

Visitor Management Proposal

Poulnabrone



GeoparkLIFE:
Tourism for Conservation

INTRODUCTION

Pressures on heritage attractions are increased through visitor promotion in tourism destinations.

Changes occur in visitor numbers, popularity of sites and pressures on attractions over time.

Good management must be able to recognise and measure these changes and adapt appropriately to implement effective conservation practice while ensuring visitor satisfaction.

Only through understanding all the pressures that impact on an attraction can effective management actions be designed and implemented.

Initial management decisions are often made with a degree of uncertainty as to the future impact of the action proposed. Adaptive management is a structured process which can reduce this uncertainty over time through continuous monitoring, reviewing of the changes and adaptation of actions where required. Through the implementation of this process the management team become very familiar with all the integrated aspects of the site and can adapt their actions quickly to address negative changes.

The Burren & Cliffs of Moher GeoparkLIFE programme developed a set of guides, toolkits and case studies to facilitate tourism destination managers to reconcile tourism development with the conservation of the natural and cultural heritage. Included in the toolkits are a Heritage Site Visitor Management Plan Template and a Heritage Site Monitoring app and portal website.

<http://www.burrengeopark.ie/geopark-life/guides-and-toolkits/>

The Heritage Site Visitor Management toolkit development was based on practical application at seven demonstration sites within the Burren region. This document has been compiled to illustrate the practical use of the toolkit for the Poul nabrone demonstration site and to provide a Visitor Management Planning Proposal for the attractions located within this site.

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SECTION ONE: SITE IDENTIFICATION

1.1. Name and Location

Name	Poul nabrone Portal Tomb
Townland	Poul nabrone
ITM E	523563
ITM N	700393
OS Discovery Series Sheet No.	51
OS 6 - inch Series Sheet No.	CL009



Map 1: Poul nabrone site location

SECTION TWO: SITE SIGNIFICANCE

2.1. Site type and features

Poul nabrone Portal tomb is a large stone burial tomb dating to the Neolithic Period or New Stone Age. Such large or ‘megalithic’ tombs are classified into four types based on their morphology – passage, portal, court and wedge tombs. Over ninety megalithic tombs are known to survive in the Burren, the majority of which are wedge tombs. The portal tomb at Poul nabrone is one of two of this type constructed in the Burren and is perhaps the best-preserved example in Ireland.

The following description of the monument is taken from www.archaeology.ie and uploaded by Mary Tunney 13 April 2015:

The tomb consists of a single rectilinear chamber (aligned NNE-SSW; Length 2.8m; Width 1.2m between the portals, c. 1.4m across the centre narrowing again to 1.1m at the backstone) with an entrance defined by two tall portal stones. The portal stones were set with their long axes parallel to the chamber. The east portal is a blocky pillar stone (Height 1.75m; Length 0.63m; T 0.25m) which was replaced following excavation as it had a number of horizontal and vertical cracks. The west portal stone (H 1.43m; L 1.2m; T 0.07-0.2m) narrows towards the base. A transverse slab or sillstone (L 0.87m; T 0.09-0.12m) is set on edge between the portals and the back of the chamber is formed by a backstone (L 2.1m; H 0.43m; T 0.2-0.35m). The west side is formed by a single sidestone (L 1.62m; max. H 0.38m; T 0.13m), leaning inwards at an angle of 70 degrees. The east side is defined by two sidestones. The north one (H 1.28m; L 1.3m; T 0.13-0.2m) leans inwards slightly and the south one (max. H 0.8m; L 1.1-1.2m; T 0.05-0.12m), also leaning slightly inwards, is set outside the north one and overlapping it by 0.2m. A large trapezoidal roofstone (L 3.7m; Wth 2.85m over the entrance narrowing to 1.55m at the rear) oversails the entrance and slopes downwards towards the backstone. It comprises a complete clint block prised from the surrounding pavement. Partially overlying the backstone and resting on the cairn is a large flat slab (L 1.8m N-S; Wth 1.75m; T c. 0.15-0.23m) which is likely to have served as a subsidiary roofstone. The tomb is surrounded by a low mound or cairn, roughly oval in shape (c. 10.5m N-S; max. 8.6m E-W; H 0.7-0.9m).

The chamber and sections of the surrounding cairn were excavated in 1986-8 (licence no. E000351) as part of a major conservation project (Lynch, 2014). The excavation revealed that the orthostats of the chamber sit directly on the limestone pavement, with the single large roofstone helping to hold them in position. The surrounding low cairn of stones (of simple construction, comprising limestone slabs and smaller stones with no formal kerb) provided lateral support and a low sillstone marked the entrance to the chamber. It is unclear if the small, cist-like feature (referred to as a portico) constructed at the entrance to the chamber is an original feature or a later Bronze Age construction. At least 0.25m of calcareous soil covered the area at the time the tomb was built.

The commingled unburnt remains of at least 35 individuals were recovered from the chamber, ranging in date from c. 3800 cal BC to c. 3200 cal BC. The earliest burials are likely to date to the time of the construction of the tomb which would place it at the very beginning of the Irish Neolithic. Successive interment of complete bodies appears to have been the burial rite practised, with subsequent displacement, removal and manipulation of the bones accounting for the disarticulation and jumbled state of the remains. Both male and female and all age groups are represented in the assemblage. A foetus of middle Bronze Age date was recovered from the portico. Analysis of the remains suggested a wholly terrestrial diet with limited consumption of animal protein and, with one exception, all individuals appear to have originated in the carboniferous limestone region of the Burren. A number of animal bones (including cattle, sheep, goat and pig) were intermingled with the human remains. A total of 42 artefacts and c. 126 pottery sherds were recovered, primarily from the

chamber deposits. The stone artefacts include two stone beads, a polished stone axehead and a range of chert/flint tools. A triangular-shaped bone/antler pendant decorated with a central row of perforations is a fine example of Neolithic craftsmanship. The highly fragmented pottery is mostly Western Neolithic Tradition with a few sherds of probable Beaker ware among the assemblage. Sherds of Bronze Age pottery were found in association with the foetus buried in the portico. A description and plan of the monument were published by de Valera and Ó Nualláin in 1961 and the excavation report was published in 2014. (Lynch 2014).

