Iron Age and Pictish activity at Wemyss Caves, Fife

Catriona Gibson and Chris Stevens

with contributions from Michael J Allen and Cathie Chisham and illustrations by Mark Roughley

Introduction

The Wemyss Caves were brought to the attention of Channel 4's *Time Team* by the Save Wemyss Ancient Caves Society (SWACS) who have been monitoring the area for some time and have undertaken extensive research on them (eg see Rankin 1988). The Wemyss Caves are a Scheduled Monument of particular historical importance for the large number of carvings on the cave walls, some of which date back to the Bronze Age in the form of cup and ring marks. The largest number of dated carvings are Pictish (c 5th10th century AD), and are present on the walls of five of the 12 caves originally documented: Jonathan's Cave, Michael's Cave (now collapsed), Court Cave, Western Doo Cave and Sliding Cave (Rankin 1988; Ritchie and Stevenson 1993; Cummins 1999). The significance of these carvings was first documented by James Young Simpson, a doctor and respected antiquarian (1867). Further publications followed (eg MacLagan 1876), including the publication of the first photographs of the carvings by Patrick (1905 and 1906). The RCAHMS have undertaken a survey of the Wemyss Cave carvings and the National Museum of Scotland have taken moulds and castings of all the carvings save those in the Sliding Cave (E Guttmann pers comm).

Carvings in Court Cave, Jonathan's Cave and Sliding Cave are known to be Pictish in origin. Symbols depicted include abstract and animal representations such as the Pictish beast or elephant, fish and serpent, as well as Z-shaped rod, sun, comb case and double disc and sceptre (or spectacle) designs. Similar motifs have come from silver ornaments from the hoard at Norries Law which is thought to have been deposited sometime between the 6th and 7th centuries AD (Graham-Campbell 1991; Ritchie and Stevenson 1993).

These Pictish designs are of the Class I style of Pictish art (groups of incised or pecked symbols without a cross motif) which may have 7th century origins. These are most commonly found on stones and are confined almost exclusively to eastern and northern Scotland (Ritchie 1989a).

The Wemyss Caves are a cluster of sea caves cut into the 2km long sandstone cliff forming the northern shore of the Firth of Forth (NGR NT 354 969; Illus 1). The name Wemyss is derived from the Gaelic *uiams* meaning caves (Patrick 1906, 521). The solid geology comprises soft red Carboniferous sandstone (British Geological Survey 1985) and the caves appear to have been created by sea action some 8000–5000 years ago; subsequent sea level change and uplift has left them 4.5–6m above a raised beach (Morrison 1969). With the exception of the Court Cave, all entrances face seaward and south and most are 25–30m in length, with similar breadths and heights (see Patrick 1906).

