site-types across a region (eg ScARF 2012a, ScARF 2012b). The ScARF Medieval panel also recommended the investigation of possible centres of consumption and power to assist in the understanding of the economic and social activities associated with such locations (ScARF

2012b). The approach adopted for the enclosed sites reported on here involved survey and desk-based assessment followed by targeted excavation of key features to obtain dating material. Trenches were opened using standard archaeological methods and samples were retrieved for dating. All results were recorded using drawing and dGPS survey.

<A> Sites Investigated

 Northern Aberdeenshire (former Banffshire)

Forts of any description are not particularly common in what is now northern Aberdeenshire, but in 2014 the two nearest to the findspot of the Gaulcross Pictish hoard (Noble et al 2016) were targeted for excavation to provide dating evidence. The first was on the coast at Crathie Point, and the second inland on Durn Hill.

 Crathie Point (NGR: NJ 5483 6717, CANMORE ID: 17947)

Crathie Point is a promontory fort situated on a prominent peninsula of land c1km west of Sandend village and bay on the Banffshire coast. Two earthen ramparts set some 50m apart cut across the neck of the promontory on the south-west. The inner, which stands up to 1.5m high and 7.5m thick, is flanked by ditches (each c3m broad) to either side. The outer rampart has been heavily ploughed down, and where best preserved forms a low bank 7.5m in thickness and 0.3m in height. The inner rampart encloses an area of 1.25ha, but only c0.47ha is usable space (Lock and Ralston 2017: SC2957). In 2006 a plane table survey was conducted which recorded the two ramparts and an artificial 'pond' between (Irving et al 2006: 18).

The 2014 work included the excavation of a trench from the edge of the inner rampart across the external ditch (Illus 2) (Sveinbjarnarson and Noble 2014a). The inner rampart was identified and the upper part (104) excavated, which showed that it consisted of dumps of redeposited natural subsoil – a yellow clay in this case. Only the upper deposits of the outer

ditch were excavated due to the extremely compact nature of the clay soils. From an upper fill, (103), a charcoal lens was identified, a sample from which produced an Early Iron Age date of 785-535 cal BC (95% probability; Beta-381814) (Illus 3). The profile of the upper fills of the ditch suggest that (103) may have been part of a recut of the ditch, suggesting some refurbishment of the fort; the sample may represent material freshly accumulating within the fill or may represent redeposited charcoal. The 'pond' proved to be a modern feature (under the bank pieces of concrete and glass were identified). The finds suggest that the pond was dug sometime during the 20th century.

<Illus. 2 here> Illus 2 Site plan and trench at Crathie Point.

<Illus. 3 here> Illus 3 Section across the upper deposits of the inner ditch at Crathie Point.

 Durn Hill (NGR: NJ 5710 6383, CANMORE ID: 17973)

Durn Hill is located c1.5km east of Fordyce on a low hill that dominates the surrounding area. The perimeter comprises three lines of enclosure, measuring overall c280m north-south by 160m transversely (Illus 4). The outer and innermost lines of enclosure are shallow narrow trenches surviving on the surface as hollows up to 0.9m wide and 0.3m deep. The middle line is similar, but on the south-west side the boundary becomes more substantial, with a 3m broad ditch flanked internally by a bank 4m thick and 0.6m high. An entrance causeway c4.5m wide crosses the ditch in the centre of this sector, matching gaps in the inner and outer lines. Following the description drawn up for the RCAHMS Marginal Lands Survey in 1956 (Geddes 2013), the Ordnance Survey in 1961 suggested that the Durn Hill was an unfinished fort, comprising marker trenches and an unfinished ditch and rampart. This interpretation was confirmed by Feachem (1971: 27-28), but more recent scholarship has suggested these features are in fact the remains of palisades (eg RCAHMS 1997: 140–1;

RCAHMS 2007: 103; Lock and Ralston 2017: SC2958). The 2014 work targeted the innermost enclosure with a trench (1m x 2m) across its line quickly establishing that at least was a palisade slot encircling the summit of the hill (Illus 5) (Sveinbjarnarson and Noble 2014b). The slot [220], c0.4 m wide and 0.6m deep, with stone packing and a clayey-silt fill (203), was flanked internally by what was probably a low bank of upcast (204). Charred material from the lower fill was subsequently radiocarbon dated to 760–410 cal BC (95% probability; Beta-381815), providing a terminus post-quem for construction.

<Illus. 4 here> Illus 4 The Durn Hill enclosures.

<Illus. 5 here> Illus 5 Section across the Durn Hill inner palisade line.

 Central Aberdeenshire

In 2016-19 four enclosures in central Aberdeenshire were targeted as part of a programme of evaluation aimed at fleshing out the settlement chronology for this region and followed on from work at the high-status early medieval enclosure complex at Rhynie (Noble et al 2013) and Murray Cook's work in the same region (Cook 2010, Cook 2011a, Cook 2011b, Cook 2013a, Cook 2013b). Two – Barmkyn of North Keig and Hill of Keir – were stone-walled and identified as possibly of early medieval date (RCAHMS 2007: 101; Cook 2013a: Table 3), while the third was another supposed unfinished fort on Hill of Christ's Kirk, and the fourth a small fort on Cnoc Cailliche, Wheedlemont, near Rhynie.

 Barmkyn of North Keig (NGR: NJ 5991 2004, CANMORE ID: 17701)

Barmkyn of North Keig is a bivallate stone-walled sub-circular enclosure or ring-fort lying on the summit of the Hill of Airlie. The heavily denuded inner wall encloses an oval area some 25m -31m in diameter, whereas the outer enclosure surrounding it has a more substantial stone wall (5-8m thick and up to 1m high), with an internal diameter of c45m diameter (0.16ha) (Lock and Ralston 2017: SC2955). An entrance c4m wide through the outer survives on the south-east. In early 2017 one trench was excavated across the outer wall and another in the interior testing for the presence/absence of internal buildings/occupation (Illus 6) (Sveinbjarnarson and Noble 2017).

