A83 Rest and Be Thankful

LTS EIAR VOLUME 4, APPENDIX 11.9 - PINE MARTEN REPORT

Transport Scotland

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A11-9. Pine Marten Report

A11-9.1. Introduction

Terms of Reference

A11-9.1.1. AtkinsRéalis WSP Joint Venture (AWJV) was commissioned by Transport Scotland as part of the A83 Rest and Be Thankful Project (hereafter referred to as the Proposed Scheme), to prepare a pine marten (*Martes martes*) baseline report.

A11-9.1.2. Volume 2, Chapter 4: The Proposed Scheme, provides details of the construction works, the Receptor Sites and Natural Capital (NC) and Biodiversity Net Gain (BNG) enhancement sites. The findings for these enhancement sites are considered in Appendix 11.16: Enhancement Site Survey Report. They are not discussed within this report. The Proposed Scheme, excluding the NC and BNG enhancement sites, will be referred to as the Proposed Scheme (excl. NC & BNG) hereafter.

Purpose of Report

A11-9.1.3. This report is intended to provide baseline information regarding pine marten to inform the Environmental Impact Assessment (EIA) Report for the Proposed Scheme.

A11-9.1.4. This report presents ecological information from the following:

- a review of Jacobs AECOM Joint Venture (2022): Access to Argyll and Bute (A83) Medium Term Solution Protected and Notable Mammals Report and incidental data from 2021/2022
- a desk-study involving review of freely available online data, undertaken in November 2023
- scoping surveys undertaken in March and April 2023

- targeted presence/likely absence surveys including trail camera monitoring undertaken in July, August, September 2023 and May to June 2024.

A11-9.2. Legislation

A11-9.2.1. See Appendix 11.2: Biodiversity Legislation, Policy and Guidance for a summary of key relevant legislation.

A11-9.3. Methodology

Desk Study

A11-9.3.1. The geographical area for obtaining ecological data through desk studies has been determined using CIEEM Guidelines for Biodiversity Data, CIEEM Guidelines for Preliminary Ecological Appraisal and professional judgement. In November 2023 a request for pine marten records was submitted and were provided from the Argyll Biological Records Centre (ABReC) for a 2km buffer of the Proposed Scheme (excl. NC & BNG). However, due to staff illness, ABReC were not able to provide data. ABReC did, however, confirm their records could be downloaded from National Biodiversity Network Atlas (NBN) Atlas and used in any reports relating to the search (see Volume 2, Chapter 11: Biodiversity for details of communication with ABReC). Pine marten records were consequently downloaded and reviewed from NBN Atlas for a 2km buffer of the Proposed Scheme (excl. NC & BNG). Only records within the last 10 years were considered.

Data Review

A11-9.3.2. A desk-based review of incidental data and reporting from the Jacobs AECOM Joint Venture 2021 – 2022 survey work relating to the Proposed Scheme was undertaken. Within the Jacobs AECOM (2021) Access to Argyll and Bute (A83). Medium Term Solution: Protected and Notable Mammals Report, multiple species are discussed. However, only pine marten results are considered in this report.

Field Survey

A11-9.3.3. The pine marten survey area was defined as the Proposed Scheme (excl. NC & BNG) plus a 250m buffer area, as shown in Volume 3, Figure 11-9a: Pine Marten Survey Area. The buffer was determined in line with Standing advice for planning consultations - Pine Martens | NatureScot taking into consideration potential disturbance distances from works on the Proposed Scheme (excl. NC & BNG) for breeding pine marten if present (100m being the disturbance zone for breeding pine marten and an extra 150m to account for design iterations/wider environmental records focused on suitable habitat for pine marten). Data outside of the survey area were collected at the time the preferred option was under consideration in 2023; these data are included to provide contextual information on presence and distribution of this species in relation to the Proposed Scheme.

A11-9.3.4. The pine marten survey area lies within the documented current range of pine martens within Scotland, as shown on the Mammal Society - pine marten fact sheet. Pine martens prefer habitats of large woodland expanses or larger fragmented areas with good woodland connectivity. The woodland must be of an age to provide adequate height for escape from terrestrial predators such as foxes or badgers. Pine martens also prefer closed-canopy woodland as it affords protection from aerial predators such as raptors. To sustain a population of pine martens, woodlands will ideally have varying species to provide adequate varied food supply but also provide elevated opportunities for dens. Elevated dens can include disused birds of prey nests, and cavities in trees (Creswell *et al.* (2012) UK BAP Mammals: Interim Guidance for Survey Methodologies, Impact Assessment and Mitigation, published by The Mammal Society).