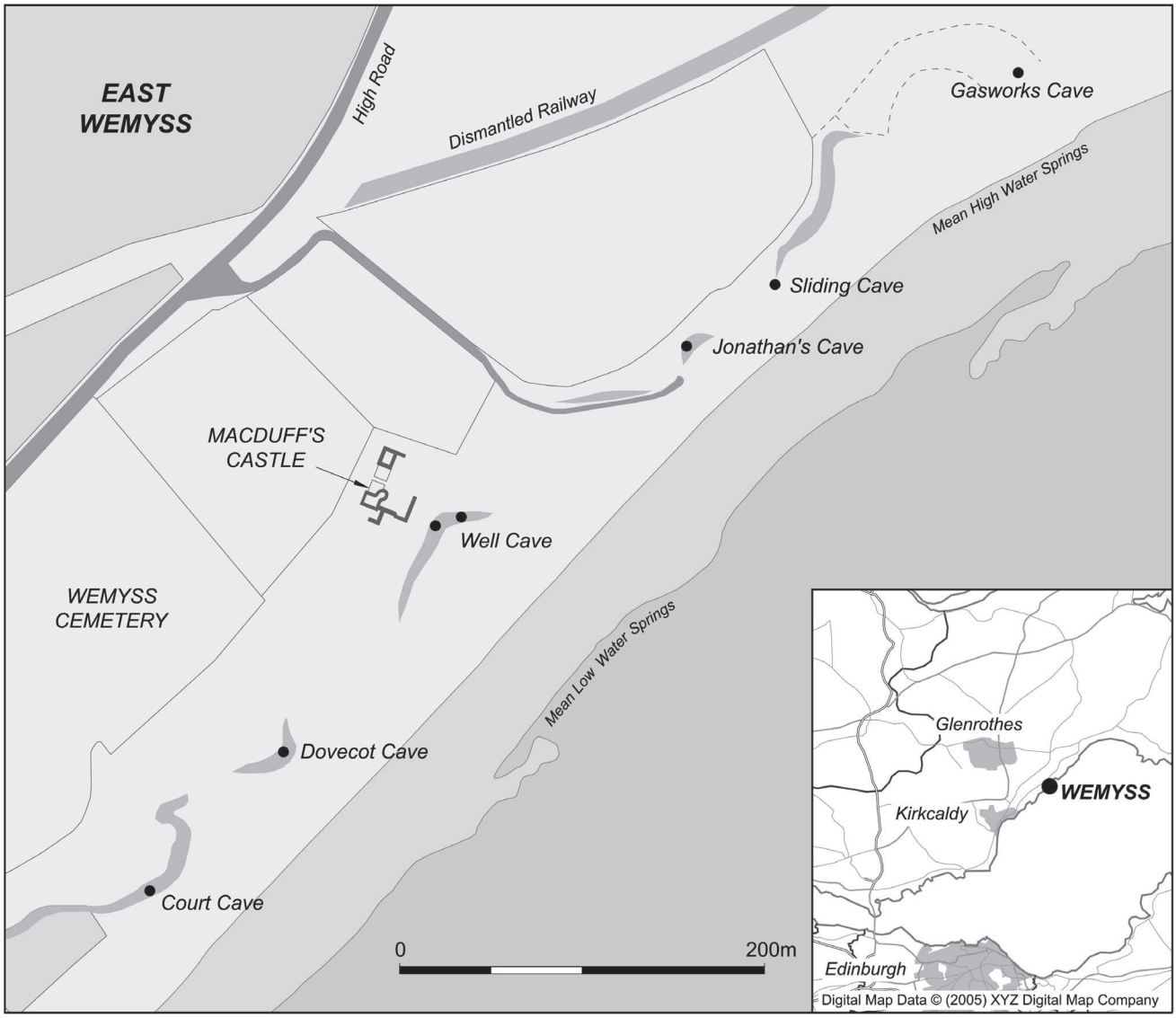
The project

A programme of archaeological evaluation was undertaken by Channel 4's *Time Team* in June 2004. Five trenches (Trenches 1, 2, 4, 5 and 8) were excavated within the interior of three caves (from west to east Well, Jonathan's, and Sliding Caves) with a further two trenches (Trenches 6 and 7) on the raised beach outside Well Cave. In addition, a section of the eroding coastline was cut back, cleaned and recorded (Trench 9) and a laser-scan of the caves was undertaken to provide a 3–D measured visual record (Illus 2). For logistical reasons, Trench 3 was not opened.

The Wemyss carvings have been extensively recorded and photographed. However, until recently, very little excavation had been undertaken on the deposits within and around the caves (Guttmann 2002). Two important objectives of the project were to determine whether any new Pictish carvings could be identified under layers abutting the cave walls and whether any archaeological deposits that may be contemporary with the creation of the Pictish carvings could be recognised.

The project determined to gain a better understanding of the precise nature and range of archaeological deposits both within and outside the caves – in other words to ascertain when and for how long the caves were in use and to characterise the type of activities undertaken within them (Videotext Communications 2004). Since Pictish carvings are so poorly dated, and the chronology tends to be based on indirect methods, it is only in cave sites, where occupational stratigraphy and carvings might be directly linked, that it may be possible to date them more accurately.

Part of the remit of the Time Team excavation fell within a rescue objective since the caves are under threat from coastline sinkage and rising sea level. They are also prone to collapse (three have already done so) and to defacements and graffiti of the cave walls and fires within the caves (including burnt out cars). The overarching aim, therefore, was to characterise the potential of the archaeological resource and provide a condition survey of the parts investigated.