The dominant habitat type present at Poul nabrone is limestone pavement interspersed with pockets of orchid-rich grassland. The north of the site (where the tomb is located), is predominantly flat limestone outcrop pavement and is located within the Moneen Mountain Special Area of Conservation (SAC). The rocks are regularly bedded and extensively jointed in this area. Soil cover is sparse with thin soils in the joints and in the other karst features (dolines, dry valley etc.) The area to the south (within which the car park is located) has a thicker soil cover and improved grassland vegetation. A ravine (dry river valley) runs in a north-south direction to the east of the portal tomb. It has a thick sward of calcareous grassland with some wetland influence due to impeded drainage. The site has a good representative Burren flora featuring many characteristic Burren species.

The monument sits on Limestone Pavement, a protected habitat under the Habitats Directive Annex I, 92/43/EEC. Soil cover in this part of the Burren tends to be in sparse pockets of Limestone Tills dispersed amongst the exposed limestone bedrock. The groundwater vulnerability here is rated as extreme, in terms of the likelihood of contaminants reaching groundwater from the ground surface. Bedrock and soil type/drainage capability, as well as depth is used in the rating. The site is located within a regionally important karst limestone aquifer, which is considered a high value resource due to its scale and its transmission capabilities of groundwater.

There are no surface waters at or near to the Poul nabrone site whereby water travels downwards through soil or through the exposed bedrock. This sets the backdrop of an environment that is vulnerable to impacts of pollution which has the potential to travel distances away from the site and impact other resources downstream via routes below ground.

2.2. Specific Features of Visitor Interest

Poul nabrone Portal tomb is one of the most famous megalithic tombs of Ireland and is an iconic landscape feature. It is highly promoted in all tourism literature. Situated in the central Burren, this region attracts informed tourists who take an active interest in the heritage of the Burren. The site consists of a prehistoric burial tomb and associated parking and interpretive facilities which are readily accessible to visitors. The combination of typical Burren limestone pavement, karren features and diverse flora at the site provides a very attractive and interesting visitor attraction alongside the important archaeology of the site. The Poul nabrone site attracts a large number of visitors on an all year-round basis.

2.3. Regional Context of the Site

The tomb is located on the east side of the R480 regional road approximately 7.5 km south of the village of Ballyvaughan. The R480 route runs through the centre of the Burren and has an array of prominent attractions and natural and cultural heritage sites along its length. Among these are several archaeological and geological sites accessible to visitors including the medieval settlement sites of An Rath-Cahermore, Aillwee Cave Visitor and Birds of Prey Centre and Carran medieval parish church. The route is used by coach tours and individual travellers, mainly travelling by car. Within one kilometre of Poul nabrone portal tomb there are over 180 recorded archaeological sites

that range from the Neolithic to medieval structures. In addition there is a rich post-medieval landscape that includes quarries, farm structures and stone built walls.

2.4. Associated Placenames and their meanings

The portal tomb is located within the townland of Poul nabrone – *Poll na Brón*. This name translates as ‘the hollow of the millstone’ although often mistakenly translated as the ‘hollow of the sorrows’.

2.5. Reports/research

National Monuments and Historic Properties Service 1997 ‘Burren Monuments Strategy’ Dublin

Buchanan, C. (2002) ‘Poul nabrone Conservation Plan 2002’ Department of Arts, Heritage and the Gaeltacht

CAAS Ltd. 2015 ‘Pilot Visitor Observation Studies of Environmental Impacts at the Burren & Cliffs of Moher Geopark, Co. Clare’.

Comber, M. (ed.) (1999), Archaeology of the Burren, T.J. Westropp. Prehistoric Forts and Dolmens in North Clare. Ennis: Clasp Press.

de Valera, R. and Ó Nualláin, S. 1961 ‘Survey of the megalithic tombs of Ireland, vol. 1: County Clare’. Dublin. Stationery Office. 2.

Dunford, B. (2004) ‘Ecological Report from site of Poul nabrone Portal Tomb’ Department of Environment, Heritage and Local Government.

Grant, C. (2010) The Burren in Prehistory. Archaeology Ireland Heritage Guide No. 49

Jones, C. (2004) The Burren and the Aran Islands: exploring the archaeology. Collins Press, Cork.

Jones, C. (2007) Temples of Stone – Exploring the Megalithic Tombs of Ireland. Cork: The Collins Press.

Lynch, A. (1986). Poul nabrone portal tomb. Excavations – Summary accounts of archaeological excavations in Ireland 1986, Dublin: Association of Irish Archaeologists, p. 12.

Lynch, A. (1988) ‘Poul nabrone – a stone in time’, Archaeology Ireland, 2, pp. 105-107.

Lynch, A. & Ó Donnabhain, B. (1994) ‘Poul nabrone Portal Tomb’, The Other Clare (Shannon Archaeological and Historical Society), 18, pp. 5-7

Lynch, A. 2014 ‘Poul nabrone: An Early Neolithic Portal Tomb in Ireland’ Department of Arts, Heritage and the Gaeltacht, Archaeological Monograph Series: 9. Dublin. The Stationery Office.

Ó Nualláin, S. (1983) ‘Irish Portal Tombs: Topography, Siting and Distribution’, Journal of the Royal Society of Antiquarians of Ireland, 113, pp. 75-105.

Saunders, J. 2015 ‘Buses in the Burren 2014 – A study of the Impacts and Issues’ Burren & Cliffs of Moher GeoparkLIFE Project

www.archaeology.ie (site report by Mary Tunney 13 April 2015)

www.excavations.ie

SECTION THREE: BASELINE SITE CONDITION ASSESSMENT (2014)

The site condition data presented in this section has been compiled through the GeoparkLIFE baseline survey of Poul nabrone in 2014. <http://www.burrengeopark.ie/wp-content/uploads/2016/05/Poul nabrone-Site-Assessment-Report.pdf> and is presented here in the format developed for the GeoparkLIFE Heritage Site Visitor Management Plan template.

3.1. Approach to the Site

Describe the approach roads to the site

The regional route, R480, is located approximately 1.5km south of Ballyvaughan, as a branch off the national route, the N67. It continues south until it reaches Leamaneh Castle where it joins the R476 (Corofin-Kilfenora road). Poul nabrone portal tomb is located to the east of the R480, approximately 5km south of the junction with the N67.