Scoping Surveys

A11-9.3.5. Scoping surveys were undertaken during March and April 2023 to identify areas of suitable pine marten habitat. The scoping surveys involved surveyors walking along existing tracks to identify areas of suitable habitat for pine marten and noting any features that could be used by pine marten for shelter or

protection (den sites – defined below). Scoping surveys also involved surveyors traversing through woodland blocks in pairs following safe access routes, to search for pine marten evidence and potential den sites that were away from the main access routes.

Presence/Likely Absence Surveys

A11-9.3.6. Targeted presence/likely absence surveys were conducted in July, August, September 2023 and May 2024.These surveys included revisiting suitable areas and potential den sites identified during scoping surveys with the aim of obtaining confirmatory pine marten evidence if present. During this time all forest tracks within the survey area were walked at least once and, where safe and accessible, woodland blocks were also surveyed for evidence of pine marten.

A11-9.3.7. The surveys included a search for evidence indicating pine marten presence and potential presence with reference to relevant NatureScot standing advice for planning consultations - pine marten. Evidence involved looking for the following field signs:

- visual sightings
- den sites: such as elevated tree cavities, roof voids of buildings or barns, owl boxes, large raptor or corvid nests, squirrel dreys and rocky outcrops with elevated crevices. Current use may be confirmed by the presence of scats beneath the entrance or inside the feature and by visual sightings
- potential den sites: a feature considered to be a suitable denning site together with inconclusive signs of use or potential use
- scats: highly variable size and shape depending on their contents. Typically found on pathways, rides and tracks through woodland or rocky habitat; scats were collected where found and sent for DNA analysis
- prints: more likely to be present in snow as pine marten generally avoid mud.

A11-9.3.8. Pine martens are elusive and largely nocturnal, which makes them difficult to see, but their scats are often distinctive (in structure, smell, and content) and

are the most encountered field sign. Pine martens are active all year but are best surveyed between May and September and scats are typically most abundant during the period of June to August (Birks, J. (2017). Pine Martens. Published by The British Natural History Collection). Surveys were therefore undertaken between July – September 2023.

Trail Camera Monitoring

A11-9.3.9. Where it was safe to do so, features considered to be suitable for denning pine martens (not subject to obvious disturbance from forestry operations or maintenance operations being undertaken by Transport Scotland's Operating Company on the existing A83) were monitored with trail cameras for a minimum of two weeks (between July and September 2023, with a single potential den site being monitored again (ahead of ground investigation surveys) in May 2024) in line with NatureScot Planning and development: standing advice and guidance, to determine if they were in use during this period i.e. if a pine marten(s) entered or emerged from the given feature.

A11-9.3.10. Trail cameras (Bushnell HD) were generally set to 'video' mode to take 15 second videos when triggered with no time delay between videos. Cameras were on 24hr mode and so would also record at night if triggered (using non-intrusive infra-red imagery). The files were analysed by staff with experience in pine marten identification.

A11-9.3.11. Trail camera monitoring was unsuccessful at PM4 (Volume 3, Figure 11-9b: Pine Marten Survey Results) due to interference of the cameras by cattle. As an alternative method, wooden sticks were placed at the entrance of the location, and it was considered if the feature was in use the sticks would be dislodged during entry/egress.

A11-9.3.12. Trail camera monitoring surveys were designed to avoid disturbance to pine martens that may be using any of the potential den features and were located adjacent to the features (i.e. they were not placed within the potential entrances or exit points). Information on which features were monitored can be found in Annex 11.9. A, Table A11-9.1.

Survey Limitations

A11-9.3.13. Pine martens can travel into and out of the survey area from further afield freely at any time due to being a highly mobile species. The data presented in this report provides a 'snapshot' of pine marten evidence/suitable den locations within the extent of the Proposed Scheme (excl. NC & BNG) at the time of survey but does not guarantee additional features may not appear after the survey date.

A11-9.3.14. Access was restricted to some parts of the survey area due to safety issues from felling operations. Some of the areas on the slopes of Beinn Luibhean, east of the A83, could not be accessed due to an exclusion zone implemented by Transport Scotland's Operating Company on the A83 which was in place during 2023 while emergency works were being undertaken adjacent to the carriageway. Presence or likely absence of pine marten cannot be confirmed within these areas. Areas of limited survey access are shown on Volume 3, Figure 11-9a: Pine Marten Survey Area. Although access was limited in some areas, pine marten surveys have been ongoing between 2021-2024 and the data collected to date is thought to provide sufficient detail to inform this assessment.