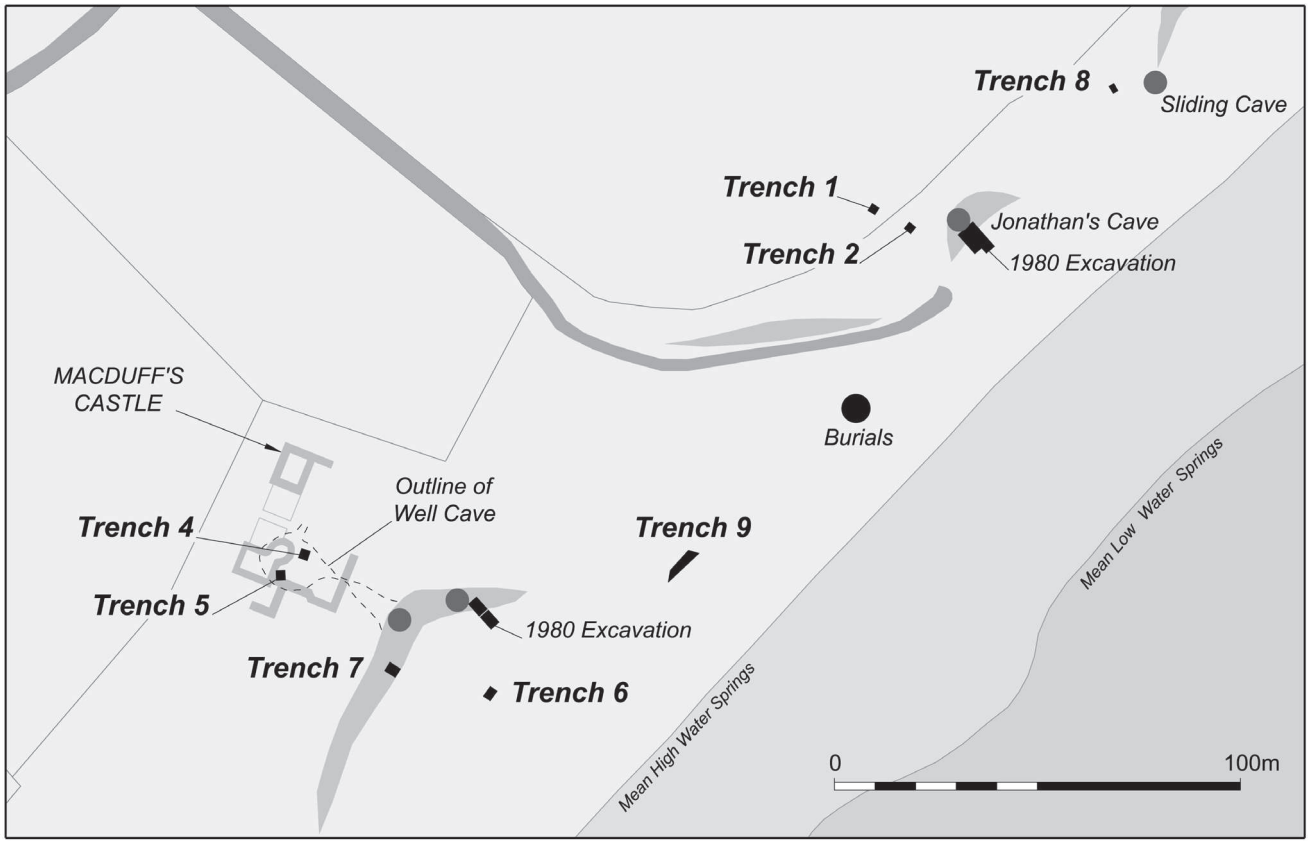
Illus 1 *Site location.*

Previous archaeological investigations

Limited archaeological investigations were undertaken in Jonathan's Cave in the 1860s by Professor Simpson (undocumented but see Simpson 1867). Euan Mackie of the Hunterian Museum excavated two deep trenches outside the entrance to Jonathan's Cave in 1980 (Illus 2) identifying a deep midden sequence, with animal bone radiocarbon dated to 400–170 cal BC 2 sigma; GU-2138; 2280±50 BP; MacKie 1986; McCormick et al in preparation), suggesting part of the midden was formed during the Iron Age. This was sealed by a cliff collapse and a later sandy deposit that contained an Iron Age jet whorl (see Guttmann 2002, 114). The whorl may have been residual since other finds from this layer included animal bone, shell and jet and of particular interest was a Norse bone pin. Charcoal from the associated layer was radiocarbon dated to the 9th–10th centuries AD (GU-1369: 955±70 BP). Two deep trenches opened outside Well Cave by Mackie, revealed similar deposits.

The Central Excavation Unit (CEU) also conducted two small-scale rescue excavations along deep sections of an eroding and collapsed cliff face in the mid- 1980s. These identified midden-like deposits eroding from further up-slope (Guttmann 2002).

The nature of the Pictish activities associated with the caves and wall carvings remains relatively elusive, although two medieval burials have recently been uncovered outside Jonathan's Cave (Provan 1988; Reid 1993; Guttmann 2002). The first, an adult male skeleton with its head to the west and arms folded across the chest, was buried beneath 0.7m of overburden and dated to AD 970–1120 (GU-2038; 980±80 BP). The second, found 5m to the north of the first with its head again to the west, was of a young adult, probably female in her early twenties (Yeomans and Provan 1993; Guttmann 2002) and was also dated to AD 1020–1190 (pers comm Douglas Speirs 2004, courtesy of Fife Council Archaeological Unit). Their presence might imply the existence of a small Early Christian cemetery, possibly related to some of the



Illus 2 *Location of trenches relating to Time Team3and earlier archaeological investigations.*

symbols in the caves but they could be co-incidental burials of victims of drowning.