The trench in the interior (2m x 2m) revealed only a thin occupation or old ground surface layer (101) above natural subsoil. This layer had a concentration of large boulders embedded within it that could have been from a very denuded wall line (104). Charcoal (mixed – most likely from hearth-waste) from (101) was dated to 370-170 cal BC (95% probability; SUERC-75120 2195). The trench (3m x 2m) across the outer wall was laid over the eastern terminal of the entrance on the south-east (Illus 6 and 7). The wall here survived up to 0.5m height and was composed of rounded stones of granite, sandstone and schist up to 0.5m in maximum dimensions, but generally smaller. The wall was a maximum of 3m thick at the entranceway and was located in the northeast corner of the trench, extending around 1m into the trench on the east and south sides. An orange-brown boulder clay was located across the trench and under the stone bank. Two features were located under the bank terminal. The first (1701) was a linear spread of charcoal running broadly parallel with the entrance. This was up to 0.08 m thick and 0.4m wide. The deposit was a dark blackish-brown silt that was very charcoal rich. It lay directly on top of fire-reddened subsoil and terminated on its northern side just short of a posthole that was located at the inner bank edge. The post-hole had a tan brown clayey silt fill (1703) with charcoal flecks throughout and measured 0.4m in diameter by 0.38m in depth. It was located in the northern baulk. Charcoal from

(1701) and (1703) was dated to 390-200 cal BC and 360-110 cal BC respectively (95% probability; SUERC-87333 and SUERC-87337). The features here probably provide a terminus post quem for the wall or at least the wall collapse. In the absence of facing stones to mark the edge of the wall, it was impossible to determine whether these features related to some form of timber-lacing within the wall core, or perhaps elements of the entranceway that had subsequently been covered by wall slump. In either of these scenarios the dates may provide a close estimate for the construction of this part of the enclosing wall, though without larger-scale work this will remain uncertain.

<Illus. 6 here> Illus 6 Barmkyn of North Keig, site plan and trenches excavated.

<Illus. 7 here> Illus 7 Trench 2 at Barmkyn of North Keig.

 Hill of Keir (NGR: NJ 8175 0832, CANMORE ID: 19341)

Hill of Keir is a stone walled enclosure or ring-fort enclosing an area of 0.14ha (RCAHMS 2007: 101) (Illus 8). There are various breaks in the wall on the north side, but these are likely to be modern, and the original entrance may have lain on the east. Two trenches were dug – one in the interior and one over the wall on the east (Sveinbjarnarson and Noble 2017). Trench 1 (2m x 2m) in the interior revealed a thin layer of peat (101), c0.02 m thick, which on the north side trench sealed a possible denuded wall line (104), with an occupation horizon (102) abutting the wall line and extending to the south (Illus 9). A small sondage was dug through both, showing that the occupation horizon survived to only 0.02 m in thickness and the wall line had been severely truncated. Charcoal from the occupation horizon (102) was dated to 660-800 cal AD (95% probability; SUERC-72293).

The trench (6m x 1m) trench across the enclosure wall on the east side demonstrated that it was composed of rounded and angular boulders (Illus 10). Within the trench the wall spread

was up to 2.8m thick with larger stones roughly demarcating both wall faces. The stones in the wall were mainly granite and up to 0.6m in maximum dimensions, though there are much larger boulders elsewhere along its line. About 1.5m of interior was revealed, with a charcoal-rich clayey-silt (201) abutting the inner wall face. Under the core of the wall was a mid brown clayey silt (202) with occasional charcoal. It was up to 0.1m thick and around 2m wide. This overlay a yellow silty clay (204) with patches of dark silt and charcoal that lay directly on the natural. Charcoal from deposit (202) was dated to 360-110 cal BC (95% probability; SUERC-87339). The precise origin of this charcoal is uncertain, but it clearly provides a terminus post quem for the construction of the wall.

<Illus. 8 here> Illus 8 Hill of Keir, site plan and trenches excavated.

<Illus. 9 here> Illus 9 Mid-excavation photograph of the interior trench excavated at Hill of Keir showing the occupation horizon (102) abutting a possible wall-line (104).

<Illus. 10 here> Illus 10 Hill of Keir – plan of Trench 2.

 Hill of Christ's Kirk (NGR: NJ 6018 2742, CANMORE ID: 18141)

Three trenches encircling the top of the Hill of Christ's Kirk (Illus 11), were, like Durn Hill, first recorded as the marker trenches of an unfinished fort, though subsequent interpretation suggested that they were more likely to be palisade trenches (RCAHMS 2007: 103; Lock and Ralston 2017: SC2960). The innermost lies eccentrically within the interior of the outer two, leading the RCAHMS suggested that the inner enclosure may date from a different period, and in size resembles the areas enclosed by stone-walled enclosures such as Barmkyn of North Keig and Hill of Keir (RCAHMS 2007: 103). The inner enclosure at Hill of Christ's Kirk is circular, c40m in diameter and the two outer enclosures are oval, up to 80m and 105m

across respectively. The palisade slots survive on the surface as slight depressions, up to 1.2m wide and 0.2m deep. The excavations involved a strip-and-map trench (5m x 5m) in the interior of the innermost enclosure and small trenches across the three lines of palisade (Sveinbjarnarson and Noble 2017a). Trench 1 in the interior identified a thin deposit in the western part of the trench. This was identified as the possible floor layer of a structure (Illus 12). The possible floor layer (102) was a thin mid-brown loamy deposit that contained charcoal, a sample of which returned a date of 420-230 cal BC (95% probability; SUERC-72301). A possible posthole [103] lay in the south side of the trench, but was not excavated.

Trench 2 (4m x 1.5m) extended across the inner palisade line. The palisade slot was identified in the centre of the trench under a deposit of grey-brown sandy loam slope wash. The palisade cut [204] was c0.3m wide and would have been c0.3m deep (Illus 12). The fill (203) was a greyish-brown sand with charcoal, a sample from which was dated to 410-210 cal BC (95% probability; SUERC-72304). Trench 3 (5m x 1.5m) was placed over the middle palisade line. Here the palisade slot had stone packing within the central fills (Illus 12), which comprised an upper mid brown deposit of sand (302) and a lower greyish-brown sand with some gravel (305). Charcoal from the lower fill (305) was dated to 510-370 cal BC (95% probability; SUERC-72311). Trench 4 (4m x 1.5m) extended over the outermost palisade. Here thicker hillwash layers, or slumped soil from an upcast bank (402, 403), were identified overlying the palisade slot. The palisade slot [406] was up to 0.55 m wide, but narrowed to the base and contained two fills. The upper (404) was a mid-brown sand, filling a groove apparently cut eccentrically into the top of the palisade trench, and may represent the fill of a recut created during the later dismantling of the palisade. The lower fill (405) was a brown sand with fine gravel (Illus 12). Charcoal from the lower fill (405) was dated to 770-430 cal BC (95% probability; SUERC-72312), which, like the dates from the other two palisade lines, probably provides a terminus post quem for the construction of this line of palisade.

<Illus. 11 here> Illus 11 Hill of Christ's Kirk, site plan and trenches excavated.

<Illus. 12 here> Illus 12 Plan of interior trench and sections across the three palisade lines at Hill of Christ's Kirk.