A11-9.3.15. Scat surveys are not considered fully reliable for identifying the presence of denning pine martens, and cannot infer any information on the number, density, or distribution of pine martens. Human observers are not completely reliable when distinguishing between fox *Vulpes vulpes* and pine marten scats, owing to some overlap in the characteristic size, shape and colour (Birks *et al*, 2004). In addition, scats may not be distinguishable due to weather, decay of samples, and being scavenged for food. Not all scats identified during the scoping, presence/likely absence or trail camera monitoring surveys were collected for DNA testing. Scats that were collected for DNA testing were lost by the lab facility and thus the species of origin could not be confirmed. However, all samples showed the characteristic signs of belonging to pine marten due to composition and looped structure (CIEEM good practice). As such, the number, positioning (typically on the centre of tracks and across woodland

floor), size, shape, colour and content of scats indicates that a number of the scats recorded were derived from pine marten, indicating their presence.

A11-9.3.16. The trail camera video clip length captured pine martens around features but did not always capture them emerging from or entering the feature. Therefore, usage of a feature for shelter or protection (i.e. as a den site) could have been missed. To reduce this limitation the cameras were left out for beyond the two-week guidance with the minimum trail camera monitoring period being three weeks.

A11-9.3.17. Pine marten features that could not be adequately surveyed are listed below, and locations for these features can be found in Volume 3, Figure 11-9b: Pine Marten Survey Results:

- PM3 was not subject to trail camera monitoring due to it being within an area of high disturbance and in an area of high public visibility as to not draw attention to potential denning site or risk equipment being lost
- trail camera monitoring was unsuccessful at PM4 due to interference with the cameras by cattle; however, this is not deemed to be a significant limitation since alternative methods (wooden stick method) of survey were subsequently implemented. The stick method involves placing sticks across the entrance of the potential den site in a way that would not completely obstruct the den from being used but would be moved by the emerging or entering animal to indicate current use
- PM7 was not monitored due to adverse weather limiting safe access, due to landslip risk. The land around PM7 remained a landslip risk area throughout the survey period and could not be visited
- PM12 was not accessed internally due to health and safety concerns relating to the structural integrity of the building. Therefore, no internal search was undertaken in search of evidence of use by pine marten
- PM13 and PM14 did not have camera traps deployed to monitor these potential denning sites at the landowner's request.

- PM28 was not surveyed due to access restrictions and health and safety concerns regarding presence of cattle in 2023. This is not considered a considerable limitation with regards to the overall assessment on pine marten, as this feature is not considered suitable for breeding.

A11-9.4. Results

Desk Study

A11-9.4.1. No commercially available or ABRC records of pine marten from the last 10 years were identified within 2km of the Proposed Scheme (excl. NC & BNG) during the desk study. The survey area lies within the documented current range of pine martens within Scotland, as shown by the Mammal Society - pine marten fact sheet.

Data Review

A11-9.4.2. A review of the existing data provided the following pine marten evidence, species records are shown in Volume 3, Figure 11-9b: Pine Marten Survey Results:

- one potential den site - anecdotal evidence of a pine marten denning site in a stable was provided by a local landowner in 2022 (the location of this stable is shown as PM14, as this was again provided as an anecdotal denning site by the landowner in 2023). A trail camera was placed the stable in 2022, no pine marten images were recorded. However, pine marten scat was located during April 2022 beside this stable
- three potential den sites were located within the forestry west of the Old Military Road (OMR). These features are not discussed further as they were subsequently surveyed and found to be unsuitable in 2023 during presence/likely absence surveys
- four possible pine marten scats - S2, S8, S9 and S10 were recorded during the 2021/2022 surveys and an adult pine marten (PM1) was recorded on a forestry track approximately 340m west of the Proposed Scheme (excl. NC & BNG).

Field Survey

Scoping Survey

A11-9.4.3. The survey area has suitable habitat for pine marten due to the presence of conifer plantation woodland containing mature trees and windblown trees creating opportunities for suitable den sites within extensive woodland blocks. Other features such as rock piles and buildings are suitable for use as den sites by pine marten and are present within the survey area. Due to felling within the Glen Croe Forest, open woodland edge has been created which is prime foraging habitat for pine martens which preferentially predate upon field voles (*Microtus agrestis*). The woodland blocks connect with natural and plantation woodlands in the wider area which are known to support pine marten as shown in the Mammal Society - pine marten fact sheet and thus, they can move through the wider area into the survey area.

Presence/Likely Absence Surveys

A11-9.4.4. Survey results (field signs and potential den features) are presented in Volume 3, Figure 11-9b: Pine Marten Survey Results and provided as Target Notes in Annex 11.9. A, Table A11-9.1.

Scats

A11-9.4.5. 46 Target Notes regarding scats or possible scats were recorded throughout the survey area (refer to Annex 11.9. A, Table A11-9.1).

Potential Den Sites

A11-9.4.6. Eleven potential den sites were identified within 250m of the Proposed Scheme (excl. NC & BNG) (PM3, PM4, PM5, PM6, PM7, PM12, PM13, PM14, PM15, PM28 and PM29).

