A9 DUALLING
PERTH TO INVERNESS

Appendix 12.5

Bat Report Annexes

Transport Scotland

August 2018

TRANSPORT SCOTLAND
CÒMHDHAIL ALBA

ATKINS mouchel

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This annex provides detailed survey results for the following surveys:

- Ground based inspection, aerial inspection and emergence and return to roost surveys of trees;
- Ground based inspection and aerial inspection of rock faces;
- Transect survey results for proposed Aviemore, Granish and Blackmount junction locations; and
- Results and analysis from static detector monitoring at Slochd rock face.

This data should be read in conjunction with Environmental Statement (ES) Chapter 12 and ES Appendix 12.5 to fully understand the conclusions, recommendations and mitigation discussed within the documents.

1. Field Survey Results

1.1 Tree Survey Results

Table 1.1: Bat Roosts – Tree Survey Results

ID	OS grid reference	Tree Species	Description of tree and BRP	Surveys Conducted	Survey Date (DD/MM/YY) and sunset (SS)/ sunrise (SR) times	Start time; End time (24hr clock)	Weather Conditions				Survey Results Including Bat Roost Potential BRP)
							Temp (°C)	Cloud (0 – 8)[1]	Rain (0 – 5)[2]	Wind (0 – 12)[3]	
TR11	NH 86925 10152	Silver birch	Crevice within trunk at approximately 0.8m above ground, extends back and upwards for at least 30cm. Additional feature at 5m above ground, cavity in limb.	Aerial inspection	11/04/2017						0.8m cavity located on the south face of the tree, and a small hole in the trunk on the north side of the tree at around 2m above ground level which leads into the large hollow trunk, neither of which could be fully inspected. Feature on south side at 5m doesn't go anywhere. BRP - moderate.
				Emergence and re-entry	20/06/2017 (SR 04:19)	02:19	8	1	0	1	No roosting bats emerged from the tree. Twenty-four bats were recorded (the majority of which were common pipistrelle) although all but one were not seen by surveyors.
						04:34	6	1	0	1	
					17/07/2017 (SS 21:56)	21:38	14	0	0	1	No bats were observed roosting in the tree. There was almost constant bat activity during the survey, starting 3 minutes before sunset. Soprano, common and unidentified pipistrelle were recorded and bats that were seen were flying in a southerly direction along the tree line.
						23:56	13	0	0	1	
TR15	NH 88423 10604	Dead tree	Dead standing mature tree with hollow section and numerous features at 2m, 3m and 5m above ground, including cavities in the trunk and limbs.	Ground assessment	11/04/2017						Unable to fully inspect the features from the ground as the tree was not safe to climb and the polekam could not see into the features. BRP - moderate.
				Emergence and re-entry surveys	23/05/2017 (SR 04:41)	02:41	7	0	0	0	No bats recorded at all during the survey.
						04:56	6	1	0	0	
					21/06/2017 (SS 22:15)	21:55	17	8	1	1	No roosting bats emerged from the tree. The majority of bat passes were not able to be confidently identified to species level due to calls recorded being too faint. Where bats were seen, they either flew north to south (away from A9), east to west (parallel to A9) or east to south (away from A9).
						00:15	16	8	0	1	
TR16	NH 88438 10616	Alder	Hollow sections of the trunk with several entrances into the interior of the tree. Possible hibernation potential.	Ground assessment	11/04/2017						Whilst the trunk was partly hollow, the internal structure meant it could not be fully inspected using a torch and endoscope, and therefore not all features were able to be inspected fully. BRP - moderate.

[1] Cloud cover on a scale of 0-8 where 0 = Sky completely clear, 4 = Sky half cloudy, 8 = Sky completely cloudy.
[2] Precipitation intensity on scale of 0-5 where 0 = Dry, 1 = Light drizzle, 2 = Light rain, 3 = Moderate rain, 4 = Heavy rain, 5 = Torrential rain.
[3] Wind speed score of 0-12 against Beaufort scale where 0 = calm, 2 = light breeze, 4 = Moderate breeze, 6 = strong breeze, 7 = High wind, 9 = Strong gale, 12 = Hurricane.

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							Temp (ºC)	Cloud (0 – 8)[1]	Rain (0 – 5)[2]	Wind (0 – 12)[3]	
				Emergence and re-entry	23/05/2017 (SR 04:41)	02:41	7	0	0	0	No bats recorded at all during the survey.
						04:56	6	1	0	0	
					21/06/2017 (SS 22:15)	21:55	17	8	1	1	No roosting bats emerged from the tree The majority of bat passes were not able to be confidently identified to species level due to calls recorded being too faint. Where bats were seen, they either flew north to south (away from A9), east to west (parallel to A9) or east to south (away from A9).
						00:15	16	8	0	1	
TR30	NH 89014 12783	Birch	Woodpecker holes and bracken limb at the top of the tree. Unable to view clearly from the ground.	Ground assessment	12/04/2017						Nesting material within feature, so lower potential for roosting bats to be present. BRP - low.
TR62	NH 89863 15263	Birch	Trunk cavity ~5m above ground, west facing. The tree has lots of damaged limbs but no other obvious suitable features to support roosting bats.	Ground assessment	12/04/2017						Co-dominant stemmed tree both broken topped, shallow hole in northern most stem, fully inspected with polekam, cannot climb the tree to block the feature. BRP - moderate.
TR65	NH 89932 15324	Silver birch	North facing trunk cavity. Unable to tell if it the feature is suitable for roosting bats (may extends up/down), ~10m above ground.	Aerial inspection	12/04/2017						Not able to fully inspect as cavity and crack extends too far. BRP - moderate.
				Emergence and re-entry	28/06/2017 (SR 04:22)	02:22	11	8	1	1	No roosting bats entered the tree. Only a few bat passes including a *Myotis* bat and common pipistrelle; the last bat was recorded at 03:28, almost an hour before sunrise.
						04:37	11	8	0	1	
					17/07/2017 (SS 21:56)	21:36	140	0	0	0	No roosting bats emerged from the tree. Common and soprano pipistrelles were recorded, and seen to be foraging over the water to the west of the trees.
						23:56	13	0	0	1	
TR66	NH 90031 15328	Silver birch	East facing hole in trunk at 1.5m above ground extends upwards in to a cavity within the trunk.	Ground assessment	11/04/2017						Cannot fully inspect cavity with endoscope. BRP - moderate.
				Emergence and re-entry	16/05/2017 (SR 04:54)	02:54	14	8	0	2-3	No roosting bats were seen entering the tree. Only two common pipistrelle commuting passes were recorded, one at 03:44 and one at 03:47.
						05:09	14	7	0	6	
					07/06/2017 (SS 22:06)	21:47	10	2	0	0	No roosting bats emerged from the tree. Two bat passes were recorded, a soprano pipistrelle at 23:34 and a common pipistrelle at 23:51.
						00:06	3	1	0	0	
TR67	NH 89918 15346	Silver birch	North facing trunk cavity at 6m above ground.	Ground assessment	12/04/2017						Tree not possible to climb and inspect tree due to form and damage on stem. BRP - moderate.
				Emergence and re-entry	28/06/2017 (SR 04:22)	02:22	11	8	1	0	No roosting bats entered the tree. Only four bat passes were heard, and they were all brief and faint. The last was recorded at 03:30.
						04:37	11	8	0	0	
					17/07/2017 (SS 21:56)	21:36	140	0	0	0	No roosting bats emerged from the tree. Common and soprano pipistrelles were recorded, and seen to be foraging over the water to the south of the trees.
						23:56	13	0	0	1	
TR68	NH 89895 15357	Silver birch	North facing trunk cavity that extends up within the trunk of the tree, ~3m above ground.	Ground inspection	12/04/2017						Cavity extends upwards into the trunk, very wet and full of slugs, not able to fully inspect, bats could roost in lower areas of this cavity. BRP - moderate.
				Emergence	28/06/2017	02:22	11	8	1	0	No roosting bats entered the tree. Only four bat passes

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							Temp (ºC)	Cloud (0 – 8)[1]	Rain (0 – 5)[2]	Wind (0 – 12)[3]	
				and re-entry	(SR 04:22)	04:37	11	8	0	0	were heard, and they were all brief and faint. The last was recorded at 03:30.
					17/07/2017 (SS 21:56)	21:36	140	0	0	0	No roosting bats emerged from the tree. Common and soprano pipistrelles were recorded, and seen to be foraging over the water to the south of the trees.
						23:56	13	0	0	1	
TR71	NH 90135 15627	Silver birch	Co-dominant stem with bracket fungus, two holes, one at 4m and one at 3m above ground.	Ground inspection	11/04/2017						Unsafe to climb due to fungal decay and not able to be fully inspected using endoscope. BRP - moderate.
				Emergence and re-entry	18/07/2017 (SR 04:47)	02:47	9	0	0	0	Only three bats were recorded during the survey, and the third bat recorded, a *Myotis* species, entered the higher feature and roosted at 03:55. **CONFIRMED ROOST**.
						05:02	9	0	0	0	
					06/09/2017 (SS 19:58)	19:38	13	7	0	1	No roosting bats emerged from the tree. Only three bats were recorded during the survey, and they were all heard but not seen (one *Myotis* species, one common pipistrelle and one unidentified bat).
						21:58	13	7	0	1	
TR73	NH 90304 16533	Silver birch (standing deadwood)	South facing woodpecker hole at ~5m above ground extends downwards into the tree. Additional woodpecker holes at 3.5m on the east side of the tree, 3.5m on the west and 5m on the south-west.	Aerial inspection	10/04/2017						Woodpecker holes could not be fully inspected due to the angle and depth they extend into the tree. BRP - moderate.
				Emergence and re-entry	16/05/2017 (SS 21:32)	21:12	11	1	0	0	No bats were seen to emerge from the tree. The first bat (common pipistrelle) was recorded at 21:49. Soprano and common pipistrelle bats were commuting overhead and foraging throughout the survey. No passes were recorded in the last 30 mins of the survey.
						23:32	7	0	0	0	
					21/06/2017 (SR 04:19)	02:19	9	0	0	0	No bats entered the tree. Common and soprano pipistrelle bats, and one *Myotis* bat, were recorded commuting and foraging.
						04:34	10	7	0	0	
TR84	NH 90780 14266	Rowan	Partially dead, with two large access points into trunk cavity extending upwards. Features at 1m and 3m above ground, east and south facing.	Ground inspection	10/04/2017						Inspected and unable to fully inspect with torch / endoscope / polekam. Lowest feature at 1m on south side extends upwards and downwards, while the upper feature on the east at 3m extends downwards. BRP - moderate.
				Emergence and re-entry	16/05/2017 (SR 04:54)	02:54	14	8	0	4	No roosting bats emerged from the tree, and one common pipistrelle pass was recorded at 03:11.
						05:09	14	7	0	6	
					10/07/2017 (SS 22:05)	21:45	10	8	2-3	1	No bats were recorded during the survey.
						00:05	9	8	2	1	
TR96	NH 91098 18815	Silver birch	First feature is cavity in trunk approximately 3.5m above ground, the second is approximately 5m above ground.	Ground inspection	10/04/2017						Tree was not safe to climb, it was inspected using polekam but couldn't be fully inspected. BRP - moderate.
				Emergence and re-entry	16/05/2017 (SS 21:31)	21:11	10	1	0	1	No roosting bats emerged from the tree. Most bat passes were recorded within the first hour of the survey and generally flew either north to south or south to north. In the last 75 mins of the survey only one pass (a *Myotis* species) was recorded.
						23:31	8	1	0	1	
					21/06/2017 (SR 04:19)	02:19	11	8	0	0	No roosting bats entered the tree. Both common and soprano pipistrelle were heard, with some very brief passes from unidentified species. The last bat was heard at 03:52.
						04:34	12	7	0	0	

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							Temp (ºC)	Cloud (0 – 8)[1]	Rain (0 – 5)[2]	Wind (0 – 12)[3]	
TR120	NH 87217 10181	Silver birch	Hole in stem facing south-east where branch has broken off, at about 5m above ground.	Aerial inspection	11/04/2017						Hole extends into tree and cannot be fully inspected. BRP - moderate.
				Emergence and re-entry	08/06/2017 (SS 22:07)	21:46	9	8	0	3	No bats emerged from this tree. A number of pipistrelles (mostly common) were recorded commuting within the area.
						00:07	9	8	0	3	
					12/07/2017 (SR 04:38)	02:38	9	8	0	0	No roosting bats entered this tree. There was fairly constant activity in the area, with common and soprano pipistrelles recorded, as well as three *Myotis* bats.
						04:53	8	4	0	1	
TR121	NH 87228 10185	Silver birch	Hole in scar from broken branch at 5m above ground on east face.	Aerial inspection	11/04/2017						Hole at scar extends too far to allow full inspection. BRP - moderate.
				Emergence and re-entry	08/06/2017 (SS 22:07)	21:46	9	8	0	3	No bats emerged from this tree. A number of pipistrelles (mostly common) were recorded commuting within the area.
						00:07	9	8	0	3	
					12/07/2017 (SR 04:38)	02:38	9	8	0	0	No roosting bats entered this tree. There was fairly constant foraging activity in the area, with common and soprano pipistrelles recorded, as well as one *Myotis* species of bat and one brown long-eared bat.
						04:53	8	4	0	1	
TR122	NH 87879 10409	Dead	Cavity on west side at 2m above ground, loose bark.	Aerial inspection	11/04/2017						Can't fully inspect the cavity as the full extent cannot be reached form the ground and the tree cannot be climbed as it is dead. BRP - moderate.
				Emergence and re-entry	23/05/2017 (SR 04:41)	02:41	6	1	0	1	No roosting bats entered the tree. Only two bat passes were heard, a soprano pipistrelle at 03:29 and a common pipistrelle at 04:15.
						04:56	6	3	0	1	
					28/06/2017 (SS 22:15)	21:53	9	8	0	2	No roosting bats emerged from the tree. The first bat was recorded 4 minutes before sunset. Both common and soprano pipistrelle bats were heard commuting and foraging near the tree, with some constant foraging between 22:23 and 22:58, and 23:15 and 23:26.
						00:15	9	8	0	2	
TR124	NH 90412 16749	Cherry	Large broken limb on south side within which is a hazard beam and splintered wood. Features are horizontal and 1.7-2m above ground. Also a cavity associated with a sawn limb at 1.5m on west, and flaky bark.	Aerial inspection	10/04/2017						Can't fully inspect hazard beam. BRP - moderate.
				Emergence and re-entry	16/05/2017 (SS 21:32)	21:12;	9	2	0	1	No roosting bats emerged from the tree. Two or three pipistrelles (common and soprano) were foraging constantly nearby for the majority of the survey.
						23:32	7	0	0	0	
					21/06/2017 (SR 04:19)	02:19	10	8	0	1	No roosting bats entered the tree. A total of 14 bat passes (common and soprano pipistrelle, with some unknown species) were recorded although none were seen, due to the tree canopy cover.
						04:34	11	2	0	1	
TR130	NH 87840 10143	Rowan (dead)	Hollow centre with access hole on north-west face at 2m above ground; some extensive cavities. Cavity not large enough to roost of high conservation value.	Ladder inspection	30/08/2017						No evidence detected but cannot fully inspect. BRP - moderate
TR131	NH 87844 10152	Not known (dead stump 2m high)	Cracks all over stump, leading into shallow cavities	Ground inspection	30/08/2017						No evidence detected but cannot fully inspect. BRP – low
TR132	NH 87847 10160	Not known	Shallow gaps behind bark on south-east	Ground	30/08/2017						No evidence detected, fully inspected.

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							Temp (ºC)	Cloud (0 – 8)[1]	Rain (0 – 5)[2]	Wind (0 – 12)[3]	
		(dead stump)	face at 2-4m above ground	inspection							BRP – low.
TR133	NH 87563 10179	Silver birch	Rot hole extending into shallow cavity on north and east faces at 2m above ground	Ground inspection	30/08/2017						No evidence detected, fully inspected. BRP – low.
TR134	NH 87562 10183	Aspen	Hollow limb projecting north-west from main stem at 1.5m above ground with cavity	Ground inspection	30/08/2017						No evidence detected but cannot fully inspect. BRP - moderate.
TR135	NH 87590 10174	Silver birch	Cavities in both twin stems at 1.5-3m above ground; opening faces north on both	Ground inspection	30/08/2017						No evidence detected, fully inspected. BRP - low.
TR136	NH 87939 10189	Silver birch	Hollow limb with stem; opening to cavity on east face at 2.5m above ground	Aerial inspection	30/08/2017						No evidence detected, fully inspected. BRP – moderate.
TR137	NH 87653 10175	Unknown (dead stump)	Loose bark creating shallow cavities at various locations on east face	Ground inspection	30/08/2017						No evidence detected, fully inspected. BRP - low.
TR138	NH 87661 10205	Unknown (fallen dead horizontal stem)	Stem hollow at base; extends into substantial cavity. The opening to cavity is just off the ground	Ground inspection	30/08/2017						No evidence detected, fully inspected. BRP - low
TR139	NH 87649 10137	Silver birch	Cavity in limb on south face at 6m above ground. The cavity was wet.	Aerial inspection	30/08/2017						No evidence detected, fully inspected. BRP - low
TR140	NH 87608 10127	Silver birch	Cavity in limb on south face at 6m above ground	Aerial inspection	30/08/2017						No evidence detected, fully inspected. BRP - moderate.
TR141	NH 87588 10166	Silver birch	Cavity in limb on north face at 3m above ground	Aerial inspection	30/08/2017						No evidence detected, fully inspected. BRP - low.
TR142	NH 87834 10040	Rowan (dead)	Shallow cavities behind loose bark all over tree	Ground inspection	30/08/2017						No evidence detected, fully inspected. BRP - low.
TR143	NH 87834 10029	Silver birch	Main stem hollow with multiple openings on south and west faces at 2-4m above ground	Ground inspection	30/08/2017						No evidence detected, but cannot fully inspect. BRP - moderate.
TR144	NH 87822 10006	Silver birch	Opening on north-west face at 6m above ground	Aerial inspection	30/08/2017						No evidence detected, fully inspected. BRP - low.
TR145	NH 87758 10463	Silver birch	Cavity in rotten branch stump on east face at 2m above ground. Cavity contained a bird nest.	Aerial inspection	31/08/2017						No evidence detected, fully inspected. BRP - low
TR146	NH 87751 10438	Silver birch	Hollow stem with opening on west face at 1m above ground. The opening of the cavity is low to the ground.	Ground inspection	31/08/2017						No evidence detected, fully inspected. BRP - low
TR147	NH 87703 10467	Pedunculate oak	Hazard beam on central limb facing north at 12m above ground	Aerial inspection	31/08/2017						No evidence detected, fully inspected. BRP - moderate.
TR148	NH 87692 10490	Pedunculate	Large rot hole with small opening leading	Ladder	31/08/2017						No evidence detected, fully inspected.

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							Temp (ºC)	Cloud (0 – 8)[1]	Rain (0 – 5)[2]	Wind (0 – 12)[3]	
		oak	into cavity in main stem on west face at 3m above ground	inspection							BRP - low.
TR149	NH 87607 10442	Pedunculate oak	Hazard beam on east face at 12m above ground	Aerial inspection	31/08/2017						No evidence detected, fully inspected. BRP - low.
TR150	NH 87603 10456	Pedunculate oak	Cavity on W face where twin stems join at 6m above ground	Aerial inspection	31/08/2017						No evidence detected, fully inspected. BRP - low.
TR151	NH 87472 10470	Unknown (dead stump)	Cavities behind loose bark on north face at 1m above ground. The cavity is fairly shallow so unlikely to support a large roost.	Ground inspection	31/08/2017						One unidentified pipistrelle bat identified behind bark. Bat was unable to be identified due to inaccessibility of roost. - **CONFIRMED ROOST**. BRP - moderate
TR152	NH 87485 10432	Pedunculate oak	Cavities in rotten wound on both twin stems on east and west faces at between 0.25 and 1.5m above ground	Ground inspection	31/08/2017						No evidence detected, fully inspected. BRP - moderate.
TR153	NH 87471 10425	Pedunculate oak	Hazard beam at end of broken branch projecting south from main stem at 12m above ground	Ground inspection	31/08/2017						Unsafe to climb to required height so not inspected. BRP - moderate.
TR154	NH 87510 10431	Pedunculate oak	Hazard beam in middle of broken branch projecting south from main stem at 5m above ground	Aerial inspection	31/08/2017						No evidence detected, fully inspected. BRP - low.
TR155	NH 87418 10448	Silver birch	Cavity in rotten wound on main stem at 1m above ground	Ground inspection	31/08/2017						No evidence detected but cannot fully inspect feature. BRP - moderate.
TR156	NH 87383 10441	Aspen	Cavity on eastern face of main stem at 10m above ground; cavity extending into twin stem	Ground inspection	31/08/2017						Unsafe to climb to required height so not inspected. BRP - moderate.
TR 672	NH 89877 15445	Birch	Cavity at the top of branch wound on the north facing side 3m above ground	Ground inspection	20/09/2017						No bat evidence detected, was fully inspected. BRP - low (cavity was very shallow).
				Aerial inspection	03/10/2017						
TR 673	NH 89817 15329	Birch	Cavity under limb on the west face 6m above ground	Ground inspection	20/09/2017						No bat evidence detected, was fully inspected. BRP - moderate.
				Aerial inspection	03/10/2017						
TR 674	NH 89777 15271	Birch	Hazard beam in main stem running 4-5m above ground	Ground inspection	20/09/2017						Could not inspect from ground and tree was deemed unsafe to climb. BRP - moderate.
TR 675	NH 90941 19172	Dead	Loose bark on the south face at 4m above ground	Ground inspection	19/09/2017						Ground inspection carried out. No evidence was found and was fully inspected. BRP - moderate.
TR 677	NH 90915 19299	Birch	Rot hole on the south facing side 2m above ground	Ground inspection	19/09/2017						Ground inspection carried out. No evidence was found and full inspection completed. BRP - moderate.
TR678	NH 89770 15246	Birch	Rot hole extending upward on the south side at 4m above ground	Ground inspection	20/09/2017						One bat identified roosting in cavity, couldn't identify species due to position of bat - CONFIRMED ROOST. BRP - moderate.
				Aerial	03/10/2017						

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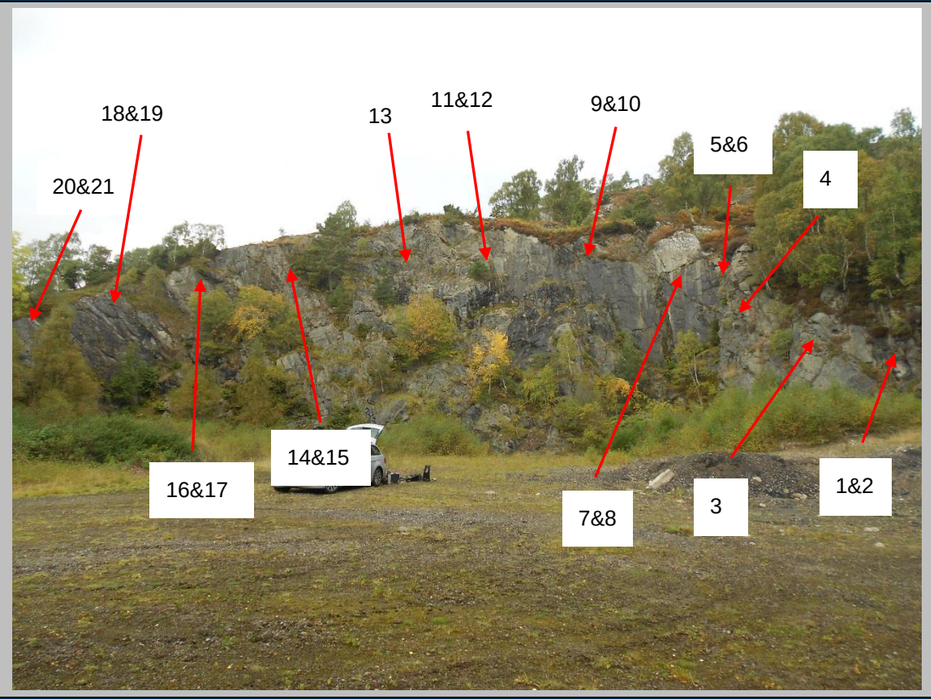
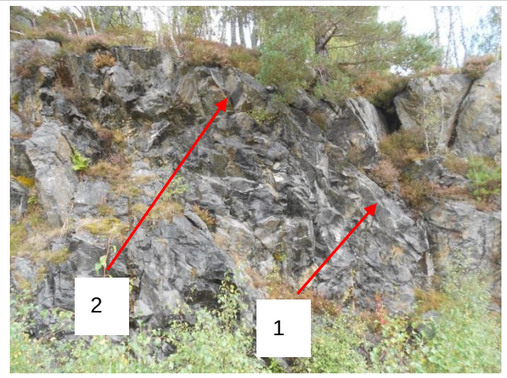
							Temp (ºC)	Cloud (0 – 8)[1]	Rain (0 – 5)[2]	Wind (0 – 12)[3]	
				inspection							
TR 679	NH 90964 19046	Dead	Loose bark and various woodpecker holes. Most potential on the west face 6m above ground	Ground inspection	19/09/2017						Cannot inspect from the ground and tree is unsafe to climb. BRP - moderate.
TR 680	NH 90906 19030	Scots Pine	Broken limb on the north face at 6m above ground	Ground inspection	19/09/2017						No evidence detected but cannot fully inspect with the endoscope, due to the sharp angles within the cavities in the broken limb. BRP - moderate.
				Aerial inspection	03/10/2017						
TR 682	NH 90973 14034	Aspen	Split limb with cavity on the east facing side at 2m above ground	Ground inspection	19/09/2017						Ground inspection carried out, no evidence was found and fully inspected. BRP - moderate.
TR 684	NH 90785 18694	Birch	Large wound extending up the main stem on the west facing side 7m above ground	Ground inspection	19/09/2017						Could not inspect from the ground and deemed unsafe to climb. Activity surveys required. BRP - moderate.
TR685	NH 90772 18668	Birch	Branch wound on east facing side at 2m above ground	Ground inspection	19/09/2017						No evidence was detected but could not fully inspect using endoscope. BRP - moderate.
TR 686	NH 90951 18761	Birch	Branch wound on south facing side at 6m above ground	Ground inspection	19/09/2017						Too high to fully inspect from the ground. Upon aerial inspection feature was fully inspected and no bat evidence seen. BRP - moderate.
				Aerial inspection	03/10/2017						
TR 687	NH 87091 10347	Silver birch	Hollow main stem with openings on east and west faces at 1m-2m above ground	Aerial inspection	31/08/2017						No evidence detected but features cannot be fully inspected. BRP - moderate.
TR 688	NH 87178 10323	Silver birch	Rot hole on west face at 2.5m above ground leading down into cavity	Aerial inspection	31/08/2017						No evidence detected, fully inspected. BRP - low.
TR689	NH 87196 10319	Aspen	Multiple shallow cavities behind loose bark	Ground inspection	31/08/2017						No evidence detected, fully inspected. BRP - low.
Tag 690	NH 87191 10329	Silver birch	Opening in main stem leading into substantial cavity on south-west face at 1.5m above ground	Ground inspection	31/08/2017						No evidence detected, fully inspected. BRP - low (cavity was wet so had limited potential).
TR 691	NH 87172 10333	Silver birch	Rot hole on east face leading into substantial cavity at 5m above ground	Aerial inspection	31/08/2017						No evidence detected, fully inspected. BRP - moderate.
TR 692	NH 87185 10345	Silver birch	Multiple features – hollow stem at 4m-6m above ground on north-east face; rot hole on west face at 3m above ground; rot hole leading to hollow stem on north face of other twin stem at 4m above ground	Ground inspection	31/08/2017						No evidence detected but feature cannot be fully inspected. BRP - moderate.
TR693	NH 87215 10324	Aspen	Large cavity in main stem on south-east face at 6m above ground	Ground inspection	31/08/2017						No evidence detected but feature cannot be fully inspected. BRP - moderate.
TR694	NH 87213 10330	Silver birch	Small cavity at top of branch wound on E face of main stem at 1.5m above ground	Ground inspection	31/08/2017						No evidence detected, fully inspected. BRP - low.
TR695	NH 87255 10386	Silver birch	Horizontal cavity in rotten limb projecting south at 2m above ground	Ground inspection	31/08/2017						No evidence detected, fully inspected. BRP - low.

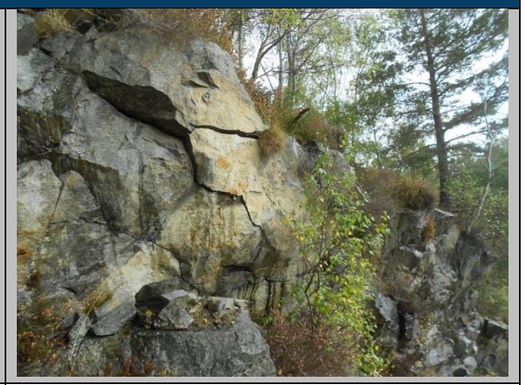
ID	OS grid reference	Tree Species	Description of tree and BRP	Surveys Conducted	Survey Date (DD/MM/YY) and sunset (SS)/ sunrise (SR) times	Start time; End time (24hr clock)	Weather Conditions				Survey Results Including Bat Roost Potential BRP)
							Temp (ºC)	Cloud (0 – 8)[1]	Rain (0 – 5)[2]	Wind (0 – 12)[3]	
TR696	NH 87356 10427	Aspen	Opening in main stem on east face leading into cavity at 3m above ground	Ground inspection	31/08/2017						Unsafe to climb to required height so not inspected. BRP - moderate.
TR697	NH 87348 10426	Aspen	Rotten limb leading into cavity on north face at 8m above ground	Ground inspection	31/08/2017						Unsafe to climb to required height so not inspected. BRP - moderate.
TR698	NH 87337 10408	Aspen	Rot hole in main stem on west face at 6m above ground, extending upwards	Ground inspection	31/08/2017						Unsafe to climb to required height so not inspected. BRP - moderate.
TR699	NH 87380 10431	Unknown (dead stump)	Rot hole extending into hollow stem on west face at 2m above ground	Ground inspection	31/08/2017						No evidence detected but cannot fully inspect feature. BRP - moderate.
TR700	NH 91169 18730	Rowan	Rot hole on south-west face of main stem at 1.6m above ground extending downwards and then extending back up main stem at base of cavity	Ground inspection	01/09/2017						No evidence detected but feature cannot be fully inspected. BRP - moderate.

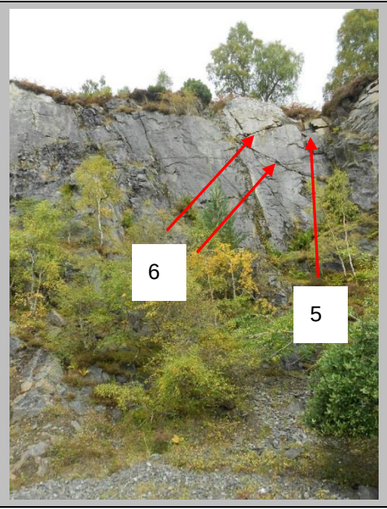
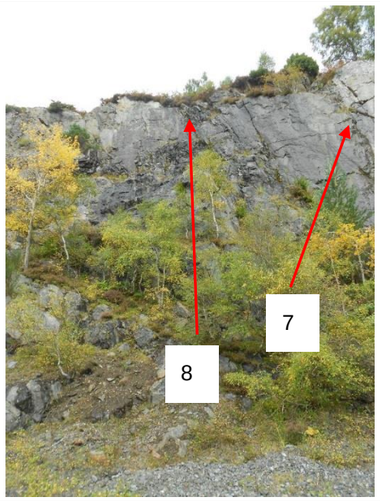
1.2 Rock Face Survey Results

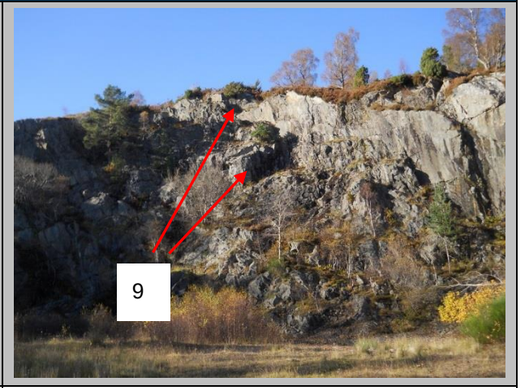
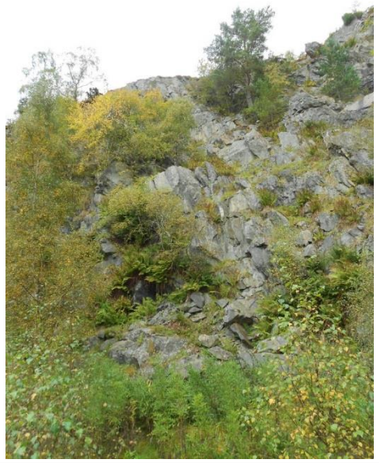
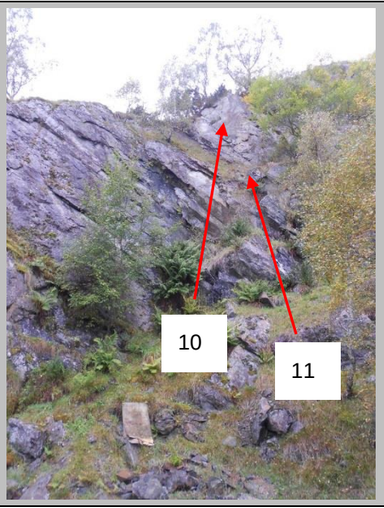
1.2.1 Rock Face RF01 summary: x 5 common pipistrelle recorded in two locations of former quarry. Features of high potential to support roosting bats throughout face, generally on higher, steeper ground.

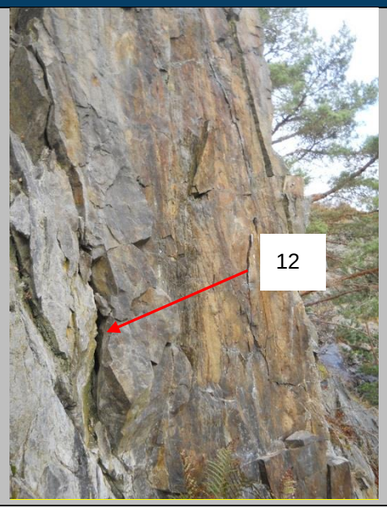
Table 1.2: Rock face RF01 inspection results

Overview of quarry with abseil references annotated	
	
Description / Results **Including Bat Roost Potential (BRP) and Potential Roost Features (PRF)**	**Photograph**
East of Scots pine, one drill hole provides limited suitability for roosting bats (refer photo annotation 1). West of Scots pine, one crack with good suitability for roosting bats (ref. annotation 2). Other cracks lower down noted to be wet, often running with water, and unsuitable for roosting bats. BRP Moderate	
Occasional cracks in rock from cliff top to c. 3 m down face provide limited suitability for roosting bats. BRP Low	

Overview of quarry with abseil references annotated	
	
Good suitability for roosting bats in cracks and crevices in rock from cliff top to c. 5m down face. Roost identified (288590 810845): x2 pipistrelle observed in upwards facing crack (ref. annotation 3) on 26/09/2017. Cavity extends beyond bats for c. 50cm into rock. Despite facing upwards cavity noted to be dry and has some protection from precipitation ingress due to rock above x2 pipistrelle observed in exactly same locations on 02/11/2017. Both bats considered to be common pipistrelle from analysis of endoscope and camera photographs. Bat closest to surface of rock face on 02/11/2017 c. 1 cm from surface of rock in warm sunlight (ref. annotation 4); night temperatures near freezing but both animals active. Dropping sample collected on 26/09/2017 from c. 50cm from roost location confirmed as common pipistrelle through DNA analysis. One confirmed roost, with remainder of rock face of High BRP.	

Overview of quarry with abseil references annotated	
	
Good suitability for roosting bats in boulder outcrops in corner of quarry (ref. annotation 5) and cracks and crevices in rock from cliff top to c. 4m down face. Cracks lower down noted to be wet, often seeping water, and unsuitable for roosting bats. Large obvious cracks in main vertical headwall (ref. annotation 6) have areas of limited suitability only due to water ingress. BRP High	
Cracks in vertical section of main headwall noted to be wet and unsuitable for roosting bats (ref. annotation 7). Much of headwall noted to be blank (no cracks/crevices present). Occasional cracks of limited suitability for roosting bats amongst boulders in first 2m of face from top (ref. annotation 8). BRP Low	

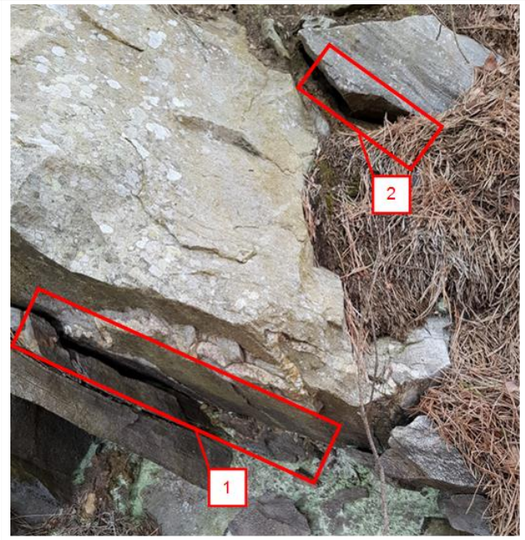
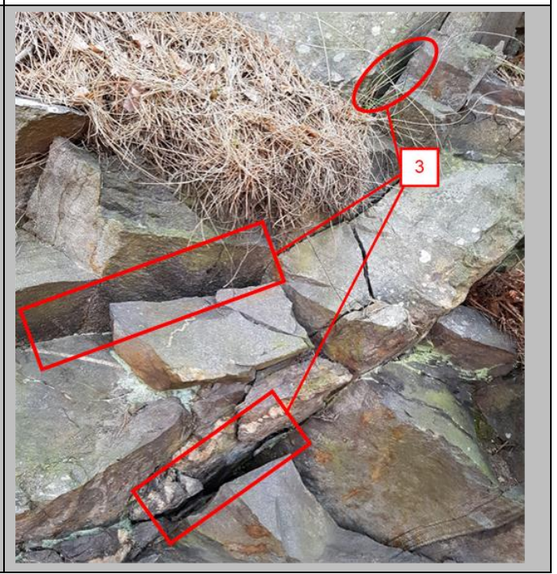
Overview of quarry with abseil references annotated	
Occasional cracks of good suitability for roosting bats in quarry wall (ref. annotation 9) with some extending back into rock > 50cm. BRP High	
Occasional cracks of good suitability for roosting bats within top half of quarry face. Cracks noted to be dry with some extending back into rock > 50cm. Loose unstable material to north of outcrop at top of quarry. BRP High	
Occasional cracks of good suitability for roosting bats within outcrop in corner of quarry (ref. annotation 10).Large dry cavity (ref. annotation 12) extending back into rock >75cm. Beneath vegetated ramp halfway down face (ref. annotation 11), no suitability for roosting bats recorded. BRP High	

Overview of quarry with abseil references annotated	
	
No suitability for roosting bats noted within section of predominantly featureless rock. Very shallow and wet cracks beneath layers near top of face (ref. annotation 13). BRP Unsuitable	
Roost identified (288550 810795): x3 common pipistrelle identified within cavity amongst large boulders immediately below top of face (ref. annotations 14). All animals noted to be active (ref. annotation 15). Cavity extends back into rock >40cm although all three animals located within c. 15 cm of the rock exterior. Area of cracks to east also provide good suitability for roosting bats. One confirmed roost, with remainder of rock face of High BRP.	

Overview of quarry with abseil references annotated

1.2.2 Rock face RF02 summary: No evidence of roosting bats was seen during the inspection of the rock face. The south end of the rock face is amongst larch trees. The majority of the features were low to the ground and had low BRP. All features not mentioned in the table below were inspected and found to have negligible BRP. All features were able to be fully inspected using a torch and/or an endoscope unless otherwise stated.

Table 1.3: Rock face RF02 inspection results

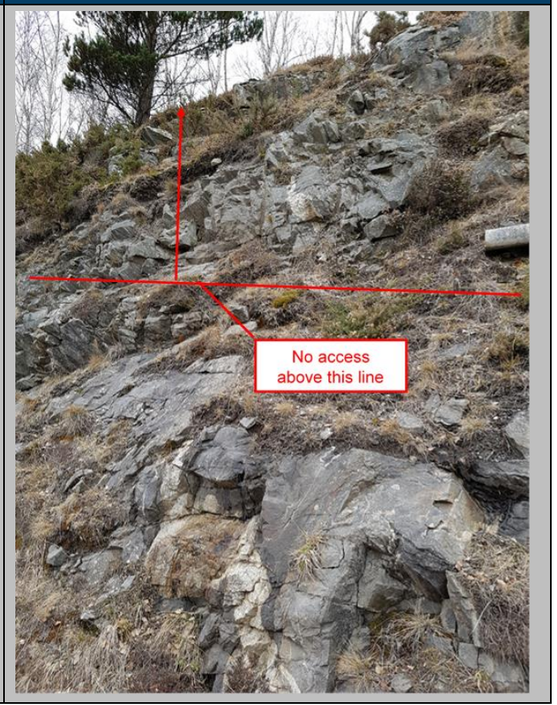
Description / Results Including Bat Roost Potential (BRP) and Potential Roost Features (PRF)	Photograph
Cavity in between two sheets of rock, c. 25cm long and 10cm deep. Feature is low and amongst trees - Low BRP. (ref. annotation 1) Gap under a rock and extending into a cavity which cannot be fully inspected (ref. annotation 2). - Low BRP.	
A number of upward facing crevices which are dry and sheltered (ref. annotation 3). – Low BRP.	

Description / Results Including Bat Roost Potential (BRP) and Potential Roost Features (PRF)	Photograph
A few small gaps up and under rocks on a sheer face, inaccessible on foot to inspect (ref. annotation 4). Moderate BRP.	
10m length of rock face which could only be torched from the ground. Numerous crevices and cavities between sheets of rock although they don't appear to be deep. There is lots of dead grass which in summer will cover some of the features. There are areas with water running through which will be unsuitable for bats (ref. annotation 5). Moderate BRP.	
Gaps in between rocks which extend back and cannot be fully inspected (ref. annotation 6). Low BRP.	

Description / Results Including Bat Roost Potential (BRP) and Potential Roost Features (PRF)	Photograph
Gap above a loose rock which extends back; feature is about 15cm long and 10cm deep (ref. annotation 7). Low BRP.	
Shallow vertical crack and gaps under rock (ref. annotation 8). Low BRP.	

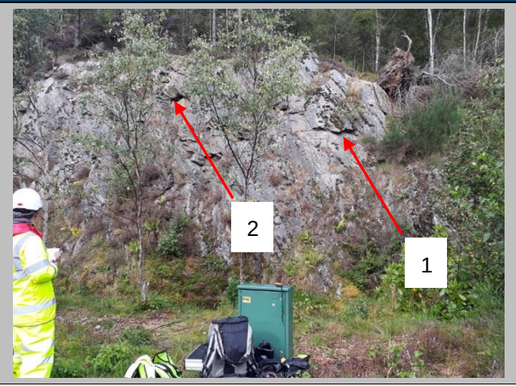
Description / Results Including Bat Roost Potential (BRP) and Potential Roost Features (PRF)	Photograph
Crevices behind loose rocks which could house a single bat (ref. annotation 9) Low BRP.	
Crevices behind loose rocks which could house a single bat (ref. annotation 10) Low BRP.	

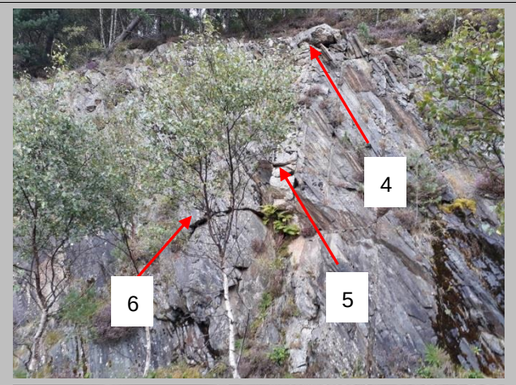
Description / Results Including Bat Roost Potential (BRP) and Potential Roost Features (PRF)	Photograph
Crevices under a rock but can't fully inspect as the feature cannot be reached from on foot (ref. annotation 11). Low BRP.	
Piles of rocks with cavities and crevices extending behind. Complex feature means it cannot be surveyed by endoscope due to the multiple directions the cavities travel in (ref. annotation 12). Low BRP.	