Is there directional road signage to the site?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
If yes, enter the ITM co-ordinates for its location	522309 706526
What is the condition of the signage?	Good
Timescale for action required	None required
Is there a roadside site name sign present?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
If yes, enter the ITM co-ordinates for its location	523500 700202
What is the condition of the signage?	Good
Is the sign damaged?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
If yes, describe the damage and its cause	
Timescale for action required	None required



Photograph 1: Road entrance sign to Poul nabrone

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Are there parking facilities available at the site?

Yes ☒ No ☐

If yes, is it

Official ☒ Unauthorised ☐

How many spaces are currently available?

30 vehicles and 12 pushbikes

How many spaces are reserved for disabled visitors?

0

Enter the number of spaces available for

Coaches 5

Cars 25

Motor Bikes 0

Push bicycles 12



Photograph 2: Car park at Poul nabrone

Are the current parking facilities adequate?

Yes ☐ No ☒

If no, what is the estimated number of spaces required for

Coaches 10

Cars [Click here to enter text.](#)

Motor Bikes [Click here to enter text.](#)

Push bicycles [Click here to enter text.](#)

Additional comments re Approach to the Site

During Peak times (12noon to 2.30pm) in the summer season, a large number of coaches can arrive on the site at the same time. This is connected to their daily travel plan and itinerary of stops in the Burren. At these times there can be congestion in the parking area and many of the coach companies park in non-designated areas leaving their engine running as they await the return of their passengers.

3.2. Site Entry

Select the site entrance type

Gate	Stile	Gap in wall	Other
✓		✓	If other, please specify

The site entry from the road to the car park is through an open section in the boundary wall. The entry from the car park to the access path to the monument is through a pedestrian gate.



Photograph 3: Entrance to car park

Is there an access Path?

Yes ✓ No ☐

If yes, specify

the surface covering

Gravel

the incline

Medium

Are there steps present?

Yes ✓ No ☐

If yes, specify how many

14



Photograph 4: Access path from car park to monument



Photograph 5: Steps along access path

The access path has an alternative sloped section, by which the less abled bodied can avoid the stepped section.

Are there resting points along the path?

Yes ☐ No ☒

If yes, specify the type and number

[Click here to enter text.](#)

Are there areas of erosion along the path/trail?

Yes ☒ No ☐



Photograph 6: Areas of erosion along access path to monument

There is an area of erosion as the access path turns right after the descent from the car park. This point is close to the first OPW interpretive panel. Visitors tend to keep close to the right hand verge at this turn and move onto the grass area when there are a large number of visitors moving along this section of the path. This behaviour is causing erosion of the vegetation and the rock surface in this area.

A second area of erosion is in the area immediately surrounding the monument. Visitors move around the monument for viewing purposes. The monument is cordoned off with a rope. The limestone pavement beneath the rope shows smooth, eroded surface with abrasions on the outer

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side of the rope due to footfall. The limestone surface on the inner side, protected from visitor footfall by the cordon, is less worn and shows vegetation recovery.

3.3. Way Finding

3.3.1. Site Signage

Specify the type of **on-site signage** present

Directional	Interpretive	Health & Safety	Fógra	Private Property	Environmental Information	Other
✓	✓	✓	✓			If other, please specify



Photograph 7: Interpretive panel on access path to monument



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Photographs 8-12: Signage in Car park

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Damaged Signs

Type of sign	Location (ITM E; ITM N)	Damage description	Source of Damage	Action Required	Timescale for Action
Directional	523543 700192	The sign indicating the bus parking areas has several areas of wear and is damaged at the lower corners	Unknown	Replacement of sign	6-12 months
Directional	523507 700216	The finger post directional sign to the tomb is worn. It is also outdated as the Dúchas symbol displayed is no longer operational	Natural	Replace with updated logo sign	6-12 months
Interpretive	523518 700215	The Burren Connect panel illustrating the geology of the area is faded and slightly damaged around the edges.	Natural	Remove and provide updated interpretation	6-12 months
Interpretive	523516 700215	The Burren Connect panel detailing the Burren Code of Conduct and map is faded and the surface covering is damaged.	Natural	Remove and provide updated information	6-12 months



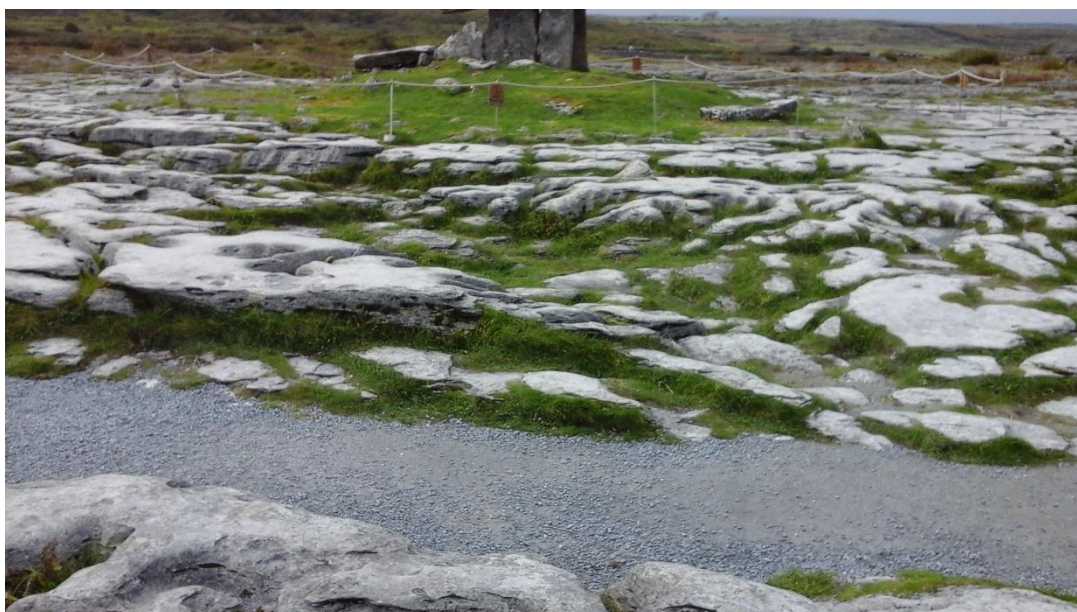
Photographs 13: Burren Connect Interpretive Panels in car park

Additional Comments re Site Signage

There are a large number of signs present in the car park area. Some of these are damaged and need to be removed. Before any replacement the amount of signage and content should be reviewed and a rationalisation undertaken to prevent duplication of information and excessive use of signage.