A11-9.4.7. Of these, nine potential den sites were identified within 100m of the Proposed Scheme (excl. NC & BNG) (PM3, PM4, PM5, PM6, PM12, PM13, PM14, PM15 PM28) and these were subject to trail camera monitoring. Target notes of all potential dens are available in Annex 11.9. A, Table A11-9.2.

Trail Camera Monitoring

A11-9.4.8. Details of trail camera monitoring including dates, duration of trail camera deployment, and results are available in Annex 11.9. A, Table A11-9.3. Those within 100m (the likely potential disturbance distance during the pine marten breeding season) of the Proposed Scheme (excl. NC & BNG) are provided below:

- PM3 includes cavities large enough for temporary or short-term dwelling in small outcrop of boulders, approximately 90m from the Proposed Scheme (excl. NC & BNG). It is considered unlikely to be used for breeding due to its proximity to the road and associated regular disturbance
- PM4 is located in a rock formation approximately 3m from Proposed Scheme (excl. NC & BNG). At the end of the monitoring period (for which the stick method was used – see Limitations), PM4 showed no evidence of the sticks being displaced or removed to suggest mammal use at the time of the survey
- PM5 is a dry cavity at the base of a small cliff, located approximately 80m from the Proposed Scheme (excl. NC & BNG). Trail camera monitoring showed no evidence of pine marten use
- PM6 is a dry cavity located approximately 50m the Proposed Scheme (excl. NC & BNG), on the slopes east of the A83. Trail camera footage showed no signs of use by pine marten
- PM12 is located to the east of the OMR in an abandoned cottage (Roadman's Cottage), approximately 70m from the Proposed Scheme (excl. NC & BNG). No pine marten footage was recorded during the trail camera monitoring period at PM12
- PM13 is located approximately 10m from the Proposed Scheme (excl. NC & BNG) in a farm building west of the OMR. PM13 was not subject to camera trapping at landowner request

- PM14 is also located in a farm building to the west of the OMR, approximately 10m from the Proposed Scheme (excl. NC & BNG). PM14 was not subject to camera trapping at landowner request
- PM15 is considered a suitable denning site, with a cavity located between three large boulders within the Proposed Scheme (excl. NC & BNG); 40m west. Trail camera footage revealed presence of a pine marten on top of the boulders on three separate videos, however, there was no footage of the pine marten entering the feature to confirm its use. No evidence of pine marten entering or emerging from the feature was recorded during trail camera monitoring undertaken at this feature in May – June 2024
- PM28 includes multiple entrances within one rock cluster, located approximately 40m from the Proposed Scheme (excl. NC & BNG). No evidence of pine was marten recorded at during trail camera monitoring.

A11-9.4.9. No potential dens or pine marten evidence was identified within the Receptor Sites. Both sites offer suitable habitat for den creation, commuting and foraging.

A11-9.5. Discussion and Conclusion

A11-9.5.1. Although no active den sites have been confirmed within 250m of the Proposed Scheme (excl. NC & BNG), pine marten are known to be present in the area (a sighting, video evidence and scats have been recorded). Habitats within and adjacent to the Proposed Scheme (excl. NC & BNG) provide suitability for foraging, commuting and shelter. It should be noted that the number of scats recorded during surveys does not correlate to the number of pine martens present in the area.

A11-9.5.2. Outside of the Proposed Scheme (excl. NC & BNG), the survey area offers suitable habitat for this species, particularly to the west and south within Ardgartan Forest.

A11-9.5.3. Surveys have identified the presence of pine marten within the Proposed Scheme and surrounding area. However, given the large size of pine marten home ranges and the limited numbers present in one area (as they display

intersexual territoriality meaning that the territory of two individuals of the same sex do not overlap) it is considered likely that this will comprise a low number of individuals.

A11-9.6. Report Validity

A11-9.6.1. The survey results in this baseline report are valid for 18 months post survey in line with CIEEM lifespan of reports guidance. Surveys are recommended to be repeated should the time between survey and work commencing reach beyond this 18-month period (i.e. beyond March 2025).

Annex

Annex 11.9. A. Pine Marten Target Notes

Target notes provided in Table A11-9.1 and Table A11-9.2 are illustrated on Volume 3, Figure 11-9b: Pine Marten Survey Results.