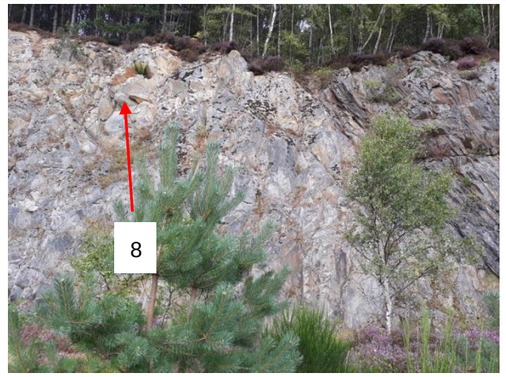
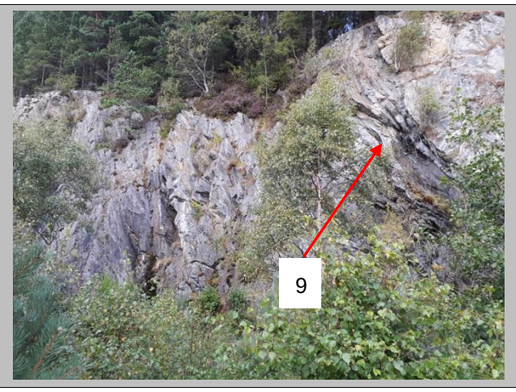
Description / Results Including Bat Roost Potential (BRP) and Potential Roost Features (PRF)	Photograph
The upper reaches of the rock face were not accessible on foot although it was torched from the ground and no features were seen. Low BRP.	

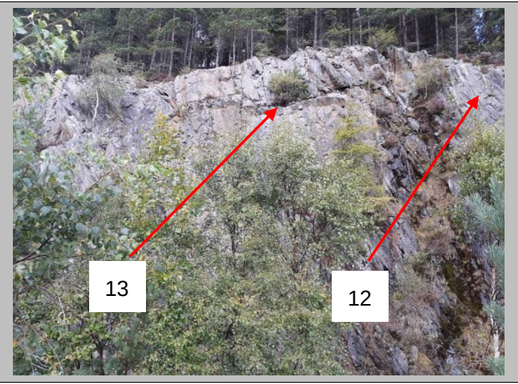
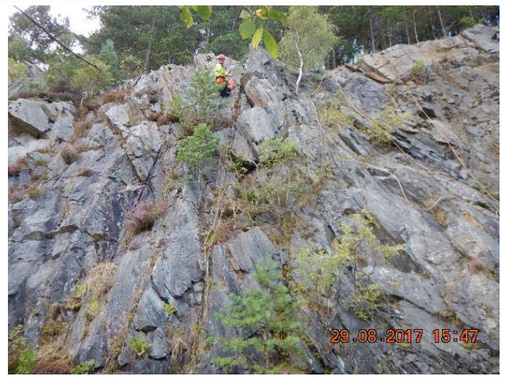
1.2.3 Rock Face RF04 summary: x1 dropping of pipistrelle sp. type recorded at northern end of rock face. Good suitability for roosting bats for much of length (c. 250m), although recent rockfall and very loose material at southern end. Jackdaw nests present throughout northern and central sections.

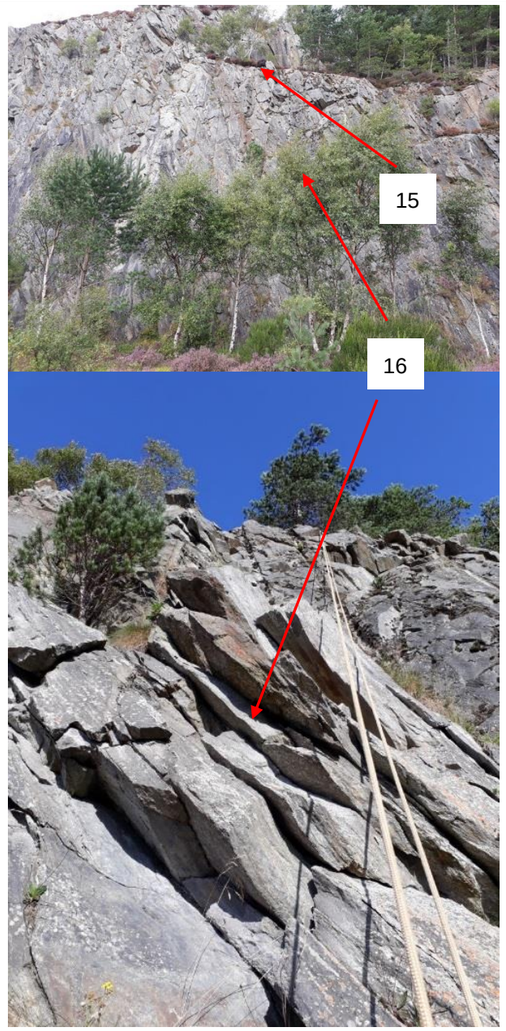
Table 1.4: Rock face RF04 inspection results

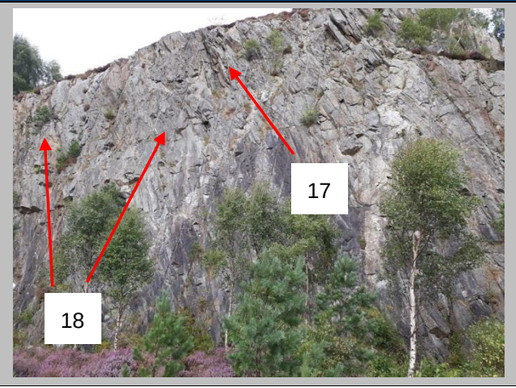
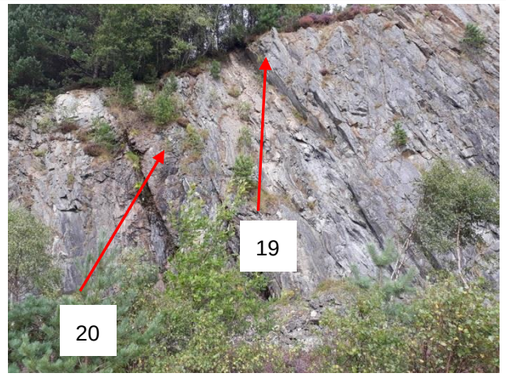
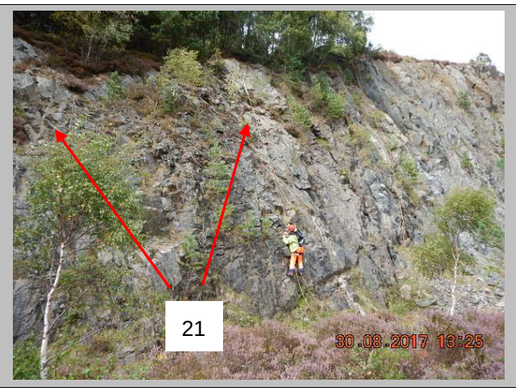
Description / Results Including Bat Roost Potential (BRP) and Potential Roost Features (PRF)	Photograph
Northern end of rock face. Large crack in psammite c. 2m beneath top (ref. annotation 1). Roost identified (289068 811258) - Bat dropping of pipistrelle type within crack but not possible to recover. Large complex cavity extending into face behind crack. No bats observed through endoscope inspection. Large crack exposed from area of fallen psammite with complex cavity extending up c. 3m and out of sight (ref. annotation 2). One confirmed roost, with remainder of rock face of Moderate BRP.	

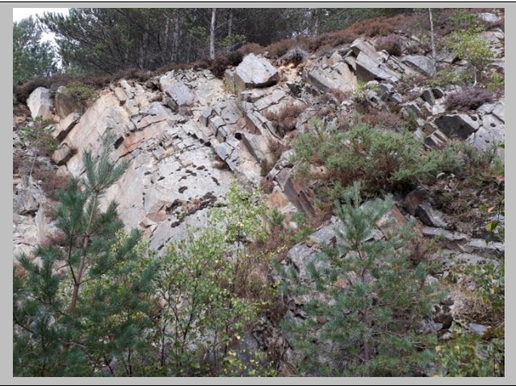
Description / Results Including Bat Roost Potential (BRP) and Potential Roost Features (PRF)	Photograph
Northern end of rock face. Large cracks in psammite predominantly in first 3m beneath top of face, leading to complex cavities extending into face behind crack. Jackdaw nest recorded within cavity (ref. annotation 3). BRP High	
Northern end of rock face Large cavity beneath boulder at top of face: jackdaw nest recorded within cavity (ref. annotation 4). Large gaps recorded around quarzite seam in psammite (ref. annotation 5). Large cracks in psammite extending back c. >1.5m and out of sight (ref. annotation 6): no bat roost evidence observed through endoscope inspection. BRP High Photo annotation 7 illustrates example of crack in psammite with good suitability for roosting bats.	 

Description / Results Including Bat Roost Potential (BRP) and Potential Roost Features (PRF)	Photograph
Northern end of rock face. Area with fewer cracks and features with bat roost potential than sections to east. Quartzite becoming more prevalent with loose material on face. BRP Low	
Northern central rock face. Very few areas of cracks providing potential bat roost features. Sections of quartzite with very loose material on face. No suitability for roosting bats noted (ref. annotation 8). BRP Low	
Northern central rock face. Section with quartzite/psammite interface (ref. annotation 9). Some limited suitability for roosting bats noted within cracks in consolidated psammite immediately south of interface; no suitability recorded in quartzite. BRP Low	

Description / Results Including Bat Roost Potential (BRP) and Potential Roost Features (PRF)	Photograph
Northern central rock face. Crack with good suitability for roosting bats c. 3m above base of rock face (ref. annotation 10). Cavity extends up behind cleft for c. 1.2m. Other cracks above noted to be of limited suitability due to shallowness. Predominantly damp but gaps of limited suitability behind large flake c. 3m below top of rock face. Drill holes also present, again providing limited suitability for roosting bats (ref. annotation 11). BRP Moderate	
Central rock face. Occasional gaps behind psammite layers in top half of rock face provide limited suitability for roosting bats (ref. annotation 12). Large cavities behind psammite block c. 3m from top of rock face (ref. annotation 13). Cavities too large and complex to fully inspect by endoscope. Jackdaw nests present. BRP High	
Central rock face. Large cavities behind psammite blocks c. 3m from top of rock face provide good suitability for roosting bats. Jackdaw nest present. BRP High	

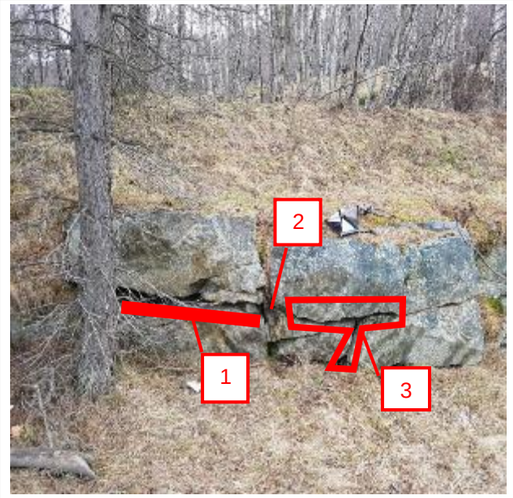
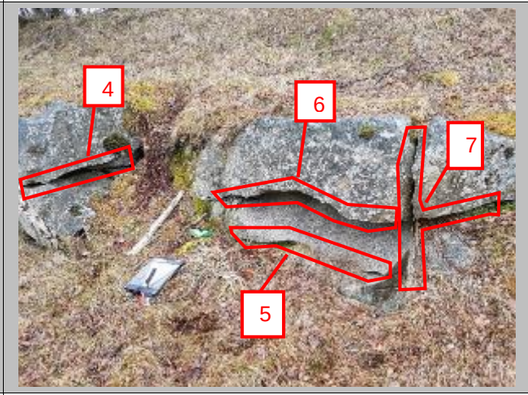
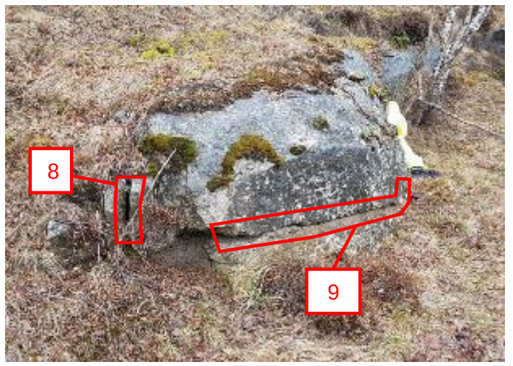
Description / Results Including Bat Roost Potential (BRP) and Potential Roost Features (PRF)	Photograph
Central rock face. Several large cracks in psammite provide good suitability for roosting bats across length of face inspected. Drill holes (ref. annotation 14) present and as blocked at top provide suitable bat roost features. BRP High	
Central rock face. Areas of large cracks and crevices behind flakes and in strata across length of face inspected to c. 3m above foot of rock face. Large crack in top section (above vegetated ramp) provides cavity extending back > 1m (ref. annotation 15). Drill hole present lower down face and as blocked at top provides suitable bat roost feature. Several jackdaw nests present in large cavities near top of face. Photo annotation 16 shows detail of cracks in psammite with good suitability for roosting bats. BRP High	

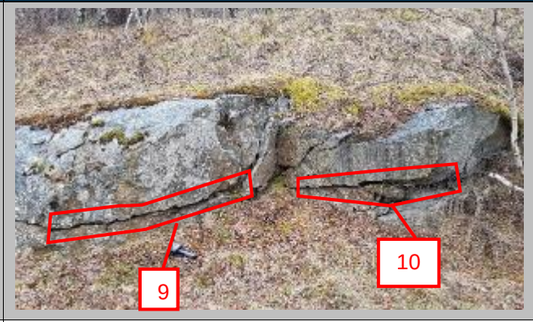
Description / Results Including Bat Roost Potential (BRP) and Potential Roost Features (PRF)	Photograph
Southern central rock face. Areas of large cracks and crevices behind layers and outcrop provide good suitability for roosting bats (ref. annotation 17). Occasional cracks and two drill holes provide suitable bat roost features on fairly blank main face to south of rib (ref. annotation 18). Jackdaw nests present in large cavities near top of face. BRP High	
Southern central rock face. Cracks of limited suitability for roosting bats near top of face (ref. annotation 19). Drill hole present near top of face and as blocked at top provides suitable bat roost feature. Lower down (lower two thirds) consisted of very loose material with no suitability for roosting bats. Section for c. 7m to south has recent rockfall and very loose material: no suitability for roosting bats (ref. annotation 20). BRP Low	
Southern end rock face. Section has recent rockfall and very loose material: no suitability for roosting bats (ref. annotation 21). BRP Unsuitable	

Description / Results Including Bat Roost Potential (BRP) and Potential Roost Features (PRF)	Photograph
Southern end rock face. Section largely unsuitable for roosting bats; one small crack between bedding plane in smooth section provides very limited suitability. Section for c. 10m to south has very loose material: no suitability for roosting bats BRP Negligible	
Southern end rock face. Section largely unsuitable for roosting bats; few cracks amongst blocks at top of face provide very limited suitability. Becomes vegetated (pine, birch and gorse) at southern end of rock face. BRP Negligible	

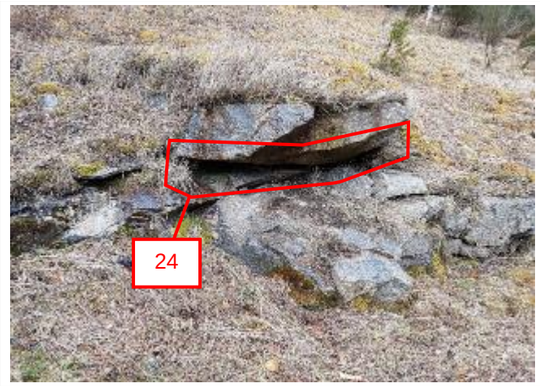
1.2.4 Rock face RF06 summary: No evidence of roosting bats was seen during the inspection of the rock face. Majority of features were low to the ground and may be obscured by vegetation during the active bat season. All features not mentioned below were inspected and found to have negligible BRP.

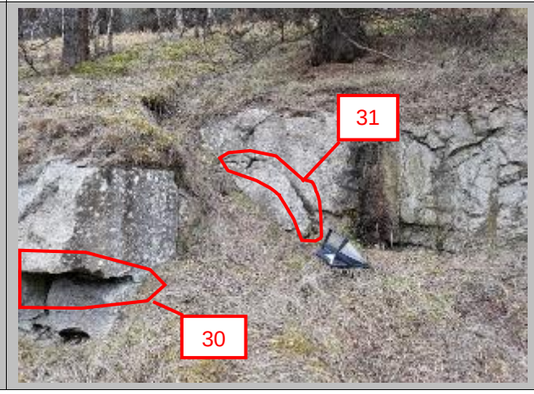
Table 1.5: Rock face RF06 inspection results

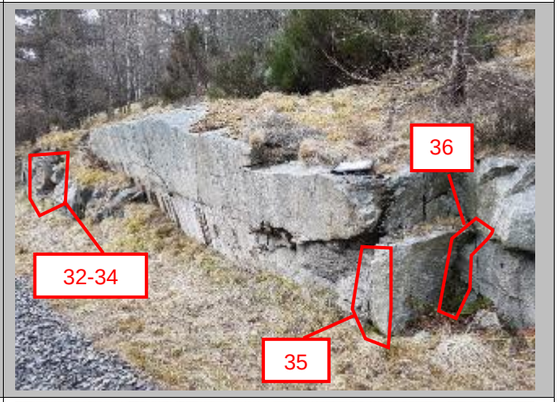
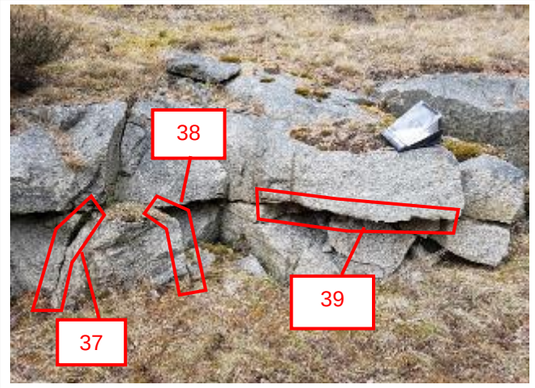
Description / Results Including Bat Roost Potential (BRP) and Potential Roost Features (PRF)	Photograph
Large open crack can be fully inspected with a torch (ref. annotation 1) BRP Low Large vertical gap, extends deeper than endoscope can reach, could not be fully inspected (ref. annotation 2) BRP Moderate The large vertical gap could not be fully inspected. The horizontal section was not as deep and could be seen fully with a torch (ref. annotation 3) BRP Moderate	
Shallow crevice could be fully inspected with torch (ref. annotation 4) BRP Low Very shallow cracks, low to the ground (ref. annotation 5) BRP Negligible Shallow open crack, open to the elements (ref. annotation 6) BRP Negligible Crack filled with vegetation and open at the top to the elements (ref. annotation 7) BRP Negligible	
Vertical crack, sheltered within, extends far back into the rock face. Cannot be fully inspected with an endoscope (ref. annotation 8) BRP Moderate Small crack which extends around the boulder. Large enough for a roosting bat, and extends further back than can be seen with a torch. Too small to be inspected by an endoscope (ref. annotation 9). BRP Low	

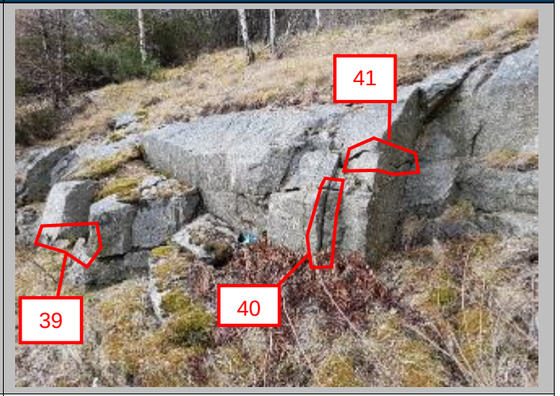
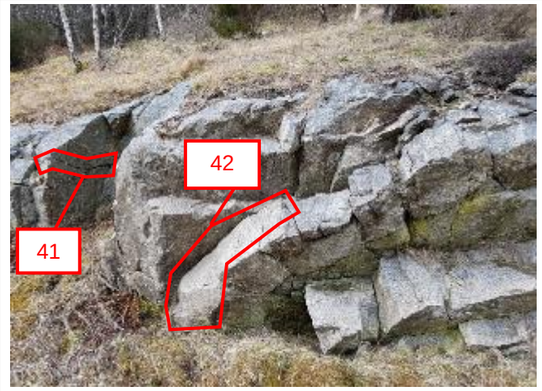
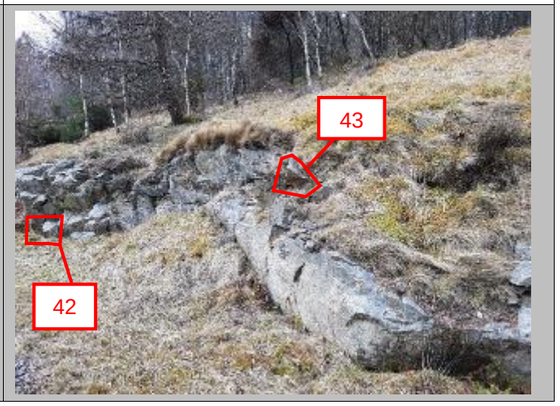
Description / Results Including Bat Roost Potential (BRP) and Potential Roost Features (PRF)	Photograph
Open crevice which can be fully inspected with a torch, and seen to be more open to the elements (ref. annotation 10) BRP Low	
Small hole with vegetation all around. Can be fully inspected with a torch (ref. annotation 11) BRP Low Shallow gap with no protection from the elements (ref. annotation 12) BRP Negligible Rock overhang with a shallow open gap beneath (ref. annotation 13) BRP Negligible	
Narrow gaps that could not be fully inspected with an endoscope. Gaps have running water through them (ref. annotation 14) BRP Negligible Large horizontal gap; could not be fully inspected with an endoscope, gap narrows down towards back (ref. annotation 15) BRP Moderate	
Narrow gap extends down into the rock face. Could not be fully inspected (ref. annotation 16) BRP Low	

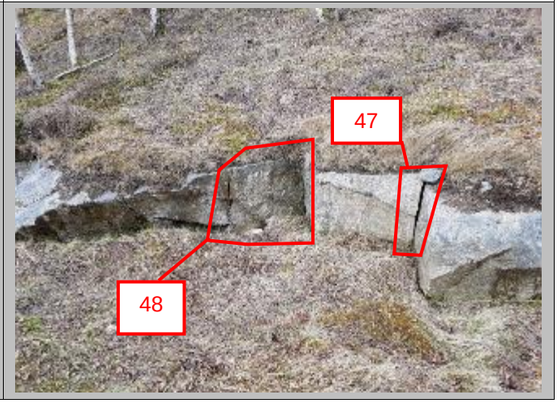
Description / Results Including Bat Roost Potential (BRP) and Potential Roost Features (PRF)	Photograph
Small gap, narrows quickly, could be fully inspected. Small amount of vegetation within (ref. annotation 17) BRP Low Large crack, extends deeper into the rock and appears to open up within. Could not be fully inspected (ref. annotation 18) BRP Moderate Small, narrow crack which could be fully inspected (ref. annotation 19) BRP Negligible	
Small gaps which narrow quickly inside the rock. Could be fully inspected (ref. annotation 20) BRP Negligible Gap extending upwards behind the rock face. Could not be fully inspected (ref. annotation 21 BRP Low	
Narrow gap which is filled with bracken (ref. annotation 22) BRP Negligible Long narrow gap which was unable to be fully inspected in sections (ref. annotation 23) BRP Low	

Description / Results Including Bat Roost Potential (BRP) and Potential Roost Features (PRF)	Photograph
Very large cavity which narrows towards the back. Smaller cavities potentially present towards the back of the larger cavity. Could not be fully inspected (ref. annotation 24) BRP Low	
Opening to the left of a cavity can be fully inspected, the right section of the cavity extends back into the rock and narrows. Could not be fully inspected (ref. annotation 25) BRP Low	
Shallow cavity which was fully inspected (ref. annotation 26) BRP Negligible Large crack on the front and to the right of the rock face extending backwards. Could not be fully inspected (ref. annotation 27) BRP Moderate	

Description / Results Including Bat Roost Potential (BRP) and Potential Roost Features (PRF)	Photograph
Shallow gap narrows quickly, could not be fully inspected (ref. annotation 28) BRP Low	
Narrow gap behind the rock face, extending inwards from the side. Could not be fully inspected (ref. annotation 29) BRP Low Large gap which narrows as it extends backwards. Dry and sheltered gap. Could not be fully inspected (ref. annotation 30) BRP Low	
Gap behind the rock which narrows towards the back. Could be fully inspected (ref. annotation 31) BRP Low	

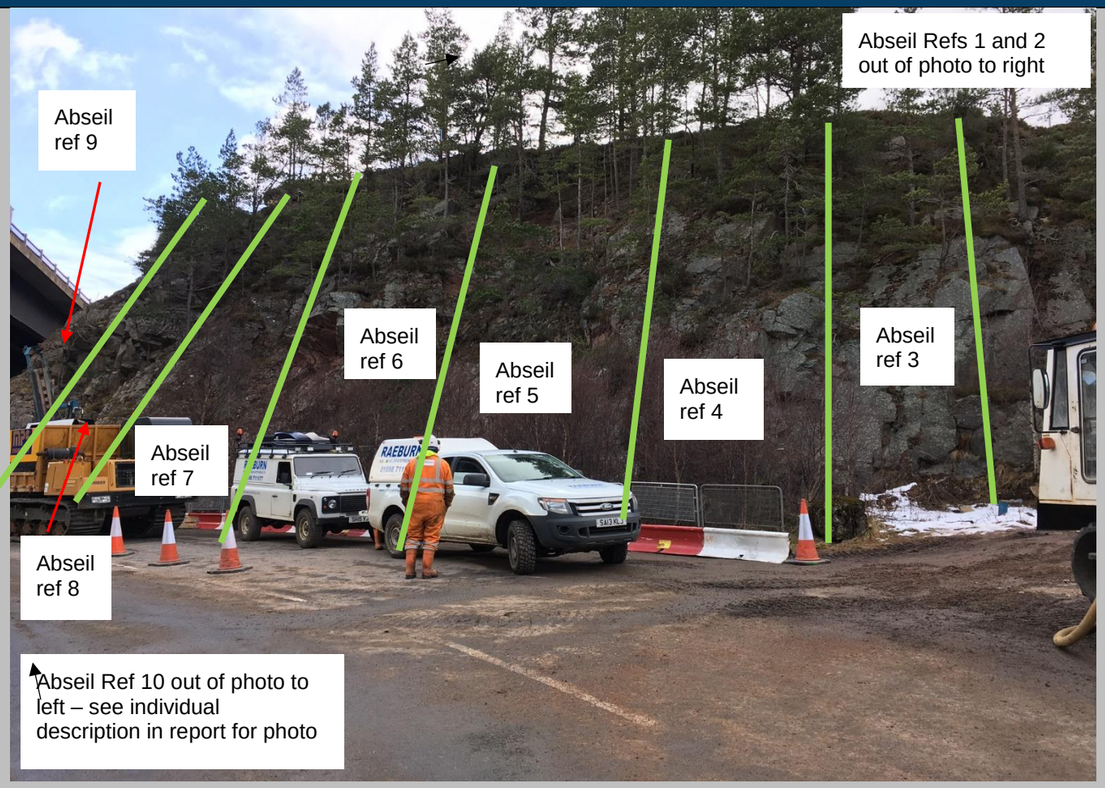
Description / Results Including Bat Roost Potential (BRP) and Potential Roost Features (PRF)	Photograph
Narrow, vertical gap extending backwards. Could not be fully inspected (ref. annotation 32) BRP Low Small cavity, fully inspected (ref. annotation 33) BRP Low Narrow cavity, fully inspected (ref. annotation 34) BRP Low	
Narrow, vertical crack extending backwards into rock face. Could not be fully inspected (ref. annotation 35) BRP Low Crack which extends backwards to the left of the feature and opens up vertically. Could not be fully inspected (ref. annotation 36) BRP Moderate	
Narrow, vertical crack, could not be fully inspected (ref. annotation 37) BRP Low Large, vertical crack which narrows as it extends back. Could not be fully inspected (ref. annotation 38) BRP Moderate Ridge with gap underneath, could not be fully inspected (ref. annotation 39) BRP Low	

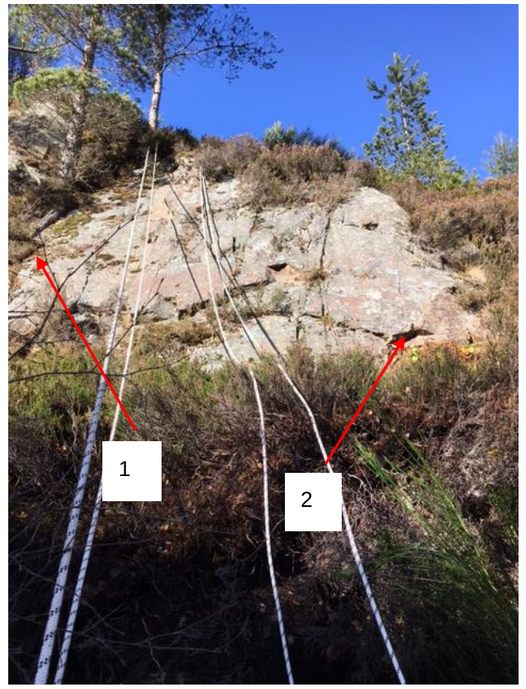
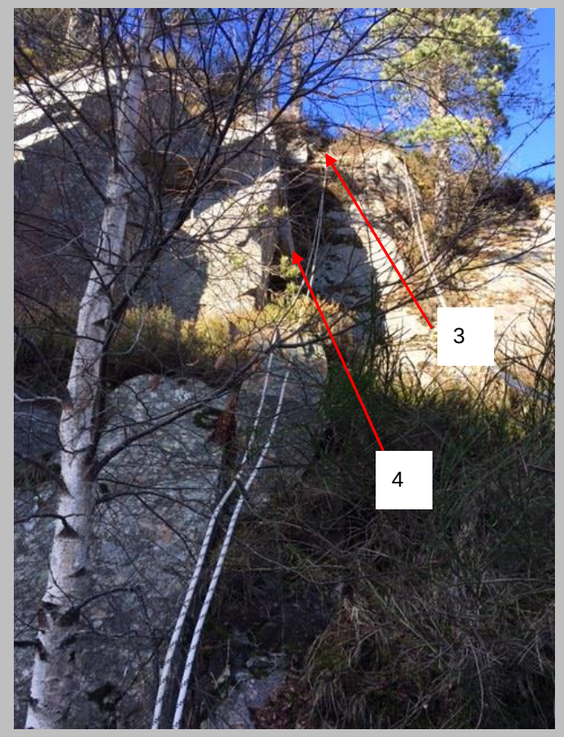
Description / Results Including Bat Roost Potential (BRP) and Potential Roost Features (PRF)	Photograph
Vertical crack which narrows as it extends backwards. Could be fully inspected (ref. annotation 40) BRP Low Horizontal crack extends backwards to the right. Could not be fully inspected (ref. annotation 41) BRP Moderate	
Large, slanting cervices. Open to the elements. Could be fully inspected (ref. annotation 42) BRP Negligible	
Small hole, could be fully inspected (ref. annotation 43) BRP Low	

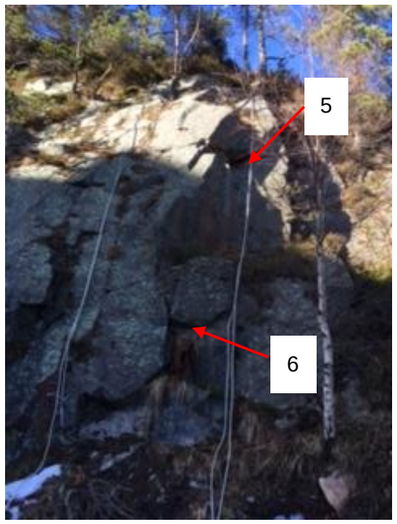
Description / Results Including Bat Roost Potential (BRP) and Potential Roost Features (PRF)	Photograph
Vertical cavity, extends backward and narrows, extends downwards. Could not be fully inspected (ref. annotation 44) BRP Low Vertical cavity, extends backward and narrows, extends downwards. Could not be fully inspected (ref. annotation 45) BRP Low Vertical cavity, extends backward and narrows, extends downwards. Could not be fully inspected (ref. annotation 46) BRP Low	
Vertical cavity, extends backwards and narrows. Could not be fully inspected (ref. annotation 47) BRP Moderate Two shallow cavities, could be fully inspected (ref. annotation 48) BRP Negligible	

1.2.5 Rock face RF08 and RF12 summary: No bats present at the time of survey and no droppings identified. The majority of abseil sections identified only low or moderate potential for roosting bats with a general lack of suitable features present. However, better suitability was identified towards the northern end of the rock face (abseil refs 9 and 10) where some sections with moderate to high potential were noted. Generally, the rock face in this area is more exposed and less sheltered by trees and vegetation.

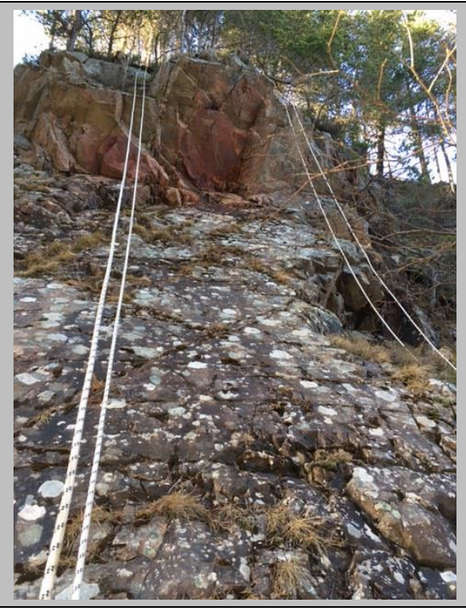
Table 1.6: Rock faces RF08 & RF12 inspection results

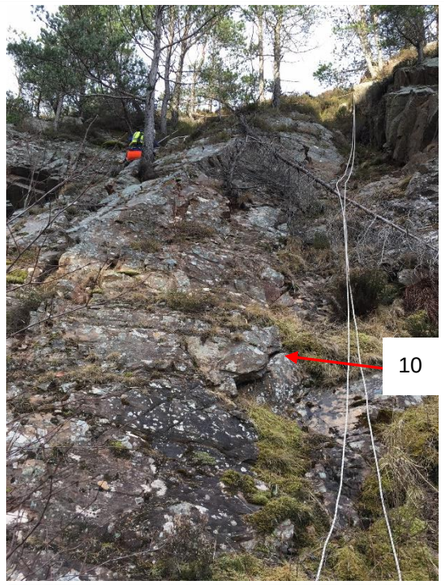
Overview of rock face with abseil references annotated	
	
Description / Results **Including Bat Roost Potential (BRP) and Potential Roost Features (PRF)**	**Photograph**

Overview of rock face with abseil references annotated	
Far southern end of rock face consisting of small slabs amongst heather slope. No evidence of roosting bats and only two suitable crevices: Ref. annotation 1 - Entrance c.10cm extending c. 10cm behind rock, one drill hole also present providing limited suitability for roosting bats. Ref. annotation 2 – Diagonal shallow split in face of rock. Entrance partially upwards facing but suitable. Cavity c. 40cm in length, 2cm width and extending 10cm into rock. BRP Low.	
Occasional cracks in rock from cliff top all way down face but only two noted to provide roost suitability. No evidence of bats. Ref. annotation 3 - Good crevice just below Scots pine to right of photo. Entrance c. 30cm width and 2cm height, at side of rock extending in approx 1m and beyond the view of the torch and endoscope. Clean inside and no evidence of roosting bats recorded. Ref. annotation 4 – Horizontal split in slab. Very dirty inside but provides suitable bat roost feature. Entrance c. 1.5m wide extending c. 20cm into rock. BRP Moderate	

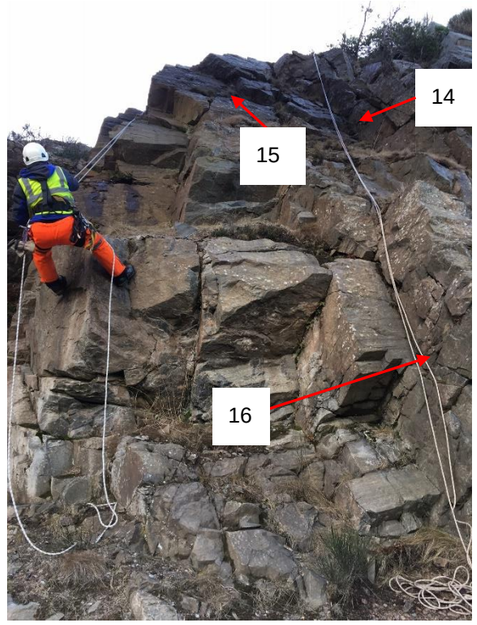
Overview of rock face with abseil references annotated	
Two suitable bat roost features noted. No signs of droppings and no bats present. Ref. annotation 5 – Horizontal crack under overhang c. 30cm in length but only suitable in small sections and only for low/single numbers of bats (1-3 max). Entrance height c.1.5 to 2cm. Ref. annotation 6 – Lower vertical crack c. 2.5m from ground. Crack width 2cm by c. 30cm, extending 10-15cm into rock. Clean but no evidence of roosting bats identified. BRP Moderate	
Two suitable bat roost features noted. No signs of droppings and no bats present. Ref. annotation 7 – Crevice under rock slab with good bat roost suitability (see photos below annotated image). Crevice c. 15cm wide with entrance 2-3cm height, extending c.15cm into rock. Ref. annotation 8 – Series of shallow cracks in lower section of rock. Low roosting potential and no evidence of roosting bats recorded. BRP High	

Overview of rock face with abseil references annotated	
	
Section of very low suitability for roosting bats due to an almost complete lack of crevices in larger slabs forming middle and lower section of slope. One suitable crevice identified in upper section, just below treeline. Feature vertical and extending c. 10cm into rock. Entrance c. 15cm x 2cm (ref. annotation 9). BRP Low	

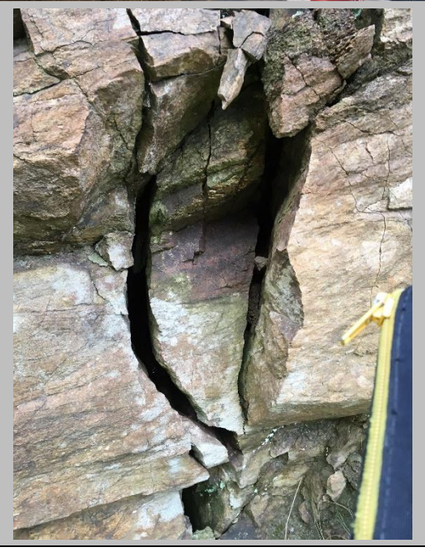
Overview of rock face with abseil references annotated	
	
No suitable bat roost features identified. BRP Unsuitable	

Overview of rock face with abseil references annotated	
Gully section of rock face between two slabbed overhang sections. Loose rock prevalent. One suitable bat roost feature identified near the base: Ref. annotation 10- Suitable crevice for roosting bats under rock slab c. 3 m above base of rock face. Feature c. 40cm in length, extending c. 25cm into rock with an entrance 5cm high. No evidence of bats but the feature was clear and free of debris. BRP Moderate	  
Section to left (north) of the gully abseil. Features with high suitability for roosting bats in section but no bats or droppings identified. Ref. annotation 11 – Large, horizontal crack with soil base. Entrance over a metre wide and 2-5cm in height. Crevice extends over a metre and beyond endoscope reach. Ref. annotation 12- Vertical crack close to feature 1. Moderate suitability for small numbers of bats. Entrance c. 30cm in length (height) and 2-3cm in width. Extending c. 10 to 15cm into rock. Ref. annotation 13 – Additional 1 small crevice. Suitability for one or two bats only. Entrance c. 10cm by 2-3cm extending c.10cm into rock. BRP High	

Overview of rock face with abseil references annotated

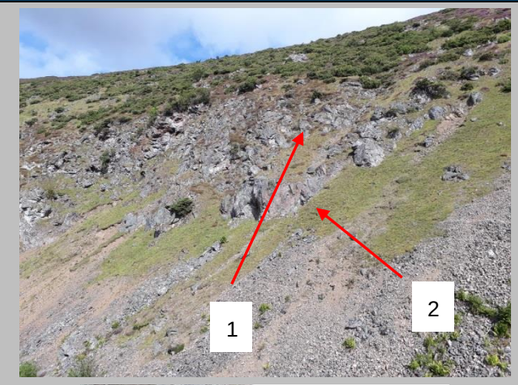
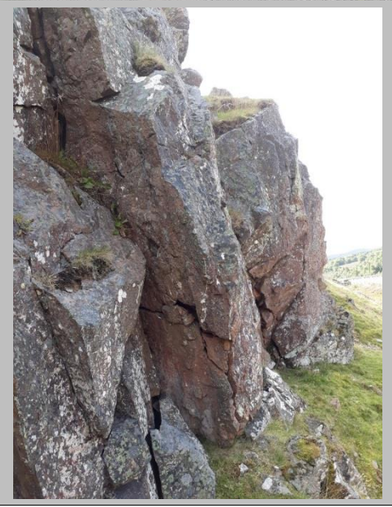
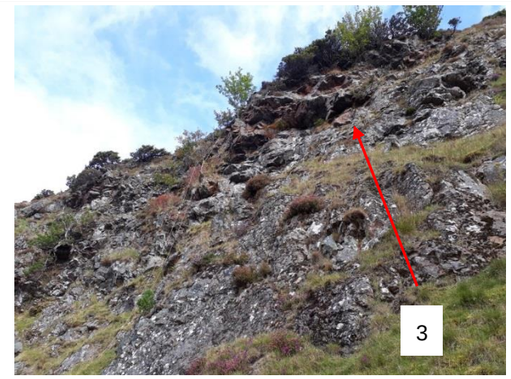
Overview of rock face with abseil references annotated	
Section over overhang on corner of rock face (far left of summary photograph). Numerous small shallow crevices throughout of low bat roost suitability. Features of note outlined below: Ref. annotation 14 – Split behind rock slab extending 30-40cm into rock provides good suitable bat roost feature. Entrance c. 40cm in length and 2-3cm height. Cavity clear of debris but no evidence of roosting bats identified. Ref. annotation15 – Small cavity c.10 x 10cm between two rock slabs with narrow entrance c.1.5-2cm. Suitable for low/single numbers of bats. Ref. annotation 16 – Crevice c. 3m above base of rock face provides good suitable bat roost feature extending c. 15cm down into rock. No evidence of bats but cavity clear of debris. BRP High	
Section covering corner of rock face almost directly beneath A9 road bridge. Large vertical cracks present at the top section to the left of the corner provide excellent suitability for roosting bats. The large slab of rock to the right provides few small shallow cracks of limited suitability for roosting bats and no features considered worth detailing. Ref. annotation 17 – Slab containing vertical cracks which extend deep into rock. Crevices c. 1m high with entrances (c. 5cm) leading to internal cavities. No evidence of roosting bats identified. BRP High	

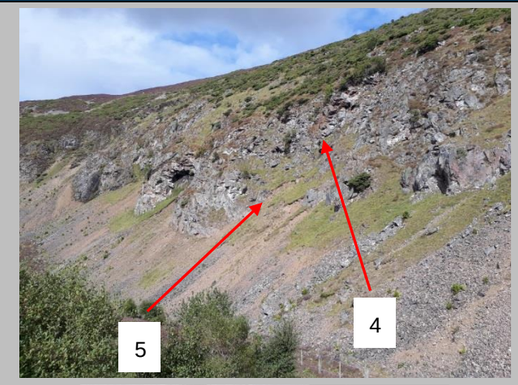
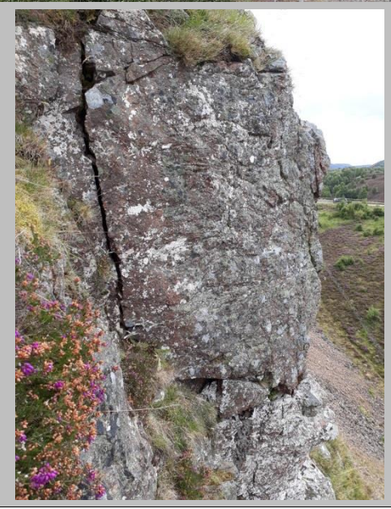
Overview of rock face with abseil references annotated



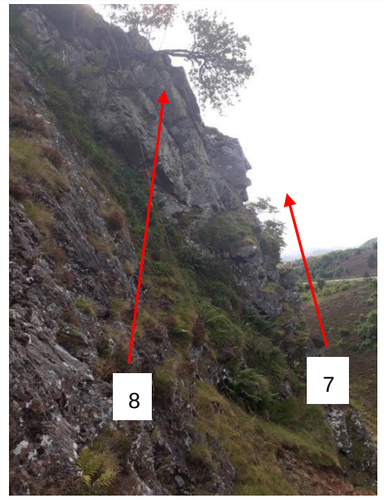
1.2.6 Rock Face RF10 summary: x 1 dropping recorded within upper cave at northwest end of RF10. Confirmed through DNA analysis as Natterer's bat. Distinct areas of bat roost suitability generally confined to steeper ground. One section with large overhang not possible to survey as composed of very unstable material.