 Cnoc Cailliche, Wheedlemont (NGR: NJ 4729 2605, CANMORE ID: 17215)

Excavations at the enclosed site on Cnoc Cailliche (also known as Wheedlemont) were carried out as part of the Rhynie Environs Archaeological Project in Summer 2017 (Noble et al 2017). It lies just over 1km west of the village of Rhynie (Illus 13). Oval on plan, the enclosure appeared on the surface as a heavily robbed stone rampart/wall with an outer ditch and counterscarp bank, together enclosing an area of a little over 0.11ha (Lock and Ralston 2017).

<Illus. 13 here> Illus 13 Cnoc Cailliche, site plan and trenches excavated.

Trench 1 was located on the south-west to investigate the line of the wall and the external ditch. The trench identified a complex stratigraphic sequence that includes perhaps multiple phases of enclosure construction. The earliest feature in this sequence consisted of a V-shaped cut [042], measuring 0.5m wide at the top by 0.35m deep (Illus 14 and 15) that was filled at the base by a loose orange-brown clay silt with angular stone inclusions (041) and by a deposit of large angular stones with a turfy soil matrix (037) initially thought to be the base of a wall. Two Mesolithic dates (SUERC-77944 and SUERC-77945) from (041) suggests redeposited charcoal had been included in the makeup of these fills, most likely from turves cut from the site or nearby. On the interior of [042], and also cut into the subsoil, there was a

small sub-round pit [038] measuring c0.4m by 0.35m. Both [042] and [038] were both sealed by (025), a level, loose brown clay silt deposit with small stone inclusions. To the rear of [042], and cut through the tail of (025) into the subsoil, was a second linear feature, with a roughly bowl shaped profile [044] and measuring 1m wide by 0.5m deep (Illus 14 & 15). Its fill was a sandy silt deposit (004) containing frequent large angular stones. Charcoal from the matrix of (004) was dated to 370-190 cal BC (95% probability; SUERC-77929) and 370-200 cal BC (95% probability; SUERC-77928), providing terminus post quem dates for this feature and terminus ante quem for [042] and (025). Thus, a complex series of features were found upslope in Trench 1. It may be that [042] and [044] were successive phases of wall, but both appear of relatively slight construction, their thickness rather less than the more typical 3m thick walls found on many forts. Alternatively it could be that both were components of the same rampart with later stone robbing confusing the situation. Or indeed both might represent palisade slots with (025) a very denuded bank/wall that separated two phases of timber enclosure. The complexity of this sequence will only be clarified by larger scale excavations.

<Illus. 14 here> Illus 14 Remains of stone wall (004) with earlier cut below [044], Cnoc Cailliche.

The ditch [007] within Trench 1 was a minimum of 2.5m wide, bowl shaped and c0.8m deep (Illus 15). The basal fill was a brown clay silt (005), which mounted the inner scarp to overlie the tail of the deposit of loose brown clay silt deposit with small stone inclusions (025) that sealed the earliest phases of the perimeter. The upper fill of the ditch was a dark brown clay silt with small angular stones (006) and, like (005), was clearly

derived from deposits upslope. To the west of the ditch was a spread of redeposited natural (019). This formed a low bank of upcast material running along the outer edge of the ditch, likely created during the excavation of the ditch. Over time some of this had slumped back into the ditch and lay on the western edge of the ditch cut. Two Mesolithic dates were obtained for charcoal samples from the lower ditch fill (005) (SUERC-77933 and SUERC-77934). These dates are similar to those from (041) and likely to reflect the same source material, introduced into the fill from deposits upslope.

<Illus. 15 here> Illus 15 Sections through the ditch at Cnoc Cailliche.

Trench 2 was located to explore the interior of the fort (Illus 16). Deposits on the top of the hill were relatively shallow with bedrock encountered in places just below the root mat. Within the trench a number of possible occupation deposits/features were identified, but none were more than 0.1m deep. A spread of thin compact dark grey-black silt with occasional angular stones and charcoal inclusions (022) was identified across the western end of the trench and interpreted as a possible occupation horizon/floor layer. Charcoal from this layer was subsequently dated to 370-190 cal BC (95% probability; SUERC-77935) and 370-200 cal BC (95% probability; SUERC-77936). As (022) was cleaned, several cut features were identified within it or adjacent, including two sub-round pits measuring c0.8m across and 0.1m deep [030] and [045]. Between these was an elongated shallow pit [043] measuring c0.9 by 0.5m, filled with black clay silt (040) with frequent charcoal inclusions and two large flat stones on the southern edge. This feature was interpreted as a possible hearth. Charcoal from (040) was dated to 410-210 cal BC (95% probability; SUERC-77939) and 370-200 cal BC (95% probability; SUERC-77943).

<Illus. 16 here> Illus 16 Plan of Trench 2 at Cnoc Cailliche.

To the east of [043] was an arc of thin dark grey-black clay silt (046) with stone inclusions. It measured approximately 1m wide and curved north-east to south-west. A small slot was excavated through this at the southern end, demonstrating it had a depth of c0.05m. It was interpreted as the base of a possible turf wall, perhaps enclosing the cut features and occupation areas to the west. At the southern end of this deposit a sub-round cut feature [008] was identified as another possible pit. Outwith this area, a narrow elongated cut [033] was recorded, measuring 0.7m length by c0.1m wide and aligned roughly north to south.

Trench 3 was located to confirm the location of the entrance gap through the ditch and rampart. The excavation of this trench revealed the terminal of a c1.5m wide rock-cut ditch [036], quarried into bedrock to a depth of 0.8m (Illus 15). At the base of this ditch was dark brown clay silt with frequent small angular stones (035). Two radiocarbon dates were obtained from charcoal from (035), these showed that the ditch incorporated charred material dating to 370-190 cal BC (95% probability; SUERC-77937) and 380-200 cal BC (95% probability; SUERC-77938). Overlying (035) was a light brown clay silt with frequent small angular stones (034). The upper fill of the ditch (013) was a dark brown clay silt with small occasional stone inclusions. To the south-west of the ditch cut was a spread of stones (012). This deposit of stones ranged in size and was within a friable dark brown clay silt. They did not form a coherent structure.

 Moray

In Moray, the Northern Picts project has been evaluating a series of forts in the wider environs of Burghead to attempt to construct a regional chronological framework for the development of enclosed sites. Three examples are reported on here. Two are forts, one being

on Knock of Alves, a hilltop commanding the coastal plain in the hinterland of Burghead, and the other the Doune of Relugas, which is set back into the hills in the valley of the River Findhorn. The third is another stone-walled enclosure at Wester Tulloch.