Table A11-9.1 - Pine Marten Target Notes (including those returned in the 2021-2022 data review)

Target Note ID	Description	Associated with a potential den site	Approximate Distance and Direction from Proposed Scheme (excl. NC & BNG)
PM1	Pine marten sighting	No	340m west
S1	Possible pine marten scat.	No	Within
S2	Possible pine marten scat.	No	30m south
S3	Possible pine marten scat.	No	270m south
S4	Possible pine marten scat.	No	240m south

Target Note ID	Description	Associated with a potential den site	Approximate Distance and Direction from Proposed Scheme (excl. NC & BNG)
S5	Possible pine marten scat.	No	260m south
S6	Possible pine marten scat.	No	5m south west
S7	Possible pine marten scat.	No	1km north
S8	Probable pine marten scat, fresh. At side of forestry track.	No	80m south
S9	Possible pine marten scat in middle of forestry track.	No	180m west
S10	Possible pine marten scat in old forestry track.	No	390m west
S11	A single scat on tussock at edge of woodland, not tied to specific feature.	No	490m south
S12	Scat on tussock within woodland, not tied to specific feature.	No	440m south

Target Note ID	Description	Associated with a potential den site	Approximate Distance and Direction from Proposed Scheme (excl. NC & BNG)
S13	Seven scats located on the OMR, all with varying degrees of degradation.	No	Within
S14	3 scats at the edge of woodland in typical pine marten foraging habitat; not tied to specific feature.	No	490m south
S15	Potential wet scat on rock near the woodland edge, but not tied to specific feature.	No	600m south
S16	A single scat between two rocks on wall, black in colour and looped in shape.	No	20m south
S17	A single scat adjacent to a pile of boulders.	No	20m south
S18	Two scats below immature Scots pine plantation, but not tied to specific feature. The scats were small and looped (a characteristic trait of pine marten). One was intact and one was fragmented scat recorded.	No	Within

Target Note ID	Description	Associated with a potential den site	Approximate Distance and Direction from Proposed Scheme (excl. NC & BNG)
S19	Two scats and mammal path also used by deer (droppings) not tied to specific feature.	No	110m east
S20	Two scats along woodland ride, not tied to specific feature	No	420m south
S21	A single scat on forestry track, but not tied to specific feature.	No	380m south
S22	A possible degraded scat on a boulder within a sheep field; black and looped in shape.	No	20m east
S23	Two scats located within tussocks in the sheep field adjacent to the OMR. Black in colour.	No	Within
S24	A single scat.	No	80m south west
S25	Several scats scattered along a riverbank.	No	Within

Target Note ID	Description	Associated with a potential den site	Approximate Distance and Direction from Proposed Scheme (excl. NC & BNG)
S26	A single scat; dark and long with berries and cereals within.	No	Within
S27	A single scat; dark and fragmented.	No	70m east
S28	A single scat; dark and contained fur.	No	Within
S29	A single scat on forestry track beside a burn, not tied to feature.	No	Within
S30	A single scat on forestry track, not paired to a specific feature.	No	Less than 1m outwith the Proposed Scheme)
S31	15+ scats of various ages on track beside the Croe Water, no features tied to these scats.	No	Within
S32	A single scat in optimal hunting habitat, but not tied to specific feature.	No	Within

Target Note ID	Description	Associated with a potential den site	Approximate Distance and Direction from Proposed Scheme (excl. NC & BNG)
S33	A single scat approximately 20m from a minor watercourse, but not tied to a specific feature.	No	50m south
S34	A single scat near the Croe Water, but not tied to a specific feature.	No	Within
S35	A single fresh scat was observed by the landowner; black in colour, containing berries and small rodent bones.	No	Within
S36	Two wet scats approximately. Approximately 5cm long on top of the rocks taken from other shelter.	Yes (PM2)	470m north west
S37	A single scat.	No	300m north west
S38	A single fragmented scat.	No	Within
S39	Black circular scat pile located within the woodland edge.	No	Within

Target Note ID	Description	Associated with a potential den site	Approximate Distance and Direction from Proposed Scheme (excl. NC & BNG)
S40	Dark circular scat present on raised root bole at the base of a crag.	No	Within
S41	Two scats located adjacent to a well-used mammal path. Recorded on a steep embankment.	No	Within
S42	A large pile of scats, and urine staining, was recorded beneath trees adjacent a watercourse. Scats were of varying age.	No	Within
S43	A black coloured scat on top of a wall, adjacent to a building.	No	110m east
S44	A single scat was present on the roadside of the OMR on top of rock, black in colour and looped in shape.	No	Within
S45	Two dry scats on a rock on open hillside, but not tied to specific feature. Likely fox.	No	240m north east

Target Note ID	Description	Associated with a potential den site	Approximate Distance and Direction from Proposed Scheme (excl. NC & BNG)
S46	A single scat on tussock at woodland edge, not tied to specific feature.	No	460m south west

Table A11-9.2 - Pine marten denning opportunities (including those returned in the data review)

Target Note ID	Description	Approximate Distance from Proposed Scheme (excl. NC & BNG)	Photos
PM2	Potential den. A superficial cavity under boulder on open hillside. Two wet scats (S36) considered likely to belong to pine marten (approx. 5cm long and consistent with the usual twisted shape associated with this species) were recorded on top of the boulders. These scats were not taken for eDNA testing in the original July survey.	470m north west	Refer to Photograph 1, Annex 11.9.B.
PM3	Potential den. A small outcrop of boulders with cavities large enough for temporary or short-term use by pine marten. This feature was considered unlikely to be used for breeding due to its proximity to the road and associated regular disturbance.	90m north west	Refer to Photograph 2, Annex 11.9.B.