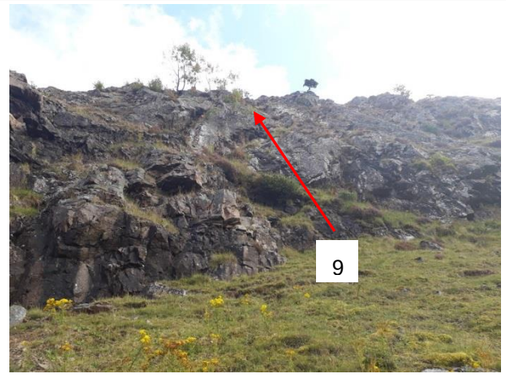
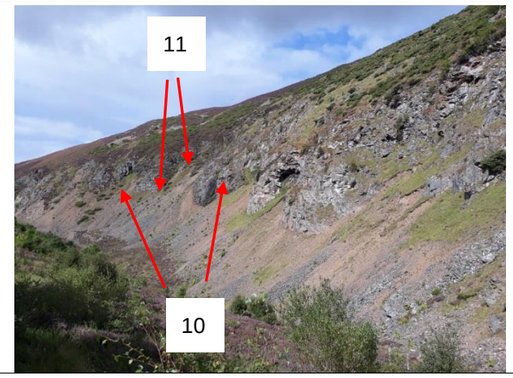
Table 1.7: Rock face RF10 inspection results

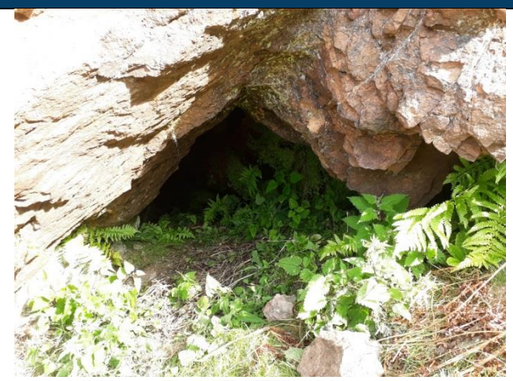
Description / Results Including Bat Roost Potential (BRP) and Potential Roost Features (PRF)	Photograph
Occasional areas of cracks in foliated psammite/semi-pelite bedsand overhang formations provide suitable bat roost features (ref. annotation 1). Good suitability for roosting bats in outcrop at southern end at base of steep ground. Cavities extending >1.5m into rock from crack (ref. annotation 2). BRP High	 
Vegetated overhang largely unsuitable for roosting bats due to lack of suitable cavities/cracks: occasional shallow cracks provide limited suitability (ref. annotation 3). Section for c. 9m to north composed of unconsolidated material/loose rock with no suitability for roosting bats present. BRP Low	

Description / Results Including Bat Roost Potential (BRP) and Potential Roost Features (PRF)	Photograph
Occasional cracks amongst boulders in overhang section provide limited suitability for roosting bats; cavities generally shallow and extend back < 0.3m (ref. annotation 4). Two large cracks behind very large outcrop provide good suitability for roosting bats with large dry cavities extending into rock for > 0.75m (ref. annotation 5). BRP High	 
Large overhang section between buttresses. Survey access not possible as considered too dangerous through prevalence of very loose material. Good suitability for roosting bats with cracks and cavities amongst blocks of rock and into overhang when viewed from ground level and from adjacent abseils. BRP High	

Description / Results Including Bat Roost Potential (BRP) and Potential Roost Features (PRF)	Photograph
Buttress to north of unsurveyed overhang section. Good suitability for roosting bats amongst boulder outcrops (ref. annotation 6). Several cavities noted to extend > 0.5m into rock. BRP High	 

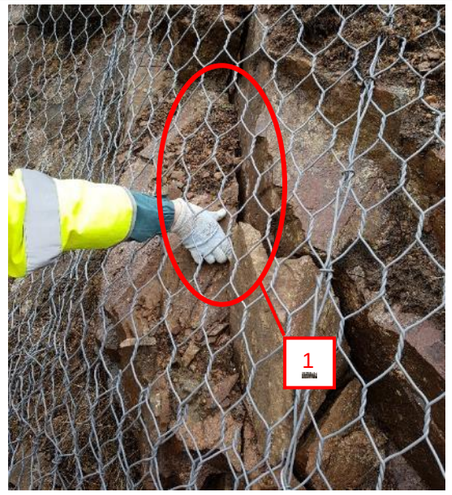
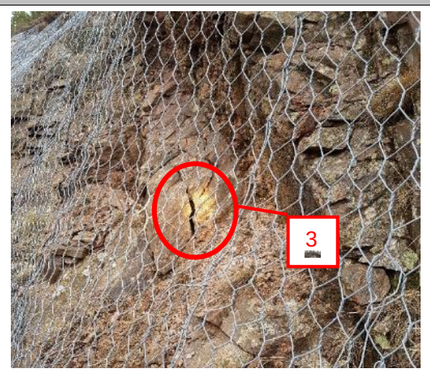
Description / Results Including Bat Roost Potential (BRP) and Potential Roost Features (PRF)	Photograph
North side of buttress to north of unsurveyed overhang section (area of soldier's head). Good suitability for roosting bats in area of soldier's head and to north with several cavities noted to extend > 0.5m into rock (ref. annotation 7). Limited suitability to north in area around rowan and aspen (ref. annotation 8). BRP High	 
Wet flushy section of shallower gradient with no suitability for roosting bats noted. BRP Unsuitable	

Description / Results Including Bat Roost Potential (BRP) and Potential Roost Features (PRF)	Photograph
Good suitability for roosting bats in cracks in outcrop area around rowan and aspen (ref. annotation 9). Cracks in surrounding outcrop sections (including beneath suitable outcrop) noted to be wet and often running with water. BRP Moderate	
Wet section of shallower gradient with no suitability for roosting bats noted. BRP Unsuitable	
Section at northern end with generally shallower gradient than sections to south. No suitability for roosting bats noted (ref. annotation 10) except for two small caves (ref. annotation 11 for locations). Lower cave extends back c. 4m and is 1.5m wide and 1m high (ref. annotation 12). Few crevices present but suitable for roosting bats. Upper cave extends back c. 4.5m and is 1m wide and 2.5m high (ref. annotation 13). Good suitability for roosting bats within internal cracks and crevices. Roost identified (284002 825265). Dropping found toward back of cave beneath crevice: confirmed as Natterer's bat through DNA analysis. One roost confirmed, remainder of rock face of High BRP.	

Description / Results Including Bat Roost Potential (BRP) and Potential Roost Features (PRF)	Photograph
	 

1.2.7 Rock face RF13 summary: No evidence of roosting bats was seen during the inspection of the rock face, in the areas which could be reached. The entire rock face is netted to prevent rock falls but this restricted access to the rock meant that many features could not be reached to inspect using a torch or endoscope. The rock face is low at the north and south ends (c. 3m) but is very high in the centre (c. 15m) and would require survey by rope.

Table 1.8: Rock face RF13 inspection results

Description / Results Including Bat Roost Potential (BRP) and Potential Roost Features (PRF)	Photograph
Crack between rocks (ref. annotation 1), open at top but extends deep into rock. Around 1m from ground level. BRP Low	
Hole between rocks (ref. annotation 2), extending back. About 1.5m above ground level in rock face - BRP Low	
Crack extending in to the rock and upwards, unable to be inspected internally so depth of crack indeterminable (ref. annotation 3). BRP Low	

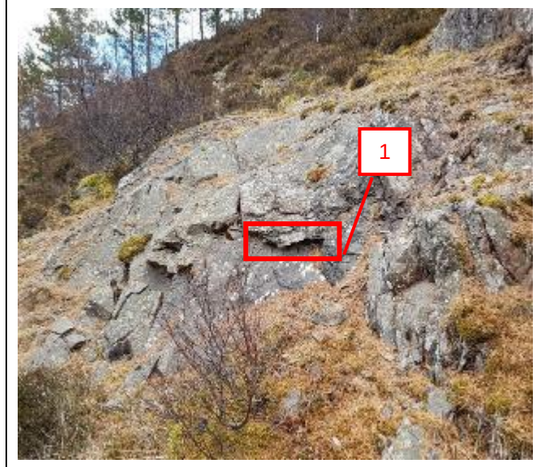
Description / Results Including Bat Roost Potential (BRP) and Potential Roost Features (PRF)	Photograph
Crevice leading under rocks, 1.5m above ground level (ref. annotation 4). BRP Low	
Crevice at the side of and under rocks, 1.5m above ground level (ref. annotation 5) – BRP Low	
Cavity and gaps around the sides of the rocks (ref. annotation 6). BRP Low	

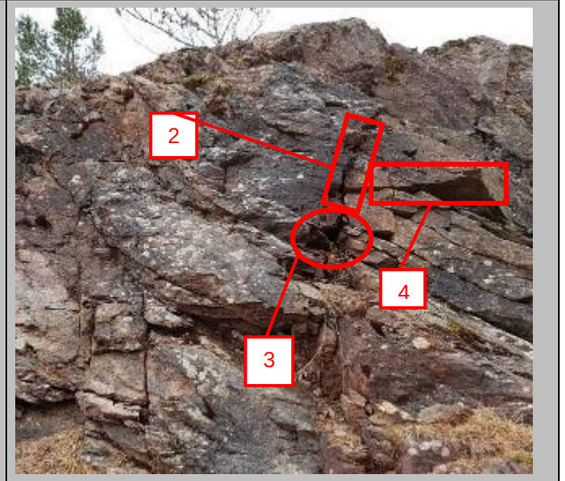
Description / Results Including Bat Roost Potential (BRP) and Potential Roost Features (PRF)	Photograph
Vertical crack in recessed area of rock (ref. annotation 7). BRP Moderate	
Area with many cracks (ref. annotation 8). BRP Low	
Slightly steeper section of outcrop at top of slope with occasional shallow (<20cm) cracks. Material beneath rock mesh noted to be extremely unstable (ref. annotation 9). BRP Low	

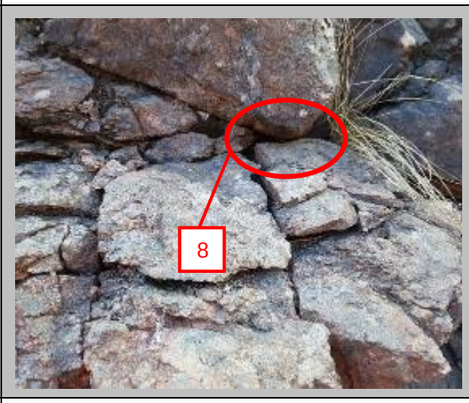
Description / Results Including Bat Roost Potential (BRP) and Potential Roost Features (PRF)	Photograph
Rope access summary: Hatched area as shown in photograph subject to rope access inspection. One section noted to provide Low BRP as indicated in photo annotation 9. Entirety of remainder of rock slope considered to provide no suitability for roosting bats. Material noted to be very unstable beneath rock mesh and likely to be mobile.	

1.2.8 Rock face RF14 summary: No evidence of roosting bats was seen during the inspection of the rock face. The majority of features were shallow and of low bat roost potential (BRP); many were low to the ground and likely to be obscured by vegetation during the active bat season. Any features not detailed in the table below were inspected and found to have negligible BRP. All features were able to be fully inspected unless otherwise specified.

Table 1.9: Rock face RF14 inspection results

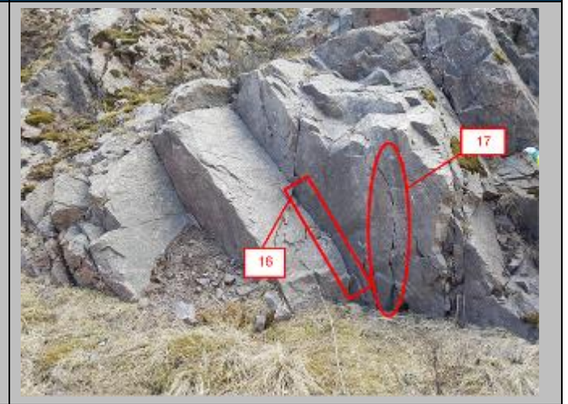
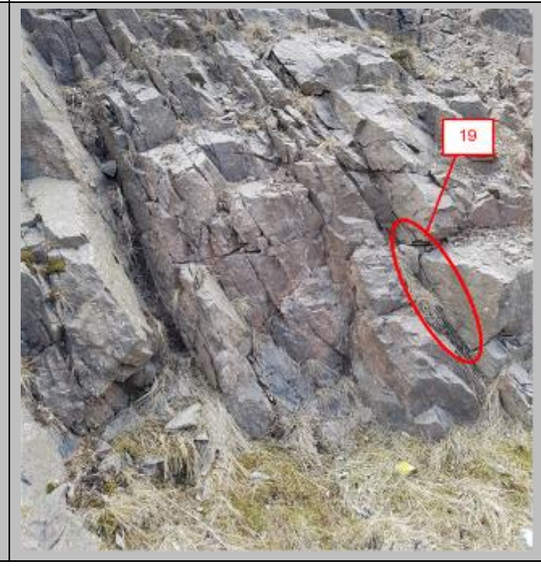
Description / Results Including Bat Roost Potential (BRP) and Potential Roost Features (PRF)	Photograph
Recess under sheet of rock. Extends back about 15cm. The feature is dry but low to the ground (ref. annotation 1). BRP Low	

Description / Results Including Bat Roost Potential (BRP) and Potential Roost Features (PRF)	Photograph
Vertical crack; at the top it extends about 10cm then narrows towards the back (ref. annotation 2) – Low BRP. Feature 3 is beneath feature 2 and is a larger crack with ferns at the entrance. With summer plant growth the crack may be covered. The feature narrows after about 10cm (ref. annotation 3) – Low BRP. Adjacent to feature 2. A horizontal crack/gap extending back about 15cm (ref. annotation 4) – Low BRP.	
A deeper gap between two rocks. The feature extends back about 25cm and is approximately 8cm high. The gap can be fully viewed. Partially covered by moss/heather (ref. annotation 5) – Low BRP.	
Vertical crack in rock which is dry inside. Quite a tight gap but potentially room for one bat to squeeze in (ref. annotation 6). BRP Low	

Description / Results Including Bat Roost Potential (BRP) and Potential Roost Features (PRF)	Photograph
Crevice underneath a small outcrop of rock. The feature is very close to the ground and partially covered with heather, larch saplings and grass (ref. annotation 7) BRP Low	
Complicated crevice which extends in various directions into the rock. Cannot be fully inspected with the endoscope due to the complexity of the feature (ref. annotation 8). BRP Moderate	
Vertical crevice between rocks, it narrows towards the back of the feature. It is around 15cm high, although the lower part is obscured by grass (ref. annotation 9). BRP Low	

Description / Results Including Bat Roost Potential (BRP) and Potential Roost Features (PRF)	Photograph
Crevice under loose rock which extends about 15cm but is narrow and filled with small stones (ref. annotation 10). BRP Low	
Shallow crevice between two rocks (ref. annotation 11). BRP Low	
Crevice between rocks; it is open at the top which would allow water ingress although may be suitable on drier days (ref. annotation 12). – BRP Low	

Description / Results Including Bat Roost Potential (BRP) and Potential Roost Features (PRF)	Photograph
Vertical crack between rocks, extends from ground level up to about 20cm high. It narrows inside (ref. annotation 13). BRP Low	
Horizontal crack about 20cm from the ground. It is only c. 5-10cm in depth but would offer a degree of protection (ref. annotation 14). BRP Low	
Small hole in between rocks, c.5cm tall and 5cm deep (ref. annotation 15) – BRP Low	

Description / Results Including Bat Roost Potential (BRP) and Potential Roost Features (PRF)	Photograph
Diagonal seam between two rocks. May have water ingress from above during rainfall but at time of survey was dry. Length of feature is c. 60cm, width (ref. annotation 16) BRP Moderate Vertical zig zag crack in rock, doesn't extend very deep into the rock (ref. annotation 17). BRP Low	
Crevices around and under rock which only extend a short distance back (ref. annotation 18). BRP Low	
Crevice behind rock where rock has partially broken off. The feature extends back and cannot be fully inspected (ref. annotation 19) BRP Moderate	

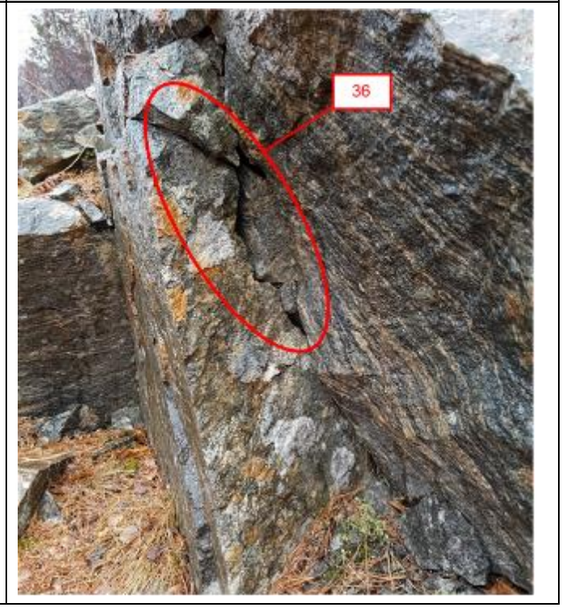
Description / Results Including Bat Roost Potential (BRP) and Potential Roost Features (PRF)	Photograph
Horizontal crack under rock, extends back c. 20cm (ref. annotation 20) BRP Low	
Cavity behind overhang of rock, shallow but sheltered (ref. annotation 21). BRP Low	

Description / Results Including Bat Roost Potential (BRP) and Potential Roost Features (PRF)	Photograph
Gap in between two rocks with a shallow horizontal crack, about 10cm in height, extending from it (ref. annotation 22). BRP Low	
Multiple gaps between rocks which extend back into complex cavities that cannot be fully inspected. Gaps are low to the ground (ref. annotation 23) BRP Moderate	

Description / Results Including Bat Roost Potential (BRP) and Potential Roost Features (PRF)	Photograph
Large, vertical crack on a rock, about 2m in length. Extends deep ino the rock, cannot be fully inspected and was dry and appeared highly suitable for bats (ref. annotation 24). BRP High	
Features underneath boulders and vertical crack in stone. Potential small mammal burrow underneath rock (bedding inside) and rabbit skull outside (ref. annotation 25). BRP Low	
Cracks where stone has broken away; shallow but potential space for a single bat (ref. annotation 26) – BRP Low Crack in rock, open at top but may be dry at the bottom due to the zig-zag shape of the feature (ref. annotation 27) – BRP Low Horizontal crack in rocks (ref. annotation 28) –BRP Low Gap behind overhang of rock, although feature is low to the ground (ref. annotation 29) - BRP Low	

Description / Results Including Bat Roost Potential (BRP) and Potential Roost Features (PRF)	Photograph
Horizontal crack around 10cm deep (ref. annotation 30) – BRP Low Vertical crack in rocks, about 25cm long and 10cm deep (ref. annotation 31) – BRP Low	
Many areas of shallow features where rock is shearing away in layers. Feature shown in photo (ref. annotation 32) BRP Low	

Description / Results Including Bat Roost Potential (BRP) and Potential Roost Features (PRF)	Photograph
Horizontal crack; upper end is wet with water ingress but lower end is dry (ref. annotation 33) – BRP Low	
Diagonal crack on a small rock about 30cm long and 15cm deep with a vertical hole on other face of the rock (ref. annotation 34) – BRP Low Deep hole immediately behind which cannot be fully inspected and extends far into the rock – BRP Moderate	

Description / Results Including Bat Roost Potential (BRP) and Potential Roost Features (PRF)	Photograph
Crack under the base of a rock (ref. annotation 35). BRP- Low	
Vertical crack in rock which cannot be fully inspected; approx. 20cm long (ref. annotation 36). – BRP Moderate Shallow holes extending into surrounding rocks and into the ground - BRP Low (not photographed)	

Description / Results Including Bat Roost Potential (BRP) and Potential Roost Features (PRF)	Photograph
Deep cavity in corner between rocks; cannot be fully inspected (ref. annotation 38) BRP Moderate	
Vertical crevice behind sheets of layered rock; 30cm high and 60cm deep, feature cannot be fully inspected (ref. annotation 39). BRP Moderate	

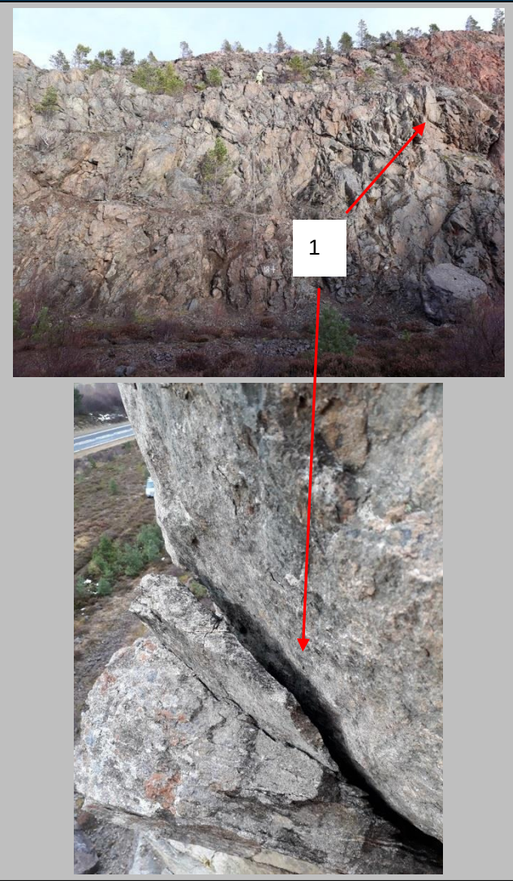
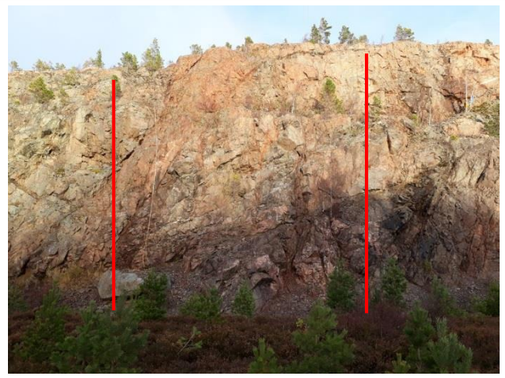
Description / Results Including Bat Roost Potential (BRP) and Potential Roost Features (PRF)	Photograph
Cavity between rocks which is covered for shelter but open on both sides; c.0.5m high and 25cm deep (ref. annotation 40). BRP Low Shallow horizontal crack in rock (ref. annotation 41) BRP Low	
Small hole (5cm x 2cm) leading into rock which can't be fully inspected as endoscope won't manoeuvre inside (ref. annotation 42) BRP Low	
Multiple small cavities (ref. annotation 43) BRP Low	

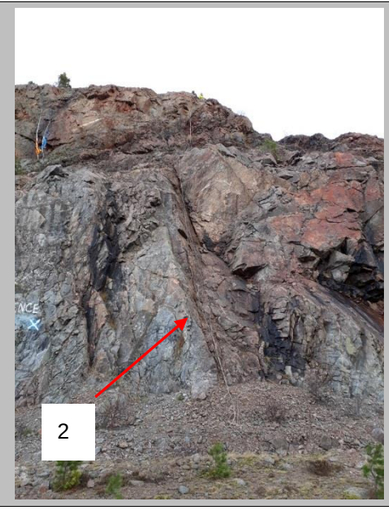
Description / Results Including Bat Roost Potential (BRP) and Potential Roost Features (PRF)	Photograph
Cavity between two rocks extends quite far back although is relatively open and other animals may be able to access (ref. annotation 44). BRP Low	

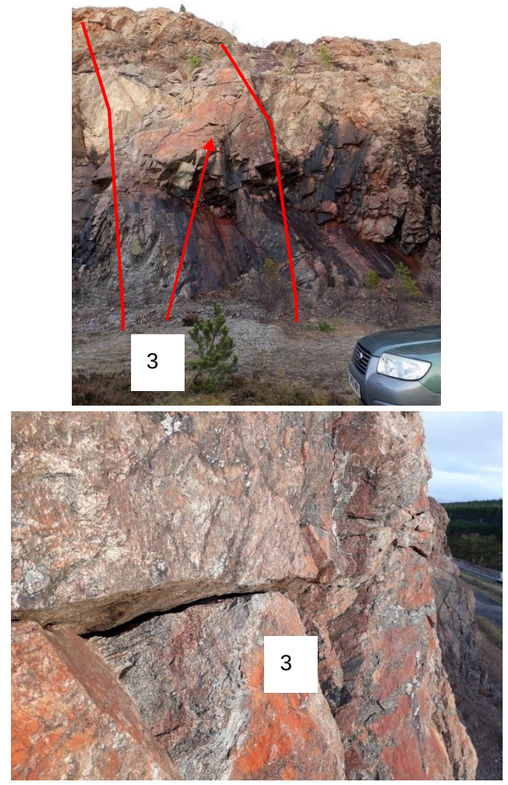
1.2.9 Rock Face RF15 summary: x 2 pipistrelle roost areas recorded within upper face of former quarry at eastern end of RF15. Much of RF15 found to be unsuitable for roosting bats although localised areas of varying suitability present (as detailed below).

Table 1.10: Rock face RF15 inspection results

Description / Results Including Bat Roost Potential (BRP) and Potential Roost Features (PRF)	Photograph
Western end of rock face – composed of distinct upper and lower section with bench between. Much of face very unstable. Gaps apparent from base found to be very shallow on close inspection and no suitability for roosting bats identified (area of unsuitability as indicated by vertical red lines on photograph). BRP Unsuitable	

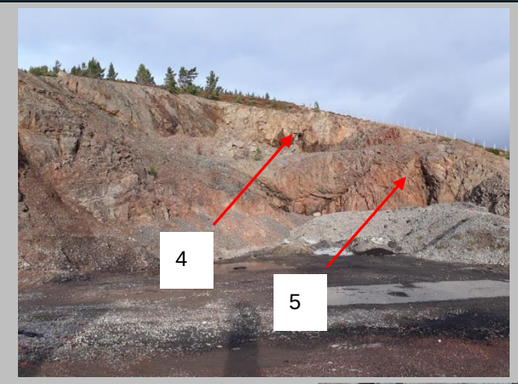
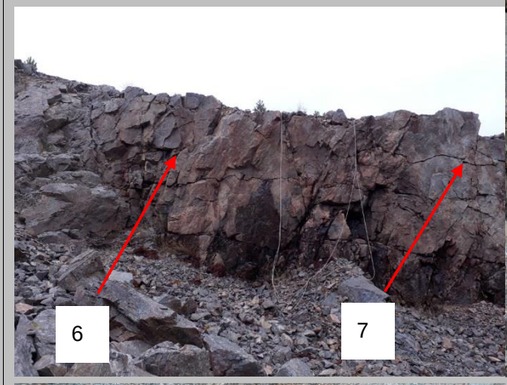
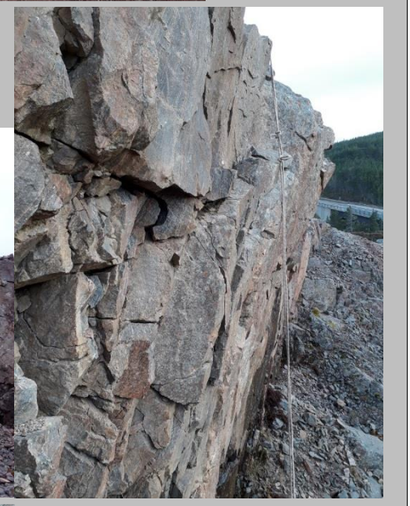
Description / Results Including Bat Roost Potential (BRP) and Potential Roost Features (PRF)	Photograph
Western end of rock face. Generally much of face very unstable and gaps apparent from base found to be very shallow on close inspection with no suitability for roosting bats identified. One gap considered to provide good suitability for roosting bats identified (refer photo annotation 1). BRP High (one gap of high suitability recorded)	
Western central rock face. Occasional fractures in outcrops where more stable material is present on lower half of face. Upper half of face composed of very loose material with no suitability for roosting bats identified. BRP Moderate	

Description / Results Including Bat Roost Potential (BRP) and Potential Roost Features (PRF)	Photograph
Central rock face. Upper half of face composed of loose material with no suitability for roosting bats identified and water running from fractures at base of upper face (behind flags). Lower half of face has occasional fractures with good suitability for roosting bats: cavities extending back into rock >0.75 m and dry. BRP High	
Central rock face. Occasional cracks and fractures on upper and lower halves of rock face provide limited suitability for roosting bats. Cavities, although dry, noted to be shallow; generally extending < 0.3 m. Much loose material on upper half. BRP Moderate	
Central rock face. Vertical fracture (refer photo annotation 2) c. 3 m above toe of lower half of rock face extends back > 0.5 m and is 2.5 – 3 cm wide for visible extent. Although fracture is vertical, cavity is dry as enclosed at top through rockfall ingress. BRP High (one gap of high suitability recorded)	

Description / Results Including Bat Roost Potential (BRP) and Potential Roost Features (PRF)	Photograph
Central rock face. Upper half of face composed of loose material with no suitability for roosting bats identified. Lower half has fractures with large dry cavities extending back > 0.5 m into face. Photo annotation 3 shows best example of fracture recorded. BRP High	
Central rock face. . Upper half of face composed of loose material with no suitability for roosting bats identified. Lower half fractures predominantly wet and running with water (as visible in photograph). Two shallow (< 0.2 m) fractures c. 5 m above toe of lower half of rock face provide very limited suitability for roosting bats. BRP Negligible	

Description / Results Including Bat Roost Potential (BRP) and Potential Roost Features (PRF)	Photograph
Central – eastern end of rock face. 100 m section from c. 284990 823930 east to former quarry. All apparent fractures within rockface (as visible from base) discovered to be shallow and unsuitable for roosting bast on inspection. Gradient of slope lessens towards eastern end, further reducing any potential areas of bat roost suitability. Much of section (as photographed in series opposite) composed of very loose material. BRP Unsuitable	  

Description / Results Including Bat Roost Potential (BRP) and Potential Roost Features (PRF)	Photograph
	  

Description / Results Including Bat Roost Potential (BRP) and Potential Roost Features (PRF)	Photograph
Former quarry area at eastern end of rock face. Upper quarry face (refer photo annotation 4). Lower quarry face (refer photo annotation 5). Roosts identified (285100 823954 and 285105 823953): x2 pipistrelle roosts identified within fractures in vertical upper quarry face (refer photo annotations 6 & 7). Both fractures have dry cavities extending > 0.75 m into rock (possible cracks/weaknesses widened through blasting and are c. 2 – 3 cm wide. Several droppings of pipistrelle type (refer photo annotation 8) identified within each roost location. Droppings of fresh appearance and those near entrance (as in photo annotation 8) considered unlikely to persist for more than a few days / week. No animals visible in either roost although difficult to thoroughly search eastern roost (refer photo annotation 7) via endoscope due to complexity of cavity at rear due to small wedged rocks. Cavities throughout upper quarry face provide good suitability for roosting bats. Lower quarry face composed of very loose material and bat roost suitability very limited. Two confirmed roosts, with remainder of rock face of High BRP.	   

Description / Results Including Bat Roost Potential (BRP) and Potential Roost Features (PRF)	Photograph
	

1.3 Crossing Point Survey Results

1.3.1 Crossing point surveys were undertaken through the bat active seasons of 2016 and 2017, with areas targeted on the basis of habitat and features present likely to facilitate movement of bats over the carriageway. A total of 24 crossing point sites were selected in 2016, thereafter nine crossing points were selected in 2017; five of these were repeat surveys of crossing points with the highest levels of bat crossing from 2016.

2016 Crossing Point Survey Results

Table 1.11: Crossing Location CP05 – Survey Results

OS grid reference: Dalraddy to Slochd Crossing CP05 (TN273) NH 89144 11469									
Habitat Description: Linear feature including underpass and tree line. Residential properties to the west and commercial properties to the east provide opportunities for roosting bats.									
Date Sunset/ Sunrise Time (24hr clock)	Start and End Times (24hr clock)	Weather Conditions				Location either side of A9 Northbound (NB) Southbound (SB)	Comments on Behaviour	Comments on Timings (e.g. mins before/after sunset/sunrise)	Bats Crossing the Road[4]
		Temp (°C)	Cloud (0 – 8)[5]	Rain (0 – 5)[6]	Wind (0 – 12)[7]				
C.pip = common pipistrelle; S.pip = soprano pipistrelle; U.pip = unknown pipistrelle; Myt = Myotis; BLE = brown long-eared; Unk = unknown bat species									
18 May 16 Sunrise: 04:49	Start: 02:49 End: 05:04	Start: 12 End: 10	Start: 8 End: 8	Start: 2 End: 3	Start: 0 End: 0	NB	No Crossings	No Crossings	No Crossings
						SB	No Crossings	No Crossings	No Crossings
20 Jul 16 Sunset: 21:51	Start: 21:31 End: 23:51	Start: 16 End: 14	Start: 8 End: 8	Start: 0 End:	Start: 0 End: 0	NB	One S.pip crossed over the A9 from the west to the east.	One S.pip crossed over the A9 at 22:53 (62 mins after sunset).	Under: 0 Over: 1 S.pip Total Bats: 1

[4] The peak count represents the total number of bats seen crossing over or under the road. Where a bat has been recorded by surveyors on either side of the carriageway and the timings indicate that this is the same bat, then this is counted as one crossing. Where a bat is recorded crossing the carriageway by one surveyor, but not seen on the other side of the carriageway this is recorded as one crossing as the bat may have crossed using a non-direct flight line.
5 Cloud cover on a scale of 0-8 where 0 = Sky completely clear, 4 = Sky half cloudy, 8 = Sky completely cloudy.
6 Precipitation intensity on scale of 0-5 where 0 = Dry, 1 = Light drizzle, 2 = Light rain, 3 = Moderate rain, 4 = Heavy rain, 5 = Torrential rain.
7 Wind speed score of 0-12 against Beaufort scale where 0 = calm, 2 = light breeze, 4 = Moderate breeze, 6 = strong breeze, 7 = High wind, 9 = Strong gale, 12 = Hurricane.

OS grid reference: Dalraddy to Slochd Crossing CP05 (TN273) NH 89144 11469									
Habitat Description: Linear feature including underpass and tree line. Residential properties to the west and commercial properties to the east provide opportunities for roosting bats.									
Date Sunset/ Sunrise Time (24hr clock)	**Start and End Times (24hr clock)**	**Weather Conditions**				**Location either side of A9 Northbound (NB) Southbound (SB)**	**Comments on Behaviour**	**Comments on Timings (e.g. mins before/after sunset/sunrise)**	**Bats Crossing the Road[4]**
		Temp (°C)	**Cloud (0 – 8)[5]**	**Rain (0 – 5)[6]**	**Wind (0 – 12)[7]**				
				0		SB	No Crossings	No Crossings	No Crossings
6 Sep 16 Sunset: 19:58	Start: 19:38 End: 21:58	Start: 16 End: 16	Start: 2 End: 8	Start: 0 End: 0	Start: 0 End: 0	NB	No Crossings	No Crossings	No Crossings
						SB	One S.pip crossed over the A9 from the east to the west.	One S.pip crossed over the A9 at 20:40 (42 mins after sunset).	Under: 0 Over: 1 S.pip Total Bats: 1

Table 1.12: Crossing Location CP04 - Survey Results

OS grid reference: Dalraddy to Slochd Crossing CP04 (TN274) NH 89106 11387									
Habitat Description: Habitat corridor identified as a possible crossing point. Access road leading from five residential properties to the A9. [8]									
Date Sunset/ Sunrise Time (24hr clock)	**Start and End Times (24hr clock)**	**Weather Conditions**				**Location either side of A9 Northbound (NB) Southbound (SB)**	**Comments on Behaviour**	**Comments on Timings (e.g. mins before/after sunset/sunrise)**	**Bats Crossing the Road[4]**
		Temp (°C)	**Cloud (0 – 8)[5]**	**Rain (0 – 5)[6]**	**Wind (0 – 12)[7]**				
C.pip = common pipistrelle; S.pip = soprano pipistrelle; U.pip = unknown pipistrelle; Myt = Myotis; BLE = brown long-eared; Unk = unknown bat species									
18 May 16 Sunrise: 04:49	Start: 02:49 End: 05:04	Start: 12 End: 10	Start: 8 End: 8	Start: 2 End: 3	Start: 0 End: 0	NB	No Crossings	No Crossings	No Crossings
21 Jul 16 Sunrise: 04:53	Start: 02:53 End: 05:08	Start: 13 End: 11	Start: 8 End: 8	Start: 0 End: 0	Start: 0 End: 0	NB	Two S.pip crossed over the A9 from the west to the east.	Two S.pip crossed over the A9 at 04:16 (37 mins before sunrise) and 04:25 (28 mins before sunrise).	Under: 0 Over: 2 S.pip Total Bats: 2
6 Sep 16 Sunset: 19:58	Start: 19:38 End: 21:58	Start: 16 End: 16	Start: 2 End: 8	Start: 0 End: 0	Start: 0 End: 0	NB	One C.pip crossed over the A9 SB to NB and one C.pip crossed NB to Sb over the A9.	The two C.pip crossed over the A9 SB to NB at 20:13 (15 mins after sunset) and NB to SB at 20:32 (34 mins after sunset).	Under: 0 Over: 2 C.pip Total Bats: 2

[8] Only surveyed from the NB as no access to the SB side of carriageway.