3.3.2. Restrictions to Visitor Access

Description of restriction to access	Location (ITM E; ITM N)	Difficulty caused	Action Required	Timescale for Action
From the access path the visitor must cross the limestone pavement to reach the monument viewing area.	523574 700391	The uneven surface and slippery nature of the rocks can cause access difficulties for the less abled bodied and a trip and slip hazard.	Warning sign as to slippery nature of rock surface	Immediate



Photographs 14-15: Access over limestone pavement to monument

3.3.3. On Site Visitor Facilities

Note any **on-site visitor facilities**

Guides	Site Warden	Toilets	Coffee Shop	Viewing Platform	Other
	✓				✓

The 'other' facility ticked in the above table refers to an unofficial trader who operates in the car park on a seasonal basis (mid-March to the end of September). He makes and sells Celtic jewellery. A busking musician is sometimes present in the same area playing traditional tunes.

Additional comments re on-site visitor facilities

A site warden, employed by the OPW, is on site daily all year round between the hours of 8.30am and 6pm. His duties include information provision to visitors, correction of adverse visitor behaviour and removal of litter. The warden only operates in the OPW managed section of the site. The car park is not in his remit.

The trader who operates within the car park on a seasonal basis, speaks several European languages and converses easily with tourists very often providing local tourism information and directions to other sites. Although not an official stand, this trader appears to be well liked by the visitors and he also acts as a deterrent to anti-social behaviour such as car break-ins while present at the site.



Photograph 16: Trader and Busker operating in car park area

3.4. Structural Condition

Poul nabrone portal tomb is regularly inspected and maintained by the OPW. A detailed condition report is beyond the scope of this document.

3.5. Visitor Numbers

3.5.1. Visitor Count 2002

As part of the preparation of the 'Poul nabrone Conservation Plan 2002' (Colin Buchanan and partners, 2002), which was commissioned following the acquisition of the site by the Department of Arts, Heritage and the Gaeltacht, a manual visitor count was carried out over 5 days. The numbers collected are provided in Table 1 below.

Day	Time	Visitor Count
Thursday 18 July 2002	11am - 16.30pm	1724
Friday 19 July 2002	10am-18.00pm	911
Saturday 20 July 2002	10am – 18.00 pm	1257
Monday 22 July 2002	10am – 18.00 pm	1103
Tuesday 23 July 2002	10am- 15.00pm	746

Table 1: Visitor numbers recorded July 2002 (Poul nabrone Conservation Plan)

As the times of the count varied over the days, an average daily count cannot be taken over the five days. But the count times were the same for Friday July 19th, Saturday July 20th and Monday July 22nd and the average daily visitor count over these three days was 1,090 visitors.

3.5.2. Bus Survey

'Buses in the Burren 2014 – A study of the Impacts and Issues' (Saunders, J. 2015) a study commissioned by the Burren & Cliffs of Moher Geopark indicates that an estimated 99,000 visitors were brought to Poul nabrone by coach in 2014. This estimate is based on (a) 3 days of counting across seasons for this study; (b) previous counts conducted by on-site OPW personnel and (3) analysis of day trip bus figures.

As part of the Burren & Cliffs of Moher GeoparkLIFE programme, the access routes and direction of travel of buses in the Burren was determined for July 17, 2014 by undertaking a driver/guide survey at the Cliffs of Moher and combining the results with data from a Clare County Council Road Traffic Census carried out on the same day. The results showed that 48 buses travelled along the R480 (the approach road to Poul nabrone) on this day (10 public day trips, 38 private tours).

3.5.3. Footfall Counters

As part of the GeoparkLIFE initiative a footfall counter was installed along the access path to the Poul nabrone monument, at the exit point from the car park, on September 9, 2014 to measure visitor numbers and times of visit.

The GeoparkLIFE footfall counter is still in operation (December 2017) and data will continue to be collected and analysed by GeoparkLIFE staff into the future to provide a more comprehensive coverage of visitor numbers to the site. All results will be shared with the site managers and other relevant partners. (The monthly count between September 2014 and December 2017 is detailed in Table 2.)

3.6. Visitor Attitudes

A Visitor Survey was conducted at Poul nabrone between 5th September and 11th October 2014 as part of a wider survey of the GeoparkLIFE project. The purpose of this survey was to record visitors' attitudes to the infrastructure at these sites and to the Burren region in general. Analysis of the data gathered indicated:

- 88% of visitors interviewed gave a rating of between 8-10 for signposting to the site (1 being poor and 10 high):
- 94% rated physical entry between 8 and 10
- 99% rated parking facilities between 8 and 10
- 89% arrived by car to the site
- 99% noticed the information; 89% read them entirely and 6% partially; of those that read the boards 97% felt that they added to their understanding of the Burren.
- 61% were very satisfied with the site and the remaining 39% were satisfied.

The full results of the interviews at Poul nabrone are contained in Appendix I.

3.7. Visitor Behaviour and Impacts

Two sets of Visitor observations were carried out at Poul nabrone in September 2014 to determine visitor movement around the site and how visitor behaviour is impacting on the site.

- On September 6, 2014 visitor observations were undertaken as part of the CAAS/ GeoparkLIFE pilot study to develop a survey methodology for assessing environmental impacts at heritage sites.
The results indicate that
 - Visitors spent an average of 14 minutes at the site
 - 3% arrived by bus
 - Approx. 40% read the information boards
 - Approx. 85% had a low impact at the site and 10% had a high impact.
 - The effects observed were:
 - 1% removal of material – stones, rooted vegetation, fauna
 - 2% incidental movement of material – stones, rooted vegetation, fauna
 - 7% movement of material – stones, rooted vegetation, fauna
 - 22% no effect observed
 - 30% trails newly visible on grass and leafy vegetation
 - 38% non-noticeable wear and tear. (Source: CAAS, 2015)
- On September 18, 2014 visitor observations were carried out by GeoparkLIFE staff using the same methodology. The results indicated that
 - Visitors spent an average 13 minutes on site
 - Approx. 35% were observed reading the information boards with an average time spent at this activity of 2 minutes 42 seconds
 - Effects observed
 - 1% Incidental movement of material - Jumping on rocks
 - 1% Littering
 - 1% removal of material - Picking vegetation
 - 2% movement of material - Picking up stones and banging them
 - 40% non-noticeable wear and tear - Walking on limestone pavement away from the monument area

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- 55% no effect observed

The results of the observations undertaken by GeoparkLIFE are contained in Appendix II

The OPW site warden at Poul nabrone made the following observations (pers comm September 18, 2014):

- Anti-social behaviour occurs frequently in the car park area with car break-ins and valuables stolen.
- Littering occurs on site – the warden regularly patrols the site and removes litter.
- Visitors request toilet facilities on a regular basis and fouling can occur in the adjoining fields on both sides of the road around the site.
- The peak hours at the site are between 12 noon and 2pm from May to October. There is a constant flow of visitors to the site extending into the early morning and evening hours during the summer months.