Target Note ID	Description	Approximate Distance from Proposed Scheme (excl. NC & BNG)	Photos
	No evidence of pine marten recorded.		
PM3	Additional photograph showing entrance		Refer to Photograph 3, Annex 11.9.B.
PM4	Potential den (but not suitable for breeding due to the spacious size of the feature and the exposure to predation risk). A large dry cavity below two large rocks, small (<50cm) gap in the roof of the enclosure. No evidence of pine marten recorded.	3m	Refer to Photograph 4, Annex 11.9.B.
PM4	Additional photograph showing entrance		Refer to Photograph 5, Annex 11.9.B.

Target Note ID	Description	Approximate Distance from Proposed Scheme (excl. NC & BNG)	Photos
PM5	Potential den. Approximately 1.5m wide at entrance, 50cm high, leads to a narrow crevice towards the back which goes through to a small exit. Trail camera monitoring showed no evidence of pine marten use. No evidence of pine marten recorded.	80m north east	Refer to Photograph 6, Annex 11.9.B.
PM6	Potential den within a dry cavity on the slopes above the A83. This feature was sheltered from the elements. Trail camera footage showed no signs of use by pine marten. No evidence of pine marten recorded.	50m north east	Refer to Photograph 7, Annex 11.9.B.
PM7	Potential den (but not suitable for breeding due to the spacious size of the feature and the exposure to predation risk). This feature comprises three large boulders on an open hillside above the A83, with a deep (2m+) spacious cavity.	190m north east	Refer to Photograph 8, Annex 11.9.B.

Target Note ID	Description	Approximate Distance from Proposed Scheme (excl. NC & BNG)	Photos
	Feature was not monitored with trail cameras due to adverse weather preventing safe access. No evidence of pine marten recorded.		
PM8	Potential den. Cavity between rocks, approximately 1.5m wide, 2m deep, 10-20 high. No evidence of pine marten recorded.	280m north east	Refer to Photograph 9, Annex 11.9.B.
PM9	Potential den site. Approximately 1m deep 15 cm high. No evidence of pine marten recorded.	270m north east	Refer to Photograph 10, Annex 11.9.B.
PM10	Potential den site (considered suitable for breeding). Approximately 2m in depth, wide opening leads to smaller crevices at the rear. No evidence of pine marten recorded.	250m north east	Refer to Photograph 11, Annex 11.9.B.

Target Note ID	Description	Approximate Distance from Proposed Scheme (excl. NC & BNG)	Photos
PM10	Additional photograph showing entrance		Refer to Photograph 12, Annex 11.9.B.
PM11	Potential den. Large flat rock creating shallow dry cavity beneath. No evidence of pine marten recorded.	260m north east	Refer to Photograph 13, Annex 11.9.B.
PM12	Potential den. Abandoned residential property (Roadman's Cottage) adjacent to and set back from the A83 by approximately 25m. The cottage had potential ingress points on the north gable end where a hole was located at ground level adjacent the gas pipe exit. No access was taken within the property.	70m east	Refer to Photograph 14, Annex 11.9.B.

Target Note ID	Description	Approximate Distance from Proposed Scheme (excl. NC & BNG)	Photos
	Trail camera monitoring showed no footage of pine marten entering or leaving the feature. No evidence of pine marten recorded.		
PM13	Potential den. Cattle barn located in the valley. No trail camera was set due to high level of farm traffic and disturbance (at landowner request). No evidence of pine marten recorded.	10m west	Refer to Photograph 15, Annex 11.9.B.
PM14	Potential den. A stable building providing a suitable denning opportunity for pine marten. No evidence of pine marten recorded. Anecdotal account of a cavity beneath hay bales being used by pine marten was given by the landowner. No sign of use on trail camera placed outside the barn, inside could not	10m west	Refer to Photograph 16, Annex 11.9.B.

Target Note ID	Description	Approximate Distance from Proposed Scheme (excl. NC & BNG)	Photos
	be surveyed due to disturbance risk to horses (at landowner request).		
PM15	Potential den. Three large moss-covered boulders with broad cavities suitable for pine marten. A pine marten was recorded on top of this feature on three occasions during trail camera monitoring, but the animal was not recorded entering or leaving the feature.	40m west.	Refer to Photograph 17, Annex 11.9.B.
PM15	Potential den. Three large moss-covered boulders with broad cavities suitable for pine marten. A pine marten was recorded on top of this feature on three occasions during trail camera monitoring, but the animal was not recorded entering or leaving the feature.	40m west	Refer to Photograph 18, Annex 11.9.B.