 Doune of Relugas (NGR: NJ 0039 4955, CANMORE ID: 15755)

Doune of Relugas is a conical hill lying in a bend of the River Divie, near its confluence with the River Findhorn, c8km south of Forres. The summit is defined by a low rampart and encloses an area measuring c48m east-west by 27m transversely (Illus 17) (Lock and Ralston 2017: SC2923). This enclosure has been severely impacted on by a modern garden wall and revetment, which have used the fort wall as a foundation, and by a modern clearance cairn and shrubbery. There may have been an entrance on the east. On the north and west a lower rampart and ditch defend the most easily traversed slopes on these sides of the hill. The outer ditch is c5m broad and 2m deep, with a rampart on its outer edge measuring 5m thick and 1.5m high. Vitrification is first mentioned here in a description drawn up at the end of the 18th century (Statistical Account 1793, 8: 565), and vitrified stone in the inner rampart was identified subsequently during the RCAHMS Wartime Emergency Surveys (HES: MS36/275; HES: MS124/3) and again during the preparation of the RCAHMS Marginal Lands Survey in 1957 (HES: MS36/181; HES: DC31564; Feachem 1963: 139-40). During excavations by Sir Dick Lauder, 'Roman pottery' is said to have been found during excavations on the summit and a ring-headed pin survives in Marischal Museum, University of Aberdeen (Ralston and Inglis 1984: 25). Forestry work in 1975 revealed part of the rampart on the east side, along with charcoal and animal bones (Keillar 1975: 33; Shepherd and Tuckwell 1977: 23).

<Illus. 17 here> Illus 17 Plan of Doune of Relugas and excavated test-pits/trenches.

During the excavation extensive landscaping was identified with deep stratigraphy in most trenches masking the underlying archaeology (Sveinbjarnarson and Noble 2016a). Due to the depth of deposits it was only in Trench 1, the largest trench, that a proper sequence could be established. This trench (4m x 1m) was located in the northern part of the summit enclosure (Illus 18). The topsoil (100) was a black and organic rich sandy silt up to 0.5m thick. Much of this may have been garden soil brought in during 19th-century landscaping. Below, in the north end of the trench, was a deposit of tightly packed stones in a red clay matrix (103), which was interpreted as the fort rampart; charcoal from the soil matrix returned a date of cal AD 890-1020 (95% probability; Poz-82327 1090). This date is relatively late compared to those from deposits at the south end of the trench and therefore may represent a phase of refortification of the upper rampart in a period centred on the 10th century AD. An adjacent cut feature [110] – a large pit or section of a ditch – contained three fills (101, 102 and 104). Context (101), which probably represents the fill of a secondary recut, contained large fragments of stone rubble and sand, while (102) was a dark sand and (104) had the appearance of being decayed turf. Charcoal from context (102) returned a date of cal AD 1030-1210 (95% probability; Poz-82328).

<Illus. 18 here> Illus 18 East facing section of Trench 1 with photograph of rampart core (103) and lower occupation horizons, Doune of Relugas.

At the south end of the trench the sequence and stratigraphy was straightforward with a succession of layers (105, 106, 107, 108 and 109). These were 0.1-0.2m thick. The most recent, context (105), may have been later landscaping or levelling for it contained a high proportion of rubble. The layer below this (106) was a compact sandy silt best interpreted as

an occupation horizon. Charcoal from (106) returned a date of cal AD 650-770 (95% probability; Poz-82414). Below this (107) was a layer of sand that may represent a hiatus in occupation of the site, while (108) was another dark blackish brown sandy silt floor/occupation horizon, charcoal from which returned a date of cal 110 BC-AD 360 (95% probability; Poz-82329). By this stage the trench was too deep to work in safely, but a small sondage in the south end showed that occupation horizons extend deeper (109). A larger and wider excavation would be needed to reach the lower deposits here and in no part of the trench was natural identified.

 Knock of Alves (NGR: NJ 1627 6295, CANMORE ID: 16214)

Knock of Alves is located just to the west of Elgin. The fort has been severely truncated in places, and the York Tower, a three-storey octagonal folly erected in 1827 to commemorate Prince Frederick, the Duke of York, and an 1850s mausoleum to members of the Forteach family stand on the summit of the hill. The summit, termed here the upper citadel, encompasses an area of c38m by 23m within a possible rampart (Illus 19), while a slightly lower area measuring c125m by 23m (0.23ha) on the crest of the hill is defined by at least one further rampart, if not two (Lock and Ralston 2017: SC2932). Two more ramparts contour around the lower slopes of the hill on the east, north and west. Six trenches were excavated (Sveinbjarnarson and Noble 2016b). A trench (4m x 4m) on the summit identified four postholes ([108], [110], [103] and [105]) running in a linear arrangement extending south-west to north-east, with a further possible posthole in the south-east corner of the trench [115], and all cut into the natural (Illus 20). In the southern half of the trench, large boulders were associated with a thin deposit of grey clayey silt (120) that may represent occupation towards the edge of the summit or slump from the rampart, but this deposit was left unexcavated. Posthole [105] was overlain by two large angular slabs of sandstone and

two other stones lay a short distance to the south. Posthole [110], lay in the centre of the trench and had obvious packing stones and a black sand matrix with charcoal and a well-preserved cattle tooth. The tooth was dated to 400-200 cal BC (95% probability; SUERC-72299), providing a terminus post quem for this feature. Posthole [108] lay at the south-west corner of the trench and may have been associated with the rampart or an unrelated structure. Charcoal from the fill returned a date of 520-370 cal BC (95% probability; SUERC-72303), again representing a terminus post quem for this feature.

<Illus. 19 here> Illus 19 Plan of Knock of Alves with trenches indicated.

<Illus. 20 here> Illus 20 Plan of Trench 1 within the interior of the upper citadel at Knock of Alves.

Trench 2, on the slope between the summit and the lower area on the crest of the hill revealed only bedrock. More success was had with trenches over the outer ramparts towards the base of the hill on the north-west. Here, two trenches (3 & 5) verified both ramparts and ditches shown on the RCAHMS Marginal Lands Survey plan of 1957 (HES: DP044253). The inner rampart was very heavily truncated, but a shallow internal ditch c2.5m in breadth was found in association (Illus 21). The ditch had three fills, with the upper two (302 & 301) in a recut. A sample from fill (302), a greyish sand that contained significant quantities of charcoal, returned a date of cal AD 330-540 (95% probability; SUERC-72310). Beneath (302) lay a sterile orange-brown sand (303). The uppermost fill (301), a thick dark brown sand, capped the ditch and partly overlay the unexcavated rampart core. The outer rampart was heavily denuded and only a very truncated internal ditch or quarry scoop containing only a single sterile fill was identified.