Excavation results

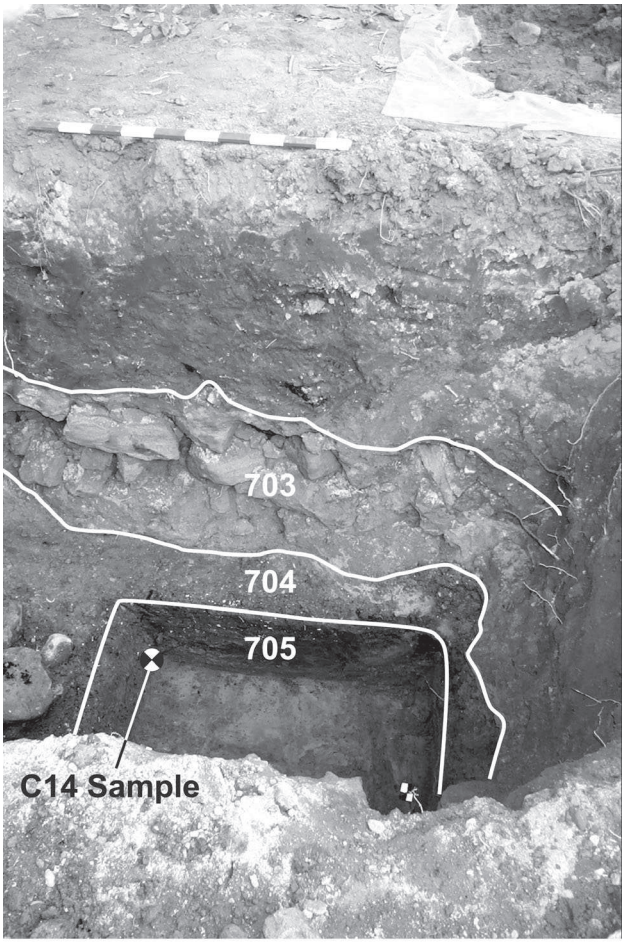
Prehistoric activity

A long eroding south-facing coastal section was cut back and recorded (Illus 2, Trench 9). Colluvium sealed two layers of midden-derived material which were not in situ but had probably washed downhill. Three further layers of beach inwash material overlay the degraded sandstone bedrock. A more-or-less vertical cut through the lower deposits contained a weathered sandstone orthostat, probably in situ, 0.4m wide and 1.2m high, that may originally have been dressed (Illus 3). This could be a standing stone of Neolithic date, though it could equally have functioned as a later grave marker in view of the known presence of burials.

A small trench (Illus 2, Trench 7: 4.5 x 2.2m; Illus 4) was opened up by machine close to the entrance of the Well Cave. It was excavated to 2.25m without reaching bedrock. A sequence of deposits similar to those identified by the CEU excavations nearby was identified (see above). However, because of the complex nature of cliff collapse and hillwash deposition, it was not possible to correlate these layers with those of the earlier investigations directly.

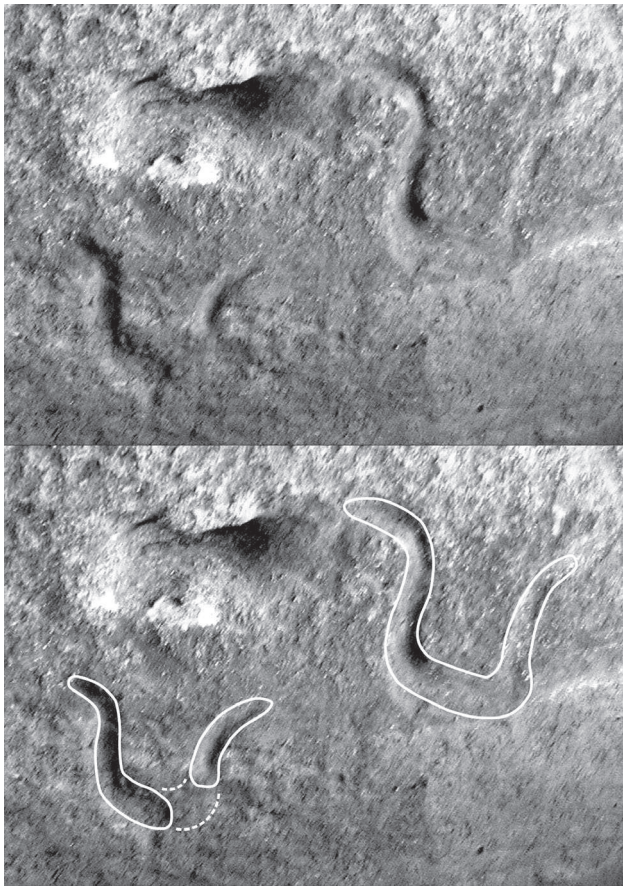
An episode of cliff collapse (703) beneath modern deposits sealed an in situ midden deposit (704), *c.* 0.4m

Illus 3 *Orthostat in Trench 9.*



Illus 4 *Midden section and buried ard marks in Trench 7.*

Illus 5 *Trench 8 in Sliding Cave. Plan and section.*



Illus 6 *Double serpent carving in Sliding Cave.*

in depth, which contained large quantities of shell and animal bone, mainly juvenile sheep/goat and just two certain, and three possible examples of charred emmer wheat (*Triticum dicoccum/spelta*) glume bases. Beneath this was a dark brown silty deposit (705) containing much smaller quantities of shell and bone, most of which had probably percolated down from the midden above. This layer was fairly humic and organic, with some charcoal inclusions, and may indicate a partly preserved ancient soil (possibly B-horizon). A yellowish silty-sand (706) with some charcoal flecks (possibly a soil C-hori-zon) beneath it had been cut by a series of 5mm wide ard marks (707) from which a single (1.5mm long) min-eralised fragment of *Betulaceae* (birch/alder) charcoal was recovered as well as comminuted coal fragments.

A terminus ante quem for the ard marks in the Early Iron Age was provided by a fragment of a charred roundwood twig from soil horizon (705) of 770–400 cal BC (NZA-25540; 2443±30 BP; Table 1 and Illus 7). As the ard marks were probably sealed by this midden-derived deposit, they are either contemporary with it or are slightly earlier.