SECTION FOUR: SITE MANAGEMENT

4.1. Ownership

Name of Site Owner(s) Office of Public Works (OPW) and Clare County Council (CCC)

Name of Site Manager(s) OPW and CCC

4.2. Legal Properties

Are there any Rights of Way on the site? Yes ☒ No ☐

Provide detail 6.633 hectares of land surrounding the tomb is owned by the State and as such provides a right of access for the public. The adjoining car park is owned by Clare County Council (the Local Authority) providing public access.

Are there any Legal Burdens on the site? Yes ☐ No ☒

Provide detail [Click here to enter text.](#)

4.3. Protective Designations

Is the site a designated National Monument? Yes ☒ No ☐

If yes, what is its Monument Number? 632

If yes, what is its status? National Monument in State ownership

Are any feature(s) of your site recorded in the:

(a) Records of Monument and Places (RMP) Yes ☒ No ☐

If yes, insert its Registration Number CL009-034001

(b) Record of Protected Structure (RPS) Yes ☐ No ☒

If yes, insert its Registration Number [Click here to enter text.](#)

(c) National Inventory of Architectural Heritage (NIAH) Yes ☐ No ☒

If yes, insert its Registration Number [Click here to enter text.](#)

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Is the site located within an Architectural Conservation Area (ACA)? Yes ☐ No ☒

If yes, insert the name of the ACA [Click here to enter text.](#)

If your site contains natural heritage features are they within the following designated areas?

(a) Special Area of Conservation (SAC) Yes ☒ No ☐

If yes, insert the Site Name and Code Moneen Mountain SAC
Site Code: 000054

(b) Special Protection Area (SPA) Yes ☐ No ☒

If yes, insert the Site Name and Code [Click here to enter text.](#)

(c) Natural Heritage Area (NHA or pNHA) Yes ☐ No ☒

If yes, insert the Site Name and Code [Click here to enter text.](#)

4.4. Previous Visitor Management Actions

Poulnabrone Portal tomb has attracted visitors since the mid-19th century when tourism became established in the Burren. Since then awareness of the site has grown and visitor pressure has increased. Up until the mid-1980s there was no formalised management of the site and visitors gained access from the road, randomly crossing the field to the tomb which is located c.150m from the road. Parking was haphazard along the very narrow R480 road and caused major obstructions during peak tourism season. Visitor pressure was evident at the site due to graffiti on the surrounding rocks, limestone pavement being re-arranged as 'mini-dolmens' on the landscape, erosion of vegetation along access lines and damage to the tomb structure due to visitors climbing onto the monument.

The Commission of Public Works placed a Preservation Order on Poulnabrone Portal tomb on 21st November 1985 and appointed themselves Guardians of the tomb by means of a Guardianship Order dated 12th December 1985. The extent of the area covered by both the Preservation Order and the Guardianship Order was 0.222 hectares. The tomb was then excavated by the National Monuments Service as part of a conservation project initiated as a crack had appeared in one of the side stones of the monument. Conservation work included the replacement of the broken portal stone and the insertion of a new stone in the gap between the two eastern chamber orthostats to provide extra support for the capstone.

In 1997 the National Monuments and Historic Properties Service commissioned the Burren Monuments Strategy. One of the aims of this Strategy was to identify the number of monuments that could sustain an increase in visitor numbers, without damage and to spread visitor pressure over a range of monuments. A discussion document addressing some 30 monuments was produced setting out proposals for visitor access and management of these monuments. In relation to Poulnabrone the strategy acknowledged the already established tourist flow to the site and its importance for archaeological interest in the Burren. It stated that immediate action was required to control visitors to the site together with improved parking. Notably the strategy recommended acquisition of the site, dismantling of 'mini-dolmens' and construction of stiles. It also recommended actions relating to car parking, access and interpretation.

In October 2001, the then Minister for Arts, Heritage Gaeltacht and the Islands acquired Poul nabrone Portal Tomb and some 6.633 hectares of land surrounding the tomb for the benefit of the nation. Following this a conservation Plan was commissioned for the site (Colin Buchanan and partners, 2002). The purpose of the Plan was to set out the significance of site and outline policies to retain this significance. The plan provided a number of 'Policy Statements' regarding the management of the site. It made the following recommendations with regard to traffic management and car parking at Poul nabrone:

'That Dúchas (now the National Monuments Service and OPW) liaise with Clare County Council on the most appropriate location for car parking to provide the safest solution in terms of access and produce the least visual impacts. This may require purchase of additional land.'

The Conservation Plan was followed in 2004 by an Ecological Report for the site by Dr Brendan Dunford, commissioned by the Department of Environment, Heritage and Local Government. The purpose of this report was to provide baseline data, which could subsequently be used for future reference and comparison in assessing the impact of the proposed management initiatives for the site made in the Conservation Plan (Colin Buchanan and partners, 2002). The brief for the ecological report was

- the preparation of a full species list for the site,
- establishment of permanent vegetation quadrats throughout the site;
- intensive ground level photographs to convey landscape-level changes;
- vegetation monitoring of high-use area (pathways etc.)
- delivery of final findings report.

Since the Conservation Plan was developed, the OPW have put in place the following measures to protect the site and manage visitors:

- A permanent ranger is employed on site and staff facilities have been constructed
- Mini-dolmens have been dismantled
- Designated access pathways have been established
- Dry stone walls have been retained and repaired
- Livestock grazing is managed and controlled to enhance the flora
- Three interpretive panels have been provided along the access pathway.