<Illus. 21 here> Illus 21 Section through the internal quarry ditch of the inner of the two outer ramparts on the north-west.

 Wester Tulloch (NGR: NJ 0838 5602, CANMORE ID: 15766)

The monument at Wester Tulloch is a sub-circular stone-walled enclosure located on a west-facing slope. It measures c46m east-west by 43m transversely (Illus 22) within an outer wall predominantly made of rubble and 4.5m-5m thick by c0.4m in height. A roughly concentric stony bank encloses an area 20m in diameter within the interior.

<Illus. 22 here> Illus 22 Plan of Wester Tulloch and excavated trenches.

Eleven test trenches were opened and excavated in order to ascertain occupation evidence and construction details of the enclosure (Sveinbjarnarson and Noble 2017b). The trenches were distributed over the whole monument and where gorse cover allowed. The majority of them came down to natural subsoil under a thin root mat. Trench 3 abutted the inner bank and into the interior. This revealed the bank to consist largely of rounded stones with no obvious wall facing (Illus 23). A possible thin occupation spread was found on the inside of the bank. A sample of charcoal produced a date of 780-430 cal BC (95% probability; SUERC-75115). The only other datable deposits came from another possible thin occupation spread and a small post- or stake-hole in Trench 8 (1m x 1m). Below the topsoil a charcoal lens (801) was found across the trench. This was removed to reveal a small posthole [803], c0.15m in diameter and 0.1 m deep, that contained a charcoal rich brown clayey sand fill (802) with significant quantities of charcoal. A sample of charcoal from (802) produced a date of 1010-830 cal BC (95% probability; SUERC-74986), and a sample from (801) a date of 930-800 cal BC (95% probability; SUERC-75119).

<Illus. 23 here> Illus 23 Trench 3, Wester Tulloch.

<A> Discussion

The evidence outlined here adds important new data to our knowledge and understanding of the development and chronology of various enclosed sites and enclosure types in north-east Scotland, but any conclusions drawn must be set against the limitations imposed by smallscale sampling excavations. While ScARF recommends keyhole excavation to collect dating evidence for defended sites (ScARF 2012a), and the Historic Environment Scotland Policy Statement (2016: Section 3.16) advocates minimal intervention, both laudable aims, it is the case that keyhole intervention may produce results that are not representative of either the wider site, or its morphological type. Apart from the problems of understanding the significance of stratigraphic contexts in short sections, the taphonomic contexts of the radiocarbon samples are not always easy to assess, while the small number of determinations available for each enclosure is itself a limiting factor. Hence the narratives we can glean from keyhole intervention are always going to be provisional until further investigation can be undertaken to confirm or refute the basic patterns and chronologies that have been recovered.

That said, the results from this programme of work generally conform to patterns identified elsewhere in Scotland. The dating outlined here suggests that the larger enclosed sites of north-east Scotland are likely to be earlier in the sequence. Durn Hill at c3.6ha overall was the largest example investigated and returned an early Iron Age date from charcoal from the inner palisade slot. The RCAHMS Donside survey (2007: 96-103) also suggested that larger sites were likely to be early, based on the relative sequence of successive perimeters

visible on individual examples in eastern Scotland, as did excavation and dating of a number of Aberdeenshire sites by Cook (eg 2013a, 338–340). Excavation in neighbouring Angus suggests also that the larger hill-top enclosures tend to be early and date prior to 400 cal BC (eg Dunwell and Ralston 2008: 79). As it stands, as well as being potentially early in the sequence, Durn Hill is an exceptionally well-preserved fort in north-east Scotland with much of both inner and outer palisades traceable on the surface encircling the hill. A middle palisade line is also present, which was elaborated on the south-west side near the entrance by a short section of rampart and ditch. The focus on creating an elaborate entranceway and the relatively slight nature of the palisade trenches suggests a site constructed as much for show as for defence (cf Cunliffe 2005: 30-1; Dunwell and Ralston 2008: 82). A similar emphasis on elaborate entranceways can probably be found in association with other slight defences at large enclosures such as the outer fort at Dunnideer and the enclosure at Knockargety Hill, where the ramparts to either side of the entrances are larger than elsewhere (RCAHMS 2007: 100). In terms of size and date, it is also interesting to note that the outer palisaded enclosure at Hill of Christ's Kirk, while much more modest than Durn Hill, produced the earliest of the dates from the three lines, with the middle and inner producing progressively younger dates (Table 1), but all dating to the Iron Age with no indication of later activity.

The date from Crathie Point, may suggest that relatively modest promontory forts were also in use in the early Iron Age, but the context of the date should invite particular caution with high potential for redeposition of earlier material in an upper ditch fill. Both Iron Age and early medieval promontory forts are known in the Moray Firth and east coast regions, but again the larger examples are perhaps more likely to be early (eg Greig 1970; Greig 1971; Ralston 1980; Ralston 1987; Ralston 2004).

An increasing focus on forts with larger ramparts, but enclosing smaller areas from c400 cal BC onwards has been noted in other studies (eg Cook 2013a: 344) and can also be identified in the dataset reported here. Confirmed occupation and construction of a walled and ditched enclosure has been confirmed for the fort at Cnoc Cailliche in the period c400-200 cal BC. The form of Cnoc Cailliche with a robust ditch and rampart enclosing a modest interior seems very different in form and character to sites such as Durn Hill.

Occupation from 400-100 cal BC was also documented at Doune of Relugas, Knock of Alves and Barmkyn of North Keig, though whether any of the latter dated occupation horizons necessarily relate to enclosing elements will only be refuted or confirmed by further work. In this respect, the dates from Barmkyn of North Keig are likely to be the most secure given that they come from what appear to be timberwork incorporated into the core of the wall. The date from the foundation trench of the smallest palisaded enclosure and associated occupation in the interior settlement at Hill of Christ's Kirk appears also to fall within the period c400-200 cal BC. The size and character of enclosures such as Barmkyn of North Keig, Cnoc Cailliche and Hill of Christ's Kirk fits more comfortably with the interpretation of these as enclosed settlements of some kind, an interpretation supported by the presence of possible floor layers of denuded structures within their interiors. Within the dataset there is no evidence for the construction or occupation of enclosed sites in the last centuries cal BC or early centuries AD. Outwith this current project there are enclosed sites in the study area that may have seen episodes of construction or refortification in this period such as Cullykhan and Green Cairn, both Aberdeenshire, though the relevant dates have very large errors and the full reports of each remain unpublished (Greig 1970; Wedderburn 1973). Gentles' archaeomagnetic dating at Tap O 'Noth, Aberdeenshire, suggested destruction in the last centuries cal BC (Gentles 1993: 20), but recent work by the Northern Picts project has suggested that the fort was out of use by the 3rd century cal BC.