Target Note ID	Description	Approximate Distance from Proposed Scheme (excl. NC & BNG)	Photos
PM16	Potential den. Rocky outcrop with dry cavities considered suitable for denning. No evidence of pine marten recorded.	340m west	Refer to Photograph 19, Annex 11.9.B.
PM17	Potential den. Tree roots with dry cavities c.1m in depth. May provide a denning opportunity (likely temporary due to cavity type, i.e. open to predation). Pine marten confirmed on trail camera footage; however it was not seen entering this feature.	410m west	Refer to Photorgraph 20, Annex 11.9.B.
PM18	Potential den within a large number of windblown trees inside plantation woodland. May be used for denning where there is a lack of other suitable cavities nearby. No evidence of pine marten recorded.	410m west	Refer to Photograph 21, Annex 11.9.B.

Target Note ID	Description	Approximate Distance from Proposed Scheme (excl. NC & BNG)	Photos
PM19	Potential den. A large rock covering a shallow dry cavity, considered suitable for pine marten. No evidence of pine marten recorded.	440m west	Refer to Photograph 22, Annex 11.9.B.
PM19	Additional photograph showing entrance		Refer to Photograph 23, Annex 11.9.B.
PM20	Potential den. Denning opportunities throughout a hillside of boulders/rocky outcrop. Access safety prevented closer inspection of these potential denning sites, but a trail camera was set up to assess use. No evidence of pine marten recorded.	330m west	Refer to Photograph 24, Annex 11.9.B.
PM20	Additional photograph showing entrance		Refer to Photograph 25, Annex 11.9.B.

Target Note ID	Description	Approximate Distance from Proposed Scheme (excl. NC & BNG)	Photos
PM21	Potential den. Overhanging rock with a suitable cavity. No evidence of pine marten recorded.	510m west	Refer to Photograph 26, Annex 11.9.B.
PM21	Additional photograph showing entrance		Refer to Photograph 27, Annex 11.9.B.
PM22	Inaccessible steep rocky burn. Labelled as potential denning habitat as a precaution. No evidence of pine marten recorded nearby.	510m west	Refer to Photograph 28, Annex 11.9.B.
PM23	Potential den. Rocky outcrop which may be suitable for denning pine marten. Considered unsafe to access. No evidence of pine marten recorded nearby.	430m west	Refer to Photograph 29, Annex 11.9.B.

Target Note ID	Description	Approximate Distance from Proposed Scheme (excl. NC & BNG)	Photos
PM24	Shallow cavity under boulder.	460m west	Refer to Photograph 30, Annex 11.9.B.
PM24	Additional photograph showing entrance		Refer to Photograph 31, Annex 11.9.B.
PM25	Large number of windblown trees which may present denning opportunities. Considered unsafe to enter.	610m south west	Refer to Photograph 32, Annex 11.9.B.
PM26	Mammal burrow. Approximately 15x15cm hole. Fox like scat next to entrance. No evidence of pine marten recorded.	650m south west	Refer to Photograph 33, Annex 11.9.B.
PM27	Potential den within dense thickets and windthrow. No evidence of pine marten recorded	610m south west	Refer to Photograph 34, Annex 11.9.B.

Target Note ID	Description	Approximate Distance from Proposed Scheme (excl. NC & BNG)	Photos
PM28	Potential den. Multiple entrances within a single rock cluster. No evidence of pine marten recorded.	40m north east	Refer to Photograph 35, Annex 11.9.B.
PM29	Rocky outcrop with cavity, initial entrance wet but dries to the back. South facing entrance, more than 1.5m deep, 23cm wide entrance that narrows to 16cm then opens into a wider dry cavity with ability to shelter a natal den. No evidence of pine marten recorded.	110m north east	Refer to Photograph 36, Annex 11.9.B.
PM30	Potential den in a shallow overhanging rock. No evidence of pine marten recorded.	470m north west	No picture taken; this feature was scoped out due to distance from Proposed Scheme.