In 2006 a funding application was made by Clare County Council and several local partners to Fáilte Ireland for an 'Environmental Protection of the Burren through a Visitor Management Initiative' project. The application was successful and resulted in the 'Burren Connect' project being established (forerunner to the Burren & Cliffs of Moher Geopark). One of the actions under this project was the *'implementation and demonstration of best practise in terms of visitor management, heritage and landscape conservation at key sites of high visitor pressure in the Burren'*. Included in the key sites was Poul nabrone portal tomb. Under this project land was purchased adjacent to the Poul nabrone portal tomb site and a car/coach park was developed in 2009. Clare County Council own and manage this car/coach park.

4.5. Current Visitor Management Structure

At present the OPW own and manage the northern section of the site on which the tomb is located. Visitor facilities which are provided by the OPW include a gravelled access path, three interpretive panels, protected roped zone around the monument and access signage. A site warden, employed by the OPW is on site daily all year round between the hours of 8.30am and 6pm. His duties include information provision to visitors, correction of adverse visitor behaviour and removal of litter. A former farm shed on site has been adapted for staff facilities. Clare County Council owns and manages the southern section of the site where they provide a car/coach park and signage (directional and health and safety).

4.6. Potential Future Visitor Management Issues

Because of the existence of two separate management systems for one site (i.e the OPW and CCC) there is currently a lack of an integrated approach to site visitor management. Each management body operates and manages their section of the site with a minimum of cross consultation.

SECTION FIVE: SUMMARY OF SITE VISITOR MANAGEMENT ISSUES

Through the GeoparkLIFE project baseline studies (201) and working group consultation, the following visitor management issues at Poul nabrone were identified in 2015.

	Issue	Detail
1	Non-integrated management structure	The site is currently under dual management (OPW and CCC) and there is a lack of integration with regard to strategic management decisions and proactive response to visitor management issues at the site.
2	Anti-social behaviour in the car park area	Anti-social behaviour is prevalent in the car park area and vehicles have been broken into on several occasions. Damage usually occurs during evening hours. There is no on-site deterrent such as CCTV or no provision made for human observation and intervention. The site warden employed by the OPW only operates within the OPW owned section of the site between the hours of 8.30am and 6pm.
3	Open vehicular access to the car park at all times	The car park has open access from the roadway with no security mechanism for locking the access to the area therefore vehicular and non-vehicular access to the site is available at all times. There have been cases of horses being released into the area in the late evening causing fouling and vegetation damage. Overnight parking also occurs.
4	Coach parking congestion at peak visiting times	Congestion can occur in the car park during peak visiting times (12noon – 2pm summer months) due to the large number of coach tours and limited number of coach parking spaces. At such times, a large number of the tour companies do not park in the designated spaces but park within the driving area and keep their vehicles running while they wait for the return of their passengers.
5	Lack of on-site sanitary facilities for visitors	Lack of toilet facilities at the site is problematic for visitors and there have been cases of fouling in peripheral areas of the site and on adjoining farmland which has resulted in the landowner making several representations to Clare County Council and the OPW to act on this matter.
6	No official visitor numbers record	Previous to the installation of a footfall counter by the GeoparkLIFE project visitor numbers to the site were not officially recorded except on one instance over a 5 day period in 2002. There was therefore no baseline from which an increase or decrease in visitor numbers to the site could be calculated.
7	Outdated and damaged signage	There is a large number of signs within the Car Park area some of which are damaged and others which are outdated and in need of removal or replacement. A review and rationalisation of signage is required.

SECTION SIX: ACTION AGREEMENTS AND IMPLEMENTATION

The following section details the actions agreed through the GeoparkLIFE project to address the issues identified in the 2014 baseline assessment of the Poul nabrone site; how and when those actions were implemented through GeoparkLIFE between 2015 and 2017 and who was responsible for their implementation.

Poul nabrone Issue 1, 2, 3 and 4	Non-integrated management structure
Agreed Action	Facilitate discussion between OPW and CCC on future integration of management actions through highlighting the identified visitor management issues at the site and proposing potential actions to address these issues
Tasks	<ol style="list-style-type: none"> 1. Collect baseline visitor management data 2. Monitor visitor numbers to the site 3. Complete visitor survey and observations 4. Identify visitor management issues at site 5. Compile Visitor Management Proposal for the site incorporating all the findings and making recommendations for future management and monitoring
Responsible person/group	GeoparkLIFE
Date Action Completed	December 2017
Result	This Visitor Management Proposal for Poul nabrone was completed in December 2017 in agreement with OPW and CCC. It has been agreed by the planning section of Clare county Council that the data and recommendations contained in this proposal will inform a Strategic Management Plan for the Burren currently being instigated by CCC in consultation with OPW and other Burren site managers.

Issue 5	Lack of on-site sanitary facilities for visitors
Agreed Action	A feasibility report on potential solutions to the sanitary situation would be completed for the GeoparkLIFE project by the Environment Section of Clare County Council.
Tasks	Research to be undertaken by the Environment Section, Clare County Council
Responsible person/group	Tracey Duffy, Environmental Scientist, Environment Section Clare County Council
Date Action Completed	May 2016
Results	<p>The full report 'Discussion of options for sanitary solutions for visitors to the Poul nabrone Dolmen, Co. Clare (including a brief review of existing sanitary services within the project area)' is available to download at http://www.burrengeopark.ie/wp-content/uploads/2015/03/Poul nabrone-Sanitary-Solutions-report-Tracey-Duffy.pdf. In summary the report finds that toilet facilities need not be provided to visitors at the site but rather that existing facilities, within the visitor's range of access at other locations, can be used prior or subsequent to their visit at Poul nabrone. The issue of sanitary provision comes in under the scrutiny of viability and necessity, as discussed in the report and whether either is appropriate for the site. Viability is not considered solely in its own right but must be measured against a cost proportionate justification. Whether a monument like that of Poul nabrone warrants such expenditure for sanitary provision determines its necessity when there are other options available and within access to the visitor. In this regard it was found that providing toilets at the site would be the most costly and unnecessary option and may lead to further implications for the site in terms of potential expansion and development, likely be contrary to conservation objectives for the site. The favourable option of using existing facilities is then open for further initiatives within the Burren GeoPark Life Project but it would essentially lean towards the dissemination of information regarding the location of existing facilities and the notion of the visitor being aware and therefore prepared before visiting Poul nabrone or indeed other sites with similar issues.</p>

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Issue 6	No official visitor numbers available
Agreed Action	Install footfall counter on site to record visitor numbers on a continuous basis
Tasks	Agree position for installation of counters with OPW and CCC. Install counters Collect data and analyse on a three month basis
Responsible person/group	GeoparkLIFE project
Date Action Completed	A footfall counter was installed in September 2014 to record the number of visitors passing along the access path between the car park and the monument. Data collected through this system is analysed at regular intervals by Geopark staff to provide hourly, daily, monthly and annual visitor numbers to the site.
Results	The monthly numbers recorded between 2014 and 2017 are detailed in Table 2 below. A full breakdown of figures is available from the Burren & Cliffs of Moher Geopark.