Perhaps the most important results of the dating project outlined here are the dates for early medieval occupation, particularly as early medieval enclosed sites and settlements of any kind are so rare compared to those known from the Iron Age (Cook 2013a; Ralston 2004; Driscoll 2011, 264; Noble et al 2013). Excavations at the Doune of Relugas shows a sequence of activity that spans the late first millennium AD and into the early second millennium AD and includes a date from a rampart core that suggests fortification or refortification in the late first millennium AD. Charcoal from a probable recut of the internal quarry ditch of one of the outer ramparts at Knock of Alves suggests activity sometime in the period from the later 4th to early 6th century AD; and perhaps refortification of an earlier Iron Age site.

The early medieval dates from Doune of Relugas are perhaps not surprising. Over two decades ago Shepherd (1993: 85) proposed on morphological grounds that this fort was likely to be an early medieval site, and the presence of a ring-headed pin also suggested early medieval occupation (Ralston and Inglis 1984: 25). The current dating suggests that the early medieval defences were constructed on top of an earlier Iron Age site and it seems likely that the Iron Age occupation was also enclosed, though more work would be needed to conclusively show that to be the case. Other major early medieval enclosures in Pictland also utilised the remains of Iron Age defences, such as Craig Phadrig, Inverness (Fig. 1), where finds of E-ware and a fragment of a mould for an escutcheon from a hanging bowl, plus a radiocarbon date from an occupation layer, all reveal an early medieval phase to the use of the fort (Small and Cottam 1972). Noticeably at Craig Phadrig there was also tentative evidence for the reconstruction of the lower rampart during the fort's secondary historic-period phase of use (Small and Cottam 1972; Cook 2010), and recent work has confirmed that the early medieval phase of use included the construction of a palisade that has a

terminus post quem of the 5th-6th century AD that refortified the Iron Age oblong fort on the summit (Peteranna and Birch forthcoming).

At Doune of Relugas, the character of the site, with a relatively modest area enclosed by the upper rampart, and an additional rampart lower down the slope, invites comparison with a number of examples that have in the past been classified as nuclear forts, a type first proposed and explored by Stevenson (1949). In terms of numbers, only a handful of forts that conform to this definition (the definition of which and existence of which are debated – eg Lane and Campbell 2000: 93–4) have been radiocarbon dated, and the identification of the majority is based on their surface morphology (Feachem 1955; Ralston 2004). The most extensively investigated examples that broadly conform to Stevenson’s definition in Pictland are Dundurn in Perthshire and Clatchard Craig in Fife (Close-Brooks 1986; Alcock et al. 1989), though in both cases the available radiocarbon dates for the enclosing elements are limited in number. In north-east Scotland only the Mither Tap, Aberdeenshire, conforms to the hierarchical layout of Stevenson’s nuclear type and has long been suspected to be a Pictish stronghold (Dobbs 1949; Feachem 1955, 76; RCAHMS 2007: 105-107). Small-scale excavations conducted as part of path improvement by Forestry Commission Scotland here confirmed occupation in the 1st millennium AD (Atkinson 2007), but again the defences remain to be dated. Mither Tap has two ramparts focused around a granitic tor, defining an upper and lower citadel.

The upper citadel at Mither Tap encloses an area of similar dimensions to the upper enclosure at Doune of Relugas (Illus 24), albeit much of the area at Mither Tap is severely limited by the presence of the summit tor. The total area enclosed by the two sites would have been similar when the lower ramparts are accounted for. However, it seems likely that there were various phases of rampart construction at Doune of Relugas and it remains to be seen to what extent the inner and outer enclosures were ever a unitary scheme. At Doune of

Relugas, the earliest first millennium AD occupation layer was dated to the 7th-8th century AD, but a sample from the rampart core (103) was dated to a period centred on the 10th century AD. It seems likely that relates to a refortification of an original Iron Age and perhaps earlier Pictish wall or rampart enclosing the summit, but again larger-scale work needs to be undertaken to fully clarify the sequence. As well as first millennium AD activity there was also probably a phase of occupation in the 11th-12th centuries AD, represented by the date from the cut feature at the rear of the summit rampart.

At Knock of Alves the form of the hill and its multiple ramparts at different positions on the hillslopes again raises the possibility of a citadel within a series of outer enclosures, though like Doune of Relugas it seems likely that any early medieval defences re-used an Iron Age fort. The current work certainly confirmed Iron Age occupation on the summit. The summit area is c38m by 23 m – smaller than that at Doune of Relugas – but the lower ramparts at Knock of Alves enclose a larger area.

<Illus. 24 here> Illus 24 Comparative plan of Doune of Relugas, Knock of Alves and Mither Tap.

The dating of the smallest enclosed sites reported on here is perhaps the least satisfying and it has proved difficult to definitively date the stone-walled enclosures targeted. The dates from Barmkyn of North Keig provide reasonably convincing evidence that this site at least is Iron Age, but equally an early medieval phase cannot be ruled out and though the features under the wall may be part of the wall in reality they only give a terminus post quem date for its construction. Most of the interventions at the stone-walled enclosures were limited by the keyhole strategy adopted, and it is difficult to escape the conclusion that larger strip-and-map strategies would have greater chance of identifying datable deposits that

definitively relate to the structural components of the enclosures and their occupation. The dating of these small enclosed sites of eastern Scotland is difficult to gauge. Murray Cook's recent work suggested that at least some of the smaller enclosures of north-east Scotland may be early medieval in date, such as the stone walled and ditched enclosure at Maiden Castle, Aberdeenshire (Cook 2011a), but dating of similar sites in Perthshire has produced a more mixed bag. The most recently excavated have returned Iron Age dates (eg Strachan 2013), though evidence of early medieval activity has also been recorded (eg Taylor 1990; Hingley et al 1997; the SERF project results are also eagerly awaited).

The results of dating from Maiden Castle and from Cairnmore, also in Aberdeenshire, led Cook to extrapolate early medieval dates for a series of small enclosed sites across Donside (2013a). These included Cnoc Cailliche, Barmkyn of North Keig and Hill of Keir. The excavations at Cnoc Cailliche have conclusively shown that this was an Iron Age fort, while the results from Barmkyn of North Keig also suggest that this site is Iron Age. Wester Tulloch shares a similar morphology to Barmkyn of North Keig, but the dating evidence is inconclusive. The results from Hill of Keir suggest an Iron Age phase to the site though whether the wall was constructed then or later is uncertain – the date comes from beneath it and provides only a terminus post quem. Nevertheless, the date from deposits within the interior suggests some form of early medieval activity, but again the character of this activity would require further work to address more fully. Given the uncertainties and variety of dates obtained for settlement at these smaller ring-forts we cannot be certain of either their date or social status, or indeed whether they are a distinctive and typological group at all (contra RCAHMS 2007: 101; Cook 2013a: Table 3).