Table 1.13: Crossing Location CP06 - Survey Results

OS grid reference: Dalraddy to Slochd Crossing CP06 (TN297) NH 89140 12020									
Habitat Description: Pedestrian underpass, and woodland walk. West of the A9 is the NNR. Nice connectivity from properties to the east of the A9 to the NNR woodland with pond habitat to the west.									
Date Sunset/ Sunrise Time (24hr clock)	**Start and End Times (24hr clock)**	**Weather Conditions**				**Location either side of A9** Northbound (NB) Southbound (SB)	**Comments on Behaviour**	**Comments on Timings (e.g. mins before/after sunset/sunrise)**	**Bats Crossing the Road[4]**
		Temp (°C)	**Cloud (0 – 8)[5]**	**Rain (0 – 5)[6]**	**Wind (0 – 12)[7]**				
C. *C.pip = common pipistrelle; S.pip = soprano pipistrelle; U.pip = unknown pipistrelle; Myt = Myotis; BLE = brown long-eared; Unk = unknown bat species*									
First survey scheduled for May was not conducted due to poor weather conditions (i.e. low temperatures). Therefore only one survey was conducted in May 2016.									
25 May 16 Sunrise: 04:38	Start: 02:38 End: 04:53	Start: 6 End: 5	Start: 8 End: 8	Start: 0 End: 0	Start: 0 End: 0	NB	One S.pip and one C.pip crossed over the A9 (above the overpass, not through it).	The one S.pip crossed over the A9 at 03:44 (54 mins before sunrise) and the one C.pip crossed over the A9 at 03:45 (53 mins before sunrise).	Under: 0 Over: 1 C.pip, 1 S. pip Total Bats: 2
						SB	No Crossings	No Crossings	No Crossings
07 Jun 16 Sunset: 22:07	Start: 21:47 End: 00:07	Start: 15 End: 13	Start: 8 End: 8	Start: 0 End: 0	Start: 0 End: 0	NB	One S.pip crossed under the A9 from the west to the east through the underpass.	One S.pip crossed under the A9 via the underpass at 22:56 (49 mins after sunset).	Under: 1 S.pip Over: 0 Total Bats: 1
						SB	One S.pip and three C.pip crossed over the A9 from the east to the west over the A9, seen by both surveyors. Two C.pip were also seen crossing the A9 from the east to the west by the surveyor on the west (northbound) side.	One bat crossed over the A9 at 22:16 (nine mins after sunset) and three more bats crossed over the A9 between 22:23 (16 mins after sunset) and 22:40 (33 mins after sunset). Two C.pip crossed over the A9 at 22:54 (47 mins after sunset) and 22:56 (49 mins after sunset).	Under: 0 Over: 5 C.pip, 1 S.pip Total Bats: 6
22 Jun 16 Sunrise: 04:19	Start: 02:19 End: 04:34	Start: 14 End: 13	Start: 8 End: 8	Start: 0 End: 0	Start: 1 End: 2	NB	Seven bats crossed the A9 (one C.pip and one S.pip flew through the underpass, two S.pip and three C.pip flew over), all from the west to the east.	Five bats crossed over the A9 at 02:22 (117 mins before sunrise), 02:35 (104 mins before sunrise), 03:48 (31 mins before sunrise), 03:51 (28 mins before sunrise) and 04:09 (10 mins before sunrise). One S.pip crossed under the A9 via the underpass at 03:24 (55 mins before sunrise) and one C.pip crossed under the A9 via the underpass at 03:37 (42 mins before sunrise).	Under: 1 C.pip, 1 S.pip Over: 3 C.pip, 2 S.pip Total Bats: 7
						SB	No Crossings	No Crossings	No Crossings
06 Jul 16 Sunset: 22:10	Start: 21:50 End: 00:10	Start: 12 End: 11	Start: 8 End: 8	Start: 2 End: 2	Start: 3 End: 4	NB	One S.pip and one possible BLE crossed the A9 from the west to the east.	One S.pip crossed over the A9 at 22:45 (35 mins after sunset) and the one possible BLE crossed over the A9 at 23:51 (101 mins after sunset).	Under: 0 Over: 1 S.pip, 1 possible BLE Total Bats: 2
						SB	Eleven bats (four S.pip, five C.pip, one U.pip and one Unk) were seen crossing the A9 from the east to the west. Another six bats (four S.pip and two C.pip) were seen crossing the A9 from the east to the west by the surveyor on the west side.	Seventeen bats crossed over the A9 between 22:04 (6 mins before sunset) and 22:56 (46 mins after sunset).	Under: 0 Over: 7 C.pip, 6 S.pip, 3 U.pip, 1 Unk Total Bats: 17
07 Jul 16	Start:	Start:	Start:	Start:	Start:	NB	Four bats (three C.pip and one U.pip) were seen crossing the	Four bats crossed over the A9 at 03:39 (52 mins before sunrise), 04:02 (29	Under: 0

OS grid reference: Dalraddy to Slochd Crossing CP06 (TN297) NH 89140 12020									
Habitat Description: Pedestrian underpass, and woodland walk. West of the A9 is the NNR. Nice connectivity from properties to the east of the A9 to the NNR woodland with pond habitat to the west.									
Date Sunset/ Sunrise Time (24hr clock)	**Start and End Times (24hr clock)**	**Weather Conditions**				**Location either side of A9 Northbound (NB) Southbound (SB)**	**Comments on Behaviour**	**Comments on Timings (e.g. mins before/after sunset/sunrise)**	**Bats Crossing the Road[4]**
		Temp (ºC)	**Cloud (0 – 8)[5]**	**Rain (0 – 5)[6]**	**Wind (0 – 12)[7]**				
Sunrise: 04:31	02:31 End: 04:46	12 End: 10	2 End: 7	0 End: 0	0 End: 0		A9 from the west to the east.	mins before sunrise), 04:12 (19 mins before sunrise) and 04:18 (13 mins before sunrise).	Over: 3 C.pip, 1 U.pip Total Bats: 4
						SB	One C.pip was recorded crossing the A9 from the east to the west.	One C.pip crossed over the A9 at 03:43 (48 mins before sunrise).	Under: 0 Over: 1 C.pip Total Bats: 1
19 Jul 16 Sunrise: 04:49	Start: 02:49 End: 05:04	Start: 16 End: 15	Start: 8 End: 8	Start: 0 End: 0	Start: 4 Start: 4	NB	Six bats (five S.pip and one BLE) were seen crossing the A9 from the west to the east.	One BLE crossed over the A9 at 03:29 (80 mins before sunrise), and the first S.pip crossed over the A9 at 04:08 (41 mins before sunrise). The other four S.pip crossed over the A9 between 04:12 (37 mins before sunrise) and 04:26 (23 mins before sunrise).	Under: 0 Over: 5 S.pip, 1 BLE Total Bats: 6
						SB	Two S.pip were seen crossing the A9 from the east to the west.	Two S.pip crossed over the A9 at 03:58 (51 mins before sunrise) and 04:10 (39 mins before sunrise).	Under: 0 Over: 2 S.pip Total Bats: 2
08 Aug 16 Sunset: 21:12	Start: 20:52 End: 23:12	Start: 10 End: 9	Start: 1 End: 0	Start: 0 End: 0	Start: 0 End: 1	NB	One S.pip flew from the west to the east (only seen by the surveyor on the east side) and another crossed over A9 west to east and then back again (only the first crossing was recorded). One Myotis sp. flew from the west to the east through the underpass.	Two S.pip crossed over the A9 at 21:54 (42 mins after sunset), and 21:58 (46 mins after sunset). The one Myotis sp. crossed under the A9 via the underpass at 22:11 (59 mins after sunset).	Under: 1 Myotis sp. Over: 2 S.pip Total Bats: 3
						SB	One C.pip crossed over the A9 from the east to the west seen by SB surveyor. Further Eleven bats (seven C.pip and four S.pip) were seen crossing over the A9 from the east to the west by NB surveyor. One of them flew back from the west to the east (only the first crossing was recorded).	Twelve bats crossed over the A9 between 21:28 (16 mins after sunset) and 22:02 (50 mins after sunset).	Under: 0 Over: 7 C.pip, 5 S.pip Total Bats: 12
23 Aug 16 Sunrise: 05:59	Start: 03:59 End: 06:14	Start: 9 End: 11	Start: 8 End: 8	Start: 0 End: 0	Start: 0 End: 0	NB	Two S.pip were seen to cross the A9 from the west to the east (one over the A9 and one through the underpass).	One S.pip crossed over the A9 at 05:31 (28 mins before sunrise), one S.pip crossed under the A9 via the underpass at 05:45 (14 mins before sunrise).	Under: 1 S.pip Over: 1 S.pip Total Bats: 2
						SB	One possible Myotis / BLE bat flew over the A9 from the east to the west, north of the surveyor's position.	One possible Myotis/BLE bat crossed over the A9 at 05:24 (35 mins before sunrise).	Under: 0 Over: 1 Possible Myotis /BLE Total Bats: 1
6 Sep 16	Start: 04:28	Start: 18	Start: 8	Start: 0-1	Start: 0	NB	Six bats crossed the A9 west to east. This included two C.pip, one S.pip that crossed through the underpass, and three	Two C.pip and one S.pip crossed under the A9 via the underpass between 05:22 (66 mins before sunrise)and 06:03 (25 mins before sunrise). Three	Under: 2 C.pip, 1 S.pip

OS grid reference: Dalraddy to Slochd Crossing CP06 (TN297) NH 89140 12020									
Habitat Description: Pedestrian underpass, and woodland walk. West of the A9 is the NNR. Nice connectivity from properties to the east of the A9 to the NNR woodland with pond habitat to the west.									
Date Sunset/ Sunrise Time (24hr clock)	**Start and End Times (24hr clock)**	**Weather Conditions**				**Location either side of A9 Northbound (NB) Southbound (SB)**	**Comments on Behaviour**	**Comments on Timings (e.g. mins before/after sunset/sunrise)**	**Bats Crossing the Road[4]**
		Temp (°C)	**Cloud (0 – 8)[5]**	**Rain (0 – 5)[6]**	**Wind (0 – 12)[7]**				
Sunrise: 06:28	End: 06:43	End: 18	End: 8	End: 0-1	End: 0		S.pip flew over the A9. One of the C.pip that crossed through the underpass crossed several times in both directions before flying off west.	S.pip bats crossed over the A9 between 05:59 (29 mins before sunrise)and 06:25 (3 mins before sunrise).	Over: 3 S.pip Total Bats: 6
						SB	Five bats crossed the A9 east to west: one C.pip and one S.pip flew over the road, and two C.pip and one S.pip crossed through the underpass.	Five bats crossed over the A9 or under the A9 via the underpass between 05:16 (72 mins before sunrise) and 06:01 (27 mins before sunrise).	Under: 2 C.pip, 1 S.pip Over: 1 C.pip, 1 S.pip Total Bats: 5
19 Sep 16 Sunset: 19:22	Start: 19:02 End: 21:22	Start: 14 End: 10	Start: 6 End: 6	Start: 0 End: 0	Start: 1 End: 0	NB	No Crossings	No Crossings	No Crossings
						SB	One C.pip crossed over the A9 from the east to the west.	The one C.pip crossed over the A9 at 19:28 (six mins after sunset).	Under: 0 Over: 1 C.pip Total Bats: 1

Table 1.14: Crossing Location CP09 - Survey Results

OS grid reference: Dalraddy to Slochd Crossing CP09 (TN309) NH 89346 13856									
Habitat Description: Corrugated steel arch culvert carrying watercourse under the A9. Housing located to the south and broadleaved and coniferous trees to the north.									
Date Sunset/ Sunrise Time (24hr clock)	**Start and End Times (24hr clock)**	**Weather Conditions**				**Location either side of A9 Northbound (NB) Southbound (SB)**	**Comments on Behaviour**	**Comments on Timings (e.g. mins before/after sunset/sunrise)**	**Bats Crossing the Road[4]**
		Temp (°C)	**Cloud (0 – 8)[5]**	**Rain (0 – 5)[6]**	**Wind (0 – 12)[7]**				
C *C.pip = common pipistrelle; S.pip = soprano pipistrelle; U.pip = unknown pipistrelle; Myt = Myotis; BLE = brown long-eared; Unk = unknown bat species*									
First survey scheduled for May was not conducted due to poor weather conditions (i.e. low temperatures), therefore only one survey was conducted in May 2016.									
23 May 16 Sunset: 21:45	Start: 21:25 End: 23:45	Start: 10 End: 7	Start: 8 End: 8	Start: 0 End: 0	Start: 1 End: 0	NB	No Crossings	No Crossings	No Crossings
						SB	No Crossings	No Crossings	No Crossings
08 Jun 16 Sunrise: 04:22	Start: 02:22 End: 04:37	Start: 12 End: 14	Start: 8 End: 8	Start: 2 End: 1	Start: 1 End: 1	NB	No Crossings	No Crossings	No Crossings
						SB	No Crossings	No Crossings	No Crossings
21 Jun 16 Sunset: 22:15	Start: 21:55 End: 00:15	Start: 13 End: 13	Start: 8 End: 8	Start: 0 End: 0	Start: 2 End: 2	NB	No Crossings	No Crossings	No Crossings
						SB	No Crossings	No Crossings	No Crossings
06 Jul 16	Start: 02:30	Start: 9	Start:	Start:	Start: 0	NB	No Crossings	No Crossings	No Crossings

OS grid reference: Dalraddy to Slochd Crossing CP09 (TN309) NH 89346 13856									
Habitat Description: Corrugated steel arch culvert carrying watercourse under the A9. Housing located to the south and broadleaved and coniferous trees to the north.									
Date Sunset/ Sunrise Time (24hr clock)	Start and End Times (24hr clock)	Weather Conditions				Location either side of A9 Northbound (NB) Southbound (SB)	Comments on Behaviour	Comments on Timings (e.g. mins before/after sunset/sunrise)	Bats Crossing the Road[4]
		Temp (°C)	Cloud (0 – 8)[5]	Rain (0 – 5)[6]	Wind (0 – 12)[7]				
Sunrise: 04:30	End: 04:45	End: 8	2 End: 6	0 End: 0	End: 0	SB	No Crossings	No Crossings	No Crossings
19 Jul 16 Sunset: 21:53	Start: 21:33 End: 23:53	Start: 22 End: 17	Start: 1 End: 1	Start: 0 End: 0	Start: 0 End: 0	NB	No Crossings	No Crossings	No Crossings
						SB	No Crossings	No Crossings	No Crossings

Table 1.15: Crossing Location CP08 - Survey Results

OS grid reference: Dalraddy to Slochd Crossing CP08 (TN310) NH 89282 13687									
Habitat Description: Corrugated steel arch carrying footpath under A9. Wooded nature walk to south with young broadleaved trees and new build houses with landscaped gardens to north.									
Date Sunset/ Sunrise Time (24hr clock)	Start and End Times (24hr clock)	Weather Conditions				Location either side of A9 Northbound (NB) Southbound (SB)	Comments on Behaviour	Comments on Timings (e.g. mins before/after sunset/sunrise)	Bats Crossing the Road[4]
		Temp (°C)	Cloud (0 – 8)[5]	Rain (0 – 5)[6]	Wind (0 – 12)[7]				
C.pip = common pipistrelle; S.pip = soprano pipistrelle; U.pip = unknown pipistrelle; Myt = Myotis; BLE = brown long-eared; Unk = unknown bat species									
First survey scheduled for May was not conducted due to poor weather conditions (i.e. low temperatures), therefore only one survey was conducted in May 2016.									
24 May 16 Sunset: 21:46	Start: 21:26 End: 23:46	Start: 7 End: 4	Start: 7 End: 8	Start: 0 End: 0	Start: 0 End: 0	NB	Two C.pip flew from the west to the east over the A9.	The two C.pip crossed over the A9 at 22:15 (29 mins after sunset) and 22:16 (30 mins after sunset).	Under: 0 Over: 2 C.pip Total Bats: 2
						SB	Thirty-two bats (28 C.pip, three S.pip and one Unk) flew over the A9.	Thirty-two bats crossed over the A9 between 21:34 (12 mins before sunset) and 22:33 (47 mins after sunset), with one bat crossing at 22:51 (65 mins after sunset).	Under: 0 Over: 28 C.pip, 3 S.pip, 1 Unk Total Bats: 32
8 Jun 16 Sunrise: 04:22	Start: 02:22 End: 04:37	Start: 12 End: 14	Start: 8 End: 8	Start: 2 End: 1	Start: 1 End: 1	NB	Five C.pip crossed over the A9 from the west to the east.	The five bats crossed over the A9 at 03:50 (32 mins before sunrise), and between 03:41 (41 mins before sunrise) and 04:01 (21 mins before sunrise).	Under: 0 Over: 4 C.pip, 1 S.pip Total Bats: 5
						SB	One C.pip and one S.pip crossed over the A9 from the east to the west.	One C.pip and one S.pip crossed over the A9 at 03:45 (37 mins before sunrise) and 03:51 (31 mins before sunrise).	Under: 0 Over: 1 C.pip, 1 S.pip Total Bats: 2
21 Jun 16	Start: 21:55	Start:	Start:	Start:	Start:	NB	Five C.pip bats were observed crossing over the	C.pip were recorded crossing over at A9 between 22:42 (27 mins after	Under: 0

OS grid reference: Dalraddy to Slochd Crossing CP08 (TN310) NH 89282 13687									
Habitat Description: Corrugated steel arch carrying footpath under A9. Wooded nature walk to south with young broadleaved trees and new build houses with landscaped gardens to north.									
Date Sunset/ Sunrise Time (24hr clock)	Start and End Times (24hr clock)	Weather Conditions				Location either side of A9 Northbound (NB) Southbound (SB)	Comments on Behaviour	Comments on Timings (e.g. mins before/after sunset/sunrise)	Bats Crossing the Road[4]
		Temp (°C)	Cloud (0 – 8)[5]	Rain (0 – 5)[6]	Wind (0 – 12)[7]				
Sunset: 22:15	End: 00:15	15 End: 13	8 End :7	0 End: 0	2 End: 2		A9 from the west to the east.	sunset) and 22:57 (42 mins after sunset).	Over: 5 C.pip Total Bats: 5
						SB	Twenty-four bats crossed over A9 (12 U.pip, 11 C.pip, one S.pip), from the east to the west.	Twenty-four bats crossed over the A9 between 22:17 (seven mins after sunset) and 22:53 (43 mins after sunset).	Under: 0 Over: 11 C.pip, 1 S.pip, 12 U.pip Total Bats: 24
06 Jul 16 Sunset: 22:10	Start: 21:50 End: 00:10	Start: 12 End: 11	Start: 8 End: 5	Start: 2 End: 2	Start: 3 End: 4	NB	One U.pip was seen flying over the A9 from the west to the east.	One U.pip crossed over the A9 at 22:47 (37 mins after sunset).	Under: 0 Over: 1 U.pip Total Bats: 1
						SB	Twelve bats (one U.pip, six C.pip, one S.pip and four Unk) were observed crossing over the A9 from the east to the west.	Twelve bats crossed over the A9 at 21:51 (19 mins before sunset), between 22:00 (10 mins before sunset) and 22:26 (16 mins after sunset), and at 22:35 (25 mins after sunset), 22:47 (37 mins after sunset) and 23:07 (53 mins after sunset).	Under: 0 Over: 6 C.pip, 1 S.pip, 1 U.pip, 4 Unk Total Bats: 12
07 Jul 16 Sunrise: 04:31	Start: 02:31 End: 04:31	Start: 12 End: 10	Start: 2 End: 6	Start: 0 End: 0	Start: 0 End: 0	NB	Three bats (one U.pip and two C.pip) were confirmed as crossing the A9 from the west to the east.	Three bats crossed over the A9 at 04:01 (30 mins before sunrise), 04:03 (28 mins before sunrise) and 04:12 (19 mins before sunrise).	Under: 0 Over: 2 C.pip, 1 U.pip Total Bats: 3
						SB	No Crossings	No Crossings	No Crossings
19 Jul 16 Sunset: 21:53	Start: 21:53 End: 23:53	Start: 22 End: 17	Start: 1 End: 1	Start: 0 End: 0	Start: 0 End: 0	NB	One C.pip crossed over the A9 from the west to the east.	One C.pip crossed over the A9 at 22:45 (52 mins after sunset).	Under: 0 Over: 1 C.pip Total Bats: 1
						SB	Twenty-two bats (12 C.pip and ten Unk, which are presumed to be pips but were not echolocating) confirmed crossing the A9 from the east to the west.	Twenty-two bats crossed over the A9 between 21:49 (4 mins before sunset) and 22:45 (52 mins after sunset), with the last bat crossing the road at 23:20 (147 mins after sunset).	Under: 0 Over: 12 C.pip, 10 Unk Total Bats: 22
08 Aug 16 Sunset: 21:12	Start: 20:52 End: 23:12	Start: 10 End: 9	Start: 1 End: 0	Start: 0 End: 0	Start: 1 End: 1	NB	No Crossings	No Crossings	No Crossings
						SB	Ten bats (nine C.pip and one U.pip) were seen crossing the A9 from the east to the west.	Ten bats crossed over the A9 between 21:22 (10 mins after sunset) and 22:05 (53 mins after sunset).	Under: 0 Over: 9 C.pip, 1 U.pip Total Bats: 10

OS grid reference: Dalraddy to Slochd Crossing CP08 (TN310) NH 89282 13687									
Habitat Description: Corrugated steel arch carrying footpath under A9. Wooded nature walk to south with young broadleaved trees and new build houses with landscaped gardens to north.									
Date Sunset/ Sunrise Time (24hr clock)	**Start and End Times (24hr clock)**	**Weather Conditions**				**Location either side of A9 Northbound (NB) Southbound (SB)**	**Comments on Behaviour**	**Comments on Timings (e.g. mins before/after sunset/sunrise)**	**Bats Crossing the Road[4]**
		Temp (°C)	**Cloud (0 – 8)[5]**	**Rain (0 – 5)[6]**	**Wind (0 – 12)[7]**				
23 Aug 16 Sunrise: 05:59	Start: 03:59 End: 06:14	Start: 9 End: 11	Start: 8 End: 8	Start: 0 End: 0	Start: 0 End: 0	NB	One S.pip and one C.pip were seen crossing over the A9 from the west to the east.	One S.pip crossed over the A9 at 05:16 (43 mins before sunrise), and the one C.pip crossed over the A9 at 05:38 (19 mins before sunrise).	Under: 0 Over: 1 C.pip, 1 S.pip Total Bats: 2
						SB	One C.pip crossed the A9 from the east to the west.	One C.pip crossed over the A9 at 05:16 (43 mins after sunrise).	Under: 0 Over: 1 C.pip Total Bats: 1
6 Sep 16 Sunrise: 06:28	Start: 04:28 End: 06:43	Start: 18 End: 18	Start: 8 End: 8	Start: 0-1 End: 0-1	Start: 0 End: 0	NB	One C.pip crossed over the A9 from the west to the east.	One C.pip crossed the A9 at 06:01 (27 mins before sunrise).	Under: 0 Over: 1 C.pip Total Bats: 1
						SB	Three bats (two C.pip and one S.pip) flew over the A9 from the east to the west.	Three bats crossed over the A9 at 05:49 (39 mins before sunrise), 05:57 (31 mins before sunrise) and 06:04 (24 mins before sunrise).	Under: 0 Over: 2 C.pip, 1 S.pip Total Bats: 3
19 Sep 16 Sunset: 19:22	Start: 19:02 End: 21:22	Start: 14 End: 10	Start: 6 Start: 6	Start: 0 End: 0	Start: 0 End: 0	NB	No Crossings	No Crossings	No Crossings
						SB	Nine bats (eight C.pip and one S.pip) were seen to cross the A9 from the east to the west.	Nine bats crossed over the A9 between 19:24 (2 mins after sunset) and 19:59 (37 mins after sunset).	Under: 0 Over: 8 C.pip, 1 S.pip Total Bats: 9

Table 1.16: Crossing Location CP10 - Survey Results

OS grid reference: Dalraddy to Slochd Crossing CP10 (TN316) NH 89353 13949									
Habitat Description: Corrugated steel underpass taking pedestrian path under A9. Vegetation, scrub and young woodland on either side.									
Date Sunset/ Sunrise Time (24hr clock)	**Start and End Times (24hr clock)**	**Weather Conditions**				**Location either side of A9 Northbound (NB) Southbound (SB)**	**Comments on Behaviour**	**Comments on Timings (e.g. mins before/after sunset/sunrise)**	**Bats Crossing the Road[4]**
		Temp (°C)	**Cloud (0 – 8)[5]**	**Rain (0 – 5)[6]**	**Wind (0 – 12)[7]**				
C.pip = common pipistrelle; S.pip = soprano pipistrelle; U.pip = unknown pipistrelle; Myt = Myotis; BLE = brown long-eared; Unk = unknown bat species									
24 May 16 Sunrise: 04:39	Start: 02:39 End: 04:54	Start: 8 End: 6	Start: 8 End: 8	Start: 0 End:	Start: 0 End: 1	NB	One Unk was seen to fly over the A9 from the west to the east.	One Unk crossed over the A9 at 04:09 (20 mins before sunrise).	Under: 0 Over: 1 Unk Total Bats: 1

OS grid reference: Dalraddy to Slochd Crossing CP10 (TN316) NH 89353 13949									
Habitat Description: Corrugated steel underpass taking pedestrian path under A9. Vegetation, scrub and young woodland on either side.									
Date Sunset/ Sunrise Time (24hr clock)	Start and End Times (24hr clock)	Weather Conditions				Location either side of A9 Northbound (NB) Southbound (SB)	Comments on Behaviour	Comments on Timings (e.g. mins before/after sunset/sunrise)	Bats Crossing the Road[4]
		Temp (°C)	Cloud (0 – 8)[5]	Rain (0 – 5)[6]	Wind (0 – 12)[7]				
				0		SB	No Crossings	No Crossings	No Crossings
07 Jun 16 Sunset: 22:07	Start: 21:47 End: 22:07	Start: 15 End: 13	Start: 8 End: 8	Start: 0 End: 0	Start: 0 End: 0	NB	No Crossings	No Crossings	No Crossings
						SB	No Crossings	No Crossings	No Crossings
06 Jul 16 Sunrise: 04:30	Start: 02:30 End: 04:45	Start: 9 End: 7	Start: 2 End: 7	Start: 0 End: 0	Start: 0 End: 0	NB	No Crossings	No Crossings	No Crossings
						SB	No Crossings	No Crossings	No Crossings
09 Aug 16 Sunset: 21:10	Start: 20:50 End: 23:10	Start: 7 End: 6	Start: 1 End: 3	Start: 0 End: 0	Start: 1 End: 0	NB	Two C.pip were seen crossing the A9 from the west to the east.	Two C.pip crossed over the A9 at 21:58 (48 mins after sunset) and 22:11 (61 mins aftersunset).	Under: 0 Over: 2 C.pip Total Bats: 2
						SB	One S.pip crossed the A9 east to west (and then back again).	One S.pip crossed over the A9 at 21:53 (43 mins after sunset).	Under: 0 Over: 1 S.pip Total Bats: 1
21 Sep 16 Sunrise: 06:59	Start: 04:59 End: 07:14	Start: 11 End: 9	Start: 3 End: 5	Start: 0 End: 0	Start: 1 End: 3	NB	One C.pip was observed south of the surveyor and crossed over the A9 from the west to the east.	One C.pip crossed over the A9 at 06:10 (49 mins before sunrise).	Under: 0 Over: 1 C.pip Total Bats: 1
						SB	No Crossings	No Crossings	No Crossings

Table 1.17: Crossing Location CP11 - Survey Results

OS grid reference: Dalraddy to Slochd Crossing CP11 (TN564) NH 89676 14725									
Habitat Description: Corrugated steel underpass in livestock grazed field. Small watercourse adjacent and mature trees to the east with large area of woodland to the west.									
Date Sunset/ Sunrise Time (24hr clock)	Start and End Times (24hr clock)	Weather Conditions				Location either side of A9 Northbound (NB) Southbound (SB)	Comments on Behaviour	Comments on Timings (e.g. mins before/after sunset/sunrise)	Bats Crossing the Road[4]
		Temp (°C)	Cloud (0 – 8)[5]	Rain (0 – 5)[6]	Wind (0 – 12)[7]				
C.pip = common pipistrelle; S.pip = soprano pipistrelle; U.pip = unknown pipistrelle; Myt = Myotis; BLE = brown long-eared; Unk = unknown bat species									
25 May 16 Sunset: 21:48	Start: 21:28 End: 23:48	Start: 6 End: 5	Start: 8 End: 8	Start: 1 End:	Start: 2 End:	NB	One C.pip was seen crossing the A9 west to east.	One C.pip crossed over the A9 at 22:00 (12 mins after sunset).	Under: 0 Over: 1 C.pip Total Bats: 1

OS grid reference: Dalraddy to Slochd Crossing CP11 (TN564) NH 89676 14725									
Habitat Description: Corrugated steel underpass in livestock grazed field. Small watercourse adjacent and mature trees to the east with large area of woodland to the west.									
Date Sunset/ Sunrise Time (24hr clock)	**Start and End Times (24hr clock)**	**Weather Conditions**				**Location either side of A9** Northbound (NB) Southbound (SB)	**Comments on Behaviour**	**Comments on Timings (e.g. mins before/after sunset/sunrise)**	**Bats Crossing the Road[4]**
		Temp (°C)	**Cloud (0 – 8)[5]**	**Rain (0 – 5)[6]**	**Wind (0 – 12)[7]**				
				1	0	SB	No Crossings	No Crossings	No Crossings
22 Jun 16 Sunrise: 04:19	Start: 02:19 End: 04:34	Start: 14 End: 13	Start: 8 End: 8	Start: 0 End: 0	Start: 1 End: 2	NB	A single bat was recorded during the survey; the S.pip crossed the A9 through the underpass from the west to the east.	One S.pip crossed under the A9 via the underpass at 02:57 (82 mins before sunrise).	Under: 1 S.pip Over: 0 Total Bats: 1
						SB	No Crossings	No Crossings	No Crossings
20 Jul 16 Sunset: 21:51	Start: 21:31 End: 23:51	Start: 16 End: 14	Start: 8 End: 8	Start: 0 End: 0	Start: 0 End: 0	NB	No Crossings	No Crossings	No Crossings
						SB	Three bats were recorded, with one U.pip crossing over the A9 from the east to the west. One Myotis sp. crossed the A9 through the underpass (only seen by the surveyor on the west side), while a second Myotis sp. flew into the underpass (east to west) and back out again (to east).	One U.pip crossed over the A9 at 21:52 (1 min after sunset), and two Myotis sp. crossed under the A9 via the underpass at 23:00 (69 mins after sunset) and at 23:32 (101 mins after sunset).	Under: 2 Myotis sp. Over: 1 U.pip Total Bats: 3
21 Jul 16 Sunrise: 03:08	Start: 02:53 End: 05:08	Start: 13 End: 11	Start: 8 End: 8	Start: 0 End: 0	Start: 0 End: 0	NB	One BLE bat flew through the underpass west to east (only seen by the surveyor on the east side).	One BLE crossed under the A9 via the underpass at 03:28 (20 mins after sunrise).	Under: 1 BLE Over: 0 Total Bats: 1
						SB	One Myotis sp. was seen flying from the east to the west through the underpass (and then back again) by the surveyor on the west side.	One Myotis sp. crossed under the A9 via the underpass at 03:20 (12 mins after sunrise).	Under: 1 Myotis sp. Over: 0 Total Bats: 1
09 Aug 16 Sunset: 21:10	Start: 20:50 End: 23:10	Start: 7 End: 6	Start: 1 End: 3	Start: 0 End: 0	Start: 1 End: 0	NB	No Crossings	No Crossings	No Crossings
						SB	No Crossings	No Crossings	No Crossings
21 Sep 16 Sunrise: 06:59	Start: 04:59 End: 07:14	Start: 11 End: 9	Start: 7 End: 5	Start: 0 End: 0	Start: 0 End: 3	NB	No Crossings	No Crossings	No Crossings
						SB	No Crossings	No Crossings	No Crossings

Table 1.18: Crossing Location CP13 - Survey Results

OS grid reference: Dalraddy to Slochd Crossing CP13 (TN210) NH 90558 17014									
Habitat Description: Access road on either side of the A9 that passes through a large area of coniferous woodland to the west and open grassland to the east. There is a gap in the trees (trees are along the verges of the A9) of approximately 5m on either side of the A9.									
Date Sunset/ Sunrise Time (24hr clock)	**Start and End Times (24hr clock)**	**Weather Conditions**				**Location either side of A9 Northbound (NB) Southbound (SB)**	**Comments on Behaviour**	**Comments on Timings (e.g. mins before/after sunset/sunrise)**	**Bats Crossing the Road[4]**
		Temp (°C)	**Cloud (0 – 8)[5]**	**Rain (0 – 5)[6]**	**Wind (0 – 12)[7]**				
C.pip = common pipistrelle; S.pip = soprano pipistrelle; U.pip = unknown pipistrelle; Myt = Myotis; BLE = brown long-eared; Unk = unknown bat species									
17 May 16 Sunset 21:34	Start: 21:13 End: 23:34	Start: 11 End: 12	Start: 8 End: 8	Start: 0 End: 0	Start: 1 End: 1	NB	No Crossings	No Crossings	No Crossings
						SB	No Crossings	No Crossings	No Crossings
21 Jun 16 Sunrise: 04:19	Start: 02:19 End: 04:34	Start: 10 End: 10	Start: 7 Start: 8	Start: 0 End: 0	Start: 1 End: 1	NB	No Crossings	No Crossings	No Crossings
						SB	One C.pip crossed the road from the east to the west.	One C.pip crossed over the A9 at 03:15 (64 mins before sunrise).	Under: 0 Over: 1 C.pip Total Bats: 1
12 Jul 16 Sunset: 22:03	Start: 21:43 End: 00:03	Start: 11 End: 11	Start: 8 End: 8	Start: 0 End: 0	Start: 1 End: 1	NB	Three C.pip were seen crossing the A9 from the west to the east.	Three C.pip crossed over the A9 at 22:56 (50 mins after sunset), 23:22 (79 mins after sunset) and 23:30 (87 mins after sunset).	Under: 0 Over: 3 C.pip Total Bats: 3
						SB	Three C.pip were seen crossing the A9 from the east to the west.	Three C.pip crossed over the A9 at 23:04 (61 mins after sunset), 23:30 (87 mins after sunset) and 00:02 (119 mins after sunset).	Under: 0 Over: 3 C.pip Total Bats: 3
09 Aug 16 Sunrise: 05:30	Start: 03:30 End: 05:45	Start: 8 End: 7	Start: 8 End: 8	Start: 0 End: 0	Start: 0 End: 1	NB	No Crossings	No Crossings	No Crossings
						SB	No Crossings	No Crossings	No Crossings
05 Sep 16 Sunset: 20:00	Start: 19:40 End: 22:00	Start: 17 End: 16	Start: 1 End: 0	Start: 0 End: 0	Start: 0 End: 0	NB	One S.pip crossed over the A9 from the west to the east, north of the surveyors.	One S.pip crossed over the A9 at 20:45 (45 mins after sunset).	Under: 0 Over: 1 S.pip Total Bats: 1
						SB	No Crossings	No Crossings	No Crossings

Table 1.19: Crossing Location CP12 - Survey Results

OS grid reference: Dalraddy to Slochd Crossing CP12 (TN228) NH 90082 15711									
Habitat Description: Access road on either side of the A9 that passes through large areas of coniferous woodland to the west and open grassland to the east. There is a gap in the trees (trees along the verges of the A9) of approximately 5m on either side of the A9.									
Date Sunset/ Sunrise Time (24hr clock)	**Start and End Times (24hr clock)**	**Weather Conditions**				**Location either side of A9 Northbound (NB) Southbound (SB)**	**Comments on Behaviour**	**Comments on Timings (e.g. mins before/after sunset/sunrise)**	**Bats Crossing the Road[4]**
		Temp (°C)	**Cloud (0 – 8)[5]**	**Rain (0 – 5)[6]**	**Wind (0 – 12)[7]**				
C.pip = common pipistrelle; S.pip = soprano pipistrelle; U.pip = unknown pipistrelle; Myt = Myotis; BLE = brown long-eared; Unk = unknown bat species									
17 May 16 Sunset: 21:34	Start: 21:14 End: 23:34	Start: 12 End: 9	Start: 8 End: 8	Start: 0 End: 0	Start: 1 End: 0	NB	Two bats (C.pip and possible Myotis sp.) crossed the A9 from the west to the east.	Two bats crossed over the A9 at 21:39 (5 mins after sunset) and 23:05 (91 mins after sunset).	Under: 0 Over: 1 C.pip, 1 possible Myotis sp. Total Bats: 2
						SB	Four bats (one Unk and three C.pip) were observed crossing the road from the east to the west.	Four bats crossed over the A9 at 21:37 (3 mins after sunset), 22:14 (40 mins after sunset), 22:58 (84 mins after sunset) and 23:18 (104 mins after sunset).	Under: 0 Over: 3 C.pip, 1 U.pip Total Bats: 4
21 Jun 16 Sunrise: 04:19	Start: 02:19 End: 04:34	Start: 10 End: 10	Start: 7 End: 8	Start: 0 End: 0	Start: 1 End: 1	NB	No Crossings	No Crossings	No Crossings
						SB	No Crossings	No Crossings	No Crossings
12 Jul 16 Sunset: 22:03	Start: 21:43 End: 00:03	Start: 12 End: 11	Start: 7 End: 7	Start: 0 End: 0	Start: 1 End: 1	NB	Two bats (U.pip and S.pip) crossed the A9 from the west to the east.	Two bats crossed over the A9 at 23:21 (78 mins after sunset) and at 00:03 (120 mins after sunset, the end of the survey).	Under: 0 Over: 1 S.pip, 1 U.pip Total Bats: 2
						SB	No Crossings	No Crossings	No Crossings
09 Aug 16 Sunrise: 05:30	Start: 03:30 End: 05:45	Start: 8 End: 7	Start: 8 End: 8	Start: 0 End: 0	Start: 1 End: 1	NB	No Crossings	No Crossings	No Crossings
						SB	No Crossings	No Crossings	No Crossings
05 Sep 16 Sunset: 20:00	Start: 19:40 End: 22:00	Start: 17 End: 16	Start: 1 End: 0	Start: 0 End: 0	Start: 0 End: 0	NB	No Crossings	No Crossings	No Crossings
						SB	One Unk crossed the A9 from the east to the west just north of the crossing point.	One Unk crossed over the A9 at 21:00 (60 mins after sunset).	Under: 0 Over: 1 Unk Total Bats: 1

Table 1.20: Crossing Location CP14 - Survey Results

OS grid reference: Dalraddy to Slochd Crossing CP14 (TN259) NH 91074 18745									
Habitat Description: Track and driveway from house leading to A9. On west is broadleaved woodland with conifer plantation beyond and on east is birch woodland and beyond that railway running parallel to A9.									
Date Sunset/ Sunrise Time (24hr clock)	**Start and End Times (24hr clock)**	**Weather Conditions**				**Location either side of A9** **Northbound (NB)** **Southbound (SB)**	**Comments on Behaviour**	**Comments on Timings (e.g. mins before/after sunset/sunrise)**	**Bats Crossing the Road[4]**
		Temp (ºC)	**Cloud (0 – 8)[5]**	**Rain (0 – 5)[6]**	**Wind (0 – 12)[7]**				
C.pip = common pipistrelle; S.pip = soprano pipistrelle; U.pip = unknown pipistrelle; Myt = Myotis; BLE = brown long-eared; Unk = unknown bat species									
First survey scheduled for May was not conducted due to poor weather conditions (i.e. low temperatures). Therefore only one survey was conducted in May 2016.									
17 May 16 Sunrise: 04:51	Start: 02:33 End: 05:06	Start: 10 End: 9	Start: 8 End: 8	Start: 0 End: 0	Start: 0 End: 1	NB	Four bats (three S.pip and one C.pip) were seen to cross the A9 from the west to the east. One S.pip crossed at the crossing point and the other three bats crossed further south. All flew above the height of adjacent trees (at least 10m above the ground).	Four bats crossed over the A9 between 04:14 (37 mins before sunrise) and 04:21 (30 mins before sunrise).	Under: 0 Over: 1 C.pip, 3 S.pip Total Bats: 4
						SB	One unknown bat species (possible Myotis sp.) was seen crossing the A9 from the east to the west to the south of the surveyor.	Unknown bat species crossed over the A9 at 04:06 (45 mins before sunrise).	Under: 0 Over: 1 Unk. bat Total Bats: 1
06 Jun 16 Sunset: 22:06	Start: 21:45 End: 00:06	Start: 17 End: 12	Start: 5 End: 5	Start: 0 End: 0	Start: 1 End: 1	NB	One C.pip crossed the A9 from the west to the east. A Myotis sp. bat potentially crossed the road as both surveyors recorded it, but the direction was unknown	One C.pip crossed over the A9 at 23:25 (79 mins after sunset).	Under: 0 Over: 1 C.pip Total Bats: 1
						SB	No Crossings	No Crossings	No Crossings
17 Jun 16 Sunrise 04:19	Start: 02:19 End: 04:34	Start: 9 End: 9	Start: 8 End: 8	Start: 1 End: 1	Start: 2 End: 2	NB	No Crossings	No Crossings	No Crossings
						SB	No Crossings	No Crossings	No Crossings
05 Jul 16 Sunset: 22:01	Start: 21:51 End: 00:11	Start: 11 End: 9	Start: 8 End: 8	Start: 0 End: 0	Start: 0 End: 1	NB	One S.pip was confirmed crossing the A9 from the west to the east, south of the crossing point.	One S.pip crossed over the A9 at 22:17 (16 mins after sunset).	Under: 0 Over: 1 S.pip Total Bats: 1
						SB	No Crossings	No Crossings	No Crossings
18 Jul 16 Sunset: 21:55	Start: 21:35 End: 23:55	Start: 17 End: 15	Start: 2 End: 5	Start: 0 End: 0	Start: 0 End: 0	NB	One S.pip was seen crossing the A9 from the west to the east (and then back, east to west).	One S.pip crossed over the A9 at 23:37 (92 mins after sunset).	Under: 0 Over: 1 S.pip Total Bats: 1
						SB	No Crossings	No Crossings	No Crossings
10 Aug 16 Sunrise: 05:32	Start: 03:32 End: 05:47	Start: 2 End: 0	Start: 0 End: 0	Start: 0 End: 0	Start: 0 End: 0	NB	No Crossings	No Crossings	No Crossings
						SB	No Crossings	No Crossings	No Crossings

OS grid reference: Dalraddy to Slochd Crossing CP14 (TN259) NH 91074 18745									
Habitat Description: Track and driveway from house leading to A9. On west is broadleaved woodland with conifer plantation beyond and on east is birch woodland and beyond that railway running parallel to A9.									
Date Sunset/ Sunrise Time (24hr clock)	**Start and End Times (24hr clock)**	**Weather Conditions**				**Location either side of A9** Northbound (NB) Southbound (SB)	**Comments on Behaviour**	**Comments on Timings (e.g. mins before/after sunset/sunrise)**	**Bats Crossing the Road[4]**
		Temp (°C)	**Cloud (0 – 8)[5]**	**Rain (0 – 5)[6]**	**Wind (0 – 12)[7]**				
22 Aug 16 Sunset: 20:38	Start: 20:17 End: 22:38	Start: 14 End: 11	Start: 6 End: 6	Start: 0 End: 0	Start: 3 End: 0	NB	Two S.pip bats crossed the A9 from the west to the east.	Two S.pip crossed over the A9 at 21:14 (36 mins after sunset) and 21:26 (48 mins after sunset).	Under: 0 Over: 2 S.pip Total Bats: 2
						SB	Two S.pip bats crossed the A9 from the east to the west.	Two S.pip crossed over the A9 at 21:07 (29 mins after sunset) and 21:33 (55 mins after sunset).	Under: 0 Over: 2 S.pip Total Bats: 2
20 Sep 16 Sunset: 06:57	Start: 04:57 End: 07:12	Start: 8 End: 7	Start: 7 End: 3	Start: 0 End: 0	Start: 0 End: 0	NB	One S.pip crossed the A9 from the west to the east.	One S.pip crossed over the A9 at 06:09 (48 mins befire sunrise).	Under: 0 Over: 1 S.pip Total Bats: 1
						SB	One S.pip and one C.pip were recorded during the survey. Both were seen crossing the A9 from the east to the west.	C.pip crossed over the A9 at 06:12 (45 mins before sunrise) and S.pip crossed at 06:35 (22 mins before sunrise).	Under: 0 Over: 1 S.pip, C.pip Total Bats: 2

Table 1.21: Crossing Location CP15 - Survey Results

OS grid reference: Dalraddy to Slochd Crossing CP15 (TN260) NH 91029 19516									
Habitat Description: Track leading toward A9 through clearings in trees on both sides. Railway parallel to A9 at east.									
Date Sunset/ Sunrise Time (24hr clock)	**Start and End Times (24hr clock)**	**Weather Conditions**				**Location either side of A9** Northbound (NB) Southbound (SB)	**Comments on Behaviour**	**Comments on Timings (e.g. mins before/after sunset/sunrise)**	**Bats Crossing the Road[4]**
		Temp (°C)	**Cloud (0 – 8)[5]**	**Rain (0 – 5)[6]**	**Wind (0 – 12)[7]**				
C.pip = common pipistrelle; S.pip = soprano pipistrelle; U.pip = unknown pipistrelle; Myt = Myotis; BLE = brown long-eared; Unk = unknown bat species									
First survey scheduled for May was not conducted due to poor weather conditions (i.e. low temperatures). Therefore only one survey was conducted in May 2016.									
17 May 16 Sunrise: 04:51	Start: 02:52 End: 05:06	Start: 13 End: 10	Start: 8 End: 8	Start: 0 End: 0	Start: 0 End: 0	NB	No Crossings	No Crossings	No Crossings
						SB	One S.pip crossed from the east to the west above the height of the tree canopy.	One S.pip crossed over the A9 at 04:26 (25 mins before sunrise).	Under: 0 Over: 1 S.pip Total Bats: 1
06 Jun 16 Sunset: 22:06	Start: 21:46 End: 00:06	Start: 17 End: 12	Start: 5 End: 5	Start: 0 End: 0	Start: 1 End: 1	NB	No Crossings	No Crossings	No Crossings
						SB	Two bats (one S.pip and one probable Myotis sp.) crossed the A9 from the east to the west.	Two bats crossed over the A9 at 22:55 (49 mins after sunset) and 23:19 (73 mins after sunset).	Under: 0 Over: 1 S.pip, 1 probable Myotis sp.