Late Iron Age and Pictish activity

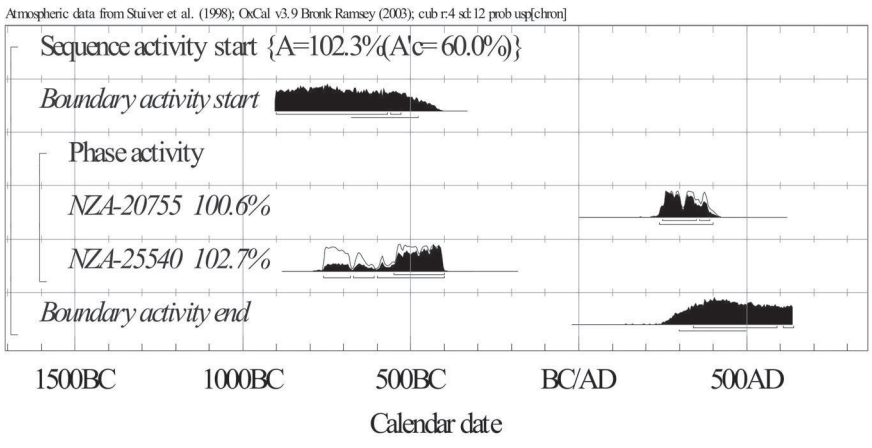
No previous archaeological interventions are known to have taken place inside the Sliding Cave. One small trench (Illus 2, Trench 8, measuring 2 x 1.2 m) was opened by hand and a series of five deposits encountered (Illus 5). The upper, disturbed layer (801) contained post-medieval pottery but sealed a well sorted deposit (802) which in turn lay above a high energy layer of sub-rounded sandstone rubble (803) that may have been derived from a storm inwash event, rather than cave roof collapse. As deposit 803 was removed, a new carving was revealed on the northern wall of the cave (Illus 6). Symbols of a comb case and a mirror, on the western and eastern walls of the cave respectively, were known previously. The two sinuous, carved lines, created by pecking/incision, may represent a Pictish 'double serpent' design, again of Class I type (pers comm Anna Ritchie), the origins of which, as stated above, have traditionally been dated to the 7th century AD.

The inwash deposit (layer 803) sealed a compact, light brown, silty clay, possibly a floor surface, of beaten or trampled clay (804). It was charcoal-rich and contained animal bones, potentially relating to occupation or activity associated with the use of the floor. It overlay a more formal, relatively level stone pavement or cobbled surface (805) constructed from sub-rounded red sandstone boulders (Illus 5). Excavation was stopped at this level in order not to disturb in situ archaeological structures.

A sample from (804) contained large quantities of well-preserved hulled barley grains (*Hordeum vulgare* sl) as well as a single spikelet fork of probable emmer wheat (*Triticum dicoccum/spelta*), and two unidentifi-

Table1 *Radiocarbon results from Wemyss Cave. Dates have been calibrated with the atmospheric data presented by Stuiver et al (1998) and performed on OxCal ver 3.9 (Bronk Ramsey 1995; 2001), and are expressed at the 95% confidence level with the end points rounded outwards to 10 years, following the form recommended by Mook (1986).*

location	feature	context	material	result number	δC13‰	result BP	cal BC date
outside Well Cave, Trench 7	buried soil?	705	charred twig	NZA-25540	-24.9	2443±30	770–400 BC
Sliding Cave, Trench 8	floor	804	barley (sample 5)	NZA-20755	-23.3	1726±30	AD 240–400



Illus 7 *Probability distributions for the radiocarbon dates.*

able glume bases of hulled wheat, emmer or spelt (*Triticum dicoccum/spelta*). Two oat (*Avena* sp.) grains were also recovered. Unfortunately no oat floret bases were present that might allow for the identification of cultivated oats, although it should be noted that both grains were relatively large in size. Numerous fragments of hazelnut (*Corylus avellana*) were present but weed seeds were relatively few, comprising buttercup (*Ranunculus acris/repens/bulbosus*), fat-hen (*Chenopodium album*), docks (*Rumex* sp.) and grasses. A radiocarbon date was obtained on a seed of barley of AD 240–400 (NZA-20755; 1726±30 BP) Table 1 and Illus 7). The result is clearly earlier than the predicted 'Pictish' date of 4th–11th century AD, and suggests occupation in the cave earlier than the Pictish period. It does not seem to imply that the carving (at the level of (803)) belongs to this period of activity.

Medieval and post-medieval activity

The Well Cave is the westernmost of the three investigated and it is situated immediately below Macduff's Castle. Its name is derived from a well which, according to legend, used to exist in the rear chamber and was the focal point of a local New Year procession until only a hundred years ago (Deas 1948, 3–4). No known excavations have occurred inside this cave, and no carvings have been identified. Two trenches were dug (Illus 2, Trenches 4 and 5) in order to examine the evidence for a well and to assess whether a passageway existed linking this cave and MacDuff Castle, as is traditionally believed (ibid, 4; Rankin 1988, 25–6).

Trench 4, targeted over the supposed well, detected a roughly circular cut in the natural sandstone, roughly 1.7m in diameter and 1.2m deep. This had been artificially modified at some point, as toolmarks were identified on the edges of the cut, and a number of sandstone boulders had been placed around the sides. No dating evidence was retrieved and most of the deposits infilling it related to the collapse of the roof of the central chamber in the early 20th century. To the south, a possible informal floor surface (or series of surfaces) was indicated by a sequence of compacted laminated deposits interleaved with cobbling, from which two sherds of medieval pottery (Scottish White Gritty Ware) were recovered.

Trench 5, positioned to investigate the presence of a possible passageway, was able to neither confirm nor refute its existence. Large blocks of rubble in the corner of the cave where the passage was thought to have existed could not be removed, but may suggest that any passage had been blocked up or had collapsed. Sherds of medieval pottery were also recovered from this trench but their significance could not be determined.