Table A11-9.3 - Trail camera monitoring details

Feature ID	Date Camera deployed	Camera collected	Recording nights	Evidence of pine marten
PM3	N/A (camera not deployed due to being in an area of high disturbance and visibility to public)	N/A	N/A	N/A
PM4	29 August 2023	2 September 2023	4	No, the camera was interfered with by cattle and recording was unsuccessful. Sticks at potential entry and egress points were used as an alternative method to determine mammal use of the feature. This concluded that the potential denning site was not in active use during the survey effort.
PM5	11 July 2023	15 August 2023	35	No

Feature ID	Date Camera deployed	Camera collected	Recording nights	Evidence of pine marten
PM6	11 July 2023	15 August 2023	35	No
PM7	No due to weather preventing safe access	N/A	N/A	N/A
PM12	20 September 2023	3 November 2023	44	No
PM13	No due to being in an area of high disturbance and farm traffic	N/A	N/A	No
PM14	11 July 2023	15 August 2023	35	No
PM15	12 July 2023 30 May 2024	16 August 2023 27 June 2024	35 28	Yes, but no entry or egress in or out of the feature was recorded.

Feature ID	Date Camera deployed	Camera collected	Recording nights	Evidence of pine marten
				PM15 was surveyed again in 2024 ahead of ground investigation works, as it fell within 100m of the Proposed Scheme and was considered suitable for breeding. No evidence of pine marten was recorded.

Annex 11.9. B. Photographs

Photograph 1: Target Note ID - PM2 - a cavity between large, moss-covered boulder and surrounding smaller boulders.

Photograph 2: Target Note ID - PM3, a cluster of mossy boulders, vegetated by heather and other woody plant debris. Cavities of varying depth have formed between the boulders.

Photograph 3: Target Note ID – PM3, a small cavity between an overhang of rock and the ground below.

Photograph 4: Target Note ID – PM4, two large mossy boulders with dry cavity in-between.

Photograph 5: Target Note ID – PM4, a small opening between rocks.

Photograph 6: Target Note ID – PM5, an outcrop of jagged rock with cavity between the rock and grassy ground.

Photograph 7: Target Note ID – PM6, scattered boulders and rocks along hillside. A cavity is created between two boulders leaning against each other.

Photograph 8: Target Note ID – PM7, large cavity between three large boulders.

Photograph 9: Target Note ID – PM8, a cavity between large mossy rocks.

Photograph 10: Target Note ID – PM9, a large mossy rock perched on top of smaller rocks, creating a cavity.

Photograph 11: Target Note ID – PM10, a large mossy rock is positioned on top of smaller rocks which has created a cavity.

Photograph 12: Target Note ID – PM10, the inside of the cavity shown above in photograph 11.

Photograph 13: Target Note ID – PM11, a large mossy boulder perched on top of several smaller boulders. A cavity has formed between the boulders.

Photograph 14: Target Note ID – PM12, potential ingress point to abandoned cottage at ground level adjacent gas pipe exit.

Photograph 15: Target Note ID – PM13, large agricultural building with an open side.

Photograph 16: Target Note ID – PM14, a stable building providing a suitable denning opportunity for pine marten.

Photograph 17: Target Note ID – PM15, three large moss-covered boulders with broad cavities suitable for pine marten.

Photograph 18: Target Note ID – PM15, three large moss-covered boulders with broad cavities suitable for pine marten.

Photograph 19: Target Note ID – PM16, rocky outcrop with dry cavities considered suitable for denning.

Photograph 20: Target Note ID – PM17, cavity located underneath tree roots. Weather writer included for scale.

Photograph 21: Target Note ID – PM18, a number of windblown trees inside plantation woodland creating potential den.

Photograph 22: Target Note ID - PM19, a large rock covering a shallow dry cavity.

Photograph 23: Target Note ID - PM19, a large rock covering a shallow dry cavity.

Photograph 24: Target Note ID - PM20, cavities present along the slope among the scattered rocks and piled earth.

Photograph 25: Target Note ID - PM20, cavities present along the earth bank among the scattered rocks and piled earth.

Photograph 26: Target Note ID - PM21, overhanging rock with a suitable cavity.

Photograph 27: Target Note ID - PM21, inside of cavity shown in photograph 26 above.

Photograph 28: Target Note ID - PM22, inaccessible steep rocky burn which may be suitable for denning pine marten.

Photograph 29: Target Note ID - PM23, inaccessible rocky outcrop which may be suitable for denning pine marten.

Photograph 30: Target Note ID - PM24, cavity feature under the vegetated boulders on the hillside.

Photograph 31: Target Note ID - PM24, cavity feature under the vegetated boulders on the hillside.

Photograph 32: Target Note ID - PM25, large number of inaccessible windblown trees which may present denning opportunities.

Photograph 33: Target Note ID - PM26, small opening among the grassy vegetation, which appears to be an animal burrow.

Photograph 34: Target Note ID - PM27, potential den within dense thickets and windthrow.

Photograph 35: Target Note ID - PM28, cluster of rocks containing several entrances to cavitie(s) between the boulders.

Photograph 36: Target Note ID - PM29, cavity between large boulder and surrounding smaller rocks.