	Year			
Month	2014	2015	2016	2017
January		2583	2606	2795
February		3546	2716	2724
March		7265	9125	6212
April		2316*	10673	12824
May		0*	18948	19194
June		0*	21221	21821
July		8234*	23556	24511
August		23997	23344	23924
September	10958	15883	15449	16832
October	9899	9316	10127	8197
November	4183	3044	3778	3702
December	2804	1718	2822	2290
	27844	77902*	144365	145026

Table 2: The footfall count recorded by GeoparkLIFE September 2014 to December 2017.

*the footfall counter was damaged in mid April 2015 due to anti-social behaviour and the damage was not discovered until mid-July when data was collected. The readings for the months of April to July 2015 are therefore incorrect. The total figure given for 2015 is therefore incomplete.

Issue 7	Outdated and damaged signage
Agreed Action	Review signage at the site and replace duplicated and damaged signs
Tasks	1. Carry out signage review 2. Remove damaged signs 3. Replace with new signage where required
Responsible person/group	GeoparkLIFE
Date Action Completed	September 2017
Results	A review of signage was undertaken in August 2016, identifying where signs needed to be rationalised or replaced. Preparation of text and images for the GeoparkLIFE Poul nabrone sign began in August 2016. Design completed and sign installed in September 2017 following the removal of previous Burren Connect/Geopark interpretive panels from the site.

SECTION SEVEN: MONITORING PROPOSAL

The following proposal details where future monitoring will required to inform the ongoing adaptive visitor management of the Poul nabrone site if an integrated management agreement is reached by the site owners and proposed actions are implemented.

Issue	Proposed Action	Monitoring data to be collected	Monitoring tool to be used	Frequency of monitoring	Responsibility for monitoring
Anti-social behaviour in the car park area	Installation of CCTV cameras in car park	CCTV footage	CCTV camera	Weekly during peak season	CCC
Open vehicular access to the car park at all times	Installation of entrance gate which can be locked during night time hours	CCTV footage of overnight parking activity	CCTV camera	Weekly during peak season	CCC
Coach parking congestion at peak visiting times	Expansion of coach parking area or staggered entrance times for coach tours	Number of coaches and position of parking	GeoparkLIFE app	Random checks during peak times (12noon to 2pm) at regular intervals during high season	CCC
Lack of on-site sanitary facilities for visitors	Awareness signage to be placed at site and information provided on nearby sanitary facilities	Movement of visitors around the site and impacts resulting	GeoparkLIFE app	Every two weeks during peak season	CCC
Lack of official visitor numbers	Regular collection and analysis of data from GeoparkLIFE footfall counter	Footfall counter data	Footfall counter	Every 2 months during peak season; every 3 months in off season	CCC
Outdated and damaged signage	Rationalisation and replacement of damaged signage	Condition of signs	GeoparkLIFE site monitoring app	Every six months	CCC and OPW

SECTION EIGHT: ADAPTIVE VISITOR MANAGEMENT PLANNING PROPOSAL

To ensure that the visitor management process is 'adaptive' the results of site assessments and monitoring sessions must be evaluated and management actions adjusted on the basis of what is learnt.

ACTION	METHODOLOGY	RESPONSIBILITY
Analysis and Evaluation of Data collected	All data with regard to the condition of the site can be stored on the GeoparkLIFE monitoring app web portal	Clare County Council and OPW
Data Storage	It is recommended that data collected be stored on the GeoparkLIFE monitoring app web portal. Management agreements should be made with the OPW with regard to access to this data and its future management	Clare County Council and OPW to be agreed
Feedback to Management Group	It is recommended that site details and monitoring activity be made available through the GeoparkLIFE Burren Map Viewer created in conjunction with and hosted by the Heritage Council. Data to be updated must be forwarded to the Heritage Council for upload.	Clare County Council/OPW and Heritage Council
Review of effect of actions taken by Management Group	It is recommended that Clare County Council and OPW staff involved in the maintenance of the Poul nabrone site meet on an annual basis for review of actions taken, monitoring results and future planning.	Clare County Council and OPW
Agree strategy for adjustment of actions when and where required	A strategy to be agreed between OPW and CCC for the integrated management of the site	Clare County Council and OPW

APPENDIX I

VISITOR ATTITUDES SURVEY Poul nabrone 2014 (MWB)

1. How long do you intend visiting this site?

Less than 1 hour	1-2 hours	3-4 hours	5-6 hours	Full day
79	14	7		

2. How would you rate the signposting for directions to this site on a scale of 1-10 (1=poor; 10=very good)

1	2	3	4	5	6	7	8	9	10
0	4	2	1	0	4	1	15	37	36

3. How would you rate the physical entry to this site (including stiles and footpaths)

1	2	3	4	5	6	7	8	9	10
0	0	0	0	0	0	6	15	43	36

4. How would you rate the parking facilities at this site? (Scale 1-10)

1	2	3	4	5	6	7	8	9	10
0	0	0	0	0	0	1	5	56	38

5. Have you noticed any information boards at this site/location?

Yes	No
99	1

6. Have you read the information on them?

Yes	Partially	No
89	6	5

7. Did the information add to your understanding of the Burren?

Yes	No
97	3

8. How would you rate your overall satisfaction with your visit to this site?

Very dissatisfied	Dissatisfied	Neither satisfied or dissatisfied	Satisfied	Very satisfied
0	0	0	39	61

9. What is the main type of transport you are using to travel within the Burren?

Own car	Hired/rented	Public transport	Motorbike	Coach day tour	Coach guided tour	Private chauffeur tour	Bicycle	Other
27	62	0	0	4	2	0	2	2

APPENDIX II

Visitor observations findings at Poul nabrone (ZH 18-9-2014)

1. Survey Detail

Site Id : P	Date Of Survey	Day of Week	Duration of Survey	Weather	No of people observed
283	18-9-14	Thursday	10.30am-14.30pm (4 hours)	Dry and Cloudy	283

2. Number of Observations, gender and group breakdown

Number of people observed	Total number of females	Total number of males	Number of groups	Average group size
283	135	148	19	See comment below

Comment: There are two different types of groups – the coach tours and the FIT – the average group size for coaches is 30 people and for the FIT is 3 people.