Two small trenches were also opened within Jonathan's cave (also known as the Cat Cave), which is approximately 35m in length and has two large entrances. Trench 1 abutted the far end of the western cave wall and Trench 2 was just inside the entrance (Illus 2). This cave contains the most extensive surviving collection of carvings in the group. These are mainly Pictish, but some have been over-carved and it seems that a sequence, albeit of unknown duration, is represented. The designs are of variable quality and technique and include several double discs, two fishes, several birds and animals including a horse in clear Pictish style. There are also various human figures and a somewhat impressionistic carving of an oared boat, the latter of which may date to the 19th century (Le Bon 1991, 340).

Both trenches demonstrated that areas within this cave had been cleaned out by both natural and anthropogenic agencies to natural bedrock prior to its utilisation in the 18th and 19th centuries AD and deposits in both were generally relatively recent, mostly collapse deposits with some sandy inwash, driven into the cave by the sea, in Trench 2. Two small post-holes (0.15m in diameter) and a crescent-shaped feature (c 0.25m in length) had been cut into the natural bedrock and may have been related to some sort of door or partition associated with the cave entrance, although they remain undated.

A large quantity of nail fragments and nail-making debris was recovered from deposits in both trenches, and folklore suggests that a nail-maker called Jonathan once lived in this cave (Rankin 1988, 31), hence its name. A large number of cat bones were also retrieved, imply-ing that cats may have lived and died in this cave and providing evidence for its alternative name.

Discussion

Although it was only a small and limited investigation, the *Time Team* excavation provided some answers concerning the nature and date of the activity at the Wemyss Caves. With respect to Jonathan's and Well Caves, the general absence of evidence relating to pre-medieval times should not be construed as negative. Rather these trenches demonstrated that, as in many caves, the archaeological deposits contained therein are subject to much reworking and disturbance. It was already known that, historically, the more easily accessible caves had been subject to a lengthy period of human activity, resulting in systematic clean-outs, particularly in post-medieval and modern times. It was only in the less accessible caves, such as Sliding Cave, that it was possible to identify relatively undisturbed deposits. Access to this cave is via a very tight and restricted entrance reached along a narrow cliff ledge with a steep slope down into it, hence its name.

The excavations confirmed previous observations (Guttmann 2002) that most of the deposits around the caves are derived from colluvium and rock fall from the clifftops. However, further information concerning the nature of deposits that lay beneath the collapse and rockfalls was obtained.

Prehistoric plough and ard traces are relatively rare finds in Scotland (eg see Murray et al 1992). They are usually only preserved by accident. At Wemyss, the ard

marks were preserved by the later midden deposits which effectively sealed them. Their date suggests Early Iron Age agricultural activity on the raised beach adjacent to the shoreline. In addition, the midden deposits from these and earlier investigations (eg McCormick et al in preparation; Mackie 1986) have been dated to the Iron Age and imply the presence of associated domestic activity, possibly including occupation within the caves themselves. It is unclear whether this activity was intermittent or seasonal (the relatively large quantities of hazelnut from (804) in Sliding Cave suggests some autumnal activity), but radiocarbon dates obtained by Mackie and the'*Time Team* excavations indicates that it may have been of relatively long duration, spanning the Early to Late Iron Ages at least.

The presence of hulled barley in Sliding Cave seems to indicate the storage, final processing and consumption of the grain within the cave during the later Iron Age. The absence of barley rachis fragments indicates that the crop had been threshed, winnowed and coarse sieved before it came to the cave. The general absence of weed seeds probably indicates some fine-sieving had also taken place. The range of weed seeds reveals little about where the crops were grown although fat-hen (*Chenopodium album*) is common within spring-sown crops, especially upon well-manured soils. It is difficult to say from the remains whether they come from a single charring event associated with short-lived occupation of the cave, or result from the gradual accumulation of fire-waste, especially if barley was stored and taken from storage on a regular basis. The relatively few fragments of chaff despite the frequent finds of barley might indicate that it was a minor crop, or even possibly that emmer continued to grow as a rogue crop, its spikelets being occasionally resown with the barley in the field.

The presence of emmer is of some interest. Emmer wheat is first recorded in the Neolithic, declining to almost total absence by the 5th century AD. It appears most readily on Scottish Iron Age and Roman Iron Age sites, for example, at the broadly contemporary site at Oakbank Crannog dated to 650–400 BC, where it is found alongside spelt wheat (Clapham and Scaife 1988), and the Early Iron Age site at Cyderhall, Sutherland, north-east Scotland where remains of emmer formed a minor or residual component alongside barley (Boardman cited in Pollock 1992).

Further finds of emmer chaff come from the Iron Age site at Upper Cleuch, Dumfriesshire (Scaife and Clapham cited in Terry 1993), and is notable in earlier deposits from Edinburgh Castle, dating from 900 BC to AD 100 (Dickson and Dickson 2000). Whether the ard marks are broadly contemporary with or much earlier than the midden deposit is hard to establish; around half a metre of deposits lies between them and the upper midden material from which the emmer chaff was recovered. Proposed curves of sea level change for the region (Shennan and Horton 2002) suggest that, until 4000 years ago, sea levels were 4m higher than present. Even in the Iron Age the coastline would have been more expansive than today and it is likely that a reasonable area of land would have been available for cultivation. Recent investigations and detailed analyses of prehistoric midden deposits in other parts of Scotland have demonstrated that midden heaps were often cultivated (Guttmann et al 2004; Guttmann 2005). It is certainly possible that the ard marks identified outside the Wemyss caves might also provide evidence for deliberate ploughing of the midden deposits, and this idea would support the suggestion that that the ard marks were of Iron Age date. This cultivation would have allowed intensive arable agriculture of a relatively constricted coastal area.