OS grid reference: Dalraddy to Slochd Crossing CP15 (TN260) NH 91029 19516									
Habitat Description: Track leading toward A9 through clearings in trees on both sides. Railway parallel to A9 at east.									
Date Sunset/ Sunrise Time (24hr clock)	**Start and End Times (24hr clock)**	**Weather Conditions**				**Location either side of A9** Northbound (NB) Southbound (SB)	**Comments on Behaviour**	**Comments on Timings (e.g. mins before/after sunset/sunrise)**	**Bats Crossing the Road[4]**
		Temp (°C)	**Cloud (0 – 8)[5]**	**Rain (0 – 5)[6]**	**Wind (0 – 12)[7]**				
									Total Bats: 2
17 Jun 16 Sunrise: 04:19	Start: 02:19 End: 04:34	Start: 9 End: 9	Start: 8 End: 8	Start: 1 End: 1	Start: 2 End: 2	NB	No Crossings	No Crossings	No Crossings
						SB	No Crossings	No Crossings	No Crossings
05 Jul 16 Sunset: 22:11	Start: 21:51 End: 00:11	Start: 11 End: 9	Start: 8 End: 8	Start: 0 End: 0	Start: 1 End: 1	NB	One C.pip crossed the A9 from the west to the east.	One C.pip crossed over the A9 at 22:37.	Under: 0 Over: 1 C.pip Total Bats: 1
						SB	One potential Nyctalus sp. crossed the A9 from the east to the west (as seen by the surveyor on the west side).	One potential Nyctalus sp. crossed over the A9 at 23:29 83 mins after sunset).	Under: 0 Over: 1 potential Nyctalus sp. Total Bats: 1
18 Jul 16 Sunset: 21:55	Start: 21:35 End: 23:55	Start: 17 End: 15	Start: 2 End: 5	Start: 0 End: 0	Start: 0 End: 0	NB	Five bats (four C.pip and one S.pip) were seen crossing the A9 from the west to the east.	Five bats crossed over the A9 between 22:21 (26 mins after sunset) and 22:35 (40 mins after sunset).	Under: 0 Over: 4 C.pip, 1 S.pip Total Bats: 5
						SB	Seven bats (four C.pip, two S.pip and one BLE) were seen crossing the A9 from the east to the west.	Seven bats crossed over the A9 at 22:32 (37 mins after sunset) and between 22:47 (52 mins after sunset) and 23:38 (103 mins after sunset).	Under: 0 Over: 4 C.pip, 2 S.pip, 1 BLE Total Bats: 7
19 Jul 16 Sunrise: 04:49	Start: 02:49 End: 05:04	Start: 16 End: 15	Start: 8 End: 8	Start: 0 End: 0	Start: 4 End: 4	NB	One S.pip and three C.pip were seen crossing the A9 from the west to the east.	Four bats crossed over the A9 at 03:41 (68 mins before sunrise), 03:44 (two bats, 65 mins before sunrise) and 03:51 (58 mins before sunrise).	Under: 0 Over: 3 C.pip, 1 S.pip Total Bats: 4
						SB	One S.pip was seen crossing the A9 from SB to NB.	One S.pip crossed over the A9 at 03:51 (58 mins before sunrise).	Under: 0 Over: 1 S.pip Total Bats: 1
10 Aug 16 Sunrise: 05:32	Start: 03:32 End: 05:47	Start: 2 End: 0	Start: 0 End: 0	Start: 0 End: 0	Start: 0 End: 0	NB	No Crossings	No Crossings	No Crossings
						SB	No Crossings	No Crossings	No Crossings
22 Aug 16	Start: 20:17	Start: 14	Start: 6	Start: 0	Start: 3	NB	Two bats (two S.pip) were seen crossing the A9 from the west to the east.	Two S.pip crossed at 21:06 (28 mins after sunset) and 21:14 (36 mins after sunset).	Under: 0 Over: 2 S.pip

OS grid reference: Dalraddy to Slochd Crossing CP15 (TN260) NH 91029 19516									
Habitat Description: Track leading toward A9 through clearings in trees on both sides. Railway parallel to A9 at east.									
Date Sunset/ Sunrise Time (24hr clock)	**Start and End Times (24hr clock)**	**Weather Conditions**				**Location either side of A9 Northbound (NB) Southbound (SB)**	**Comments on Behaviour**	**Comments on Timings (e.g. mins before/after sunset/sunrise)**	**Bats Crossing the Road[4]**
		Temp (°C)	**Cloud (0 – 8)[5]**	**Rain (0 – 5)[6]**	**Wind (0 – 12)[7]**				
Sunset: 20:38	End: 22:38	End: 11	End: 6	End: 0	End: 0				Total Bats: 2
						SB	Two C.pip were observed crossing the A9 from the east to the west.	Two C.pip crossed over the A9 at 21:18 (40 mins after sunset) and 22:00 (82 mins after sunset).	Under: 0 Over: 2 C.pip Total Bats: 2
20 Sep 16 Sunrise: 06:57	Start: 04:57 End: 07:12	Start: 8 End: 7	Start: 7 End: 3	Start: 0 End: 0	Start: 1 End: 1	NB	No Crossings	No Crossings	No Crossings
						SB	No Crossings	No Crossings	No Crossings

Table 1.22: Crossing Location CP16 - Survey Results

OS grid reference: Dalraddy to Slochd Crossing CP16 (TN261) NH 90910 20125									
Habitat Description: No track or flight corridor on east (south bound) side.									
Date Sunset/ Sunrise Time (24hr clock)	**Start and End times (24hr clock)**	**Weather Conditions**				**Location either side of A9 Northbound (NB) Southbound (SB)**	**Comments on Behaviour**	**Comments on Timings (e.g. mins before/after sunset/sunrise)**	**Bats Crossing the Road[4]**
		Temp (°C)	**Cloud (0 – 8)[5]**	**Rain (0 – 5)[6]**	**Wind (0 – 12)[7]**				
C.pip = common pipistrelle; S.pip = soprano pipistrelle; U.pip = unknown pipistrelle; Myt = Myotis; BLE = brown long-eared; Unk = unknown bat species									
First survey scheduled for May was not conducted due to poor weather conditions (i.e. low temperatures). Therefore only one survey was conducted in May 2016.									
16 May 16 Sunset: 21:32	Start: 21:12 End: 23:32	Start: 11 End: 9	Start: 8 End: 8	Start: 0 End: 0	Start: 0 End: 1	NB	No Crossings	No Crossings	No Crossings
07 Jun 16 Sunrise: 04:26	Start: 02:26 End: 04:41	Start: 9 End: 10	Start: 8 End: 8	Start: 0 End: 0	Start: 0 End: 2	NB	No Crossings	No Crossings	No Crossings
20 Jun 16 Sunset: 22:15	Start: 21:55 End: 00:15	Start: 13 End: 10	Start: 7 End: 8	Start: 0 End: 0	Start: 1 End: 1	NB	No Crossings	No Crossings	No Crossings
04 Jul 16 Sunset: 22:11	Start: 21:51 End: 00:11	Start: 11 End: 10	Start: 8 End: 8	Start: 0 End: 0	Start: 1 End: 1	NB	No Crossings	No Crossings	No Crossings
05 Jul 16 Sunrise: 04:29	Start: 02:29 End: 04:44	Start: 7 End: 7	Start: 8 End: 8	Start: 0 End: 0	Start: 1 End: 1	NB	No Crossings	No Crossings	No Crossings
20 Jul 16	Start: 02:51	Start: 18	Start: 8	Start: 0	Start: 0	NB	No Crossings	No Crossings	No Crossings

OS grid reference: Dalraddy to Slochd Crossing CP16 (TN261) NH 90910 20125									
Habitat Description: No track or flight corridor on east (south bound) side.									
Date Sunset/ Sunrise Time (24hr clock)	**Start and End times (24hr clock)**	**Weather Conditions**				**Location either side of A9 Northbound (NB) Southbound (SB)**	**Comments on Behaviour**	**Comments on Timings (e.g. mins before/after sunset/sunrise)**	**Bats Crossing the Road[4]**
		Temp (°C)	**Cloud (0 – 8)[5]**	**Rain (0 – 5)[6]**	**Wind (0 – 12)[7]**				
Sunrise: 04:51	End: 04:47	End: 17	End: 8	End: 5	End: 0				

Table 1.23: Crossing Location CP17 - Survey Results

OS grid reference: Dalraddy to Slochd Crossing CP17 (TN262) NH 90783 20662									
Habitat Description: Track leading to A9 through coniferous plantation on both east and west of the carriageway. Gap approximately 5m wide.									
Date Sunset. Sunrise Time (24hr clock)	**Start and End Times (24hr clock)**	**Weather Conditions**				**Location either side of A9 Northbound (NB) Southbound (SB)**	**Comments on Behaviour**	**Comments on Timings (e.g. mins before/after sunset/sunrise)**	**Bats Crossing the Road[4]**
		Temp (°C)	**Cloud (0 – 8)[5]**	**Rain (0 – 5)[6]**	**Wind (0 – 12)[7]**				
C.pip = common pipistrelle; S.pip = soprano pipistrelle; U.pip = unknown pipistrelle; Myt = Myotis; BLE = brown long-eared; Unk = unknown bat species									
First survey scheduled for May was not conducted due to poor weather conditions (i.e. low temperatures). Therefore only one survey was conducted in May 2016.									
16 May 16 Sunset: 21:32	Start: 21:12 End: 23:32	Start: 11 End: 9	Start: 8 End: 8	Start: 0 End: 0	Start: 0 End: 0	NB	Two C.pip crossed the A9 from the west to the east.	Two C.pip crossed over the A9 at 21:46 (14 mins after sunset) and 23:19 (107 mins after sunset).	Under: 0 Over: 2 C.pip Total Bats: 2
						SB	No Crossings	No Crossings	No Crossings
07 Jun 16 Sunrise: 04:26	Start: 02:26 End: 04:41	Start: 9 End: 10	Start: 8 End: 8	Start: 0 End: 0	Start: 1 End: 1	NB	No Crossings	No Crossings	No Crossings
						SB	No Crossings	No Crossings	No Crossings
20 Jun 16 Sunset: 22:15	Start: 21:55 End: 00:15	Start: 13 End: 10	Start: 7 End: 8	Start: 0 End: 0	Start: 1 End: 1	NB	Two bats (one C.pip, one S.pip) were seen crossing the A9 from the west to the east.	Two bats crossed over the A9 at 23:06 (51 mins after sunset) and 23:23 (68 mins after sunset).	Under: 0 Over: 1 C.pip, 1 S.pip Total Bats: 2
						SB	No Crossings	No Crossings	No Crossings
04 Jul 16 Sunset: 22:11	Start: 21:51 End: 00:11	Start: 11 End: 10	Start: 8 End: 8	Start: 0 End: 0	Start: 1 End: 1	NB	Two S.pip were seen crossing the A9 from the west to the east.	The two S.pip crossed over the A9 at 23:16 (65 mins after sunset) and 23:18 (67 mins after sunset).	Under: 0 Over: 2 S.pip Total Bats: 2
						SB	No Crossings	No Crossings	No Crossings
05 Jul 16 Sunrise: 04:29	Start: 02:29 End: 04:44	Start: 7 End: 7	Start: 8 End: 8	Start: 0 End: 0	Start: 1 End: 1	NB	No Crossings	No Crossings	No Crossings
						SB	No Crossings	No Crossings	No Crossings
20 Jul 16	Start: 02:51	Start:	Start:	Start:	Start:	NB	No Crossings	No Crossings	No Crossings

OS grid reference: Dalraddy to Slochd Crossing CP17 (TN262) NH 90783 20662									
Habitat Description: Track leading to A9 through coniferous plantation on both east and west of the carriageway. Gap approximately 5m wide.									
Date Sunset. Sunrise Time (24hr clock)	**Start and End Times (24hr clock)**	**Weather Conditions**				**Location either side of A9 Northbound (NB) Southbound (SB)**	**Comments on Behaviour**	**Comments on Timings (e.g. mins before/after sunset/sunrise)**	**Bats Crossing the Road[4]**
		Temp (°C)	**Cloud (0 – 8)[5]**	**Rain (0 – 5)[6]**	**Wind (0 – 12)[7]**				
Sunrise: 04:51	End: 04:35* (*survey ended early due to weather)	18 End: 17	8 End: 8	0 End: 5	0 End: 0	SB	No Crossings	No Crossings	No Crossings
10 Aug 16 Sunset: 21:08	Start: 20:48 End: 23:08	Start: 12 End: 10	Start: 8 End: 8	Start: 3 End: 2	Start: 1 End: 1	NB	No Crossings	No Crossings	No Crossings
						SB	No Crossings	No Crossings	No Crossings
20 Sep 16 Sunset: 19:19	Start: 18:59 End: 21:19	Start: 14 End: 13	Start: 1 End: 0	Start: 0 End: 0	Start: 1 End: 1	NB	No Crossings	No Crossings	No Crossings
						SB	No Crossings	No Crossings	No Crossings

OS grid reference: Dalraddy to Slochd Crossing CP22 (TN132) NH 86469 10010									
Habitat Description: Underpass – cattle creep with pasture both sides. Survey undertaken with a static detector.									
Date Sunset/ Sunrise time (24hr clock)	**Start and End Times (24hr clock)**	**Weather Conditions**				**Location either side of A9 Northbound (NB) Southbound (SB)**	**Comments on Behaviour**	**Comments on Timings (e.g. mins before/after sunset/sunrise)**	**Bats Crossing the Road**
		Temp (°C)	**Cloud (0 – 8)[9]**	**Rain (0 – 5)[10]**	**Wind (0 – 12)[11]**				
C.pip = common pipistrelle; S.pip = soprano pipistrelle; U.pip = unknown pipistrelle; Myt = Myotis; BLE = brown long-eared; Unk = unknown bat species									
25 May 16 Sunrise: 04:36	Start: 02:36 End: 04:51	Start: 6 End: 5	Start: 8 End: 8	Start: 0 End: 0	Start: 1 End: 1	Anabat placed in the centre of the culvert.	One C.pip was recorded within feature.	One C.pip crossed under the A9 via the underpass at 03:43 (53 mins before sunrise). Not confirmed crossing.	Under: 1 C.pip Over: 0 Total Bats: 1
21 Jun 16 Sunset: 22:15	Start: 22:00 End: 00:15	Start: 12 End: 13	Start: 7 End: 7	Start: 2 End: 0	Start: 1 End: 2	Anabat placed in the centre of the culvert.	No Crossings	No Crossings	No Crossings
22 Jul 16 Sunrise: 04:55	Start: 02:55 End: 05:10	Start: 16 End: 16	Start: 7 End: 5	Start: 0 End: 0	Start: 1 End: 0	No bats recorded	No Crossings	No Crossings	No Crossings

Table 1.24: Crossing Location CP22 - Survey Results

9 Cloud cover on a scale of 0-8 where 0 = Sky completely clear, 4 = Sky half cloudy, 8 = Sky completely cloudy.
10 Precipitation intensity on scale of 0-5 where 0 = Dry, 1 = Light drizzle, 2 = Light rain, 3 = Moderate rain, 4 = Heavy rain, 5 = Torrential rain.
11 Wind speed score of 0-12 against Beaufort scale where 0 = calm, 2 = light breeze, 4 = Moderate breeze, 6 = strong breeze, 7 = High wind, 9 = Strong gale, 12 = Hurricane.

OS grid reference: Dalraddy to Slochd Crossing CP22 (TN132) NH 86469 10010									
Habitat Description: Underpass – cattle creep with pasture both sides. Survey undertaken with a static detector.									
Date Sunset/ Sunrise time (24hr clock)	**Start and End Times (24hr clock)**	**Weather Conditions**				**Location either side of A9 Northbound (NB) Southbound (SB)**	**Comments on Behaviour**	**Comments on Timings (e.g. mins before/after sunset/sunrise)**	**Bats Crossing the Road**
		Temp (ºC)	**Cloud (0 – 8)[9]**	**Rain (0 – 5)[10]**	**Wind (0 – 12)[11]**				
23 Aug 16 Sunset: 22:33	Start: 20:18 End: 22:33	Start: 16 End: 13	Start: 8 End: 8	Start: 1 End: 0	Start: 0 End: 0	No bats recorded	No Crossings	No Crossings	No Crossings
22 Sep 16 Sunrise: 07:01	Start: 05:01 End: 07:16	Start: 13 End: 8	Start: 8 End: 8	Start: 0 End: 0	Start: 0 End: 0	No bats recorded	No Crossings	No Crossings	No Crossings

Table 1.25: Crossing Location CP30 - Survey Results

OS grid reference: Dalraddy to Slochd Crossing CP30 (TN136) NH 87629 10311									
Habitat Description: Underpass – cattle creep with pasture both sides.									
Date Sunset/ Sunrise time (24hr clock)	**Start and End Times (24hr clock)**	**Weather Conditions**				**Location either side of A9 Northbound (NB) Southbound (SB)**	**Comments on Behaviour**	**Comments on Timings (e.g. mins before/after sunset/sunrise)**	**Bats Crossing the Road**
		Temp (ºC)	**Cloud (0 – 8)[12]**	**Rain (0 – 5)[13]**	**Wind (0 – 12)[14]**				
C.pip = common pipistrelle; S.pip = soprano pipistrelle; U.pip = unknown pipistrelle; Myt = Myotis; BLE = brown long-eared; Unk = unknown bat species									
27 May 16 Sunrise: 04:33	Start: 02:33 End: 04:48	Start: 7 End: 6	Start: 7 End: 8	Start: 0 End: 0	Start: 0 End: 1	NB	No Crossings	No Crossings	No Crossings
						SB	Two C.pip and 3 S.pip observed crossing over the A9 south to north.	Two C.pip and 3 S.pip observed crossing over the A9 between 03:48 (45 mins before sunrise) and 04:08 (25 mins before sunrise).	Under: 0 Over: 2 C.pip, 3 S.pip Total Bats:5
23 Jun 16 Sunset: 22:15	Start: 22:00 End: 00:15	Start: 14 End: 13	Start: 6 End: 5	Start: 0 End: 0	Start: 0 End: 0	NB	Bats identified feeding outside the cattle creep then foraging inside repeatedly. One S. pip was identified crossing underneath the A9 north to south. Two C. pip and one S. pip were identified crossing over the A9 north to south.	Activity started at 22:49 (34 mins after sunset) and continued until 23:38 (83 mins after sunset). One S. pip was identified crossing underneath the A9 at 23:02 (47 mins after sunset). Two C. pip and one S. pip were identified crossing over the A9 between 23:16 (61 mins after sunset) and 23:38 (83 mins after sunset).	Under: 1 S.pip Over: 2 C.pip, 1 S.pip Total Bats: 4
						SB	Bats identified feeding outside the cattle creep then foraging inside repeatedly. Bats were also observed commuting along SB the treeline that runs parallel with the A9 from both directions. Five S.pip and one C.pip observed crossing under the A9 south to north. Additionally three S.pip were recorded crossing over the	Activity started at 22:34 (19 mins after sunset) and continued until 23:54 (99 mins after sunset). Five S.pip and one C.pip observed crossing under the A9 between 22:40 (35 mins after sunset) and 23:26 (71 mins after sunset). Additionally three S.pip were recorded crossing over the A9	Under: 5 S.pip, 1 C.pip Over: 3

12 Cloud cover on a scale of 0-8 where 0 = Sky completely clear, 4 = Sky half cloudy, 8 = Sky completely cloudy.
13 Precipitation intensity on scale of 0-5 where 0 = Dry, 1 = Light drizzle, 2 = Light rain, 3 = Moderate rain, 4 = Heavy rain, 5 = Torrential rain.
14 Wind speed score of 0-12 against Beaufort scale where 0 = calm, 2 = light breeze, 4 = Moderate breeze, 6 = strong breeze, 7 = High wind, 9 = Strong gale, 12 = Hurricane.

OS grid reference: Dalraddy to Slochd Crossing CP30 (TN136) NH 87629 10311									
Habitat Description: Underpass – cattle creep with pasture both sides.									
Date Sunset/ Sunrise time (24hr clock)	**Start and End Times (24hr clock)**	**Weather Conditions**				**Location either side of A9 Northbound (NB) Southbound (SB)**	**Comments on Behaviour**	**Comments on Timings (e.g. mins before/after sunset/sunrise)**	**Bats Crossing the Road**
		Temp (°C)	**Cloud (0 – 8)[12]**	**Rain (0 – 5)[13]**	**Wind (0 – 12)[14]**				
							A9 south to north.	between 22:47 (32 mins after sunset) and 23:09 (54 mins after sunset).	S.pip Total Bats: 9
22 Jul 16 Sunrise: 04:55	Start: 02:55 End: 05:10	Start: 16 End: 16	Start: 7 End: 5	Start: 0 End: 0	Start: 1 End: 0	NB	No Crossings	No Crossings	No Crossings
						SB	One C.pip observed crossing over the A9 south to north after foraging over culvert.	One C.pip crossed over the A9 at 04:00 (55 mins before sunrise). Activity finished at 04:07 (48 mins before sunrise).	Under: 0 Over: 1 C.pip Total Bats: 1
23 Aug 16 Sunset: 20:33	Start: 20:18 End: 22:33	Start: 16 End: 13	Start: 8 End: 8	Start: 1 End: 0	Start: 0 End: 0	NB	One C.pip and one S.pip were observed crossing over the A9 from south to north.	One C.pip crossed over the A9 at 21:35 (62 mins after sunset) and one S.pip crossed at 21;14 (41 mins after sunset). Activity started at 21:13 (55 mins after sunset) and continued until 22:06 (93 mins after sunset).	Under: 0 Over: 1 C.pip, 1 S.pip Total Bats: 2
						SB	Two C.pip observed crossing over the A9 south to north.	One C.pip crossed over the A9 at 21:13 (40 mins after sunset) and one C.pip crossed at 21:44 (71 mins after sunset). Activity started at 20:59 (26 mins after sunset) and continued to the end of survey.	Under: 0 Over: 2 C.pip Total Bats: 2
22 Sep 16 Sunrise: 07:01	Start: 05:01 End: 07:16	Start: 13 End: 8	Start: 8 End: 8	Start: 0 End: 0	Start: 0 End: 0	NB	No Crossings	No Crossings	No Crossings
						SB	No Crossings	No Crossings	No Crossings

Table 1.26: Crossing Location CP23 - Survey Results

OS grid reference: Dalraddy to Slochd Crossing CP23 (TN152) NH 86634 10126									
Habitat Description: Underpass – watercourse culvert with pasture both sides									
Date Sunset/ Sunrise Time (24hr clock)	**Start and End Times (24hr clock)**	**Weather Conditions**				**Location either side of A9 Northbound (NB) Southbound (SB)**	**Comments on Behaviour**	**Comments on Timings (e.g. mins before/after sunset/sunrise)**	**Bats Crossing the Road**
		Temp (ºC)	**Cloud (0 – 8)[15]**	**Rain (0 – 5)[16]**	**Wind (0 – 12)[17]**				
C.pip = common pipistrelle; S.pip = soprano pipistrelle; U.pip = unknown pipistrelle; Myt = Myotis; BLE = brown long-eared; Unk = unknown bat species									
Sunrise survey on 26 Aug 16 not undertaken due to access issues on arrival. Lamping noted in immediate area. No opportunity to reschedule in August, additional survey undertaken at on 1 Sep 16.									
25 May 16 Sunrise: 04:36	Start: 02:36 End: 04:51	Start: 8 End: 6	Start: 8 End: 8	Start: 0 End: 0	Start: 1 End: 1	NB	No crossings	No crossings	No crossings
						SB	Two C.pip were observed commuting over the A9 (south to north).	One C,pip observed crossing over A9 at 03:52 (44 mins before sunrise) and another C.pip crossed at 04:06 (30mins before sunrise). Activity finished at 04:06 (30 mins before sunrise).	Under: 0 Over: 2 C.pip Total Bats: 2
21 Jun 16 Sunset 22:15	Start: 22:00 End: 00:15	Start: 12 End: 13	Start: 6 End: 7	Start: 0 End: 0	Start: 0 End: 1	NB	No Crossings	No Crossings	No Crossings
						SB	Three C.pip were observed commuting north to south over the A9.	Three C.pip were observed at 22:34 crossing over the A9 (19 mins after sunset). Activity started at 22:31 (16 mins after sunset) and continued until 23:39 (84 mins after sunset).	Under: 0 Over: 3 C.pip Total Bats: 3
27 Jul 16 Sunset: 21:38	Start: 21:20 End: 23:38	Start: 13 End: 13	Start: 4 End: 6	Start: 0 End: 0	Start: 2 End: 2	NB	No Crossings	No Crossings	No Crossings
						SB	No Crossings	No Crossings	No Crossings
01 Sep 16 Sunset: 20:11	Start: 19:56 End: 22:11	Start: 13 End: 13	Start: 8 End: 8	Start: 0 End: 2	Start: 0 End: 0	NB	Five S. pip recorded crossing over the A9 north to south.	Five S.pip observed crossing over A9 between 20:33 (22 mins after sunset) and 21:08 (57 mins after sunset). Activity started at 20:37 (26 mins after sunset) and continued to the end of the survey.	Under: 0 Over: 5 S.pip Total Bats: 5
						SB	No Crossings	No Crossings	No Crossings
02 Sep 16 Sunrise: 06:20	Start: 04:20 End: 06:35	Start: 13 End: 11	Start: 8 End: 5	Start: 1 End: 0	Start: 0 End: 0	NB	No Crossings	No Crossings	No Crossings
						SB	No Crossings	No Crossings	No Crossings

15 Cloud cover on a scale of 0-8 where 0 = Sky completely clear, 4 = Sky half cloudy, 8 = Sky completely cloudy.
16 Precipitation intensity on scale of 0-5 where 0 = Dry, 1 = Light drizzle, 2 = Light rain, 3 = Moderate rain, 4 = Heavy rain, 5 = Torrential rain.
17 Wind speed score of 0-12 against Beaufort scale where 0 = calm, 2 = light breeze, 4 = Moderate breeze, 6 = strong breeze, 7 = High wind, 9 = Strong gale, 12 = Hurricane.

Table 1.27: Crossing Location CP21 - Survey Results

OS grid reference: Dalraddy to Slochd Crossing CP21 (TN172) NH 83729 25391									
Habitat Description: watercourse culvert passing under A9 cycle path and railway. Heath both sides of feature.									
Date Sunset/ Sunrise Time (24hr clock)	**Start and End Times (24hr clock)**	**Weather Conditions**				**Location either side of A9 Northbound (NB) Southbound (SB)**	**Comments on Behaviour**	**Comments on Timings (e.g. mins before/after sunset/sunrise)**	**Bats Crossing the Road**
		Temp (°C)	**Cloud (0 – 8)[18]**	**Rain (0 – 5)[19]**	**Wind (0 – 12)[20]**				
C.pip = common pipistrelle; S.pip = soprano pipistrelle; U.pip = unknown pipistrelle; Myt = Myotis; BLE = brown long-eared; Unk = unknown bat species									
25 May 16 Sunset: 21:51	Start: 21:35 End: 23:51	Start: 10 End: 6	Start: 8 End: 8	Start: 0-1 End: 0-1	Start: 2 End: 2	NB SB	No Crossings	No Crossings	No Crossings
21 Jul 16 Sunrise: 04:54	Start: 02:54 End: 05:09	Start: 16 End: 16	Start: 7 End: 8	Start: 0 End: 0	Start: 1 End: 1	NB	No Crossings	No Crossings	No Crossings
						SB	No Crossings	No Crossings	No Crossings
19 Sep 16 Sunset: 19:20	Start: 19:07 End: 21:23	Start: 10 End: 9	Start: 1 End: 2	Start: 0 End: 0	Start: 1 End: 0	NB	One C.pip observed crossing over the A9 north to south.	One C.pip crossed over the A9 at 20:23 (63 mins after sunset). Activity started at 20:11 (51 mins after sunset) and continued to the end of the survey.	Under: 0 Over: 1 C.pip Total Bats: 1
						SB	Thirteen C.pip were observed crossing over the A9 from south to north and one south east to north west.	Fourteen C.pips were observed crossing between 19:53 and 21:00 (between 33 mins and 100 mins after sunset).Activity started at 19:53 (33 mins after sunset) and continued to the end of the survey.	Under: 0 Over: 14 C.pip Total Bats: 14

18 Cloud cover on a scale of 0-8 where 0 = Sky completely clear, 4 = Sky half cloudy, 8 = Sky completely cloudy.
19 Precipitation intensity on scale of 0-5 where 0 = Dry, 1 = Light drizzle, 2 = Light rain, 3 = Moderate rain, 4 = Heavy rain, 5 = Torrential rain.
20 Wind speed score of 0-12 against Beaufort scale where 0 = calm, 2 = light breeze, 4 = Moderate breeze, 6 = strong breeze, 7 = High wind, 9 = Strong gale, 12 = Hurricane.

Table 1.28: Crossing Location CP18 - Survey Results

OS grid reference: Dalraddy to Slochd Crossing CP18 (TN336) NH 84047 24954									
Habitat Description: watercourse culvert under A9. Heath both sides of feature.									
Date Sunset/ Sunrise Time (24hr clock)	**Start and End times (24hr clock)**	**Weather Conditions**				**Location either side of A9 Northbound (NB) Southbound (SB)**	**Comments on Behaviour**	**Comments on Timings (e.g. mins before/after sunset/sunrise)**	**Bats Crossing the Road**
		Temp (ºC)	**Cloud (0 – 8)[21]**	**Rain (0 – 5)[22]**	**Wind (0 – 12)[23]**				
C.pip = common pipistrelle; S.pip = soprano pipistrelle; U.pip = unknown pipistrelle; Myt = Myotis; BLE = brown long-eared; Unk = unknown bat species									
26 May 16 Sunrise 04:35	Start: 02:35 End: 04:50	Start: 7 End: 7	Start: 8 End: 8	Start: 0-1 End: 0-1	Start: 2 End: 2	NB	No Crossings	No Crossings	No Crossings
						SB	No Crossings	No Crossings	No Crossings
20 Jul 16 Sunset: 21:51	Start: 21:36 End: 23:51	Start: 18 End: 14	Start: 7 End: 7	Start: 0 End: 0	Start: 1-2 End: 2	NB	No Crossings	No Crossings	No Crossings
						SB	No Crossings	No Crossings	No Crossings
29 Sep 16 Sunrise: 07:17	Start: 05:17 End: 07:33	Start: 7 End: 6	Start: 0 End: 6	Start: 0 End: 1	Start: 6 End: 7	NB	No Crossings	No Crossings	No Crossings
						SB	No Crossings	No Crossings	No Crossings

Table 1.29: Crossing Location CP02 - Survey Results

OS grid reference: Dalraddy to Slochd Crossing CP02 (TN 270) NH 86861 10178									
Habitat Description: Overpass – Tree lined access track either side of the A9. Pasture habitat on both sides.									
Date Sunset/ Sunrise Time (24hr clock)	**Start and End times (24hr clock)**	**Weather Conditions**				**Location either side of A9 Northbound (NB) Southbound (SB)**	**Comments on Behaviour**	**Comments on Timings (e.g. mins before/after sunset/sunrise)**	**Bats Crossing the Road**
		Temp (ºC)	**Cloud (0 – 8)[24]**	**Rain (0 – 5)[25]**	**Wind (0 – 12)[26]**				
C.pip = common pipistrelle; S.pip = soprano pipistrelle; U.pip = unknown pipistrelle; Myt = Myotis; BLE = brown long-eared; Unk = unknown bat species									
23 May 16 Sunset: 21:44	Start: 21:29 End: 23:44	Start: 11 End: 9	Start: 8 End: 6	Start: 0 End: 0	Start: 1 End: 0	NB	Bats were observed commuting over the crossing point in both directions at a max height of approximately 10m above the road. Both C.pip and S.pip were identified crossing north to south.	The first C.pip was observed crossing the A9 at 22:07 (23 mins after sunset) and first S.pip at 22:17 (33 mins. The last crossing was observed at 22:59 (75 mins after sunset). Activity started at 21:38 (six mins before sunset) and continued to the end of the survey.	Under: 0 Over: 16 C.pip & 4 S.pip, 8 U.pip Total Bats: 28
						SB	Mainly C.pip observed crossing south to north at the crossing point with four crossing approximately 20-50m east of crossing point.	The first bat was observed crossing at 21:43 (one min before sunset) and last bat crossed at 23:18 (96mins after sunset).	Under: 0 Over: 21 C.pip, 5 S.pip, 5 U.pip

21 Cloud cover on a scale of 0-8 where 0 = Sky completely clear, 4 = Sky half cloudy, 8 = Sky completely cloudy.
22 Precipitation intensity on scale of 0-5 where 0 = Dry, 1 = Light drizzle, 2 = Light rain, 3 = Moderate rain, 4 = Heavy rain, 5 = Torrential rain.
23 Wind speed score of 0-12 against Beaufort scale where 0 = calm, 2 = light breeze, 4 = Moderate breeze, 6 = strong breeze, 7 = High wind, 9 = Strong gale, 12 = Hurricane.
24 Cloud cover on a scale of 0-8 where 0 = Sky completely clear, 4 = Sky half cloudy, 8 = Sky completely cloudy.
25 Precipitation intensity on scale of 0-5 where 0 = Dry, 1 = Light drizzle, 2 = Light rain, 3 = Moderate rain, 4 = Heavy rain, 5 = Torrential rain.
26 Wind speed score of 0-12 against Beaufort scale where 0 = calm, 2 = light breeze, 4 = Moderate breeze, 6 = strong breeze, 7 = High wind, 9 = Strong gale, 12 = Hurricane.

OS grid reference: Dalraddy to Slochd Crossing CP02 (TN 270) NH 86861 10178									
Habitat Description: Overpass – Tree lined access track either side of the A9. Pasture habitat on both sides.									
Date Sunset/ Sunrise Time (24hr clock)	**Start and End times (24hr clock)**	**Weather Conditions**				**Location either side of A9 Northbound (NB) Southbound (SB)**	**Comments on Behaviour**	**Comments on Timings (e.g. mins before/after sunset/sunrise)**	**Bats Crossing the Road**
		Temp (°C)	**Cloud (0 – 8)[24]**	**Rain (0 – 5)[25]**	**Wind (0 – 12)[26]**				
									Total Bats: 28
21 Jun 16 Sunrise: 04:18	Start: 02:18 End: 04:33	Start: 11 End: 10	Start: 8 End: 8	Start: 0 End: 0	Start: 0 End: 0	NB	Mainly C.pip were observed crossing the A9 north to south with 33 recorded, along with four S.pip, one U.pip and three unknown bats. Bats were observed crossing from both sides of the A9 continually up until sunrise.	The first bat observed crossing was a C.pip at 02:20 (118 mins before sunrise) and the last bat crossed at 04:10 (eight mins before sunrise) which was unknown species. Activity finished at 04:10 (eight mins before sunrise).	Under: 0 Over: 4 S.pip, 33 C.pip, 1 U.pip, 3 Unk Total Bats: 41
						SB	C.pip were observed crossing the A9 south to north as well as two unknown bats.	First bat observered crossing at 02:38 (100 mins before sunrise) and the last bat crossed at 04:10 (eight mins before sunrise) Activity finished at 04:02 (16 mins before sunrise).	Under: 0 Over: 33 C.pip, 2 Unk Total Bats: 35
18 Jul 16 Sunset: 21:54	Start: 21:39 End: 23:54	Start: 20 End: 15	Start: 5 End: 7	Start: 0 End: 0	Start: 0 End: 0	NB	Six C.pip and two S.pip were observed crossing north to south over the A9. Majority of crossing bats during the survey crossed 5m above the ground between the gate posts travelling from north to south.	The first C.pip crossed at 22:33 (39 mins after sunset) followed by the first S.pip at 22:34 (40 mins after sunset). The last bat was observed crossing at 23:43 (109 min after sunset). Activity started at 22:33 (39 mins after sunset) and continued to the end of the survey.	Under: 0 Over: 6 C.pip, 2 S.pip, Total Bats: 8
						SB	Sixteen C.pip, four S.pip and one unknown bat were recorded crossing south to north over the A9. Bats were observed crossing the A9 early during the survey.	The first bat observed crossing was two S.pip at 21:53 (one min after sunset). The first C.pip crossed at 21:56 and last bat crossed at 22:30 (36 mins after sunset). Activity started at 21:53 (one min before sunset) and continued to the end of the survey.	Under: 0 Over: 16 C.pip, 4 S.pip, 1 Unk Total Bats: 21
19 Jul 16 Sunrise: 04:50	Start: 02:50 End: 05:05	Start: 14 End: 14	Start: 8 End: 8	Start: 0 End: 0	Start: 2 End: 2	NB	Thirty six C.pip and one S.pip crossed north to south over the A9. Continuous observations of crossing the A9.	The first bat crossed was a C.pip at 03:41 (69 mins before sunrise) and the last bat observed crossing at 04:26 (24 mins before sunrise). Activity finished at 04:26 (24 mins before sunrise)	Under: 0 Over: 36 C.pip, 1 S.pip Total Bats: 37
						SB	Seven C.pip and one S.pip crossed over the A9 south to north. Regular crossings during the survey by C.pip flying from south to north.	The first bats was observed crossing at 02:50 (120 mins before sunrise) which were one S.pip and one C.pip, The last bat was observed crossing at 04:33 (17 mins before sunrise). Activity finished at 04:33 (17 mins before sunrise).	Under: 0 Over: 7 C.pip, 1 S.pip Total Bats: 8
25 Aug 16 Sunset: 20:26	Start: 20:11 End: 22:26	Start: 16 End: 13	Start: 2 End: 3	Start: 0 End: 0	Start: 1 End: 0	NB	One S.pip crossed from north to south over the A9.	One S.pip was observed crossing at 21:32 (66 mins after sunset). Activity started at 21:10 (44 mins after sunset) and continued to the end of the survey.	Under: 0 Over: 1 S.pip Total Bats: 1
						SB	Eight C.pip and one S.pip crossed over the A9 from south to north.	Eight C.pip crossed the A9 between 20:59 (33 mins after sunset) and 21:49 (83 mins after sunset). One S.pip crossed at 21:10 (44 mins after sunset)	Under: 0 Over: 8 C.pip, 1 Spip

OS grid reference: Dalraddy to Slochd Crossing CP02 (TN 270) NH 86861 10178									
Habitat Description: Overpass – Tree lined access track either side of the A9. Pasture habitat on both sides.									
Date Sunset/ Sunrise Time (24hr clock)	**Start and End times (24hr clock)**	**Weather Conditions**				**Location either side of A9** Northbound (NB) Southbound (SB)	**Comments on Behaviour**	**Comments on Timings (e.g. mins before/after sunset/sunrise)**	**Bats Crossing the Road**
		Temp (°C)	**Cloud (0 – 8)[24]**	**Rain (0 – 5)[25]**	**Wind (0 – 12)[26]**				
									Total Bats: 9
21 Sep 16 Sunset: 19:15	Start: 19:00 End: 21:15	Start: 14 End: 13	Start: 8 End: 8	Start: 0 End: 0	Start: 0 End: 1	NB	Two C.pip, two S.pip and one U.pip recorded crossing over the A9 were observed from north to south.	Five bats observed crossing between 19:37 (22 mins after sunset) and 20:54 (99 mins after sunset). Activity started at 19:37 (22 mins after sunset) and continued until 20:54 (99 mins after sunset).	Under: 0 Over:2 C.pip, 2 S.pip, 1 U.pip Total Bats: 5
						SB	Two C.pip, one S.pip and one Unk were observed crossing the A9 from south to north.	The first bats crossed at 19:39 (24 mins after sunset) and the last bat crossed at 21:11 (116 mins after sunset). Activity started at 19:27 (12 mins after sunset) and continued until 21:14 (119 mins after sunset).	Under: 0 Over: 2 C.pip, 1 S.pip, 1 Unk Total Bats: 4

Table 1.30: Crossing Location CP19 - Survey Results

OS grid reference: Dalraddy to Slochd Crossing CP19 (TN 272a) NH 86853 10180									
Habitat Description: Underpass – access track culvert under A9 with pasture either side.									
Date Sunset/ Sunrise Time (24hr clock)	**Start and End Times (24hr clock)**	**Weather Conditions**				**Location either side of A9** Northbound (NB) Southbound (SB)	**Comments on Behaviour**	**Comments on Timings (e.g. mins before/after sunset/sunrise)**	**Bats Crossing the Road**
		Temp (°C)	**Cloud (0 – 8)[27]**	**Rain (0 – 5)[28]**	**Wind (0 – 12)[29]**				
C.pip = common pipistrelle; S.pip = soprano pipistrelle; U.pip = unknown pipistrelle; Myt = Myotis; BLE = brown long-eared; Unk = unknown bat species									
24 May 16 Sunrise 04:37	Start: 02:37 End: 04:52	Start: 11 End: 6	Start: 6 End: 5	Start: 0 End: 0	Start: 0 End: 1	NB	One C.pip crossed over the A9 (c. 10m above) parallel with the culvert.	Bat observed crossing at 04:03 (34 mins before sunrise). Activity started 02:53 (104 mins before sunrise) and finished at 04:03 (34 mins before sunrise).	Under: 0 Over: 1 C.pip Total Bats: 1
						SB	One C.pip crossed from south to north.	One C.pip crossed over the A9 at 03:29 (68 mins before sunrise).	Under: 0 Over: 1 C.pip Total Bats: 1
20 Jun 16 Sunset 22:15	Start: 22:00 End: 00:15	Start: 11 End:	Start: 8 End: 7	Start: 0 End:	Start: 1 End: 0	NB	Several C.pip were observed crossing under and over the feature during the survey period commuting from north to south.	Bats crossed between 22:52 (37 mins after sunset) and 23:05 (50 mins after sunset). Activity started at 22:38 (23 mins after sunset) and continued to the end of the survey.	Under: 5 C.pip Over: 3 C.pip Total Bats: 8

27 Cloud cover on a scale of 0-8 where 0 = Sky completely clear, 4 = Sky half cloudy, 8 = Sky completely cloudy.
28 Precipitation intensity on scale of 0-5 where 0 = Dry, 1 = Light drizzle, 2 = Light rain, 3 = Moderate rain, 4 = Heavy rain, 5 = Torrential rain.
29 Wind speed score of 0-12 against Beaufort scale where 0 = calm, 2 = light breeze, 4 = Moderate breeze, 6 = strong breeze, 7 = High wind, 9 = Strong gale, 12 = Hurricane.

OS grid reference: Dalraddy to Slochd Crossing CP19 (TN 272a) NH 86853 10180									
Habitat Description: Underpass – access track culvert under A9 with pasture either side.									
Date Sunset/ Sunrise Time (24hr clock)	**Start and End Times (24hr clock)**	**Weather Conditions**				**Location either side of A9** Northbound (NB) Southbound (SB)	**Comments on Behaviour**	**Comments on Timings (e.g. mins before/after sunset/sunrise)**	**Bats Crossing the Road**
		Temp (°C)	**Cloud (0 – 8)[27]**	**Rain (0 – 5)[28]**	**Wind (0 – 12)[29]**				
		11		0		SB	C.pip were observed using the culvert to commute through and crossing over the A9 at the crossing point location travelling south to north.	Bats crossed over and under the A9 between 22:19 (4 mins after sunset) and 23:20 (65 mins after sunset). Activity started at 22:25 (10 mins after sunset) and continued to the end of the survey.	Under: 8 C.pip Over: 7 C.pip Total Bats: 15
21 Jul 16 Sunset: 21:49	Start: 21:34 End: 23:49	Start: 17 End: 16	Start: 2 End: 7	Start: 0 End: 0	Start: 0 End: 0	NB	No Crossings	No Crossings	No Crossings
						SB	Two C.pip were observed crossing under the A9 from south to north through the culvert during the survey.	The first C.pip was observed crossing at 22:29 (40 mins after sunset) followed by the second at 22:31 (42 mins after sunset). Activity started at 22:06 (17 mins after sunset) and continued to the end of the survey.	Under: 2 C.pip Over: 0 Total Bats: 2
22 Aug 16 Sunset: 20:31	Start: 20:16 End: 22:31	Start: 13 End: 11	Start: 3 End: 2	Start: 0 End: 0	Start: 1 End: 1	NB	One S.pip observed crossing over the A9 from north to south.	The S.pip was observed crossing over the A9 at 21:13 (42 mins after sunset). Activity started at 21:05 (34 mins after sunset) and continued to the end of the survey.	Under: 0 Over: 1 S.pip Total Bats: 1
						SB	No Crossings	No Crossings	No Crossings
23 Aug 16 Sunrise: 06:02	Start: 04:02 End: 06:17	Start: 8 End: 10	Start: 5 End: 6	Start: 0 End: 1	Start: 0 End: 0	NB	One C.pip and one S.pip observed crossing under the feature from north to south. One S.pip crossing over the feature from north to south.	Bats were observed crossing between 04:29 (93 mins before sunrise) and 04:41 (81 mins before sunrise). Activity finished at 05:01 (61 mins before sunrise).	Under:1 C.pip, 1 S.pip Over: 1 S.pip Total Bats: 3
						SB	One S.pip was observed crossing over the feature from south to north.	One S.pip crossed at 05:07 (55 mins before sunrise). Activity finished at 05:30 (32 mins before sunrise).	Under: 0 Over: S.pip 1 Total Bats: 1
20 Sept 16 Sunrise: 06:57	Start: 04:57 End: 07:12	Start: 7 End: 9	Start: 8 End: 4	Start: 0 End: 0	Start: 0 End: 0	NB	No Crossings	No Crossings	No Crossings
						SB	No Crossings	No Crossings	No Crossings

Table 1.31: Crossing Location CP20 - Survey Results

OS grid reference: Dalraddy to Slochd Crossing CP20 (TN272b) NH 86853 10180									
Habitat Description: Underpass - watercourse culvert passing under the A9 with pasture either side.									
Date Sunset/ Sunrise Time (24hr clock)	**Start and End Times (24hr clock)**	**Weather Conditions**				**Location either side of A9** Northbound (NB) Southbound (SB)	**Comments on Behaviour**	**Comments on Timings (e.g. mins before/after sunset/sunrise)**	**Bats Crossing the Road**
		Temp (°C)	**Cloud (0 – 8)[30]**	**Rain (0 – 5)[31]**	**Wind (0 – 12)[32]**				
C.pip = common pipistrelle; S.pip = soprano pipistrelle; U.pip = unknown pipistrelle; Myt = Myotis; BLE = brown long-eared; Unk = unknown bat species									
24 May 16 Sunset 21:46	Start: 21:31 End: 23:46	Start: 8 End: 6	Start: 8 End: 8	Start: 0 End: 0	Start: 2 End: 0	NB	One C.pip and one S.pip were observed crossing the A9 over the culvert from north to south.	One C.pip crossed at 22:12 (26 mins after sunset). One S.pip crossed 22:13 (27 mins after sunset). Activity started at 21:48 (14 mins after sunset) and continued until 23:30 (104 mins after sunset).	Under: 0 Over: 1 C.pip, 1 S.pip Total Bats: 2
						SB	Two C.pip crossed the A9 over the culvert c.5m above the road from south to north.	The first C.pip crossed at 22;02 (16 mins after sunset) followed by the second at 22:08 (22 mins after sunset). Activity started at 21:46 (12 mins after sunset) and continued until 23:40 (114 mins after sunset).	Under: 0 Over: 2 C.pip Total Bats: 2
22 Jun 16 Sunrise 04:19	Start: 02:19 End: 04:34	Start: 13 End: 13	Start: 8 End: 8	Start: 1 End: 1	Start: 3 End: 1	NB	No Crossings	No Crossings	No Crossings
						SB	No Crossings	No Crossings	No Crossings
19 Jul 16 Sunset: 21:52	Start: 21:37 End: 23:52	Start: 20 End: 17	Start: 1 End: 4	Start: 0 End: 0	Start: 0 End: 0	NB	No Crossings	No Crossings	No Crossings
						SB	Three crossings during the survey were directly over the feature. The other two were 10m to the east. All crossings identified were from south to north.	Bats were recorded crossing over the A9 between 22:18 (26 mins after sunset) and 22:57 (65 mins after sunset). Activity started at 22:11 (19 mins after sunset) and continued until 23:30 (98 mins after sunset).	Under: 0 Over: 5 C.pip Total Bats: 5
25 Aug 16 Sunrise: 06:06	Start: 04:06 End: 06:21	Start: 8 End: 8	Start: 7 End: 8	Start: 0 End: 0	Start: 0 End: 0	NB	One S.pip crossed the feature from north to south.	One S.pip recorded crossing 05:27 (39 mins before sunrise). Activity finished at 05:32 (34 mins before sunrise).	Under: 0 Over: 1 S.pip Total Bats: 1
						SB	One S.pip observed crossing over the A9 south to north.	S.pip crossed over the A9 at 05:39 (27 mins before sunrise). Activity finished at 05:44 (22 mins before sunrise)	Under: 0 Over: 1 S.pip Total Bats: 1
20 Sep 16	Start: 19:03	Start: 11	Start: 3	Start: 0	Start: 1	NB	No Crossings	No Crossings	No Crossings

30 Cloud cover on a scale of 0-8 where 0 = Sky completely clear, 4 = Sky half cloudy, 8 = Sky completely cloudy.
31 Precipitation intensity on scale of 0-5 where 0 = Dry, 1 = Light drizzle, 2 = Light rain, 3 = Moderate rain, 4 = Heavy rain, 5 = Torrential rain.
32 Wind speed score of 0-12 against Beaufort scale where 0 = calm, 2 = light breeze, 4 = Moderate breeze, 6 = strong breeze, 7 = High wind, 9 = Strong gale, 12 = Hurricane.