<A> Conclusions

The series of enclosure investigations reported on here has returned dates from a range of sites, with the largest enclosed example at Durn Hill likely to date to the Early Iron Age. Iron Age occupation was also confirmed at Crathie Point, the palisaded sites at Hill of Christ's Kirk, Cnoc Cailliche, Barmkyn of North Keig, Knock of Alves and Doune of Relugas. Early medieval phases of fortification or re-use were identified at Knock of Alves and Doune of Relugas. The character and dating of the stone walled enclosures remains less certain. In terms of the first millennium AD the new dates demonstrate that fort defences were created into the late first millennium AD and may have continued to be occupied and used in the early second millennium AD (contra Driscoll 1998: 169; Ralston and Armit 2003: 225; Cook 2013a: 85). The dating outlined here adds a number of new early medieval enclosures and settlements to a distribution that has only begun to be fleshed out in recent years. The date from Hill of Keir shows some sort of occupation of small stone-walled enclosed sites in Aberdeenshire beyond the 6th century AD, with the lack of examples dating from the later first millennium AD in north-east Scotland prompting Cook to suggest major social change at that time (Cook 2011a: 219; Cook 2013a: 345). The addition of new early medieval sites or at least the demonstration of early medieval re-occupation of Iron Age sites is a particular success of the current dating project, contrasting with other larger-scale programmes of investigation elsewhere (eg Dunwell and Ralston 2008: 88-9; Haselgrove 2009).

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<A> References

Alcock, L 1988 'The activities of potentates in Celtic Britain, AD 500–800: a positivist approach', in Driscoll, S T & Nieke, M R (eds) *Power and Politics in Early Medieval Britain and Ireland*, 22–46. Edinburgh: Edinburgh University Press.

Alcock, L 2003 *Kings and Warriors, Craftsmen and Priests in Northern Britain AD 550–850*. Edinburgh: Society of Antiquaries of Scotland.

Alcock, L, Alcock, E & Driscoll, S 1989 'Reconnaissance excavations on Early Historic fortifications and other royal sites in Scotland, 1974–84, 3: Excavations at Dundurn, Strathearn, Perthshire', *Proc Soc Antiq Scot* 119: 189–226.

Atkinson, D 2007 'Mither Tap, Bennachie, Aberdeenshire (Oyne parish), watching brief, radiocarbon dating', *Discovery and Excavation in Scotland* 8: 28.

Carver, M 2011 'Lost, found, repossessed or argued away – the case of the Picts', *Antiquity* 85: 1479-1483.

Close-Brooks, J 1986 'Excavations at Clatchard Craig, Fife', *Proc Soc Antiq Scot* 116: 117–184.

Cook, M J 2010 'New light on oblong forts: excavations at Dunnideer, Aberdeenshire', *Proc Soc Antiq Scot* 140: 79–92.

Cook, M J 2011a 'Maiden Castle, Inch, Aberdeenshire: choice and architecture in Pictland', *Tayside and Fife Archaeological Journal* 17: 25–35.

Cook, M J 2011b 'New evidence for the activities of Pictish potentates in Aberdeenshire: the hillforts of Strathdon', *Proc Soc Antiq Scot* 141: 207–229.

- Cook, M J 2013a 'Open or enclosed: settlement patterns and hillfort construction in Strathdon, Aberdeenshire, 1800 BC-AD 1000', *Proceedings of the Prehistoric Society* 79: 327-52.
- Cook, M J 2013b 'Paradigms, assumptions, enclosure, and violence: the hillforts of Strathdon', *Journal of Conflict Archaeology* 8(2): 77-105.
- Cunliffe, B 2005 *Iron Age Communities in Britain*, 3rd edn. London: Routledge.
- Dobbs, M 1949 'Cé: the Pictish name of a district in eastern Scotland', *Scottish Gaelic Studies* 6: 137-138.
- Driscoll, S T 1998 'Political discourse and the growth of Christian ceremonialism in Pictland: the place of the St Andrews Sarcophagus', in Foster, S (ed.) *The St Andrews Sarcophagus: a Pictish Masterpiece and its International Connections*, 97-167. Dublin: Four Courts Press.
- Driscoll, S T 2011 'Pictish archaeology: persistent problems and structural solutions', in Driscoll, S T, Geddes, J & Hall, M (eds) *Pictish Progress: New Studies on Northern Britain in the Early Middle Ages*, 245-280. Leiden: Brill.
- Dunwell, A & Ralston, I 2008 *Archaeology and Early History of Angus*. Stroud: Tempus.
- Evans, N 2014 *A Historical Introduction to the Northern Picts*. Aberdeen: Tarbat Discovery Centre/University of Aberdeen.
- Feachem, R W 1955 'Fortifications', in Wainwright, F T (ed.), 66-86.
- Feachem, R W 1963 *A Guide to Prehistoric Scotland*. London: B.T. Batsford.
- Feachem, R W 1971 'Unfinished hill-forts', in Hill, D and Jesson, M (eds) *The Iron Age and its Hill-forts: Papers Presented to Sir Mortimer Wheeler on the Occasion of his Eightieth Year, XX-X*. Southampton: Southampton University, 19-39.
- Fraser, J E 2009 *From Caledonia to Pictland: Scotland to 795*. Edinburgh: Edinburgh University Press.