The radiocarbon dates indicate activity in and close to the caves throughout the Iron Age, with some arable land and, presumably judging by the depth of the middens and quantities of animal bone and charred plant remains from them, occupation. The date from Sliding Cave certainly supports the argument that this cave was at least being used for shelter and domestic activity, including cereal processing and storage, during the Late Iron Age.

The nature of the activities associated with the engraving of the Pictish carvings remains relatively elusive. We still do not fully understand the meanings behind Pictish symbols, particularly when found in caves. A comparable cave site, the Sculptor's Cave in Covesea, Moray, was occupied both in prehistoric (Late Bronze Age) and Romano British times, with coins dating to the mid-4th century AD. Excavations in the 1930s identified concentrations of fine objects, including bronze tools, toilet articles, and coins, in association with human burials (some possibly decapitated). These were interpreted by the excavator as evidence of possible ritual activities within the cave (see Shepherd 1995). Perhaps, as at Covesea, the Pictish art at Wemyss was associated with activities of a non-domestic nature that may have left little or no traces. It is possible that the engravings were encoded messages, perhaps marking particular rites carried out within the caves, or perhaps they were territorial markers. Whatever their function, they need not have been associated with activities that left visible traces in the archaeological record.

On the other hand, the evidence suggests a long duration of activity in and around the caves prior to the Pictish carvings and continuity in use from Iron Age times onwards. There is relatively little absolute dating associated with early Pictish art and the few comparable examples have produced surprisingly early dates. This includes symbols at Pool on Sanday, where radiocarbon dates suggested 6th century AD alterations to structures that involved the reuse of two carved stones. One of these had a crude double-disc and serpent head, and was described as a proto-Pictish symbol. It is comparable with some of the engravings on the cave walls at Wemyss. Furthermore, a Pictish pin from Pool, engraved with a double disc and Z-rod design, was also radiocarbon dated to the 4th century AD (Ritchie 1989b).

It could be suggested that we have been dating the proto-symbol phase of Pictish art rather late and that

there is broad continuity with the preceding Iron Age. Although it cannot be proven that the occupation layer from the Sliding Cave is contemporary with the 'serpent' carving, perhaps many of the relatively crude symbols at Wemyss could be linked with the proto-symbol phase, which was earlier than the fully evolved phase of the 7th century onwards. This is a tentative conclusion, but it may be feasible that there was an unbroken tradition of people visiting and living in or around the caves from the 8th century BC at Wemyss. The people who had been ploughing the land and discarding domestic waste in midden deposits may have been the direct ancestors of those who engraved the carvings. We still do not know why Pictish art was created at cave sites and whether the artists depicting these early symbols were living in the caves or just passing through and making certain statements, the meanings of which we can only guess at. However, perhaps it is also time to acknowledge that the creation of these proto-Pictish designs may have begun two centuries earlier than traditionally thought.

Acknowledgements

Wessex Archaeology would like to thank Videotext Communications for funding the publication of this project. Wessex Archaeology is also grateful to Rod McCullough of Historic Scotland who provided useful advice and recommendations during the course of the project. Al Carty of Archaeoptix (funded by Fife Council) provided some of the survey data and thanks are extended to him.

References

Boyd, W E 1983 'Botanical remains of edible plants from the Iron Age broch at Fairy Knowe, Buchlyvie, near Stirling', *Forth Nat. and Hist*. 7. 77–83.

British Geological Survey 1985 *Fife and Tayside*.

Bronk Ramsey C., 1995. Radiocarbon Calibration and Analysis of Stratigraphy: The OxCal Program. *Radiocarbon* 37(2) 425–430.

Bronk Ramsey C., 2001. Development of the Radiocarbon Program OxCal, *Radiocarbon* 43.

Clapham, A and Scaife, R 1988 'A pollen and plant macrofossil investigation of Oakbank crannog', in Murphy, P and French, C (eds). *The exploitation of Wetlands* (= BAR S186). Oxford, 293–325.

Cummins, W A 1999 *The Picts and Their Symbols,* Sutton Publishing, Stroud.

Deas, G 1948 *The Sculpturing on the Caves of Wemyss*, McLagan and Cumming, Edinburgh.

Dickson, C and Dickson, J H 2000 *Plants and People in Ancient Scotland*, Tempus Publishing, Stroud.

Graham-Campbell, J 1991 'Norries Law, Fife: on the nature and dating of the silver hoard', *Proc Soc Antiq Scot* 121, (1991), 241–289.

GSB Prospection Limited u.p. 'Wemyss Caves, Fife. Geophysical Survey Report', 2004/44.

Guttmann, E B A 2002 'Time and Tide at East Wemyss: excavations on the foreshore 1980–1995', *Tayside Fife Archaeol J* 8, (2002), 110–124.