OS grid reference: Dalraddy to Slochd Crossing CP20 (TN272b) NH 86853 10180									
Habitat Description: Underpass - watercourse culvert passing under the A9 with pasture either side.									
Date Sunset/ Sunrise Time (24hr clock)	**Start and End Times (24hr clock)**	**Weather Conditions**				**Location either side of A9 Northbound (NB) Southbound (SB)**	**Comments on Behaviour**	**Comments on Timings (e.g. mins before/after sunset/sunrise)**	**Bats Crossing the Road**
		Temp (ºC)	**Cloud (0 – 8)[30]**	**Rain (0 – 5)[31]**	**Wind (0 – 12)[32]**				
Sunset: 19:18	End: 21:18	End: 9	End: 0	End: 0	End: 0	SB	No Crossings	No Crossings	No Crossings
21 Sep 16 Sunrise: 06:59	Start: 04:59 End: 07:14	Start: 10 End: 11	Start: 7 End: 5	Start: 0 End: 0	Start: 1 End: 2	NB	No Crossings	No Crossings	No Crossings
						SB	No Crossings	No Crossings	No Crossings

Table 1.32: Crossing Location CP03 - Survey Results

OS grid reference: Dalraddy to Slochd Crossing CP03 (TN 279) NH 88358 10619									
Habitat Description: Underpass – watercourse culvert with pasture either side of the A9.									
Date Sunset/ Sunrise Time (24hr clock)	**Start and End Times (24hr clock)**	**Weather Conditions**				**Location either side of A9 Northbound (NB) Southbound (SB)**	**Comments on Behaviour**	**Comments on Timings (e.g. mins before/after sunset/sunrise)**	**Bats Crossing the Road**
		Temp (ºC)	**Cloud (0 – 8)[33]**	**Rain (0 – 5)[34]**	**Wind (0 – 12)[35]**				
C.pip = common pipistrelle; S.pip = soprano pipistrelle; U.pip = unknown pipistrelle; Myt = Myotis; BLE = brown long-eared; Unk = unknown bat species									
05 May 16 Sunset: 21:08	Start: 20:53 End: 23:08	Start: 8 End: 7	Start: 1 End: 1	Start: 0 End: 0	Start: 1 End: 1	NB	Two S.pip crossed the A9 over the culvert and one C.pip crossed through the culvert north to south.	Two S.pip crossed over the A9 at 21:38 (30 mins after sunset) and C.pip crossed through at 23:03 (115 mins after sunset).	Under: 1 C.pip Over: 2 S.pip Total Bats: 3
						SB	Three S.pip crossed the A9 over the culvert c.5m above the road from south to north	Three S.pip crossed over the A9 at 21:41 (33 mins after sunset) and 21:52 (44 mins after sunset).	Under: 0 Over: 3 S.pip Total Bats: 3
26 May 16 Sunrise: 04:34	Start: 02:34 End: 04:49	Start: 7 End: 7	Start: 8 End: 8	Start: 1 End: 1	Start: 1 End: 0	NB	One C.pip crossed the A9 over the culvert c.5m above the road from north to south	The one C.pip crossed over the A9 at 04:20 (14 mins before sunrise).	Under: 0 Over: 1 C.pip Total Bats: 1
						SB	One C.pip crossed the A9 over the culvert c.5m above the road from south to north	The one C.pip crossed over the A9 at 04:21 (13 mins before sunrise).	Under: 0 Over: 1 C.pip Total Bats: 1
17 Jun 16	Start: 02:18	Start: 8	Start: 8	Start: 1	Start: 0	NB	No Crossings	No Crossings	No Crossings

33 Cloud cover on a scale of 0-8 where 0 = Sky completely clear, 4 = Sky half cloudy, 8 = Sky completely cloudy.
34 Precipitation intensity on scale of 0-5 where 0 = Dry, 1 = Light drizzle, 2 = Light rain, 3 = Moderate rain, 4 = Heavy rain, 5 = Torrential rain.
35 Wind speed score of 0-12 against Beaufort scale where 0 = calm, 2 = light breeze, 4 = Moderate breeze, 6 = strong breeze, 7 = High wind, 9 = Strong gale, 12 = Hurricane.

OS grid reference: Dalraddy to Slochd Crossing CP03 (TN 279) NH 88358 10619									
Habitat Description: Underpass – watercourse culvert with pasture either side of the A9.									
Date Sunset/ Sunrise Time (24hr clock)	**Start and End Times (24hr clock)**	**Weather Conditions**				**Location either side of A9 Northbound (NB) Southbound (SB)**	**Comments on Behaviour**	**Comments on Timings (e.g. mins before/after sunset/sunrise)**	**Bats Crossing the Road**
		Temp (°C)	**Cloud (0 – 8)[33]**	**Rain (0 – 5)[34]**	**Wind (0 – 12)[35]**				
Sunrise: 04:18	End: 04:33	End: 8	End: 8	End: 1	End: 0	SB	No Crossings	No Crossings	No Crossings
22 Jun 16 Sunset: 22:15	Start: 22:00 End: 00:15	Start: 13 End: 11	Start: 6 End: 7	Start: 0 End: 0	Start: 1 End: 0	NB	Four S.pip were observed flying through the culvert from south to north and one U.pip observed flying over the A9.	Bats were recorded crossing the A9 between 22:52 (37 mins after sunset) and 00:01 (106 mins after sunset). Activity started at 22:51 (36 mins after sunset) and continued until 00:07 (115 mins after sunset).	Under: 4 S.pip Over: 1 U.pip Total Bats: 5
						SB	Six S.pip were observed crossing through and one over the culvert from south to north.	Bats crossed through the culvert between 22:53 (38 mins after sunset) and 23:52 (97 mins after sunset). One S.pip crossed over the A9 at 23:57 (102 mins after sunset). Activity started at 22:52 (37 mins after sunset) and continued until 00:07 (112 mins after sunset).	Under: 6 S.pip Over: 1 S.pip Total Bats: 7
14 Jul 16 Sunset: 22:02	Start: 21:47 End: 00:02	Start: 16 End: 10	Start: 8 End: 8	Start: 0 End: 0	Start: 1 Start: 1	NB	Bats recorded feeding within the culvert with seven recorded crossing from north to south through the culvert. One S.pip recorded crossing over the A9 north to south.	Bats were recorded crossing the A9 between 22:31 (29 mins after sunset) and 23:56 (114 mins after sunset). Activity started at 22:31 (29 mins after sunset) and continued until 23:56 (114 mins after sunset).	Under: 6 S.pip, 1 C.pip Over: 1 S.pip Total Bats: 8
						SB	Ten S.pip and one C.pip crossed through the culvert from south to north. Two S.pip crossed over the A9 south to north.	Bats were recorded crossing the A9 between 22:25 (23 mins after sunset) and 23:50 (108 mins after sunset). Activity started at 22:11 (nine mins after sunset) and continued until the end of the survey.	Under: 10 S.pip, 1 C.pip Over: 2 S.pip Total Bats: 13
21 Jul 16 Sunrise: 04:54	Start: 02:54 End: 05:09	Start: 13 End: 12	Start: 8 End: 8	Start: 0 End: 0	Start: 2 End: 1	NB	Five S.pip recorded were foraging inside or in front of the culvert then crossing north to south.	Bats were recorded going through the culvert between 03:45 (69 mins before sunrise) and 04:01 (53 mins before sunrise). Activity finished at 04:01 (53 mins before sunrise)	Under: 5 S.pip Over: 0 Total Bats: 5
						SB	Two S.pip and one C.pip were recorded crossing over the A9 from south to north by S.pip. One S.pip crossed through culvert.	Bats were observed crossing between 03:29 (85 mins before sunrise) and 04:01 (53 mins before sunrise). Activity finished at 04:01 (53 mins before sunrise)	Under: 1 S.pip Over: 2 S.pip, 1 C.pip Total Bats: 4
19 Aug 16 Sunrise: 05:51	Start: 03:51 End: 06:06	Start: 7 End: 5	Start: 2 End: 1	Start: 0 End: 0	Start: 0 End: 0	NB	No Crossings	No Crossings	No Crossings
						SB	No Crossings	No Crossings	No Crossings
24 Aug 16 Sunset: 20:28	Start: 20:13 End: 22:28	Start: 15 End: 11	Start: 4 End: 3	Start: 0 End: 0	Start: 0 End: 0	NB	Three S.pip crossed from north to south through the culvert after foraging inside the culvert. One S.pip crossed over the A9 north to south.	Bats were recorded crossing between 21:01 (33 mins after sunset) and 21:24 (56 mins after sunset). Activity started at 21:01 (33 mins after sunset) and continued until 21:55 (87 mins after sunset).	Under: 3 S.pip Over: 1 S.pip Total Bats: 4
						SB	One S.pip and one Unk bat crossed from south to north through the culvert. One S.pip crossed over the A9 south to north.	Bats recorded crossing between 21:11 (43 mins after sunset) and 21:53 (85 mins after sunset). Activity started at 20:53 (25 mins after sunset) and continued until 22:55 (87 mins after sunset).	Under: 1 S.pip, 1 Unk Over: 1 S.pip Total Bats: 3
15 Sep 16	Start: 19:20	Start: 18	Start: 7	Start: 0	Start: 1	NB	Two S.pip were recorded crossing under	Bats were recorded crossing between 19:59 (24	Under: 2 S.pip

OS grid reference: Dalraddy to Slochd Crossing CP03 (TN 279) NH 88358 10619									
Habitat Description: Underpass – watercourse culvert with pasture either side of the A9.									
Date Sunset/ Sunrise Time (24hr clock)	**Start and End Times (24hr clock)**	**Weather Conditions**				**Location either side of A9 Northbound (NB) Southbound (SB)**	**Comments on Behaviour**	**Comments on Timings (e.g. mins before/after sunset/sunrise)**	**Bats Crossing the Road**
		Temp (°C)	**Cloud (0 – 8)[33]**	**Rain (0 – 5)[34]**	**Wind (0 – 12)[35]**				
Sunset: 19:35	End: 21:35	End: 17	End: 6	End: 0	End: 0		the A9 through the culvert. The other four bats crossed over the A9 north to south.	mins after sunset) and 21:22 (107 mins after sunset) Activity started at 19:59 (24 mins after sunset) and continued until 21:22 (107 mins after sunset).	Over: 1 S.pip, 1 C.pip, 2 Unk Total Bats: 6
						SB	S.pip were observed crossing over the culvert at between 15m to 20m height (above road) from south to north. One S.pip observed crossing through the culvert.	Bats recorded crossing between 20:33 (58 mins after sunset) and 21:18 (103 mins after sunset). Activity started at 20:01 (26 mins after sunset) and continued until 21:34 (119 mins after sunset).	Under: 1 S.pip Over: 11 S.pip Total Bats: 12
23 Sep 16 Sunrise: 07:04	Start: 05:04 End: 07:19	Start: 6 End: 5	Start: 1 End: 2	Start: 0 End: 0	Start: 1 End: 0	NB	No Crossings	No Crossings	No Crossings
						SB	One S.pip crossed over the A9 south to north at 5m above road.	One S.observed crossing at 06:40 (24 mins before sunrise). Activity finished at 06:40 (24 mins before sunrise)	Under: 0 Over: 1 S.pip Total Bats: 1

Table 1.33: Crossing Location CP07 - Survey Results

OS grid reference: Dalraddy to Slochd Crossing CP07 (TN305) NH 89078 12392									
Habitat Description: Tree lined access track either side of the A9 (potential crossing feature). Mixed broadleaved woodland on the northbound side and the town of Aviemore on the southbound side.									
Date Sunset/ Sunrise Time (24hr clock)	**Start and End Times (24hr clock)**	**Weather Conditions**				**Location either side of A9 Northbound (NB) Southbound (SB)**	**Comments on Behaviour**	**Comments on Timings (e.g. mins before/after sunset/sunrise)**	**Bats Crossing the Road**
		Temp (°C)	**Cloud (0 – 8)[36]**	**Rain (0 – 5)[37]**	**Wind (0 – 12)[38]**				
C.pip = common pipistrelle; S.pip = soprano pipistrelle; U.pip = unknown pipistrelle; Myt = Myotis; BLE = brown long-eared; Unk = unknown bat species									
06 May 16 Sunrise: 05:15	Start: 03:15 End: 05:30	Start: 5 End: 7	Start: 5 End: 6	Start: 0 End: 0	Start: 1 End: 1	NB	No Crossings	No Crossings	No Crossings
						SB			
25 May 16 Sunset: 21:48	Start: 21:33 End: 23:48	Start: 8 End: 7	Start: 8 End: 8	Start: 0 End: 0	Start: 1 End: 0	NB	One C.pip crossing over the A9 at 6m above road level from west to east.	C.pip recorded crossing at 22:07 (19 mins after sunset). Activity started at 22:06 (18 mins after sunset) and continued until 23:31 (108 mins after sunset).	Under: 0 Over: 1 C.pip Total Bats: 1
						SB	Two C.pip crossed over the feature from east to west.	First C.pip crossed at 22:06 (18 mins after sunset) with second crossing at 22:55 (67 mins after sunset). Activity started at 22:03 (18 mins after sunset) and continued until 22:55 (67 mins after sunset).	Under: 0 Over: 2 C.pip Total Bats: 2
16 Jun 16 Sunset 22:18	Start: 22:03 End: 00:18	Start: 9 End: 8	Start: 8 End: 8	Start: 2 End: 1	Start: 1 End: 0	NB	One S.pip crossed the feature from west to east.	One S.pip crossed over the A9 at 23:20 (62 mins after sunset). Activity started at 22:35 (17 mins after sunset) and continued until 23:31 (73 mins after sunset).	Under: 0 Over: 1 S.pip

36 Cloud cover on a scale of 0-8 where 0 = Sky completely clear, 4 = Sky half cloudy, 8 = Sky completely cloudy.
37 Precipitation intensity on scale of 0-5 where 0 = Dry, 1 = Light drizzle, 2 = Light rain, 3 = Moderate rain, 4 = Heavy rain, 5 = Torrential rain.
38 Wind speed score of 0-12 against Beaufort scale where 0 = calm, 2 = light breeze, 4 = Moderate breeze, 6 = strong breeze, 7 = High wind, 9 = Strong gale, 12 = Hurricane.

OS grid reference: Dalraddy to Slochd Crossing CP07 (TN305) NH 89078 12392									
Habitat Description: Tree lined access track either side of the A9 (potential crossing feature). Mixed broadleaved woodland on the northbound side and the town of Aviemore on the southbound side.									
Date Sunset/ Sunrise Time (24hr clock)	Start and End Times (24hr clock)	Weather Conditions				Location either side of A9 Northbound (NB) Southbound (SB)	Comments on Behaviour	Comments on Timings (e.g. mins before/after sunset/sunrise)	Bats Crossing the Road
		Temp (°C)	Cloud (0 – 8)[36]	Rain (0 – 5)[37]	Wind (0 – 12)[38]				
									Total Bats: 1
						SB	Three S.pip and two U.pip observed crossing over the A9 from west to east.	Bats recorded crossing between 22:34 (16 mins after sunset) and 23:21 (63 mins after sunset).Activity started at 22:34 (16 mins after sunset) and continued until 22:55 (37 mins after sunset).	Under: 0 Over: 3 S.pip, 2 U.pip Total Bats: 5
23 Jun 16 Sunrise: 04:19	Start: 02:19 End: 04:34	Start: 11 End: 9	Start: 7 End: 5	Start: 0 End: 0	Start: 0 End: 0	NB	One C.pip crossed over the feature from west to east.	One C.pip observed crossing at 03:19 (60 mins before sunrise). Activity finished at 03:28 (51 mins before sunrise).	Under: 0 Over: 1 C.pip Total Bats: 1
						SB	Two C.pip crossed the feature from north east to south west.	Bats observed crossing at 02:40 (99 mins before sunrise) and 03:05 (74 mins before sunrise).Activity finished at 03:19 (60 mins before sunrise)	Under: 0 Over: 2 C.pip Total Bats: 2
15 Jul 16 Sunrise: 04:43	Start: 02:43 End: 04:58	Start: 14 End: 10	Start: 8 End: 8	Start: 0 End: 1	Start: 1 End: 1	NB	No Crossings	No Crossings	No Crossings
						SB	No Crossings	No Crossings	No Crossings
20 Jul 16 Sunset: 21:51	Start: 21:36 End: 23:51	Start: 16 End: 14	Start: 7 End: 8	Start: 0 End: 0	Start: 2 End: 2	NB	No Crossings	No Crossings	No Crossings
						SB	Two C.pip observed crossing the A9 from east to west.	Bats observed crossing at 22:17 (26 mins after sunset) and 22:55 (64 mins after sunset). Activity started at 22:17 (26 mins after sunset) and continued until 23:47 (116 mins after sunset).	Under: 0 Over: 2 C.pip Total Bats: 2
18 Aug 16 Sunset: 20:51	Start: 20:36 End: 22:51	Start: 15 End: 13	Start: 1 End: 0	Start: 0 End: 1	Start: 1 End: 0	NB	One C.pip was observed crossing the A9 from west to east.	Bat observed crossing at 22:45 (114 mins after sunset). Activity started at 21:25 (34 mins after sunset) and continued until 22:49.	Under: 0 Over: 1 C.pip Total Bats: 1
						SB	Three C.pip and 1 *Myotis* sp. were recorded crossing the A9 from east to west.	Bats observed crossing between 21:35 (44 mins after sunset) and 22:55 (64 mins after sunset). Activity started at 21:18 (27 mins after sunset) and continued until 22:43.	Under: 0 Over: 3 C.pip, 1 Myotis sp. Total Bats: 4
24 Aug 16 Sunrise: 06:04	Start: 04:04 End: 06:19	Start: 13 End: 11	Start: 8 End: 6	Start: 0 End: 0	Start: 1 End: 0	NB	One S.pip were recorded crossing the A9 at the feature from west to east.	One S.pip was observed crossing at 04:44 (80 mins before sunrise). Activity finished at 05:05 (59 mins before sunrise).	Under: 0 Over: 1 S.pip Total Bats: 1
						SB	Three C.pip, one S.pip and one U.pip were observed crossing the A9 from east to west.	Bats observed crossing between 04:08 (116 mins before sunrise) and 05:18 (46 mins before sunrise).Activity finished at 05:28 (37 mins before sunrise).	Under: 0 Over: 3 C.pip, 1 S.pip, 1 U.pip Total Bats: 5
16 Sep 16	Start: 04:50	Start: 11	Start: 8	Start: 1	Start: 0	NB	Two C.pip was observed crossing the A9 from west to east.	Bats observed crossing 06:37 (13 mins before sunrise). Activity finished at 06:40 (10	Under: 0 Over: 2 C.pip

OS grid reference: Dalraddy to Slochd Crossing CP07 (TN305) NH 89078 12392									
Habitat Description: Tree lined access track either side of the A9 (potential crossing feature). Mixed broadleaved woodland on the northbound side and the town of Aviemore on the southbound side.									
Date Sunset/ Sunrise Time (24hr clock)	**Start and End Times (24hr clock)**	**Weather Conditions**				**Location either side of A9 Northbound (NB) Southbound (SB)**	**Comments on Behaviour**	**Comments on Timings (e.g. mins before/after sunset/sunrise)**	**Bats Crossing the Road**
		Temp (°C)	**Cloud (0 – 8)[36]**	**Rain (0 – 5)[37]**	**Wind (0 – 12)[38]**				
Sunrise: 06:50	End: 07:05	End: 11	End: 8	End: 0	End: 2			mins before sunrise).	Total Bats: 2
						SB	Two C.pip observed crossing the A9 from east to west.	Bats observed crossing at 05:55 (55 mins before sunrise) and 05:57 (53 mins before sunrise).Activity finished at 06:40 (10 mins before sunrise).	Under: 0 Over: 2 C.pip Total Bats: 2
22 Sep 16 Sunset: 19:12	Start: 18:58 End: 21:12	Start: 11 End: 10	Start: 7 End: 4	Start: 0 End: 0	Start: 1 End: 0	NB	No Crossings	No Crossings	No Crossings
						SB	Seven C.pip and one Unk bats observed crossing from east to west over the feature.	Bats observed crossing between 19:54 (41 mins after sunset) and 21:00 (107 mins after sunset). Activity started at 19:54 (41 mins after sunset) and continued until 20:38 (41 mins after sunset).	Under: 0 Over: 7 C.pip, 1 Unk Total Bats: 8

Table 1.34: Crossing Location CP01 - Survey Results

OS grid reference: Dalraddy to Slochd Crossing CP01 (TN436) NH 85648 09540									
Habitat Description: Underpass - watercourse culvert with coniferous plantation either side of the feature.									
Date Sunset/ Sunrise Time (24hr clock)	**Start and End Times (24hr clock)**	**Weather Conditions**				**Location either side of A9 Northbound (NB) Southbound (SB)**	**Comments on Behaviour**	**Comments on Timings (e.g. mins before/after sunset/sunrise)**	**Bats Crossing the Road**
		Temp (°C)	**Cloud (0 – 8)[39]**	**Rain (0 – 5)[40]**	**Wind (0 – 12)[41]**				
C.pip = common pipistrelle; S.pip = soprano pipistrelle; U.pip = unknown pipistrelle; Myt = Myotis; BLE = brown long-eared; Unk = unknown bat species									
26 May 16 Sunset: 21:50	Start: 21:35 End: 23:50	Start: 10 End: 7	Start: 5 End: 7	Start: 0 End: 0	Start: 0 End: 0	NB	Four C.pip crossed the A9 over the culvert from north west to south east.	Bats observed crossing between 22:33 43 mins after sunset) and 22:54 (64 mins after sunset).Activity started at 22:25 (35 mins after sunset) and continued until 23:30 (100 mins after sunset).	Under: 0 Over: 4 C.pip Total Bats: 4
						SB	One S.pip crossed the A9 over the culvert from south east to north west.	Bat observed crossing at 22:25 (35 mins after sunset).	Under: 0 Over: 1 S.pip Total Bats: 1
24 Jun 16 Sunrise: 04:20	Start: 02:20 End: 04:35	Start: 13 End: 12	Start: 7 End: 7	Start: 0 End: 1	Start: 0 End: 0	NB	One S.pip crossed over the A9 from north west to south east	One S.pip crossed over the A9 at 04:05 (15 mins before sunrise).	Under: 0 Over: 1 S.pip Total Bats: 1
						SB	No Crossings	No Crossings	No Crossings
31 Aug 16	Start: 19:58	Start:	Start:	Start:	Start:	NB	No Crossings	No Crossings	No Crossings

39 Cloud cover on a scale of 0-8 where 0 = Sky completely clear, 4 = Sky half cloudy, 8 = Sky completely cloudy.
40 Precipitation intensity on scale of 0-5 where 0 = Dry, 1 = Light drizzle, 2 = Light rain, 3 = Moderate rain, 4 = Heavy rain, 5 = Torrential rain.
41 Wind speed score of 0-12 against Beaufort scale where 0 = calm, 2 = light breeze, 4 = Moderate breeze, 6 = strong breeze, 7 = High wind, 9 = Strong gale, 12 = Hurricane.

OS grid reference: Dalraddy to Slochd Crossing CP01 (TN436) NH 85648 09540									
Habitat Description: Underpass - watercourse culvert with coniferous plantation either side of the feature.									
Date Sunset/ Sunrise Time (24hr clock)	**Start and End Times (24hr clock)**	**Weather Conditions**				**Location either side of A9 Northbound (NB) Southbound (SB)**	**Comments on Behaviour**	**Comments on Timings (e.g. mins before/after sunset/sunrise)**	**Bats Crossing the Road**
		Temp (ºC)	**Cloud (0 – 8)[39]**	**Rain (0 – 5)[40]**	**Wind (0 – 12)[41]**				
Sunrise: 20:13	End: 22:13	16 End: 15	8 End: 8	1 End: 0	1 End: 1	SB	No Crossings	No Crossings	No Crossings

2017 Crossing Point Survey Results

Table 1.35: Crossing Location CP02 - Survey Results

OS grid reference: Dalraddy to Slochd Crossing CP02 (TN270) NH 87147 10247									
Habitat Description: Tree lined access track either side of the A9. Pasture habitat on both sides.									
Date Sunset/Sunrise Time (24hr clock)	**Start and End Times (24hr clock)**	**Weather Conditions**				**Location either side of A9 Northbound (NB) Southbound (SB)**	**Comments on behaviour**	**Comments on timings (e.g. mins before/after sunset/sunrise)**	**Bat Crossing the Road[42]**
		Temp (ºC)	**Cloud (0 –8)[43]**	**Rain (0 - 5)[44]**	**Wind (0 – 12)[45]**				
C.pip = common pipistrelle; S.pip = soprano pipistrelle; U.pip = unknown pipistrelle; Myt = Myotis; BLE = brown long-eared; Unk = unknown bat species									
18 May 17 Sunset: 21:36	Start: 21:21 End: 23:36	Start: 9 End: 5	Start: 1 End: 1	Start: 0 End: 0	Start: 0-1 End: 0-1	NB	S.pip and C.pip crossed NB to SB at heights between 3m and 12m above the road. Most crossings were directly over or within 10m of the identifed crossing feature	Bats were observed crossing between 22:13 (37 mins after sunset) and 23:08 (92 mins after sunset). Activity started at 22:10 (34 mins after sunset) and continued to the end of survey.	Over:15 C.pip, 2 S.pip, 1 BLE. Total Bats: 18
						SB	S.pip and C.pip crossed at heights between 5 and 20m above the road within a maximum distance of 20m from the crossing feature.	Bats observed crossing between 21:35 (1 min before sunset) and 23:28 (112 mins after sunset). Activity started at 21:35 (1 mins before sunset) and continued to the end of survey.	Over:10 C.pip, 2 S.pip. Total Bats: 12
26 May 17 Sunrise: 04:37	Start: 02:37 End: 04:52	Start: 11 End: 12	Start: 0 End: 0	Start: 0 End: 0	Start: 0 End: 0	NB	C.pip crossed NB to SB at heights between 4m and 8m within a maximum distance of 10m from the crossing feature.	Bats observed crossing over the A9 between 03:24 (73 mins before sunrise) and 04:00 (37 mins before sunrise). Activity finished at 04:00 (37 mins before sunrise).	Over: 21 C.pip. Total Bats: 21
						SB	C.pip crossed SB to NB directly over the identified feature. Crossing heights observed between 8m and 12m above the road.	Bats observed crossing over the A9 between 02:40 (117 mins before sunrise) and 04:03 (34 mins before sunrise). Activity finished at 04:03 (34 mins before sunrise).	Over: 5 C.pip, 1 U.pip. Total Bats: 6
15 June 17 Sunset: 22:14	Start: 21:59 End: 00:14	Start: 12 End: 11	Start: 7 End: 7	Start: 0 End: 0	Start: 1 End: 2	NB	Majority of S.pip and C.pip crossed NB to SB directly over the identified feature; two S.pip crossed 6m to the east. Crossing heights observed between 3m and 10m above the road.	Bats observed crossing over the A9 between 22:18 (4 mins after sunset) and 23:47 (93 mins after sunset). Activity started at 22:18 (4 mins after sunset) and continued to the end of survey.	Over: 8 C.pip, 7 S.pip, 1 U.pip. Total Bats: 16

[42] Where a bat has been recorded by surveyors on either side of the carriageway and the timings indicate that this is the same bat, then this is counted as one crossing. Where a bat is recorded crossing the carriageway by one surveyor, but not seen on the other side of the carriageway this is recorded as one crossing as the bat may have crossed using a non-direct flight line.
[43] Cloud cover on a scale of 0-8 where 0 = Sky completely clear, 4 = Sky half cloudy, 8 = Sky completely cloudy.
[44] Precipitation intensity on scale of 0-5 where 0 = Dry, 1 = Light drizzle, 2 = Light rain, 3 = Moderate rain, 4 = Heavy rain, 5 = Torrential rain.
[45] Wind speed score of 0-12 against Beaufort scale where 0 = Calm, 2 = Light breeze, 4 = Moderate breeze, 6 = Strong breeze, 7 = High wind, 9 = Strong gale, 12 = Hurricane.

OS grid reference: Dalraddy to Slochd Crossing CP02 (TN270) NH 87147 10247									
Habitat Description: Tree lined access track either side of the A9. Pasture habitat on both sides.									
Date **Sunset/Sunrise Time (24hr clock)**	**Start and End Times (24hr clock)**	**Weather Conditions**				**Location either side of A9** **Northbound (NB)** **Southbound (SB)**	**Comments on behaviour**	**Comments on timings (e.g. mins before/after sunset/sunrise)**	**Bat Crossing the Road[42]**
		Temp (°C)	**Cloud (0 –8)[43]**	**Rain (0 - 5)[44]**	**Wind (0 – 12)[45]**				
						SB	Majority of S.pip and C.pip crossed SB to NB directly over the identified feature; two C.pip and one U.pip crossed the road 10m east of the feature and one C.pip crossed 10m to the west. Crossing heights observed between 3m and 15m above the road.	Bats observed crossing over the A9 between 22:05 (9 mins before sunset) and 00:14 (120 mins after sunset). Activity started at 22:05 (9 mins before sunset) and continued to the end of survey.	Over: 30 C.pip, 13 S.pip, 3 U.pip. Total Bats: 46
23 June 17 Sunrise: 04:20	Start: 02:20 End: 04:35	Start: 7 End: 12	Start: 8 End: 8	Start: 0 End: 0	Start: 2-3 End: 1-2	NB	Majority of S.pip and C.pip crossed NB to SB directly over the identified feature; one C.pip and one U.pip crossed 10m to the east. Crossing heights observed between between 3m and 6m above the road.	Bats observed crossing over the A9 between 02:41 (99 mins before sunrise) and 04:01 (19 mins before sunrise). Activity finished at 04:01 (19 mins before sunrise).	Over: 7 C.pip, 1 S.pip, 2 U.pip, 1 Unk. Total Bats: 11
						SB	S.pip and C.pip crossed SB to NB directly over the feature between 3m and 5m above the road.	Bats observed crossing over the A9 between 02:42 (98 mins before sunrise) and 03:32 (48 mins before sunrise). Activity finished at 03:32 (48 mins before sunrise).	Over: 11 C.pip, 1 S.pip. Total Bats: 12
11 July 17 Sunset: 22:05	Start: 21:50 End: 00:05	Start: 11 End: 9	Start: 8 End: 8	Start: 0 End: 0	Start: 0 End: 0	NB	Majority of crossings were directly over the feature at an average height of 4.5m. One C.pip crossed over the road 10m south of the feature and two U.pip crossed 2m and 8m north of the feature.	Bats observed crossing over the A9 between 22:14 (9 mins after sunset) and 23:58 (113 mins after sunset). Activity started at 22:14 (9 mins after sunset) and continued to the end of survey.	Over: 35 C.pip, 6 S.pip, 3 U.pip. Total Bats: 44
						SB	Majority of crossings were directly over the feature at an average height of 7m. 4 C.pip, 4 S.pip and 2 U.pip were observed crossing a maximum of 20m northbound of the feature.	Bats observed crossing over the A9 between 22:02 (3 mins before sunset) and 23:56 (111 mins after sunset). Activity started at 22:02 (3 mins before sunset) and continued to the end of survey.	Over: 31 C.pip, 13 S.pip, 7 U.pip. Total Bats: 51
20 July 17 Sunrise: 04:51	Start: 02:51 End: 05:06	Start: 15 End: 13	Start: 8 End: 8	Start: 2 End: 2	Start: 0 End: 0	NB	All crossings were directly over the feature crossing NB to SB.	Bats were observed crossing between 03:09 (102 mins before sunrise) and 04:17 (34 mins before sunrise). Activity finished at 04:17 (34 mins before sunrise).	Over: 3 C.pip, 2 U.pip. Total Bats: 5
						SB	C.pip observed crossing at heights between 8m and 15m above the road. Either directly over or 2m to 5m north and south of the feature.	Bats were observed crossing between 02:56 (116 mins before sunrise) and 04:30 (21 mins before sunrise). Activity finished at 04:46 (5 mins before sunrise).	Over: 12 C.pip. Total Bats: 12
9 August 17 Sunrise: 05:31	Start: 03:31 End: 05:46	Start: 10 End: 11	Start: 6 End: 8	Start: 0 End: 0	Start: 0 End: 0-1	NB	A total of fourteen pipistrelles were recorded as crossing NB to SB over the A9. Six of these crossed directly over the feature with six crossing north of the feature. A further two crossed south of the feature.	First crossing recorded at 03:45 (106 mins before sunrise) with the last crossing at 05:16 (15 mins before sunrise).	Over: 10 C.pip, 3 S.pip, 1 U.pip Total Bats: 14
						SB	A total of 18 crossings from SB to NB recorded. The majority (12) were directly over the feature with six north of the feature. The A9 was crossed from 4m to 20m above road.	First crossing recorded at 03:42 (49 mins before sunrise) with the last crossing at 05:14 (17 mins before sunrise).	Over: 10 C.pip, 5 S.pip, 2 U.pip, 1 Unk Total Bats: 18
16 August 17	Start: 20:41	Start: 14	Start: 7	Start: 0	Start: 2	NB	All four bats recorded as crossing the A9 at 4 to 6m directly above feature going NB to SB.	First crossing recorded at 21:31 (35 mins after sunset) with the last crossing activity at 21:51	Over: 2 C.pip, 2 U.pip

OS grid reference: Dalraddy to Slochd Crossing CP02 (TN270) NH 87147 10247									
Habitat Description: Tree lined access track either side of the A9. Pasture habitat on both sides.									
Date Sunset/Sunrise Time (24hr clock)	**Start and End Times (24hr clock)**	**Weather Conditions**				**Location either side of A9 Northbound (NB) Southbound (SB)**	**Comments on behaviour**	**Comments on timings (e.g. mins before/after sunset/sunrise)**	**Bat Crossing the Road[42]**
		Temp (ºC)	**Cloud (0 –8)[43]**	**Rain (0 - 5)[44]**	**Wind (0 – 12)[45]**				
Sunset: 20:56	End: 22:56	End: 15	End: 8	End: 1	End: 1			(55 mins after sunset).	Total Bats: 4
						SB	Four bats crossing from 4m to 9m directly above the feature. A single C.pip was seen crossing some 20m north of the feature at a height of 8m above feature.	First crossing was at 21:23 (17 mins after sunset) and final crossing recorded at 22:18 (82 mins after sunset).	Over: 4 C.pip, 1 U.pip Total Bats: 5

Table 1.36: Crossing Location CP03 (TN279) 4 - Survey Results

OS grid reference: Dalraddy to Slochd Crossing CP03 (TN279) NH 88358 10619									
Habitat Description: Watercourse culvert with pasture either side of the A9.									
Date Sunset/Sunrise Time (24hr clock)	**Start and End Times (24hr clock)**	**Weather Conditions**				**Location either side of A9 northbound (NB) southbound (SB)**	**Comments on behaviour**	**Comments on timings (e.g. mins before/after sunset/sunrise)**	**Bat Crossing the Road[46]**
		Temp (ºC)	**Cloud (0 –8)[47]**	**Rain (0 - 5)[48]**	**Wind (0 – 12)[49]**				
C.pip = common pipistrelle; S.pip = soprano pipistrelle; U.pip = unknown pipistrelle; Myt = Myotis; BLE = brown long-eared; Unk = unknown bat species									
19 May 17 Sunrise: 04:46	Start: 02:46 End: 05:01	Start: 3 End: 2	Start: 1 End: 0	Start: 0 End: 0	Start: 1 End: 0	NB	One C.pip crossed through the culvert from NB to SB.	C.pip recorded crossing through culvert at 03:54 (52 mins before sunrise).	Over: 0. Under: 1 C.pip. Total Bats: 1
						SB	No Crossings	No Crossings	No Crossings
23 May 17 Sunset: 21:42	Start: 21:27 End: 23:42	Start: 10 End: 6	Start: 7 End: 7	Start: 0 End: 0	Start: 2 End: 2	NB	One S.pip observed crossing NB to SB through the culvert.	One crossing recorded at 22:12 (30 mins after sunset).	Under: 1 S.pip. Over: 0. Total Bats: 1
						SB	One S.pip observed crossing directly over the culvert SB to NB at 1.5m above the road.	One S.pip recorded crossing at 21:59 (17 mins after sunset). Activity started at 21:55 (13 mins after sunset) and continued to the end of survey.	Under: 0. Over: 1.S.pip. Total Bats: 1
15 June 17 Sunrise: 04:19	Start: 02:19 End: 04:34	Start: 13 End: 13	Start: 2 End: 5	Start: 0 End: 0	Start: 1 End: 3	NB	Four S.pip and one U.pip crossed over the culvert NB to SB between 2m and 3m above the road.	Bats observed crossing between 02:33 (106 mins before sunrise) and 03:21 (58 mins before sunrise). Activity finished at 03:21 (58 mins before sunrise).	Under: 0 Over: 4 S.pip, 1 U.pip. Total Bats: 5
						SB	Four S.pip crossed SB to NB through the culvert. Eight S.pip crossed SB to NB over the culvert between 2m and 8m above the road.	Bats observed crossing between 02:35 (104 before sunrise) and 03:35 (44 mins before sunrise). Activity finished at 03:35	Under: 4 S.pip. Over: 8 S.pip.

[46].Where a bat has been recorded by surveyors on either side of the carriageway and the timings indicate that this is the same bat, then this is counted as one crossing. Where a bat is recorded crossing the carriageway by one surveyor, but not seen on the other side of the carriageway this is recorded as one crossing as the bat may have crossed using a non-direct flight line.
[47] Cloud cover on a scale of 0-8 where 0 = Sky completely clear, 4 = Sky half cloudy, 8 = Sky completely cloudy.
[48] Precipitation intensity on scale of 0-5 where 0 = Dry, 1 = Light drizzle, 2 = Light rain, 3 = Moderate rain, 4 = Heavy rain, 5 = Torrential rain.
[49] Wind speed score of 0-12 against Beaufort scale where 0 = Calm, 2 = Light breeze, 4 = Moderate breeze, 6 = Strong breeze, 7 = High wind, 9 = Strong gale, 12 = Hurricane.

OS grid reference: Dalraddy to Slochd Crossing CP03 (TN279) NH 88358 10619									
Habitat Description: Watercourse culvert with pasture either side of the A9.									
Date Sunset/Sunrise Time (24hr clock)	**Start and End Times (24hr clock)**	**Weather Conditions**				**Location either side of A9 northbound (NB) southbound (SB)**	**Comments on behaviour**	**Comments on timings (e.g. mins before/after sunset/sunrise)**	**Bat Crossing the Road[46]**
		Temp (°C)	**Cloud (0 –8)[47]**	**Rain (0 - 5)[48]**	**Wind (0 – 12)[49]**				
								(44 mins before sunrise).	Total Bats: 12
22 June 17 Sunset: 22:14	Start: 21:59 End: 00:14	Start: 5 End: 11	Start: 8 End: 8	Start: 1 End: 1	Start: 2 End: 2	NB	Six S.pip crossed NB to SB through the culvert.	Bats observed crossing between 22:42 (28 mins after sunset) and 23:46 (92 mins after sunset). Activity started at 22:42 (28 mins after sunset) and continued to the end of the survey.	Under: 6 S.pip. Over: 0. Total Bats: 6
						SB	Nine S.pip and three U.pip crossed SB to NB through the culvert. Two S.pip and one U.pip crossed SB to NB over the culvert at 2m above the road.	Bats observered crossing over the road between 22:41 (27 mins after sunset) and 22:47 (33 mins after sunset). Bats observered crossing through the culvert between 22:48 (34 mins after sunset) and 23:54 (100 mins after sunset). Activity started at 22:41 (27 mins after sunset) and finished at 23:54 (100 mins after sunset).	Under: 9 S.pip, 3 U.pip. Over: 2 S.pip, 1 U.pip. Total Bats: 15
14 July 17 Sunset: 04:41	Start: 02:41 End: 04:56	Start: 11 End: 10	Start: 6 End: 7	Start: 0 End: 0	Start: 0 End: 0-1	NB	One S.pip crossing over the A9 crossed 5m above the road. Two S.pip crossed through the culvert.	Bats observed crossing between 03:47 (54 mins before sunrise) and 04:13 (28 mins before sunrise).Activity finished at 04:13 (28 mins before sunrise).	Under: 2 S.pip. Over: 1 S.pip. Total Bats: 3
						SB	Two S.pip and one U.pip crossed through culvert under the A9.	Bats observed crossing between 03:24 (77 mins before sunrise) and 03:57 (44 mins before sunrise). Activity finished at 03:57 (44 mins before sunrise).	Under: 2 S.pip 1 U.pip Over: 0 Total Bats: 3
18 July 17 Sunset 21:57	Start: 21:42 End: 23:57	Start: 19 End: 13	Start: 0 End: 1	Start: 0 End: 0	Start: 0 End: 0	NB	All bat crossings were under the A9, through the culvert travelling NB to SB.	Bats observed crossing between 22:15 (18mins after sunset) and 23:40 (103 mins after sunset).	Under: 11 S.pip, 2 C.pip, 1 U.pip. Over: 0. Total Bats: 14
						SB	Nine S.pip observed crossing south of the feature a maximum of 4m away. One C.pip crossed over the A9 3.5m away from the feature to the north. Other bats crossed over 5m from feature. Three S.pip crossed through the culvert SB to NB.	Bats observed crossing between 22:29 (32 mins after sunset) and 23:32 (95 mins after sunset).	Under: 3 S.pip. Over: 11 S.pip, 2 C.pip, 1 U.pip. Total Bats: 17
9 August 17 Sunset 21:13	Start: 20:58 End: 23:13	Start: 13 End: 9	Start: 4 End: 2	Start: 0 End: 0	Start: 1 End: 1	NB	A single crossing over (at 5m) the A9 was recorded with 3 crossings through the culvert. All bats in culvert crossings foraged in culvert for 10-20 mins prior to completing crossing.	First crossing recorded at 21:33 (20 mins after sunset) with the last crossing recorded at 22:41 (88 mins after sunset).	Under: 3 S.pip Over: 1 S.pip Total Bats: 4
						SB	A total of two S.pip crossings recorded – one through culvert and one over A9 at 3m above road and 10m south of feature.	Bat observed crossing over A9 at 21:56 (43 mins after sunset) and one recorded crossing through the culvert at 22:31 (78 mins after sunset).	Under: 1 S.pip Over: 1 S.pip Total Bats: 2
17 August 17	Start: 03:47	Start: 12	Start: 1	Start: 0	Start: 1	NB	No Crossings.	No Crossings	No Crossings
						SB	No Crossings	No Crossings	No Crossings

OS grid reference: Dalraddy to Slochd Crossing CP03 (TN279) NH 88358 10619									
Habitat Description: Watercourse culvert with pasture either side of the A9.									
Date Sunset/Sunrise Time (24hr clock)	**Start and End Times (24hr clock)**	**Weather Conditions**				**Location either side of A9 northbound (NB) southbound (SB)**	**Comments on behaviour**	**Comments on timings (e.g. mins before/after sunset/sunrise)**	**Bat Crossing the Road[46]**
		Temp (°C)	**Cloud (0 –8)[47]**	**Rain (0 - 5)[48]**	**Wind (0 – 12)[49]**				
Sunrise 05:47	End: 06:02	End: 11	End: 1	End: 0	End: 1				

Table 1.37: Crossing Location CP06 - Survey Results

OS grid reference: Dalraddy to Slochd Crossing CP06 (TN297) NH 89140 12020									
Habitat Description: Corrugated metal culvert with footpath running under the A9. Craigellachie NNR on the northbound side of the A9 and a strip of coniferous woodland on the southbound side of the A9.									
Date Sunset/Sunrise Time (24hr clock)	**Start and End Times (24hr clock)**	**Weather Conditions**				**Location either side of A9 Northbound (NB) Southbound (SB)**	**Comments on behaviour**	**Comments on timings (e.g. mins before/after sunset/sunrise)**	**Bat Crossing the Road [50]**
		Temp (°C)	**Cloud (0 –8)[51]**	**Rain (0 - 5)[52]**	**Wind (0 – 12)[53]**				
C.pip = common pipistrelle; S.pip = soprano pipistrelle; U.pip = unknown pipistrelle; Myt = Myotis; BLE = brown long-eared; Unk = unknown bat species									
16 May 2017 Sunset: 21:32	Start:21:17 End: 23:32	Start:12 End:8	Start:1 End:0	Start:0 End:0	Start:0-2 End:0	NB	Three C.pip crossed NB to SB directly over the culvert between 2m and 10m above the road. One S.pip crossed NB to SB through the culvert.	Bats observered crossing over between 22:02 (30 mins after sunset) and 22:25 (53 mins after sunset). Bat observed crossing through the culvert at 22:02 (30 mins after sunset). Activity started at 22:00 (28 mins after sunset) and finished at 23:16 (104 mins after sunset).	Over: 3 C.pip. Under: 1 S.pip. Total Bats: 4
						SB	One C.pip, three S.pip, one U.pip and one Unk bat crossed SB to NB over the culvert between 5m and 10m above the road. Two C.pip and one S.pip crossed SB to NB through the culvert.	Bats observed crossing over the A9 between 21:30 (2 mins before sunrise) and 23:23 (111 mins after sunset). Bats observed crossing through the culvert between 22:09 (37 mins after sunset) and 22:32 (60 mins after sunset). Activity started at 21:30 (2 mins before sunset) and finished at 23:23 (111 mins after sunset).	Over: 1 C.pip, 3 S.pip, 1 U.pip, 1 Unk. Under: 2 C.pip, 1 S.pip. Total Bats: 9
24 May 2017 Sunrise: 04:40	Start: 02:40 End: 04:55	Start: 11 End: 9	Start: 3 End: 6	Start: 0 End: 0	Start: 0 End: 0	NB	Three C.pip, one S.pip and one U.pip crossed NB to SB through the culvert. One Unk.bat and two U.pip crossed NB to SB within 10m over the culvert at between 3m and 10m above the road.	Bats observed crossing through the culvert between 03:07 (93 mins before sunrise) and 04:03 (37 mins before sunrise). Bats crossed over the A9 between 04:06 (34 mins before sunrise) and 04:21 (19 mins before sunrise). Activity started at 03:07 (93 mins before sunrise) and finished at 04:21 (19 mins before sunrise).	Under: 3 C.pip, 1 S.pip, 1 U.pip. Over: 1 U.pip, 2 Unk. Total Bats: 8
						SB	One C.pip crossed SB to NB through the culvert. One U.pip crossed SB to NB directly over the culvert at 4m above the road.	C.pip crossed through the culvert at 03:44 (56 mins before sunrise) and U.pip crosssed over at 03:50 (50 mins before sunrise). Activity finished at 04:19 (21 mins before sunrise).	Under: 1 C.pip. Over: 1 U.pip. Total Bats: 2
14 June 2017 Sunrise: 04:18	Start: 02:18 End: 04:33	Start: 11 End: 11	Start: 8 End: 7	Start: 0 End: 0	Start: 1 End: 1	NB	One S.pip and one U.pip crossed NB to SB directly over the culvert between 2m and 8m above the road.	Bats observed crossing over the A9 between 02:28 (110 mins before sunrise) and 04:18 (sunrise).	Under: 0 Over 1 S.pip, 1 U.pip. Total Bats: 2

[50] Where a bat has been recorded by surveyors on either side of the carriageway and the timings indicate that this is the same bat, then this is counted as one crossing. Where a bat is recorded crossing the carriageway by one surveyor, but not seen on the other side of the carriageway this is recorded as one crossing as the bat may have crossed using a non-direct flight line.
[51] Cloud cover on a scale of 0-8 where 0 = Sky completely clear, 4 = Sky half cloudy, 8 = Sky completely cloudy.
[52] Precipitation intensity on scale of 0-5 where 0 = Dry, 1 = Light drizzle, 2 = Light rain, 3 = Moderate rain, 4 = Heavy rain, 5 = Torrential rain.
[53] Wind speed score of 0-12 against Beaufort scale where 0 = Calm, 2 = Light breeze, 4 = Moderate breeze, 6 = Strong breeze, 7 = High wind, 9 = Strong gale, 12 = Hurricane.