Due to number of coach tours it was difficult to determine the breakdown of gender in many of the tours and so these figures are approximate.

3. Mode of transport, Time Spent on Site and Main activity, group and age demographic

Date of observation	Obs group id	Time spent on site (hours:minutes)	Group type	Age demographic	Mode of transport	Main activity	Observed impacts
18-9-14	P1	00:25	10M:8F	30-65	Coach	Viewing monument Guided talk taking photos Walking about	Walking on limestone pavement
	P2	00:11	2M:2F	40-50	Car	Viewing monument taking photos Walking about	Walking on limestone pavement.
	P3	00:12	1M:1F	50-55	Car	Viewing monument taking photos Reading panels	None
	P4	00:04	1M:1F	50-55	Car	Viewing monument taking photos	None
	P5	00:05	1M:2F	20-25	Car	Viewing monument taking photos walking about	Walking on limestone pavement.
	P6	00:19	7M:8F	12-16	Coach	Viewing monument taking photos Sitting on rocks Walking about	Walking on limestone pavement. Jumping on rocks Picking up stones and banging them Littering Climbing into doline

Visitor Management Proposal

	P7	00:10	20M:20F	7-65	Coach	Viewing monument taking photos Reading panels Walking about	Walking on limestone pavement. Jumping on rocks Walking around doline
	P8	00:15	50M:40F	30-65	Coach	Viewing monument taking photos Walking about	Walking on limestone pavement.
	P9	00:07	2M:2F	40-50	Car	Viewing monument taking photos Walking about	Walking on limestone pavement
	P10	00:08	2M:2F	60-65	Car	Viewing monument taking photos Reading panels Walking about	Walking on limestone pavement Picking vegetation
	P11	00:08	1M:3F	40-45		Viewing monument taking photos Reading panels Walking about	Walking on limestone pavement
	P12	00:11	3M	30-35		Viewing monument taking photos Reading panels Walking about	Walking on limestone pavement
	P13	00:04	6M:6F	15-60		Viewing monument taking photos Walking about	Walking on limestone pavement
	P14	00:15	1M:1F	40-45		Viewing monument taking photos Reading panels Walking about	Walking on limestone pavement
	P15	00:12	1M:1F	30-35		Viewing monument taking photos Walking about	Walking on limestone pavement
	P16	00:33	15M:15F	30-65		Viewing monument taking photos Reading panels Sitting on rocks listening to guide Walking about	Walking on limestone pavement
	P17	00:24	20M:20F	30-65		Viewing monument Listening to guide taking photos Reading panels Walking about	None
	P18	00:13	3M:2F	20-30		Viewing monument taking photos	Walking on limestone pavement

Visitor Management Proposal

						Reading panels Walking about	
	P19	00:16	2M:1F	55-70		Viewing monument Reading panels Walking about	None

Summary

Main Activities undertaken by observed visitors:

Viewing monument
Viewing wider landscape around monument
Listening to guided talk
Taking photographs
Reading panels
Sitting on rocks

Mode of transport:

Coach
Car
Push bike
Motorbike

Average time spent on site: 13 minutes

Note: Guided coach tours would appear to spend the most time on site and they generally arrive in the middle of the day between 12 noon and 2pm (observation and site warden comment).

4. Time spent reading Information Boards

Observation group Id	Time spent reading information boards (mins:secs)
P1	0
P2	0
P3	05.00
P4	0
P5	0
P6	0
P7	03:00
P8	0
P9	0
P10	00:40
P11	0
P12	02.00
P13	0
P14	00:30
P15	0
P16	00:40
P17	05:00
P18	00:30
P19	07.00

Average time spent reading panel: 9 groups were observed reading the panels. The average time spent at this activity was 2 minutes 42 seconds.

5. Impacts Observed

Walking on limestone pavement.

Jumping on rocks

Visitor Management Proposal

Picking up stones and banging them

Littering

Climbing into doline

Picking vegetation

Note: It is necessary to walk on the limestone pavement to view the monument. The impact of walking on the limestone pavement was only noted if the visitor strayed off the designated pathways and area immediately surrounding the monument.

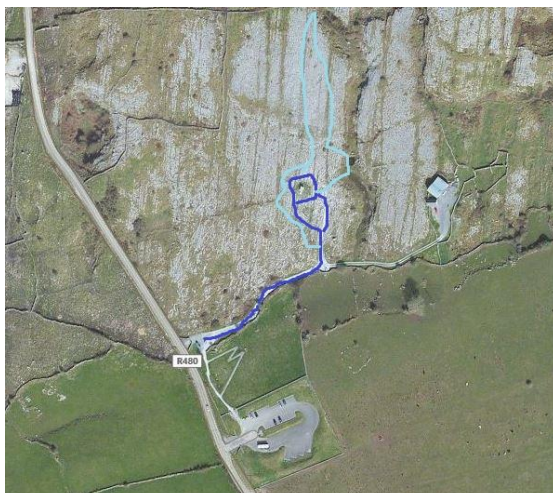
Comment: Sample size is too small to use percentage as reliable result.

6. Time of day of arrival at site (observation study duration: 10.45-14.30 hours)

Observer Group ID	Time of Arrival at site
P1	10.55am
P2	11.14am
P3	11.26am
P4	11.35am
P5	11.37am
P6	11.39am
P7	12.21pm
P8	12.28pm
P9	12.35pm
P10	12.43pm
P11	12.47pm
P12	12.56pm
P13	12.58pm
P14	13.05pm
P15	13.12pm
P16	13.19pm
P17	13.21pm
P18	13.51pm
P29	14.00pm

Comment: Times of arrival indicate a continuous flow of visitors throughout the observation period.

7. Visitor Movement Pattern



Observed movement patterns – dark blue line show core movement area; lighter blue peripheral areas