Guttmann, E B A 2005 'Midden cultivation in prehistoric Britain: arable crops in gardens', *World Archaeology* 37 (2), (2005), 224–239.

Guttmann, E B A , Dockrill, S J and Simpson, I A 2004 'Arable agriculture in prehistory: new evidence from soils in the Northern Isles', *Proc Soc Antiq Scot* 134, (2004) 53–64.

Le Bon, E 1991 'The Jonathan's Cave Boat Carving: a question of authenticity', *International Journal of Nautical Archaeology* 21 (4), 337–342.

MacLagan, C 1876 'Notes on the Sculptured Caves near Dysart in Fife', *Proc Soc Antiq Scot*, 11, (1876), 107–120.

McCormick, F , Proudfoot, E, Mackie, E, Glaister, J M, Carter, S. and MacSween, A u.p. *Excavations at the East Wemyss foreshore, Fife,* 1980–1990.

Mackie, E 1986 'Iron Age and Early Historic occupation of Jonathan's Cave, East Wemyss', *Glasgow Archaeol J,* 13, (1986), 74 – 7.

Mook, W.G. 1986. Business meeting: recommendations/ resolutions adopted by the twelfth International Radiocarbon Conference. *Radiocarbon* 28, 799.

Morrison, I A 1969 'Some problems in correlating archaeological material and old shorelines' *Scot. Archaeol Forum*, 1, (1969), 1–17.

Murray, H K, Murray, J C, Shepherd, A N and Shepherd, I A G 1992
'Evidence of agricultural activity of the later second millennium BC at Rattray, Aberdeenshire', *Proc Soc Antiq Scot*, 122, (1992),113–125.

Patrick, J 1905 'The sculptured caves of East Wemyss', *The Reliquary and Illustrated Archaeologist*, Vol 2, Part 1, 73 – 84, Part 2, 249— 263.

Patrick, J 1906 'The sculptured caves of East Wemyss Part 3', *The Reliquary and Illustrated Archaeologist*, Vol 12, 37 – 47.

Pollock, RW 1992 'The excavation of a souterrain and roundhouse at Cyderhall, Sutherland', *Proc Soc Antiq Scot*, 122, (1992), 149–60.

Provan, D 1988 'Wemyss Caves Skeleton', *Discovery Excav Scot*, 12 (1988).

Rankin, F 1988 *Guide to Wemyss Caves*. Save Wemyss Ancient Caves Society.

Reid, N 1993 'Beach yields up a grave secret', *Fife Free Press* 22/10/1993.

Ritchie, A 1989a *The Picts: An Introduction to the Life of the Picts and the Carved Stones in the Care of the Secretary of State for Scotland*, Historic Buildings and Monuments, Crown Copyright.

Ritchie, A 1989b The Picts, Edinburgh, HMSO.

Ritchie, J N G and Stevenson, J N 1993 'Pictish cave art at East Wemyss, Fife', in Spearman, R M and Huggett, J (eds). *The Age of Migrating Ideas*, 196–208. Edinburgh.

Shennan, I and Horton, B 2002 'Holocene land- and sea-level changes in Great Britain', *J Quat Sci,* 17(5–6), 511–526.
Shepherd, I A G 1995 'The Sculptor's Cave, Covesea, Moray: from Bronze Age ossuary to Pictish shrine?', *Proc Soc Antiq Scot*, 125, (1995), Lecture Summaries.
Simpson, J Y 1867 *Archaic Sculpturings of Cups and Circles*, Edinburgh
Stuiver M., Reimer P.J., Bard, E., Beck, J.W., Burr, G.S., Hughen, K.A., Kromer, B., McCormac, G., van der Plicht, J. and Spurk, M., 1998. INTCAL98 Radiocarbon Age Calibration, 24000–0 cal BP *Radiocarbon* 40(3), 1041–1083
Terry, J 1993 'Excavation of a farmstead enclosure, Uppercleuch, in Annandale, Dumfries and Galloway', *Trans Dumfriesshire Galloway Natur Hist Antiq Soc,* 68, (1993), 53–74.
Videotext Communications u.p. 'Proposed archaeological evaluation at Wemyss Caves, Fife, Project Design', 2004.
Yeomans, P and Provan, D 1993 'Wemyss Caves Skeleton', in'*Discovery Excav Scot*, (1993), 29.

Abstract
A small programme of archaeological excavations undertaken at Wemyss Caves by Wessex Archaeology for Channel 4's Time Team investigated areas both inside and just outside three of the Caves (Well Cave, Jonathan's Cave and Sliding Cave) and part of an eroding coastal section. Excavations within the caves confirmed earlier findings of midden material that was radiocabon dated to the Iron Age, as well as floor surfaces and an ancient soil horizon. Evidence for prehistoric cultivation was recovered in the form of ard marks and cereal grains, mostly barley. A new Pictish carving, possibly a serpent, was discovered in Sliding Cave but there was no evidence for any corresponding Pictish occupation or activity. In many cases these caves have been subject to systematic clean-outs in post-medieval times and it is only in the less easily accessible caves that it maybe possible to identify undisturbed earlier deposits

Keywords
ard marks
barley
Iron Age
midden
Pictish art

This paper was published with the aid of a grant from Videotext Communications.