OS grid reference: Dalraddy to Slochd Crossing CP06 (TN297) NH 89140 12020									
Habitat Description: Corrugated metal culvert with footpath running under the A9. Craigellachie NNR on the northbound side of the A9 and a strip of coniferous woodland on the southbound side of the A9.									
Date Sunset/Sunrise Time (24hr clock)	**Start and End Times (24hr clock)**	**Weather Conditions**				**Location either side of A9 Northbound (NB) Southbound (SB)**	**Comments on behaviour**	**Comments on timings (e.g. mins before/after sunset/sunrise)**	**Bat Crossing the Road [50]**
		Temp (°C)	**Cloud (0 –8)[51]**	**Rain (0 - 5)[52]**	**Wind (0 – 12)[53]**				
						SB	One S.pip, one C.pip and three U.pip crossed SB to NB directly over the culvert between 2m and 8m above the road.	Bats observed crossing over the A9 between 03:31 (47 mins before sunrise) and 03:56 (22 mins before sunrise).	Under: 0 Over:1 S.pip, 1 C.pip, 3 U.pip. Total Bats: 5
20 June 2017 Sunset: 22:13	Start: 21:58 End: 00:13	Start: 14 End: 11	Start: 0 End: 0	Start: 0 End: 0	Start: 0 End: 0	NB	Three S.pip, one C.pip and one U.pip crossed NB to SB directly over the culvert between 2m and 3m above the road. Three C.pip were observed crossing NB to SB through the culvert.	Bats observed crossing between 22:28 (15 mins after sunset) and 00:06 (113 mins after sunset).	Under: 3 C.pip, Over:1 C.pip, 3 S.pip, 1 U.pip. Total Bats: 8
						SB	One S.pip, one C.pip and one U.pip crossed SB to NB over the culvert between 4m and 5m above the road. Two C.pip crossed SB to NB through the culvert.	Bats observed crossing between 22:30 (17 mins after sunset) and 23:15 (62 mins aftetr sunset).	Under: 2 C.pip, Over: 1 C.pip, 1 S.pip, 1 U.pip. Total Bats: 5
13 July 2017 Sunset: 22:03	Start: 21:48 End: 00:03	Start: 12 End: 11	Start: 8 End: 8	Start: 0 End: 0	Start: 1 End: 0	NB	Majority of crossings were directly above the feature at a maximum height of 5m. Four S.pip observed crossing 5m south of the feature. Two C.pip and two S.pip were observed crossing through the culvert.	Bats observed crossing the A9 between 22:02 (1 min before sunset) and 23:48 (105 mins after sunset). Activity started at 22:02 (1 mins before sunset) and continued to the end of the survey.	Under: 2 C.pip, 2 S.pip. Over 12 S.pip, 6 C.pip. Total Bats: 22
						SB	C.pip and S.pip were observed crossing over the road at a maximum height of 5m. One S.pip was observed crossing 20m southbound of the feature. Four S.pip observed crossing through the culvert.	Bats observed crossing at A9 between 21:54 (9 mins before sunset) and 23:50 (107 mins after sunset). Activity started at 21:54 (9 mins before sunset) and continued to the end of the survey.	Under: 5 S.pip Over: 5 S.pip, 1 C.pip 1, U.pip. Total Bats: 12
19 July 2017 Sunrise: 04:50	Start: 02:50 End: 05:05	Start: 15 End: 12	Start: 1 End: 2	Start: 0 End: 0	Start: 0 End: 0	NB	Majority of C.pip and S.pip crossings above the road were recorded at a maximum of 5m above the road. Three C.pip and one S.pip observed crossing 8m south of the feature.	Bats observed crossing over the A9 between 03:02 (108 mins before sunrise) and 04:18 (32 mins before sunrise). One C.pip observed crossing through the culvert at 04:13 (37 mins before sunrise). Activity finished at 04:18 (32 mins before sunrise).	Under: 1 C.pip. Over:6 C.pip, 1 S.pip, 4 U.pip. Total Bats: 12
						SB	One S.pip and one Unk bat crossed 4m north of the feature. The *Myotis sp.* crossed directly over the feature.	Bats observed crossing over the A9 between 03:06 (104 mins before sunset) and 03:52 (58 mins before sunrise). Activity finished at 03:52 (58 mins before sunrise).	Under: 0. Over: 1 S.pip, 1 Myotis, 1 Unk. Total Bats: 3
10 August 17 Sunrise: 05:33	Start: 03:33 End: 05:48	Start: 9 End: 10	Start: 7 End: 8	Start: 0 End: 0	Start: 2 End: 1	NB	Five bats recorded as crossing, all above the A9 and directly over feature with the five seen to cross at 6m above road.	Bats observed crossing over the A9 between 04:05 (88 mins before sunrise) and 05:13 (20mins before sunrise). First activity recorded at 04:05 (88 mins before sunrise). Last activity at 05:13 (20 mins before sunrise).	Under: 0 Over: 1 C.pip, 4 S.pip Total Bats: 5

OS grid reference: Dalraddy to Slochd Crossing CP06 (TN297) NH 89140 12020									
Habitat Description: Corrugated metal culvert with footpath running under the A9. Craigellachie NNR on the northbound side of the A9 and a strip of coniferous woodland on the southbound side of the A9.									
Date Sunset/Sunrise Time (24hr clock)	**Start and End Times (24hr clock)**	**Weather Conditions**				**Location either side of A9 Northbound (NB) Southbound (SB)**	**Comments on behaviour**	**Comments on timings (e.g. mins before/after sunset/sunrise)**	**Bat Crossing the Road** [50]
		Temp (°C)	**Cloud (0 –8)**[51]	**Rain (0 - 5)**[52]	**Wind (0 – 12)**[53]				
						SB	A single U.pip was recorded flying 3m above the A9 crossing directly above the feature.	U.pip crossed over A9 at 04:42 (51 mins before sunrise). First activity recorded at 03:35 (118 mins before sunrise) with last activity at 05:05 (28 mins before sunrise).	Under: 0 Over: 1 U.pip Total Bats: 1
14 August 17 Sunset: 21:01	Start: 20:46 End: 23:01	Start: 13 End: 14	Start: 8 End: 8	Start: 0 End: 0	Start: 0 End: 0	NB	A total of three crossings observed – two directly above the feature at 4-5m over the A9 and a single *Myotis* sp.recorded flying through the culvert.	U.pip crossed over A9 at 21:33 (32 mins after sunset) and C.pip over at 21:44 (43 mins after sunset). *Myotis* sp. crossed through the culvert at 21:40 (39 mins after sunset). First recorded activity at 21:33 (32 mins after sunset). Last activity 21:44 (43 mins after sunset).	Under: 1 Myotis Over: 1 C.pip, 1 U.pip Total Bats: 3
						SB	A total of four C.pip crossing – one through the culvert and three over (from 3-10m above the A9) one of which crossed 10m north of the feature.	Bats observed crossing over the A9 between 21:25 (24 mins after sunset) and 21:40 (39 mins after sunset). C.pip recorded crossing through culvert at 21:35 (34 mins after sunset). Activity behind surveyor started at 21:25 (24 mins after sunset). Last activity 21:40 (39 mins after sunset).	Under: 1 C.pip Over: 3 C.pip Total Bats: 4

Table 1.38: Crossing Location CP25 - Survey Results

OS grid reference: Dalraddy to Slochd Crossing CP25 NH 89359 22866									
Habitat Description: Track leading across the A9 from Carrbridge to Dalrachney Beag. Northbound on either side of the road are areas of coniferous plantation and to the south areas of pasture.									
Date Sunset/ Sunrise Time (24hr clock)	**Start and End Times (24hr clock)**	**Weather Conditions**				**Location either side of A9 northbound (NB) southbound (SB)**	**Comments on behaviour**	**Comments on timings (e.g. mins before/after sunset/sunrise)**	**Bat Crossing the Road [54]**
		Temp (ºC)	**Cloud (0 –8)[55]**	**Rain (0 - 5)[56]**	**Wind (0 – 12)[57]**				
C.pip = common pipistrelle; S.pip = soprano pipistrelle; U.pip = unknown pipistrelle; Myt = Myotis; BLE = brown long-eared; Unk = unknown bat species									
17 May 17 Sunset: 21:34	Start: 21:19 End: 23:34	Start: 11 End: 9	Start: 8 End: 3	Start: 2 End: 0	Start: 0 End: 0	NB	Two C.pip and one BLE crossed NB to SB directly over the feature at between 3m and 5m above the road.	Bats observed crossing over the A9 between 22:02 (28 mins after sunset) and 23:29 (110 mins after sunset). Activity started at 22:02 (28 mins after sunset) and finished at 23:24 (110 mins after sunset).	Under: 0 Over: 2 C.pip, 1 BLE. Total Bats: 3
						SB	Three C.pip crossed SB to NB directly over the feature 5m above the road.	Bats were observed crossing between 22:01 (27 mins after sunset) and 23:27 (113 mins after sunset). Activity started at 21:58 (24 mins after sunset) and finished at 23.29 (115 mins after sunset).	Under: 0 Over: 3 C.pip. Total Bats: 3
23 May 17 Sunrise: 04:42	Start: 02:42 End: 04:57	Start: 2.5 End: 4	Start: 0 End: 4	Start: 0 End: 0	Start: 0 End: 0	NB	One Unk. bat crossed NB to SB 10m west of the feature, 3m above the road surface.	Bat observed crossing over A9 at 03:51 (51 mins before sunrise).	Under: 0 Over: 1 Unk. Total Bats 1
						SB	No Crossings	No Crossings	No Crossings
13 June 2017 Sunrise: 04:18	Start: 02:18 End: 04:33	Start: 8.5 End: 10	Start: 7 End: 4	Start: 0 End: 0	Start: 1 End: 1	NB	24 C.pip observed crossing NB to SB over the feature between 3m and 8m above the road.	Bats were observed crossing between 03:30 (48 mins before sunrise) and 04:06 (12 mins before sunrise). Activity finished at 04:06 (12 mins before sunrise).	Under: 0 Over: 24 C.pip. Total Bats 24
						SB	C.pip and S.pip observed crossing SB to NB over the feature between 3m and 20m above the road.	Bats observed crossing between 03:08 (70 mins before sunrise) and 03:43 (35 mins before sunrise). Activity finished at 03:43 (35 mins before sunrise).	Under: 0 Over: 9 C.pip, 2 S.pip. Total Bats: 11
19 June 2017 Sunset: 22:20	Start: 22:05 End: 00:20	Start: 12 End: 10	Start: 2 End: 1	Start: 0 End: 0	Start: 1 End: 1	NB	Two C.pip, three S.pip and one Unk observed crossing NB to SB directly over the feature at 3m to 4m above the road. Three C.pip were observed crossing NB to SB 10m south of the feature 3m above the road.	Bats observed crossing between 22:43 (23 mins after sunset) and 00:15 (115 mins after sunset). Activity started at 22:43 (23 mins after sunset) and finished at 23.32 (72 mins after sunset).	Under: 0 Over: 5 C.pip, 3 S.pip, 1 Unk. Total Bats: 9
						SB	Two C.pip, four S.pip, two U.pip and 1 Unk observed crossing SB to NB 10m from the feature; all other crossings were within 5m of the feature.	Bats observed crossing between 22:45 (25 mins after sunset) and 23:50 (90 mins after sunset). Activity started at 22:43 (23 mins after sunset) and finished at 23.50 (90 mins after sunset).	Under: 0 Over: 5 C.pip, 7 S.pip, 4 U.pip, 1 Unk. Total Bats: 17

[54] Where a bat has been recorded by surveyors on either side of the carriageway and the timings indicate that this is the same bat, then this is counted as one crossing. Where a bat is recorded crossing the carriageway by one surveyor, but not seen on the other side of the carriageway this is recorded as one crossing as the bat may have crossed using a non-direct flight line.
[55] Cloud cover on a scale of 0-8 where 0 = Sky completely clear, 4 = Sky half cloudy, 8 = Sky completely cloudy.
[56] Precipitation intensity on scale of 0-5 where 0 = Dry, 1 = Light drizzle, 2 = Light rain, 3 = Moderate rain, 4 = Heavy rain, 5 = Torrential rain.
[57] Wind speed score of 0-12 against Beaufort scale where 0 = Calm, 2 = Light breeze, 4 = Moderate breeze, 6 = Strong breeze, 7 = High wind, 9 = Strong gale, 12 = Hurricane.

OS grid reference: Dalraddy to Slochd Crossing CP25 NH 89359 22866									
Habitat Description: Track leading across the A9 from Carrbridge to Dalrachney Beag. Northbound on either side of the road are areas of coniferous plantation and to the south areas of pasture.									
Date **Sunset/ Sunrise Time (24hr clock)**	**Start and End Times (24hr clock)**	**Weather Conditions**				**Location either side of A9** **northbound (NB)** **southbound (SB)**	**Comments on behaviour**	**Comments on timings (e.g. mins before/after sunset/sunrise)**	**Bat Crossing the Road** [54]
		Temp (ºC)	**Cloud (0 –8)**[55]	**Rain (0 - 5)**[56]	**Wind (0 – 12)**[57]				
10 July 2017 Sunset: 22:06	Start: 21:51 End: 00:06	Start: 9 End: 9	Start: 8 End: 8	Start: 3 End: 3	Start: 1 End: 1	NB	Majority of crossings are directly over the feature. Two Unk bats observed crossing 20m and 30m southbound of the feature.	Bats were observed crossing over the A9 between 22:33 (27 mins after sunset) and 23:19 (73 mins after sunset). Activity started at 22:33 (27 mins after sunset) and finished at 23.58 (112 mins after sunset).	Under: 0 Over: 2 C.pip, 3 Unk. Total Bats 5
						SB	Majority of records crossed between 3m and 10m the feature. Two C.pip and one S.pip were observed crossing directly over the position.	Bats observed crossing over the A9 between 22:13 (7 mins after sunset) and 23:07 (61 mins after sunset). Activity started at 22:13 (7 mins after sunset) and finished at 23.58 (112 mins after sunset).	Under: 0 Over: 8 C.pip, 2 S.pip, 2 U.pip, 1 Unk. Total Bats: 13
18 July 2017 Sunrise: 04:47	Start: 02:47 End: 05:02	Start: 8 End: 7	Start: 0 End: 2	Start: 0 End: 0	Start: 1 End: 0	NB	One record during the survey of one U.pip crossing over the A9 4m above the road 8m south of the feature.	The one U.pip crossed over the A9 at 03:46 (61 mins before sunrise).	Under: 0 Over: 1 Upip. Total Bats: 1
						SB	No Crossings	No Crossings	No Crossings
8 August 17 Sunrise: 05:28	Start: 03:28 End: 05:43	Start: 9 End: 7	Start: 5 End: 6	Start: 0 End: 0	Start: 0-1 End: 0-1	NB	Four crossings south of the feature with one crossing directly over feature. All crossings between 2-4m above A9.	Bats bserved crossing between 04:34 (54 mins before sunrise) and 04:51 (37 mins before sunrise). First activity at 03:34 (114 mins before sunrise) with last activity at 04:51 (37 mins before sunrise).	Under: 0 Over: 2 C.pip, 1 S.pip, 1 U.pip, 1 Unk Total Bats: 5
						SB	One C.pip and one S.pip crossed directly over the feature at 4m above the road travelling SB to NB.	C.pip observed crossing over at 04:19 (69 mins before sunrise) and S.pip observed at 04:28 (60 mins before sunrise). First activity at 04:19 (69 mins before sunrise) with last activity at 04:28 (60 mins before sunrise).	Under: 0 Over: 1 C.pip, 1 S.pip Total Bats: 2
15 August 17 Sunset: 20:59	Start: 20:44 End: 22:59	Start: 13 End: 11	Start: 2 End: 2	Start: 0 End: 0	Start: 1 End: 1	NB	Two crossings of C.pip bats over the A9, 4 and 6m above road directly above feature.	Activity started at 22:30 (106 mins after sunset) and finished at 22:54 (115 mins after sunset).	Under: 0 Over: 2 C.pip Total Bats: 2
						SB	A total of 11 bats recorded crossing SB to NB, with 10 C.pip crossing low over feature (2-3m). A single Myotis sp.was recorded crossing higher (at 8m).	Bats observed crossing between 21:19 (20 mins after sunset) and 22:09 (70 mins after sunet). Activity started at 21:19 (20 mins after sunset) and finished at 22:09 (70 mins after sunset).	Under: 0 Over: 10 C.pip, 1 Myotis Total Bats: 11

Table 1.39: Crossing Location CP26 - Survey Results

OS grid reference: Dalraddy to Slochd Crossing CP26 (24) NH 85915 23853									
Habitat Description: Track leading across the A9 with coniferous plantation northbound and open heath southbound.									
Date Sunset/ Sunrise Time (24hr clock)	**Start and End Times (24hr clock)**	**Weather Conditions**				**Location either side of A9 Northbound (NB) Southbound (SB)**	**Comments on behaviour**	**Comments on timings (e.g. mins before/after sunset/sunrise)**	**Bat Crossing the Road [58]**
		Temp (°C)	**Cloud (0 –8)[59]**	**Rain (0 - 5)[60]**	**Wind (0 – 12)[61]**				
C.pip = common pipistrelle; S.pip = soprano pipistrelle; U.pip = unknown pipistrelle; Myt = Myotis; BLE = brown long-eared; Unk = unknown bat species									
18 May 17 Sunrise: 04:47	Start: 02:47 End: 05:03	Start: 3 End: 6	Start: 2 End: 4	Start: 0 End: 0	Start: 0-1 End: 0-1	NB	No Crossings	No Crossings	No Crossings
						SB	No Crossings	No Crossings	No Crossings
12 June 17 Sunset: 22:12	Start: 21:57 End:00:12	Start: 9.5 End:9	Start: End:6	Start: 0 End: 0	Start: 1 End: 1	NB	One S.pip crossed NB to SB over the feature 8m above the road.	The one S.pip crossed over the A9 at 22:44 (32 mins after sunset).	Under: 0 Over: 1 S.pip. Total Bats: 1
						SB	No Crossings	No Crossings	No Crossings
11 July 17 Sunrise: 04:36	Start: 02:36 End:04:51	Start: 8 End: 6	Start: 8 End: 8	Start: 0 End: 0	Start: 1 End: 0	NB	One C.pip crossed NB to SB over the feature 4m above the road .and 4 m northbound of the feature.	C.pip crossed over the A9 at 02:51 (105 mins after sunset).	Under: 0 Over: 1 C.pip. Total Bats: 1
						SB	No Crossings	No Crossings	No Crossings
7 August 17 Sunset 21:18	Start: 21:03 End: 23:18	Start: 10 End: 7	Start: 2 End: 3	Start: 0 End: 0	Start: 0 End: 0	NB	Single S.pip crossed A9 20m south of feature and 4m above A9.	The one S.pip crossed the A9 at 21:58 (40 mins after sunset).	Under: 0 Over: 1 S.pip Total Bats: 1
						SB	No Crossings	No Crossings	No Crossings

Table 1.40: Crossing Location CP27 Control - Survey Results

OS grid reference: Dalraddy to Slochd Crossing CP27 (25) NH 86221 09834									
Habitat Description: Conifer plantation on either side of the A9 with pasture behind it. Used as a control.									
Date Sunset/ Sunrise Time (24hr clock)	**Start and End Times (24hr clock)**	**Weather Conditions**				**Location either side of A9 northbound (NB) southbound (SB)**	**Comments on behaviour**	**Comments on timings (e.g. mins before/after sunset/sunrise)**	**Bat Crossing the Road [62]**
		Temp (°C)	**Cloud (0 –8)[63]**	**Rain (0 - 5)[64]**	**Wind (0 – 12)[65]**				
C.pip = common pipistrelle; S.pip = soprano pipistrelle; U.pip = unknown pipistrelle; Myt = Myotis; BLE = brown long-eared; Unk = unknown bat species									
17 May 17	Start: 02:49	Start: 4	Start: 0	Start: 0	Start: 0	NB	No Crossings	No Crossings	No Crossings

[58] Where a bat has been recorded by surveyors on either side of the carriageway and the timings indicate that this is the same bat, then this is counted as one crossing. Where a bat is recorded crossing the carriageway by one surveyor, but not seen on the other side of the carriageway this is recorded as one crossing as the bat may have crossed using a non-direct flight line.
[59] Cloud cover on a scale of 0-8 where 0 = Sky completely clear, 4 = Sky half cloudy, 8 = Sky completely cloudy.
[60] Precipitation intensity on scale of 0-5 where 0 = Dry, 1 = Light drizzle, 2 = Light rain, 3 = Moderate rain, 4 = Heavy rain, 5 = Torrential rain.
[61] Wind speed score of 0-12 against Beaufort scale where 0 = Calm, 2 = Light breeze, 4 = Moderate breeze, 6 = Strong breeze, 7 = High wind, 9 = Strong gale, 12 = Hurricane.
[62] Where a bat has been recorded by surveyors on either side of the carriageway and the timings indicate that this is the same bat, then this is counted as one crossing. Where a bat is recorded crossing the carriageway by one surveyor, but not seen on the other side of the carriageway this is recorded as one crossing as the bat may have crossed using a non-direct flight line.
[63] Cloud cover on a scale of 0-8 where 0 = Sky completely clear, 4 = Sky half cloudy, 8 = Sky completely cloudy.
[64] Precipitation intensity on scale of 0-5 where 0 = Dry, 1 = Light drizzle, 2 = Light rain, 3 = Moderate rain, 4 = Heavy rain, 5 = Torrential rain.
[65] Wind speed score of 0-12 against Beaufort scale where 0 = Calm, 2 = Light breeze, 4 = Moderate breeze, 6 = Strong breeze, 7 = High wind, 9 = Strong gale, 12 = Hurricane.

OS grid reference: Dalraddy to Slochd Crossing CP27 (25) NH 86221 09834									
Habitat Description: Conifer plantation on either side of the A9 with pasture behind it. Used as a control.									
Date Sunset/ Sunrise Time (24hr clock)	**Start and End Times (24hr clock)**	**Weather Conditions**				**Location either side of A9 northbound (NB) southbound (SB)**	**Comments on behaviour**	**Comments on timings (e.g. mins before/after sunset/sunrise)**	**Bat Crossing the Road [62]**
		Temp (°C)	**Cloud (0 –8)[63]**	**Rain (0 - 5)[64]**	**Wind (0 – 12)[65]**				
Sunrise: 04:49	End: 05:04	End: 2	End: 1	End: 0	End: 1	SB	No Crossings	No Crossings	No Crossings
14 June 17	Start: 21:57	Start: 15	Start: 6	Start: 0	Start: 3	NB	No Crossings	No Crossings	No Crossings
Sunset: 22:12	End: 00:12	End: 13	End: 4	End: 0	End: 1	SB	One C.pip, one S.pip and one U.pip observed crossing SB to NB within 5m of the feature 10m above the road.	Bats observed crossing between 23:25 (73 mins after sunset) and 23:30 (78 mins after sunset).	Under: 0 Over: 1 C.pip, 1 S.pip, 1 U.pip. Total Bats: 3
12 July 17	Start: 02:38	Start: 8	Start: 6	Start: 0	Start: 1	NB	No Crossings	No crossings	No Crossings.
Sunrise: 04:38	End: 04:53	End: 7	End: 4	End: 0	End: 0	SB	No crossings	No crossings	No Crossings.
8 August 17	Start: 21:00	Start: 12	Start: 6	Start: 0	Start: 1-2	NB	No Crossings.	No Crossings.	No Crossings.
Sunset: 21:15	End: 23:15	End: 13	End: 8	End: 0	End: 1-2	SB	A single crossing of a S.pip 15m above road and 15m north of feature seen SB to NB.	The one S.pip crossed over the A9 at 22:29 (74 mins after sunset).	Under: 0 Over: 1 S.pip Total Bats: 1

Table 1.41: Crossing Location CP28 Control - Survey Results

OS grid reference: Dalraddy to Slochd Crossing CP28 (26) NH 90851 17456									
Habitat Description: Pasture either side of the A9 with a small area of scrub on the northbound side. Used as a control. (*Rain ceased soon after start of survey)									
Date Sunset/ Sunrise Time (24hr clock)	**Start and End Times (24hr clock)**	**Weather Conditions**				**Location either side of A9 northbound (NB) southbound (SB)**	**Comments on behaviour**	**Comments on timings (e.g. mins before/after sunset/sunrise)**	**Bat Crossing the Road [66]**
		Temp (°C)	**Cloud (0 – 8)[67]**	**Rain (0 - 5)[68]**	**Wind (0 – 12)[69]**				
C.pip = common pipistrelle; S.pip = soprano pipistrelle; U.pip = unknown pipistrelle; Myt = Myotis; BLE = brown long-eared; Unk = unknown bat species									
22 May 17	Start:21:26	Start: 11	Start: 8	Start: 4*	Start: 0	NB	One C.pip crossed NB to SB at 4m above the road and 10m away from the control survey point.	Bat crossed at 22:32 (51 mins after sunset).	Under: 0 Over: 1 C.pip. Total Bats: 1
Sunset: 21:41	End: 23:41	End: 9	End: 0	End: 0	End: 0	SB	One U.pip crossed SB to NB at 4m straight over control survey point.	One U.pip crossed over the A9 at 22:37 (56 mins after sunset).	Under: 0 Over: 1 U.pip. Total Bats: 1

[66] Where a bat has been recorded by surveyors on either side of the carriageway and the timings indicate that this is the same bat, then this is counted as one crossing. Where a bat is recorded crossing the carriageway by one surveyor, but not seen on the other side of the carriageway this is recorded as one crossing as the bat may have crossed using a non-direct flight line.
[67] Cloud cover on a scale of 0-8 where 0 = Sky completely clear, 4 = Sky half cloudy, 8 = Sky completely cloudy.
[68] Precipitation intensity on scale of 0-5 where 0 = Dry, 1 = Light drizzle, 2 = Light rain, 3 = Moderate rain, 4 = Heavy rain, 5 = Torrential rain.
[69] Wind speed score of 0-12 against Beaufort scale where 0 = Calm, 2 = Light breeze, 4 = Moderate breeze, 6 = Strong breeze, 7 = High wind, 9 = Strong gale, 12 = Hurricane.

OS grid reference: Dalraddy to Slochd Crossing CP28 (26) NH 90851 17456									
Habitat Description: Pasture either side of the A9 with a small area of scrub on the northbound side. Used as a control. (*Rain ceased soon after start of survey)									
Date Sunset/ Sunrise Time (24hr clock)	**Start and End Times (24hr clock)**	**Weather Conditions**				**Location either side of A9 northbound (NB) southbound (SB)**	**Comments on behaviour**	**Comments on timings (e.g. mins before/after sunset/sunrise)**	**Bat Crossing the Road** [66]
		Temp (°C)	**Cloud (0 – 8)**[67]	**Rain (0 - 5)**[68]	**Wind (0 – 12)**[69]				
20 June 17 Sunrise: 04:20	Start:02:20 End:04:35	Start:5 End:3	Start:1 End:1	Start:0 End:0	Start:0 End:0	NB	No Crossings	No Crossings	No Crossings
						SB	No Crossings	No Crossings	No Crossings
17 July 17 Sunset: 21:58	Start:21:40 End:23:58	Start:15 End:11	Start:0 End:0	Start:0 End:0	Start:0-1 End:0-1	NB	One C.pip observed crossing over the A9 4m above the road.	One C.pip crossed over the A9 at 23:41 (103 mins after sunset)	Under: 0 Over: 1 C.pip. Total Bats: 1
						SB	One C.pip observed crossing over the A9 10m above the road at control survey point.	One C.pip crossed at 23:38 (100 mins after sunset).	Under: 0 Over: 1 C.pip. Total Bats: 1
16 August 17 Sunrise: 05:42	Start: 03:42 End: 05:58	Start: 10 End: 10	Start: 7 End: 7	Start: 0 End: 0	Start: 1 End: 1	NB	A single crossing of a C.pip 8m above A9 and 5m north of control survey point travelling NB to SB.	The one C.pip crossed over the A9 at 04:18 (84 mins before sunrise).	Under: 0 Over: 1 C.pip Total Bats: 1
						SB	One C.pip and one Unk bat crossed low (2m) at control survey point travelling SB to NB.	Unk bat crossed at 04:45 (57 mins before sunrise) and C.pip crossed at 04:50 (52 mins before sunrise). Last activity at 04:50 (52 mins before sunrise).	Under: 0 Over: 1 Cpip, 1 Unk Total Bats: 2

Table 1.42: Crossing Location CP29 Control - Survey Results

OS grid reference: Dalraddy to Slochd Crossing CP29 (27) NH 89252 13601									
Habitat Description: Young Birch woodland either side of the A9 with a small culvert 100m away. Site used as a control.									
Date Sunset/ Sunrise Time (24hr clock)	**Start and End Times (24hr clock)**	**Weather Conditions**				**Location either side of A9 northbound (NB) southbound (SB)**	**Comments on behaviour**	**Comments on timings (e.g. mins before/after sunset/sunrise)**	**Bat Crossing the Road** [70]
		Temp (°C)	**Cloud (0 – 8)**[71]	**Rain (0 - 5)**[72]	**Wind (0 – 12)**[73]				
C.pip = common pipistrelle; S.pip = soprano pipistrelle; U.pip = unknown pipistrelle; Myt = Myotis; BLE = brown long-eared; Unk = unknown bat species									
25 May 2017 Sunset: 21:46	Start: 21:31 End: 23:46	Start: 17 End: 15	Start:1 End:1	Start:0 End:0	Start:0 End:0	NB	No Crossings	No Crossings	No Crossings
						SB	21 C.pip, S.pip and U.pip crossed SB to NB at heights between 3m and 12m above the road and within 10m north and south of the control survey point.	Bats observed crossing over the A9 between 21:58 (12 mins after sunset) and 22:31 (45 mins after sunset). Activity started at 21:58 (12 mins after	Under: 0 Over: 19 C.pip, 1 S.pip, 1 U.pip.

[70] Where a bat has been recorded by surveyors on either side of the carriageway and the timings indicate that this is the same bat, then this is counted as one crossing. Where a bat is recorded crossing the carriageway by one surveyor, but not seen on the other side of the carriageway this is recorded as one crossing as the bat may have crossed using a non-direct flight line.
[71] Cloud cover on a scale of 0-8 where 0 = Sky completely clear, 4 = Sky half cloudy, 8 = Sky completely cloudy.
[72] Precipitation intensity on scale of 0-5 where 0 = Dry, 1 = Light drizzle, 2 = Light rain, 3 = Moderate rain, 4 = Heavy rain, 5 = Torrential rain.
[73] Wind speed score of 0-12 against Beaufort scale where 0 = Calm, 2 = Light breeze, 4 = Moderate breeze, 6 = Strong breeze, 7 = High wind, 9 = Strong gale, 12 = Hurricane.

OS grid reference: Dalraddy to Slochd Crossing CP29 (27) NH 89252 13601									
Habitat Description: Young Birch woodland either side of the A9 with a small culvert 100m away. Site used as a control.									
Date Sunset/ Sunrise Time (24hr clock)	**Start and End Times (24hr clock)**	**Weather Conditions**				**Location either side of A9 northbound (NB) southbound (SB)**	**Comments on behaviour**	**Comments on timings (e.g. mins before/after sunset/sunrise)**	**Bat Crossing the Road** [70]
		Temp (°C)	**Cloud (0 – 8)**[71]	**Rain (0 - 5)**[72]	**Wind (0 – 12)**[73]				
								sunset) and finished at 22:31 (45 mins after sunset).	Total: 21
21 June 2017 Sunrise: 04:20	Start: 02:20 End: 04:35	Start: 5 End: 5	Start: 1 End: 6	Start:0 End: 0	Start: 2 End: 1	NB	Two C.pip crossed NB to SB straight over control survey point 4m and 5m above the road.	Bats observed crossing over the A at 03:35 (45 mins before sunrise) and 04:00 (20 mins before sunrise).	Under: 0 Over: 2 C.pip, Total: 2
						SB	One C.pip observed crossing SB to NB 25m south of the control survey point 3m above the road.	The one C.pip crossed over the A9 at 03:07 (73 mins before sunrise).	Under: 0 Over: 1 C.pip. Total: 1
19 July 2017 Sunset: 21:55	Start: 21:40 End: 23:55	Start: 16 End: 15	Start: 8 End: 8	Start:0 End: 0	Start: 0-1 End: 0-1	NB	Two C.pip crossed directly at the control point at 8m and 10 m. One Unk observed crossing 2 m south of position 12m above the road.	Bats observed crossing over the A9 at 21:40 (15 mins before sunset), 22:54 (59 mins after sunset) and 23:16 (81 mins after sunset). Activity started at 21:40 (15 mins before sunset) and finished at 23:16 (81 mins after sunset).	Under: 0 Over: 2 C.pip, 1 Unk. Total: 3
						SB	All bats observed crossing at between 4m and 6 m above the road. Two U.pip were observed crossing directly over control survey point. Three C.pip and one Unk bat were observed crossing 4m northbound of the survey positon. Two C.pip were observed crossing 2m and 8m south of the survey position.	Bats observed crossing over the A9 between 21:42 (13 mins before sunset) and 23:31 (96 mins after sunset). Activity started at 21:42 (13 mins before sunset) and finished at 23:31 (96 mins after sunset).	Under: 0 Over: 6 C.pip, 2 U.pip, 1 Unk. Total: 9
15 August 17 Sunrise: 05:43	Start: 03:43 End: 05:57	Start: 13 End: 12	Start: 8 End: 7	Start: 1 End: 0	Start: 0 End: 0	NB	Four C.pip and 5 U.pip crossed from the NB side. Five of these crossed north control survey point (from 3-5m north) with the remainig four crossing directly at the control point. All crossings were between 10-15m above the A9.	Bats observed crossing between 04:12 (91 mins before sunrise) and 05:28 (15 mins before sunrise). First activity recorded at 04:12 (91 mins before sunrise). Last activity at 05:28 (15 mins before sunrise).	Under: 0 Over: 4 C.pip, 5 Upip. Total Bats: 9
						SB	A single crossing was recorded of a C.pip at 15m directly at the control survey point from SB to NB.	The one C.pip crossed over the A9 at 04:53 (50 mins before sunrise.	Under: 0 Over: 1 C.pip Total Bats: 1

Table 1.43: Crossing Location CP08 – Survey Results

OS grid reference and chainage: Dalraddy to Slochd Crossing CP08 (TN310) NH 89282 13687									
Habitat Description: Small underpass with a tree lined pedestrian path into the surrounding woodland.									
Date Sunset/Sunrise Time (24hr clock)	**Start and End Times (24hr clock)**	**Weather Conditions**				**Location either side of A9 northbound (NB) southbound (SB)**	**Comments on behaviour**	**Comments on timings (e.g. mins before/after dusk/dawn)**	**Bat Crossing the Road[1]**
		Temp (ºC)	**Cloud (0 –8)[74]**	**Rain (0 - 5)[75]**	**Wind (0 – 12)[76]**				
C.pip = common pipistrelle; S.pip = soprano pipistrelle; U.pip = unknown pipistrelle; Myt = Myotis; Nyc = Nyctalus species; Unk = unknown bat species									
21 June 17 Sunset 22:15	Start: 22:00 End: 00:15	Start:16 End:16	Start:6 End:7	Start:1 End: 0	Start:3 End:1	N/B	Six pip species (four C.pip, one S.pip and one U.pip) crossed NB to SB at heights between 4m and 7m above the road. Most crossings were directly over or within 7m of the identified crossing feature with one 12m from feature.	Bats were observed crossing between 22:17 (2 mins after sunset) and 23:49 (94 mins after sunset) Activity started at 22:18 (3 minutes before sunset) and continued to the end of survey.	Under: 0 Over: 4C.pip, 1 S.pip, 1 U.pip. Total Bats: 6
						S/B	Seventeen pip species (ten C.pip, 2 S.pip and 5 U.pip) crossed SB to NB at heights between 3m and 10m above the road. Only 5 crossings were within 10m of identified crossing feature. The rest ranged from 15m to 35m from feature.	Bats were observed crossing over the A9 between 22:18 (3 mins after sunset) and 23:27 (72 mins after sunset).	Under: 0 Over: 10 C.pip, 2 S.pip, 5 U.pip. Total Bats: 17
27 June 17 Sunrise 04:21	Start: 02:20 End: 04:36	Start:8 End:8	Start:8 End:8	Start:0 End:0	Start:1 End:1	N/B	Two S.pip crossed NB to SB at height of 5m and 1.5m above the road. This crossing was directly over the identified crossing feature.	S.pip bats observed crossing at 03:03 (78 mins before sunrise) and 03:18 (63 mins before sunrise). Activity finished at 03:43 (38 minutes before sunrise)	Under: 0 Over: 2 S.pip. Total Bats: 2
						S/B	U.pip and unknown bat crossed SB to NB at heights of 8m and 10m above the road. These crossings were over 10m from the identified crossing feature.	Bats observed crossing at 03:33 (48 mins before sunrise) and 03:39 (42 mins before sunrise). Activity finished at 03:39 (42 minutes before sunrise)	Under: 0 Over: 1 U.pip, 1 UnK. Total Bats: 2
14 July 17 Sunset 04:41	Start: 02:41 End: 04:56	Start: 10 End: 10	Start: 5 End: 5	Start: 0 End: 0	Start: 1 End: 1	N/B	No Crossings	No Crossings	No Crossing
						S/B	One Myt crossed SB to NB at 2m. This crossing was c. 5 m from the identified crossing feature.	Bat seen crossing over A9 at 02:57 (104 mins before sunrise). Activity finished at 04:24 (17 minutes before sunrise)	Under: 0 Over: 1 Myt. Total Bats: 1
26 July 17 Sunrise 21:40	Start: 21:25 End: 23:40	Start: 13 End: 10	Start: 3 End: 2	Start: 0 End: 0	Start: 2 End: 2	N/B	One S.pip recorded crossing over the A9 NB to SB.	Bat observed crossing 22:56 (76 mins after sunset). Activity started at 21:47 (7 minutes after sunset) and continued to 22:54.	Under: 0 Over: 1 S.pip Total Bats: 1
						S/B	Pip species, predominantly C.pip, crossed SB to NB at heights between 5m and 12m above the road. All of the crossings were 10m from the identified crossing feature.	Bats observed crossing over the A9 between 21:47 (7 mins after sunset) and 22:35 (55 mins after sunset). Activity started at 21:38 (2 minutes before sunset) and continued to the end of survey.	Under: 0 Over: 13 C.pip, 1 S.pip, 2 U.pip, 2 Unk. Total Bats: 18
10 August 17 Sunset 21:10	Start: 20:55 End: 23:10	Start: 14 End: 11	Start: 2 End: 2	Start: 0 End: 0	Start: 3 End: 3	N/B	No Crossings	No Crossings	No Crossings
						S/B	Two C.pip crossed SB to NB at heights between 6m and 8m above the road. One U.pip crossed at 6m above the road SB to NB. All of the crossings were between 6m and 12m from the identified crossing feature.	Bats observed crossing over the A9 between 21:27 (17 mins after sunset) and 21:35 (25 mins after sunset). Activity started at 21:18 (8 minutes before sunset) and continued to the end of survey.	Under Over: 2 C.pip, 1 U.pip, Total Bats: 3

[1] Where a bat has been recorded by surveyors on either side of the carriageway and the timings indicate that this is the same bat, then this is counted as one crossing. Where a bat is recorded crossing the carriageway by one surveyor, but not seen on the other side of the carriageway this is recorded as one crossing as the bat may have crossed using a non-direct flight line.
[74] Cloud cover on a scale of 0-8 where 0 = Sky completely clear, 4 = Sky half cloudy, 8 = Sky completely cloudy.
[75] Precipitation intensity on scale of 0-5 where 0 = Dry, 1 = Light drizzle, 2 = Light rain, 3 = Moderate rain, 4 = Heavy rain, 5 = Torrential rain.
[76] Wind speed score of 0-12 against Beaufort scale where 0 = Calm, 2 = Light breeze, 4 = Moderate breeze, 6 = Strong breeze, 7 = High wind, 9 = Strong gale, 12 = Hurricane.