- Geddes, G 2013 'Archaeology at the margins – RCAHMS emergency survey in the 1950s', *Proceedings of the Society of Antiquaries of Scotland* 143: 363–391.
- Gentles, D 1993 'Vitrified forts', *Current Archaeology* 133: 18–20.
- Greig, J C 1970 'Excavations at Castle Point, Troup, Banffshire', *Aberdeen University Review* 43: 274–283.
- Greig, J C 1971 'Excavations at Cullykhan, Castle Point, Troup, Banffshire', *Scottish Archaeological Forum* 3: 15–21.
- Haselgrove, C (ed.) 2009 *The Traprain Law Environs Project: Fieldwork and Excavations 2000–4*. Edinburgh: Society of Antiquaries of Scotland.
- Haselgrove, C, Armit, I, Champion, T, Gwilt, A, Hill, J D, Hunter, F & Woodward, A 2001 *Understanding the British Iron Age: An Agenda for Action*. Salisbury: Prehistoric Society.
- Hingley, R, Moore, H, Triscott, J & Wilson, G 1997 'The excavation of two Later Iron Age homesteads at Aldclune, Blair Atholl, Perth & Kinross', *Proc Soc Antiq Scot* 127: 407–466.
- Historic Environment Scotland Policy Statement 2016.
<https://www.historicenvironment.scot/advice-and-support/planning-and-guidance/legislation-and-guidance/historic-environment-scotland-policy-statement/>. Accessed 1 September 2018.
- Irving, D, Anderson, D, Cooper K, and Bruggimann, A 2006 'Crathie Point, Aberdeenshire (Crathie Point), survey', *Discovery and Excavation Scotland*, 7: 18.
- Keillar, I. 1975 Doune of Relugas. *Discovery and Excavation Scotland* 1975: 33.
- Lane, A. and Campbell, E. 2000. *Dunadd: an early Dalriadic capital*. Oxford: Oxbow.
- Lock, G. and Ralston, I.B.M. 2017. Atlas of Hillforts <https://hillforts.arch.ox.ac.uk/>. Accessed 1 September 2019.
- Noble, G, Gondek, M, Campbell, E & Cook, M 2013 'Between prehistory and history: the archaeological detection of social change among the Picts', *Antiquity* 87(338): 1136–1150.

- Noble, G, Goldberg, M, McPherson, A & Sveinbjarnarson, O 2016, '(Re)discovering the Gaulcross Hoard' *Antiquity* 90: 726–741.
- Noble, G, Masson-Maclean and MacIver, C 2017 *Wheedlemont 2017*. Aberdeen: Unpublished University of Aberdeen Data Structure Report.
- Peteranna, M and Birch, S, forthcoming 'Storm damage at Craig Phadrig Hillfort, Inverness: results of the emergency archaeological evaluation'.
- Ralston, I B M 1980 'The Green Castle and the promontory Forts of North-east Scotland', *Scottish Archaeological Forum* 10: 27–40.
- Ralston, I B M 1987 'Portknockie: promontory forts and Pictish settlement in the North-east', in Small, A (ed.) *The Picts: A New Look at Old Problems*, 15-26. Dundee: University of Dundee.
- Ralston, I B M 1997 'Pictish homes' in Henry, D (ed.) *The Worm, the Germ and the Thorn: Pictish and Related Studies Presented to Isabel Henderson*, 18–34. Balneaves: Pinkfoot Press.
- Ralston, I B M 2004 *The hill-forts of Pictland since the Problem of the Picts*. Rosemarkie: Groam House Museum.
- Ralston, I & Armit, I 2003 'The Early Historic Period: an archaeological perspective', in Edwards, K J & Ralston, I (eds) 2003 *Scotland After the Ice Age: Environment and Archaeology, 8000 BC to AD 1000*, 217–40. Chichester: John Wiley & Sons.
- Ralston, I and Inglis, J 1984 *Foul Hordes: The Picts in the North-east and their Background*. Aberdeen: Anthropological Museum, University of Aberdeen.
- RCAHMS 1997 *Eastern Dumfriesshire: An Archaeological Landscape*. Edinburgh: Royal Commission on the Ancient and Historical Monuments of Scotland.

RCAHMS 2007 *In the Shadow of Bennachie: A Field Archaeology of Donside, Aberdeenshire*. Edinburgh: Royal Commission on the Ancient and Historical Monuments of Scotland and Society of Antiquaries of Scotland.

ScARF 2012a *Iron Age panel*. <http://www.scottishheritagehub.com/content/69-research-recommendations>.

ScARF 2012b *Medieval panel*. www.scottishheritagehub.com/content/28-future.

Shepherd, I A G 1993 'The Picts in Moray', in Sellar, W D H (ed.) *Moray: Province and People*, 75–90. Edinburgh: Scottish Society for Northern Studies.

Shepherd, I A G & Tuckwell, A 1977 'Doune of Relugas', *Discovery and Excavation Scotland* 1977: 23.

Small, A & Cottam, M B 1972 'Craig Phadrig', *Department of Geography Occasional Paper* 1. Dundee: University of Dundee.

Statistical Accounts of Scotland 1793 <https://stataccscot.edina.ac.uk/static/statacc/dist/home>. Accessed 1 September 2019.

Stevenson, R B K 1949 'The Nuclear Fort at Dalmahoy, Midlothian, and other Dark Age capitals', *Proc Soc Antiq Scot* 83: 186–198.

Strachan, D 2013 *Excavations at the Black Spout, Pitlochry and the Iron Age Monumental Roundhouse of North West Perthshire*. Perth: Perth and Kinross Heritage Trust.

Sveinbjarnarson, O and Noble, G 2014a *Crathie Point excavation 2014*. Aberdeen: Unpublished University of Aberdeen Data Structure Report.

Sveinbjarnarson, O and Noble, G 2014b *Durn Hill fort excavation 2014*. Aberdeen: Unpublished University of Aberdeen Data Structure Report.

Sveinbjarnarson, O and Noble, G 2016a *Doune of Relugas*. Aberdeen: Unpublished University of Aberdeen Data Structure Report.

Sveinbjarnarson, O and Noble, G 2016b *Knock of Alves*. Aberdeen: Unpublished University of Aberdeen Data Structure Report.

Sveinbjarnarson, O and Noble, G 2017a *The Small Enclosed Sites of Aberdeenshire*. Aberdeen: Unpublished University of Aberdeen Data Structure Report.

Sveinbjarnarson, O and Noble, G 2017b *Wester Tulloch*. Aberdeen: Unpublished University of Aberdeen Data Structure Report. Taylor, D B 1990 *Circular Homesteads in North-west Perthshire*. Dundee: Abertay Historical Society Publication No. 29.

Wainwright, F T (ed.) 1955a *The Problem of the Picts*. Edinburgh: Nelson.

Wainwright, F T 1955b 'Houses and Graves', in Wainwright, F T (ed.) *The Problem of the Picts*, 87-96. Edinburgh: Nelson.

Wedderburn, L M M 1973 *Excavations at Greencairn, Cairnton of Balbegno, Fettercairn, Angus (Kincardineshire): a preliminary report*. Dundee: Dundee Museum and Art Gallery occasional papers in archaeology no.1.

Woolf, A 2006 'Dun Nechtain, Fortriu and the geography of the Picts', *Scottish Historical Review* 85: 2: 182–201.

Woolf, A 2007 *From Pictland to Alba, 789–1070*. Edinburgh: Edinburgh University Press.