OS grid reference and chainage: Dalraddy to Slochd Crossing CP08 (TN310) NH 89282 13687								
Habitat Description: Small underpass with a tree lined pedestrian path into the surrounding woodland.								
Date Sunset/Sunrise Time (24hr clock)	**Start and End Times (24hr clock)**	**Weather Conditions**				**Location either side of A9 northbound (NB) southbound (SB)**	**Comments on behaviour**	**Comments on timings (e.g. mins before/after dusk/dawn)**	**Bat Crossing the Road[1]**
		Temp (ºC)	**Cloud (0 –8)[74]**	**Rain (0 - 5)[75]**	**Wind (0 – 12)[76]**				
24 August 17 Sunrise 06:00	Start: 04:00 End: 06:15	Start: 11 End: 10	Start: 0 End: 1	Start: 0 End: 0	Start: 1 End: 0	N/B	One C.pip seen crossing NB to SB above the road at height 10m. This crossing was 3m from identified crossing feature. One unknown bat crossed NB to SB.	Bats observed crossing over the A9 at 05:31 (29mins before sunrise) and 05:35 (25 mins before sunrise). Activity finished at 05:31 (29 minutes before sunrise)	Under: 0 Over: 1 C.pip, 1 Unk Total Bats: 2
						S/B	No Crossings.	No Crossings.	No Crossings.
8 September 17 Sunrise 06:31	Start: 04:31 End: 06:46	Start: 10 End: 10	Start: 8 End: 8	Start: 0-1 End: 0	Start: 0 End: 1	N/B	No Crossings.	No Crossings.	No Crossings.
						S/B	One C.pip bat seen going SB to NB across the road at a height of 10m. This crossing was 25m south of the identified crossing feature.	Bat observed crossing over the A9 at 06:02 (29 mins before sunrise). Activity finished at 06:02 (29 minutes before sunrise)	Under: 0 Over: 1 C.pip Total Bats: 1
21 September 17 Sunrise 19:18	Start: 18:48 End: 21:18	Start: 10 End: 8	Start: 4 End: 4	Start: 0 End: 0	Start: 0 End: 1	N/B	No Crossings.	No Crossings.	No Crossings.
						S/B	Two bats (one Unk and one Nyc) observed crossing from SB to NB at heights of 5m and 10m. These crossings were both 10m from identified crossing feature.	Bats observed crossing over the A9 at 19:37 (19mins after sunset) and 19:53 (35 mins after sunset). Activity started at 19:37 (19 minutes after sunset) and continued to 20:30.	Under: 0 Over: 1 Unk, 1 Nyc. Total Bats: 2

1.4 Transect Survey Results

1.4.1 Transect survey results for each of the proposed Aviemore, Granish and Blackmount junction areas are provided below. Tables below include information on the first bat recorded during surveys and summaries of behaviour, with notable peaks of activity (i.e. aggregations of activity and their timing) also provided.

Table 1.44: Bat Roosts – Transect 1 Survey Results

Transect 1 location: J1 Northbound A			Start[77]: NH 87699 10431 End: NH 87945 10454				Habitat Description: Transect crosses areas of improved grassland and mixed woodland habitats								
Date	**Sunrise (SR) Sunset (SS)**	**Start time End Time**	**Weather Condition**				**Total Species passes during transect survey**						**Time of first bat**	**Total Passes**	**Summary of Behaviour where pass visually observed**	**Notable peaks in bat activity and timing**
			Temp ©	**Cloud (0-8)**	**Rain (0-5)**	**Wind (0-12)**	**C. Pip**	**S. Pip**	**U. Pip**	**Myt**	**BLE**	**Unk**				
15-May-17	SS 21:25	21:09	15	7	0	2	11	4	1				21:59	16	No visual on most, those seen were foraging around trees	6 passes 22:25-22:35
		23:34	14	7	0	0										
20-Jun-17	SR 04:19	02:19	8	0	0	0	10	4				1	02:21	15	No visual on most, those seen were foraging around trees	5 passes 02:43-02:53 5 passes 03:08-03:24
		04:34	8	0	0	0										
11-Jul-17	SS 22:05	21:45	11	8	0	0	11	14	1			1	22:18	27	Bats observed were using the woodland edges to commute and forage along. After 23:30 no visual was obtained on any bats.	4 passes 22:18-22:28 9 passes 23:19-23:30 8 passes 23:55-00:04

[77] Direction of transect routes were alternated clockwise and counter-clockwise on a monthly rotation.

Transect 1 location: J1 Northbound A			Start[77]: NH 87699 10431 End: NH 87945 10454				Habitat Description: Transect crosses areas of improved grassland and mixed woodland habitats									
Date	Sunrise (SR) Sunset (SS)	Start time End Time	Weather Condition				Total Species passes during transect survey						Time of first bat	Total Passes	Summary of Behaviour where pass visually observed	Notable peaks in bat activity and timing
			Temp ©	Cloud (0-8)	Rain (0-5)	Wind (0-12)	C. Pip	S. Pip	U. Pip	Myt	BLE	Unk				
		00:12	9	8	0	3										
15-Aug-17	SR 05:42	03:45	12	8	1	0	6	3					04:14	9	No visual on any of the bats.	3 passes 04:48-04:57 4 passes 05:01-05:08
		05:57	12	4	0	0-2										
04-Sep-17	SS 20:04	19:44	15	3	0	1	6	3	5				20:25	14	Only one common pipistrelle was seen, foraging along the tree line between points 4 and 5.	3 passes 20:57-21:07 3 passes 21:21-21:28 3 passes 22:01-22:04
		22:04	12	3	0	0										

Table 1.45: Bat Roosts – Transect 2 Survey Results

Transect 2 location: J1 Southbound A			Start[78]: NH 87859 10028 End: NH 87859 10028				Habitat Description: Transect crosses areas of improved grassland and mixed woodland habitats									
Date	Sunrise (SR) Sunset (SS)	Start time End Time	Weather Condition				Total Species passes during transect survey						Time of first bat	Total Passes	Summary of Behaviour where pass visually observed	Notable peaks in bat activity and timing
			Temp ©	Cloud (0-8)	Rain (0-5)	Wind (0-12)	C. Pip	S. Pip	U. Pip	Myt	BLE	Unk				
16 May 2017	SR 04:54	02:50	14	6	0	4	4	1	2				03:16	7	Commuting and foraging along edge of tree lines	4 passes 04:08-04:21
		05:09	14	6	0	4										
19 June 2017	SS 22:15	21:55	12	0	0	0	5	9	7				22:35	21	The majority of bats that were seen were commuting and foraging along the trees at the edge of the A9.	3 passes at 22:59 9 passes 23:03-23:20 3 passes 23:50-23:58
		00:15	9	0	0	0										
19 July 2017	SR 04:49	02:49	13	0	0	2	1	7					02:52	8	Bat activity was low during the transect, and none of the bats were seen.	4 passes 03:15-03:18
		05:04	9	3	0	1										
15 August 2017	SS 20:56	20:36	14	6	0	2	11	14	6			2	21:15	33	Where bats were seen, they were using the linear tree lines to commute, and foraging in the underpass and over the water body.	5 passes 21:15-21:22 24 passes 21:42-22:22
		22:56	11	6	0	1										
6 September 2017	SS 19:58	19:38	13	7	0	1	8	6	2				20:14	16	Bats were seen within the first 40 minutes after sunset, after that they were only heard. Those seen were foraging in woodland, and one was observed commuting NE away from the A9 (at point 2).	3 passes 20:25-20:33 4 passes 20:53-21:07 4 passes 21:16-21:23
		21:58	11	7	0	1										

[78] Direction of transect routes were alternated clockwise and counter-clockwise on a monthly rotation.

Table 1.46: Bat Roosts – Transect 3 Survey Results

Transect 3 location: J1 Northbound B (Aviemore South Junction)			Start[79]: NH 87745 10341 End: NH 87810 10376				Habitat Description: Transect crosses areas of improved grassland and mixed woodland habitats									
Date	Sunrise (SR) Sunset (SS)	Start time End Time	Weather Condition				Total Species passes during transect survey						Time of first bat	Total Passes	Summary of Behaviour where pass visually observed	Notable peaks in bat activity and timing
			Temp ©	Cloud (0-8)	Rain (0-5)	Wind (0-12)	C. Pip	S. Pip	U. Pip	Myt	BLE	Unk				
01 June 2017	SS 21:59	21:39	12	8	1	2	10	4	3				22:38	17	Where bats were seen, they were observed foraging along tree lines. The majority of bat passes were not seen.	6 passes 22:38-22:57 6 passes 23:29-23:44 4 passes 23:53-00:01
		00:07	11	8	2	2										
28 June 2017	SR 04:22	02:22	9	8	0	0	1	3	5				02:22	9	Where bats were seen, they were observed foraging along tree lines. The majority of bat passes were not seen.	2 passes 02:22-02:23 3 passes 02:41-02:46 2 passes 03:42-03:49
		04:37	10	8	0	0										
17 July 2017	SS 21:56	21:36	14	0	0	0	11	9	3			1	22:26	24	Where bats were seen, they were observed foraging along tree lines. Some bats were not seen due to the adjacent tree cover.	8 passes 22:26-22:48 9 passes 23:09-23:26
		00:02	13	0	0	1										
14 August 2017	SS 20:59	20:39	13	6	0	0	6	1	2			2	21:39	11	No visual was obtained of any of the bats recorded.	4 passes 21:45-21:55 2 passes 22:22-22:23
		22:59	14	6	0	0										
05 September 2017	SR 06:24	04:24	12	8	0	1	11	1	4				04:54	16	The bats observed were foraging using linear features such as the track to the farmhouse.	3 passes 05:05-05:10 3 passes 05:29-05:31 5 passes 05:39-05:50
		06:40	12	8	0	1										

Table 1.47: Bat Roosts – Transect 5 Survey Results

Transect 5 location: J2 Northbound (Granish Junction)			Start[80]: NH 89811 15098 End: NH 89928 15341				Habitat Description: Transect crosses areas of broadleaved and coniferous plantation, water courses and a track									
Date	Sunrise (SR) Sunset (SS)	Start time End Time	Weather Condition				Total Species passes during transect survey						Time of first bat	Total Passes	Summary of Behaviour where pass visually observed	Notable peaks in bat activity and timing
			Temp ©	Cloud (0-8)	Rain (0-5)	Wind (0-12)	C. Pip	S. Pip	U. Pip	Myt	BLE	Unk				
02 June 2017	SR 04:27	02:28	11	8	0	2	3	1		2			02:48	6	Only one bat was seen, at 03:38, flying east along a tree line.	4 passes 02:48-03:02 2 passes 03:35-03:38
		04:38	10	8	0	0										
27 June 2017	SS 22:15	22:00	12	8	0	1	6			1		1	22:48	8	The only bats seen were observed foraging around the treeline.	4 passes 22:48-22:59 2 passes 22:58-22:59
		00:15	11	8	0	1										
18 July 2017	SR 04:47	02:47	10	0	0	1	3	2					02:53	5	Only two of the bats (both common pipistrelle) were seen, at 03:50 and 03:54; both flew north.	2 passes 03:27-03:33 2 passes 03:50-03:54
		05:02	9	3	0	0										

[79] Direction of transect routes were alternated clockwise and counter-clockwise on a monthly rotation.
[80] Direction of transect routes were alternated clockwise and counter-clockwise on a monthly rotation.

Transect 5 location: J2 Northbound (Granish Junction)			Start[80]: NH 89811 15098 End: NH 89928 15341				Habitat Description: Transect crosses areas of broadleaved and coniferous plantation, water courses and a track								
Date	**Sunrise (SR) Sunset (SS)**	**Start time End Time**	**Weather Condition**				**Total Species passes during transect survey**						**Time of first bat**	**Total Passes**	**Summary of Behaviour where pass visually observed**	**Notable peaks in bat activity and timing**
			Temp ©	**Cloud (0-8)**	**Rain (0-5)**	**Wind (0-12)**	**C. Pip**	**S. Pip**	**U. Pip**	**Myt**	**BLE**	**Unk**				
14 August 2017	SS 20:59	20:39	15	4	0	1	5				1		21:43	6	No visual was seen of any of the bats except for a common pipistrelle at 21:53 which was foraging north of the surveyors. No bats were recorded after 21:53 (just under one hour after sunset).	6 passes 21:43-21:53
		23:04	14	6	0	0										
6 September 2017	SR 06:28	04:28	9	8	0	3		1	1				05:29	2	The soprano pipistrelle was seen (at 05:57) to fly south along the track, foraging. The other bat was not seen.	No notable peaks
		06:58	10	4	0	1										

Table 1.48: Bat Roosts – Transect 6 Survey Results

Transect 6 location: J2 Southbound (Granish Junction)			Start[81]: NH 89983 15256 End: NH 90171 15170				Habitat Description: Transect crosses areas of semi-improved grassland and mixed woodland and passes near water bodies and burns								
Date	**Sunrise (SR) Sunset (SS)**	**Start time End Time**	**Weather Condition**				**Total Species passes during transect survey**						**Time of first bat**	**Total Passes**	**Summary of Behaviour where pass visually observed**	**Notable peaks in bat activity and timing**
			Temp ©	**Cloud (0-8)**	**Rain (0-5)**	**Wind (0-12)**	**C. Pip**	**S. Pip**	**U. Pip**	**Myt**	**BLE**	**Unk**				
15 May 2017	SS 21:25	21:09	15	8	0	0	6	5		1			21:37	12	Bats commuting at start, no visual on bats seen later in survey	3 passes 21:37-21:43 3 passes 22:19-22:24
		23:37	14	8	1	0										
20 June 2017	SR 04:19	02:19	6	5	0	0				1			02:28	1	No visual of the *Myotis* bat	No notable peaks
		04:34	4	1	0	1										
11 July 2017	SS 22:05	21:45	11	7	0	1	8	3		1		2	21:57	13	At 22:39 one common pipistrelle was seen to fly north to south, it crossed the A9 and flew into the woodland; the only other pass seen was a common pipistrelle which flew south along the A9.	4 passes 22:49-22:57 2 passes 23:13-23:15 3 passes 23:55-00:01
		00:05	9	8	0	3										
15 August 2017	SS 20:57	20:37	13	4	0	2	4	3			1		21:10	8	No visual of any of the bats recorded.	3 passes 21:49-22:02 3 passes 22:38-22:48
		23:14	11	6	0	0										
5 September 2017	SR 06:24	04:26	12	0	8	1	1		1	2			05:02	4	One *Myotis* species of bat was seen to fly from the west then north at point 8, and a common pipistrelle was observed flying overhead away from the A9 at point 9.	2 passes 05:44-05:51
		06:40	12	0	8	1										

[81] Direction of transect routes were alternated clockwise and counter-clockwise on a monthly rotation.

Table 1.49: Bat Roosts – Transect 7 Survey Results

Transect 7 location: J3 Southbound (Blackmount Junction)			Start[82]: NH 88256 24092 End: NH 88256 24092				Habitat Description: Transect crosses areas of open ground, roads and coniferous plantation									
			Weather Condition				Total Species passes during transect survey									
Date	Sunrise (SR) Sunset (SS)	Start time End Time	Temp ©	Cloud (0-8)	Rain (0-5)	Wind (0-12)	C. Pip	S. Pip	U. Pip	Myt	BLE	Unk	Time of first bat	Total Passes	Summary of Behaviour where pass visually observed	Notable peaks in bat activity and timing
15 May 2017	SS 21:25	21:14	15	8	0	0		1					22:24	1	Not seen.	No notable peaks
		23:41	14	8	1	1										
12 July 2017	SR 04:38	02:38	10	7	0	1	1	2		1		1	03:00	5	The earliest three passes were heard not seen. The unknown species was seen foraging above the road, and one of the soprano pipistrelles was seen to fly east along the track between the B road and the A9.	2 passes 03:00-03:02 2 passes 03:30-03:35
		04:53	8	4	0	1										
6 September 2017	SR 06:27	04:28	9	4	0	0		5					05:03	5	No visual was obtained of any of the bats.	5 passes 05:03-05:08
		06:43	10	4	0	1										

1.5 Static Detector Results

1.5.1 Six static detectors were deployed along the bottom of the rock face. The static detector survey results from the main recording period of May to September 2017 are summarised in Table 1.50 and Table 1.51. Results from additional recording during October and November 2017 are discussed alongside Tables 1.58 and 1.59.

Table 1.50: Slochd Rock Face (Static Detector) Monthly Activity in 2017 (May to September)

			Number of registrations						
Month	Static	Recording Time	C.pip	S.pip	U.pip	Myt	BLE	Unk	Total registrations
May	Point 1	56:58:00	132	2	1	8	0		143
	Point 2	56:58:00	77	3		7	0		87
	Point 3	56:58:00	65	2		20	0	1	88
	Point 4	56:58:00	175	7		7	0		189
	Point 5	56:58:00	411	4		17	0		432
	Point 6	56:58:00	73	4		9	0	2	88
		Total	933	22	1	68	0	3	1027
June	Point 1	41:50:00	38	1			0		39
	Point 2	41:50:00	63	2		1	0		66
	Point 3	41:50:00	324	24	26	2	0	1	377
	Point 4	41:50:00	27	3	1	4	0		35
	Point 5	41:50:00	45	1	3	5	0		54
	Point 6	41:50:00	45	1	1	1	0		48
		Total	542	32	31	13		1	619
July	Point 1	82:15:00	174	5		8	0		187
	Point 2	82:15:00	494	41	4	8	0		547

[82] Direction of transect routes were alternated clockwise and counter-clockwise on a monthly rotation.

			Number of registrations						
Month	**Static**	**Recording Time**	**C.pip**	**S.pip**	**U.pip**	**Myt**	**BLE**	**Unk**	**Total registrations**
	Point 3	82:15:00	421	32	3	22	0	1	479
	Point 4	82:15:00	974	40	3	35	0		1052
	Point 5	82:15:00	1320	68	34	30	0	4	1456
	Point 6	82:15:00	541	72	5		0	1	619
		Total	3924	258	49	103	0	6	4340
August	Point 1	67:40:00	142	8	1	1	0	2	154
	Point 2	67:40:00	189	25	1	7	0	2	224
	Point 3	67:40:00	142	23		12	0	2	179
	Point 4	67:40:00	325	26	10	34	0	1	396
	Point 5	67:40:00	1570	52	23	49	0	6	1700
	Point 6	67:40:00	335	18	4	19	0	3	379
		Total	2703	152	39	122	0	16	3032
September	Point 1	101:20:00	35	6	1	6	0	1	49
	Point 2	101:20:00	155	21	2	16	0		194
	Point 3	101:20:00	95	22		97	0	1	215
	Point 4	101:20:00	168	16	2	57	0	1	244
	Point 5	101:20:00	209	8	11	55	0	7	290
	Point 6	101:20:00	106	5	4	7	0	8	130
		Total	768	78	20	238	0	18	1122
Total			8870	542	140	544	0	44	10140

C.pip = common pipistrelle; S.pip = soprano pipistrelle; U.pip = unknown pipistrelle; Myt = *Myotis*; BLE = brown long-eared; Unk = unknown bat species.

Table 1.51: Slochd Rock Face (Static Detector) Total Passive Monitoring Survey Results (May to September 2017)

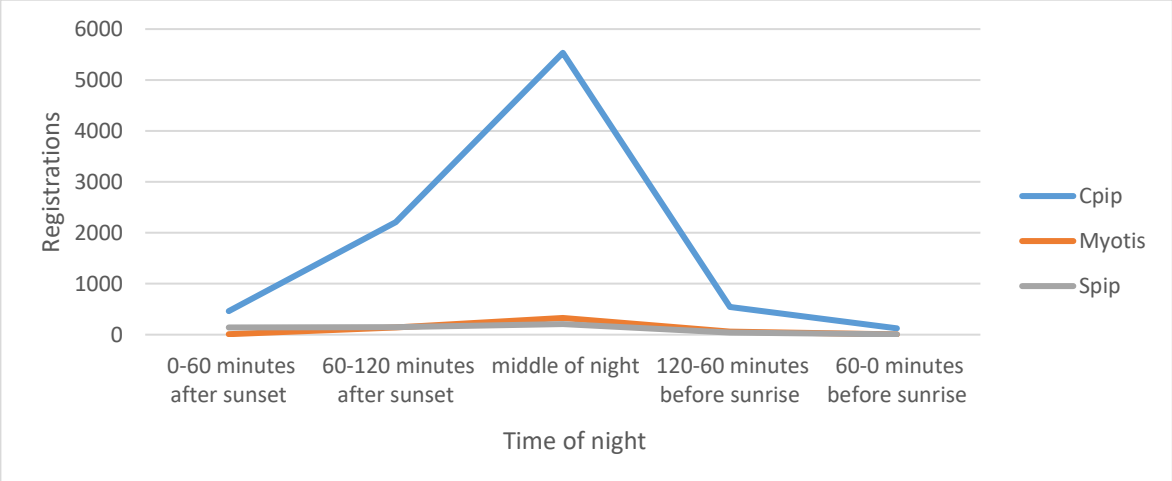
		Number of registrations[83]						
Static	**Recording Time**	**C.pip**	**S.pip**	**U.pip**	**Myt**	**BLE**	**Unk**	**Total registrations**
Point 1	350:05:00	521	22	3	23	0	3	572
Point 2	350:05:00	978	92	7	39	0	2	1118
Point 3	350:05:00	1047	103	29	153	0	6	1338
Point 4	350:05:00	1669	92	16	137	0	2	1916
Point 5	350:05:00	3555	133	71	156	0	17	3932
Point 6	350:05:00	1100	100	14	36	0	14	1264
	Total	8870	542	140	544	0	44	10140

C.pip = common pipistrelle; S.pip = soprano pipistrelle; U.pip = unknown pipistrelle; Myt = *Myotis*; BLE = brown long-eared; Unk = unknown bat species.

[83] i.e. species presence within a 15 second (s) [max.] file. Multiple passes/calls/pulses of the same species within a (maximum) 15 s file counts as a single registration - two species within the same 15 s file are counted as two registrations.

1.5.2 Chart 1 below shows all registrations presented across the main recording period (May-Sep 2017) against time relevant to sunrise/sunset for all static locations combined. Further break down is provided for each static location in Charts 2 to 4. The data show obvious registrations peaks within the middle parts of the night indicating higher activity outwith roost emergence/return times; therefore the activity appears more likely to be related to foraging/commuting behaviour rather than roosting. It should be noted that the 'middle of night' period is not an equal temporal period across the different months/dates of recording (for example more records could be expected from the middle of night period in September rather than June given the greater hours of darkness) and concomitantly the middle of night period (generally) comprises more hours than post-dusk and pre-dawn hour block periods used.

Chart 1: Species registrations recorded against time of night (all records, all points, May – September 2017)



1.5.3 Further time of night analysis is presented within Charts 2-4. Chart 2 shows all 109 registration records recorded within the 0-30 minute period after sunset for all points and all months (no registrations were recorded prior to sunset). Chart 3 shows all 7 registration records recorded within the 30-0 minute period before sunrise for all points and all months (no registrations were recorded after sunrise). Chart 4 shows all 9 *Myotis* registrations recorded within the 0-60 minute period after sunset for all points and all months. If regularly used roosts were present within the near vicinity of the static detector points (i.e. along Slochd rock face) it could be expected that a higher incidence of registrations would have been recorded within the 30 minute periods after sunset and before sunrise (increased to 60 minutes for *Myotis* species after sunset to account for later evening emergence times (Harris & Yalden 2008[84]). However, given that unidentified bats, common pipistrelle, soprano pipistrelle and *Myotis* have all been recorded within peak roost emergence times, it is considered that all these species/taxa could be roosting (in limited numbers) within suitable features provided by Slochd rock face.

[84] Harris, S & Yalden, D. (2008). Mammals of the British Isles: Handbook 4th Edition. The Mammal Society.

Chart 2: Species registrations recorded against minutes after sunset (all records, all points, May – September 2017)

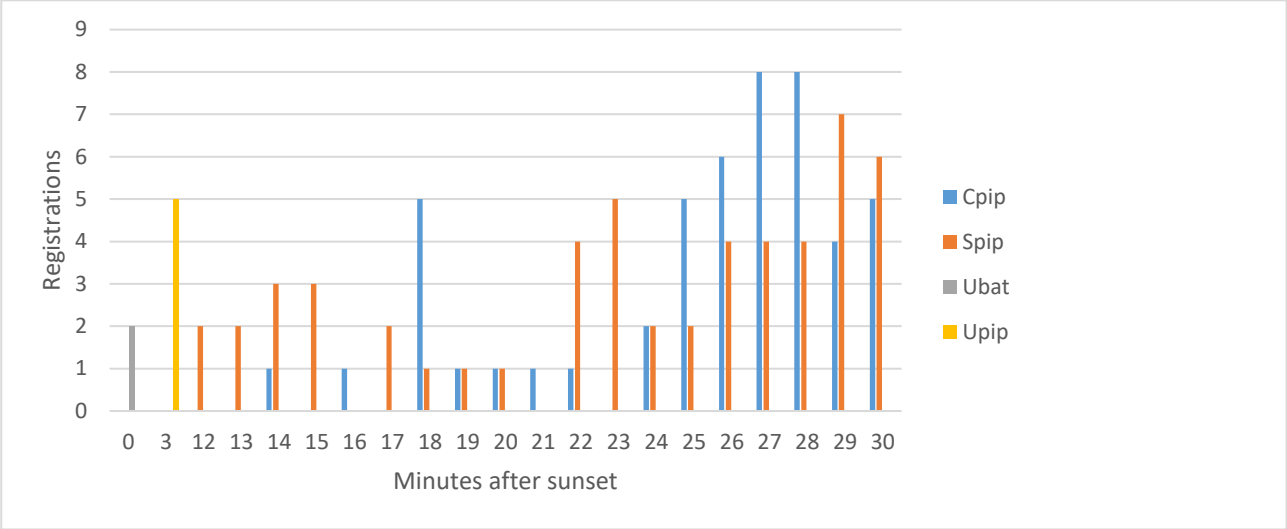


Chart 3: Species registrations recorded against minutes before sunrise (all records, all points, May – September 2017)

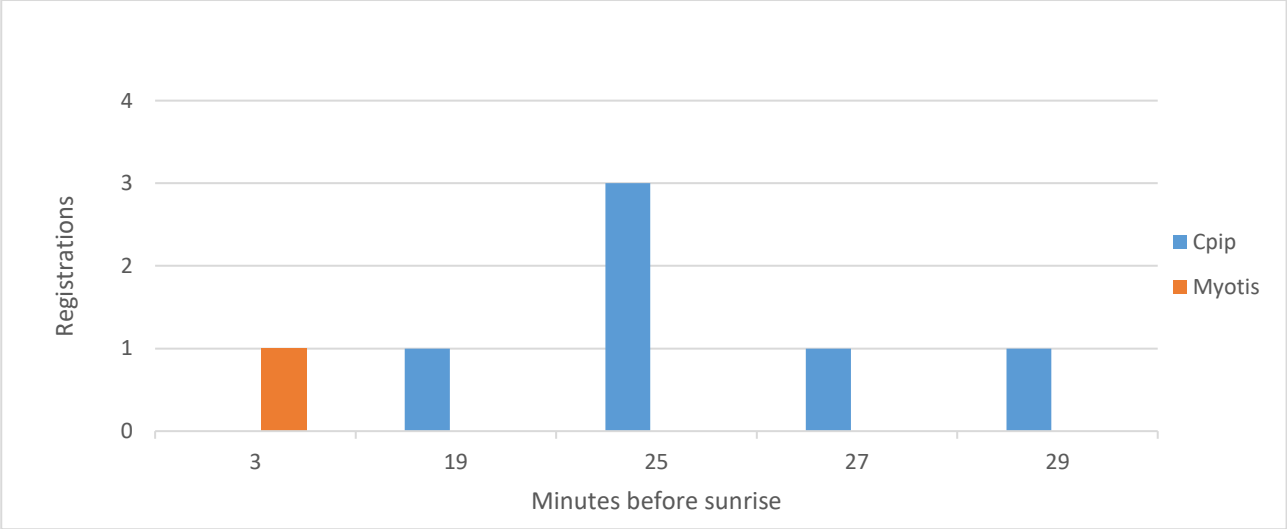
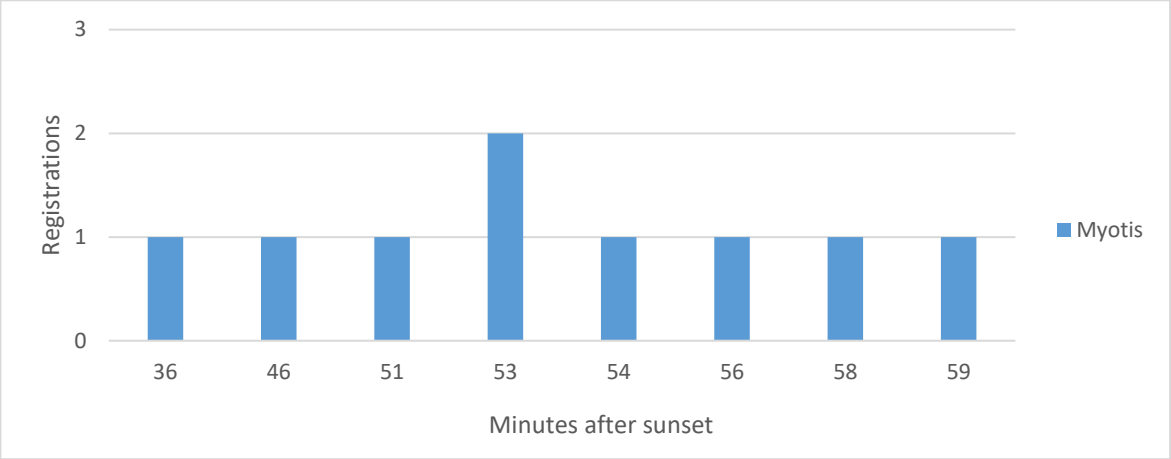


Chart 4: Myotis registrations recorded against minutes after sunset (all records, all points, May – September 2017)



1.5.4 As recording periods differed between months, averages of species' registrations per point and per month are required for further comparative analysis. This is displayed in Table 1.52 to Table 1.54. Table 1.54 presents the average registrations per species (unknown bat species and pipistrelles not identified to species are omitted) per night for each point and each month of recording. Chart 5 provides graphical representation of these data. Table 1.53 presents the average registrations per species (unknown bat species and pipistrelles not identified to species are omitted) per night for all points combined and each month of recording. Chart 6 provides graphical representation of these data.

Table 1.52: Registrations per point per month

	Common pipistrelle	Soprano pipistrelle	Myotis sp.
Point 1			
May	132	2	8
June	38	1	
July	174	5	8
August	142	8	1
September	35	6	6
Point 2			
May	77	3	7
June	63	2	1
July	494	41	8
August	189	25	7
September	155	21	16
Point 3			
May	65	2	20
June	324	24	2
July	421	32	22
August	142	23	12
September	95	22	97

	Common pipistrelle	Soprano pipistrelle	Myotis sp.
Point 4			
May	175	7	7
June	27	3	4
July	974	40	35
August	325	26	34
September	168	16	57
Point 5			
May	411	4	17
June	45	1	5
July	1320	68	30
August	1570	52	49
September	209	8	55
Point 6			
May	73	4	9
June	45	1	1
July	541	72	
August	335	18	19
September	10	5	7

Table 1.53: Averaged species' registrations per night recording

Point/Month	Common pipistrelle average/ night	Soprano pipistrelle average/ night	Myotis sp. average/ night
Point 1			
May	18.86	0.29	1.14
June	6.33	0.17	0.00
July	15.82	0.45	0.73
August	20.29	1.14	0.14
September	4.38	0.75	0.75
Point 2			
May	11.00	0.43	1.00
June	10.50	0.33	0.17
July	44.91	3.73	0.73
August	27.00	3.57	1.00
September	19.38	2.63	2.00
Point 3			
May	9.29	0.29	2.86
June	54.00	4.00	0.33
July	38.27	2.91	2.00
August	20.29	3.29	1.71

Point/Month	Common pipistrelle average/ night	Soprano pipistrelle average/ night	Myotis sp. average/ night
September	11.88	2.75	12.13
Point 4			
May	25.00	1.00	1.00
June	4.50	0.50	0.67
July	88.55	3.64	3.18
August	46.43	3.71	4.86
September	21.00	2.00	7.13
Point 5			
May	58.71	0.57	2.43
June	7.50	0.17	0.83
July	120.00	6.18	2.73
August	224.29	7.43	7.00
September	26.13	1.00	6.88
Point 6			
May	10.43	0.57	1.29
June	7.50	0.17	0.17
July	49.18	6.55	0.00
August	47.86	2.57	2.71
September	13.25	0.63	0.88

Chart 5: Averaged species' registrations per night recording

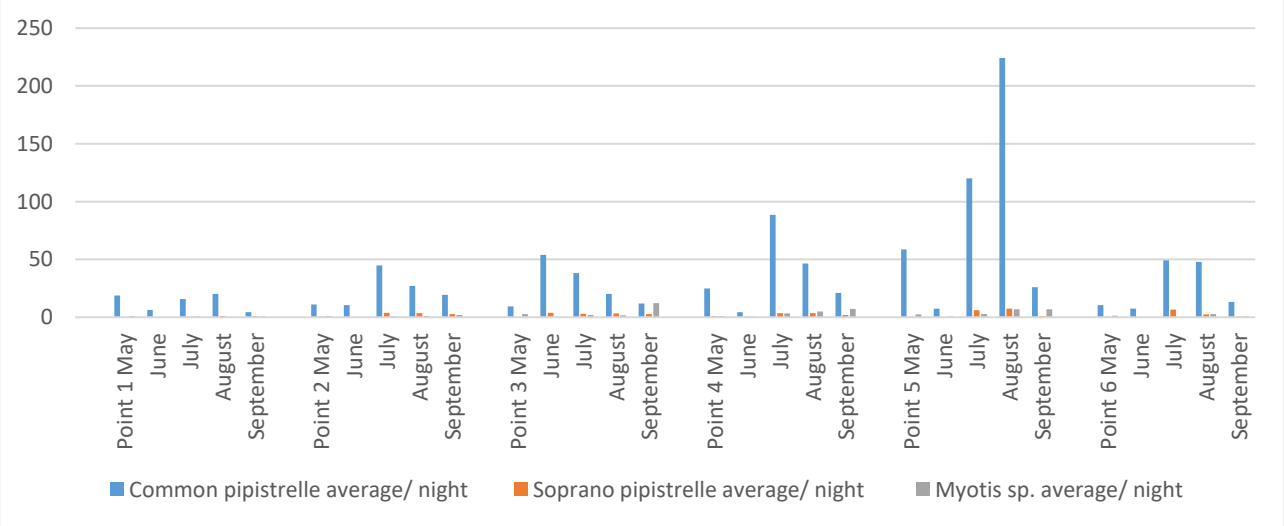
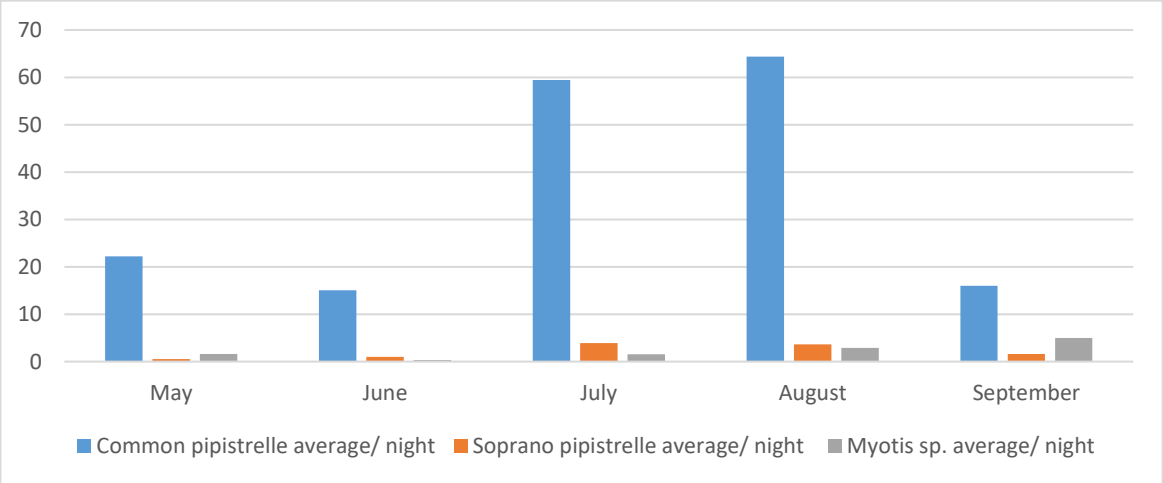


Table 1.54: Averaged species' registrations per night recording (all points combined)

Month	Common pipistrelle average/ night	Soprano pipistrelle average/ night	Myotis sp. average/ night
May	22.21	0.52	1.62
June	15.06	0.97	0.36

Month	Common pipistrelle average/ night	Soprano pipistrelle average/ night	Myotis sp. average/ night
July	59.45	3.91	1.56
August	64.36	3.62	2.9
September	16	1.63	4.96

Chart 6: Averaged species' registrations per night recording (all points combined)



1.5.5 Tables 1.53 and 1.54 and Charts 5 & 6 show obvious increases in common pipistrelle and soprano pipistrelle activity (averaged registrations) during July and August, particularly at static detector Point 5. *Myotis* activity increases through late summer and into September.

1.5.6 In order to further interrogate the static detector data, a nightly analysis of common pipistrelle recorded at Point 5 during August is presented below in Table 1.55. Data from Point 5 during August recorded the highest activity levels of common pipistrelle at 224.29 average registrations per night of recording.

Table 1.55: First and last bat recordings for Static detector 5 in August 2017

Date	Sunrise/Sunset	Time last common pipistrelle recording before sunrise	Time first common pipistrelle recording after sunset
09 August 2017	0529 / 2110	~	2142 (32 minutes after sunset)
10 August 2017	0531 / 2108	0439 (52 minutes before sunrise)	2150 (42 minutes after sunset)
11 August 2017	0533 / 2105	0226 (187 minutes before sunrise)	2200 (55 minutes after sunset)
12 August 2017	0535 / 2103	0504 (31 minutes before sunrise)	2155 (52 minutes after sunset)
13 August 2017	0537 / 2100	0337 (120 minutes before sunrise)	2127 (27 minutes after sunset)
13 August 2017	0539 / 2058	0418 (81 minutes before sunrise)	2201 (63 minutes after sunset)
15 August 2017	0541 / 2056	0507 (34 minutes before sunrise)	2154 (58 minutes after sunset)
16 August 2017	0544 / 2053	0431 (73 minutes before	~

Date	Sunrise/Sunset	Time last common pipistrelle recording before sunrise	Time first common pipistrelle recording after sunset
		sunrise)	

1.5.7 Data from Table 1.55 indicates the first common pipistrelle recordings after sunset range from 27 minutes to 63 minutes and that the last common pipistrelle recordings before sunrise range from 31 minutes to 187 minutes. It is considered that use of the immediate area as a common pipistrelle roost site is possible but is not supported through the first/last recording analysis.

1.5.8 Registrations/minute analysis for common pipistrelle during July and August has been completed (not presented here). It is considered that these data indicate that the encounter of multiple bats (common pipistrelle) at any one time is likely: given the proximity of detectors (x6 units spaced along c. 350m length) it could be expected that more than one detector would record registrations at the same time (within the same minute) should multiple bats be present within the vicinity of the rock face. Over 10 registrations within one minute (0 to 59 seconds) occurred on 25 occasions during July (notably no incidences of over 10 registrations/minute were recorded during August). The two highest incidences, both 13 registrations/minute on 13 (0114) and 17 July (2351), showed records from all static detectors on 13 July and all but Point 1 on 17 July. It is considered highly likely that multiple bats were present in the Slochd rock face area at the same times on these dates; all incidences of over 10 registrations/minute (from all detectors) are considered as likely to be from more than one bat (common pipistrelle).

1.5.9 An activity level comparative analysis is provided below, based on an activity database collated by HEL, as detailed in an unpublished paper by Dowse, Daisley and Parry. This paper has been peer reviewed by Neil Middleton (Echoes Ecology), Jonathan Fairbairn (FDM Ecology) and Paul Lintott (Exeter University). The database assigns activity levels into broad categories (high, typical and low) using an interquartile range approach. This database contains bat survey data collected from 301 locations across 10 x 100km grid squares across Scotland. Within the dataset typical activity levels for different bat species can be derived in relation to broad habitat type and for all habitats. By comparing a site's activity with the range of activity rates recorded in the dataset it is possible to begin to provide context for an evaluation of nature conservation importance and an assessment of impacts.

1.5.10 Table 1.56 provides a summary of the activity recorded at the rock face across of surveys, showing the average registrations per night across all points for all months (May – September 2017). Table 1.57 shows the typical activity levels from the HEL data base according to species and habitat type.

Table 1.56: Slochd rock face activity levels (average registrations/night)

Species	Registrations/night (all points, all months)
Common pipistrelle	37.91
Soprano pipistrelle	2.32
Myotis	2.33

Table 1.57: Typical activity levels (registrations/night) according to species and habitat class (from HEL dataset)

Species	Activity range for moorland	Activity range for all habitats (including broadleaved woodland, riparian, etc.)
Common pipistrelle	0.46 – 3.81	1.84 – 27.69
Soprano pipistrelle	0.25 – 6.03	2.44 – 21.95
Myotis	0.09 – 0.60	0.14 – 1.07

1.5.11 An activity range for moorland is presented for the comparison at the rock face (refer Table 1.57) although it should be noted that no clear comparable habitat type is present within the HEL data base (the Slochd rock face habitat area is considered quite unique being composed of exposed cliff and talus, juniper scrub and heath, also adjacent to a linear feature, the A9 corridor). An activity range for all habitat types is therefore also presented for comparison.

1.5.12 In terms of activity across a season and compared against all habitat data, common pipistrelle and *Myotis* fall within the high activity band for both moorland and all habitats; soprano pipistrelle fall within the typical activity band for moorland and low activity band for all habitats.

1.5.13 In summary the static detector surveys at the rock face identified high levels of common pipistrelle and *Myotis* activity and the inspection surveys located one bat roost, a Natterer's bat dropping (confirmed through DNA analysis) being recovered from the upper cave at the north-western end of the rock face. It should be reiterated that rope access inspection was considered unsafe at one location (a prominent overhang) that also corresponds with the location of static detector point 5 where the highest level of common pipistrelle activity was identified. It is considered possible that a common pipistrelle roost could be present within the overhang although this is not supported by analysis of the activity recorded by the static detector.

1.5.14 Additional recording was undertaken during late October 2017 and November 2017: (26 October to 21 November). Detectors were left beyond normal recording periods when powered by single 12V external batteries and all went to flat battery mode, although at varying times; resulting in differing recording times/periods. In addition, the detector at Point 5 failed to record for more than one night during October (third party interference). Results are summarised in Table 1.58.

Table 1.58: Slochd rock face (static detector) total passive monitoring survey results (October & November 2017

		Number of registrations[85]						
Static	Recording Time	C.pip	S.pip	U.pip	Myt.	BLE	Unk.	Total registrations
Point 1	384:18	7	2	4	3	0	0	16
Point 2	379.57	9	3	1	5	0	1	19
Point 3	325.31	8	0	0	20	0	1	29
Point 4	385.24	0	0	21	8	0	1	30
Point 5	174.01	18	0	0	4	0	0	22
Point 6	359.06	16	0	3	1	0	0	20

[85] i.e. species presence within a 15 second (s) [max.] file. Multiple passes/calls/pulses of the same species within a (maximum) 15 s file counts as a single registration - two species within the same 15 s file are counted as two registrations.

		Number of registrations[85]						
Static	**Recording Time**	**C.pip**	**S.pip**	**U.pip**	**Myt.**	**BLE**	**Unk.**	**Total registrations**
	Total	58	5	29	41	0	3	136

1.5.15 Table 1.58 shows far fewer registrations recorded during October and November 2017 then May to September 2017 (refer Table 1.50); this is also presented for comparison in Table 1.59 as registrations per minute (total registrations divided by recording time in minutes). This can most likely be explained by seasonal change in bat behaviour and a lower incidence of activity as bats move to hibernacula. Bat registrations were recorded throughout the October and November recording period, with the latest registration (soprano pipistrelle) recorded on 19 November. Similar to data from earlier in the year, common pipistrelle and *Myotis* were more frequently recorded during October and November 2017 than other species. It is considered possible that low numbers of common pipistrelle and Myotis could be roosting within features at Slochd rock face; likewise, given the low incidence of registrations recorded it is considered that significant roosts were not present at this time of year.

Table 1.59: Total registrations per minute

Static	May – September 2017	October & November 2017
Point 1	0.0272	0.0007
Point 2	0.0532	0.0008
Point 3	0.0637	0.0015
Point 4	0.0912	0.0013
Point 5	0.1872	0.0021
Point 6	0.0602	0.0009