

Survey and assessment of nationally rare and scarce invertebrates at four New Forest sites in 2025

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Cover image: Southern Chestnut Anchoscelis haematidea at Turf Hill on 14 Oct 2025

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Executive Summary

- As part of the New Forest Higher Level Stewardship (HLS) scheme, the authors were commissioned by Forestry England to deliver invertebrate surveys at four sites on the Crown Lands in 2025, with a focus on recording nationally rare and scarce 'conservation priority' species.
- The four survey sites mostly comprised wet and dry heathland, acid grassland, and mire / bog. Two of the sites had recently been restored from conifer plantations (Sluffers Inclosure and Turf Hill) and two were long-established open sites (Picket Plain and Rakes Brakes Bottom).
- Surveys comprised both diurnal and nocturnal visits from Apr-Oct 2025, with all invertebrates identified and recorded. Diurnal surveys were conducted on 16 dates and used standard field techniques supplemented by pitfall trapping at one site. Nocturnal surveys were conducted on 12 dates and used two different light sources to attract moths and other invertebrates.
- A total of 808 invertebrate species was recorded across all sites, including 102 priority species. The priority species list is dominated by Coleoptera (35 species), Lepidoptera (20 species), Araneae (17 species), Hemiptera (10 species), and Diptera (7 species), which together account for nearly 90% of all priority species.
- Diurnal survey highlights include what appears to be the only modern British record of the bug *Notochilus limbatus*, the discovery of the ant *Myrmecina graminicola* at two sites that expand the known habitat of the species, the spider *Crustulina sticta* that may be the first modern record for the New Forest interior, and the carabid beetle *Anthracus consputus* that is probably the first New Forest record for 25 years.
- Nocturnal survey highlights include a total of 95 Southern Chestnut moths at three sites in mid-October, including a peak count of 58 at Turf Hill that appears to be a new British record. A Dotted Fan-foot moth on 19 June may be the first record for the New Forest interior, a Bombardier Beetle appears to be the first New Forest record since 1939, and two specimens of the ground beetle *Polistichus connexus* are potentially the second and third New Forest records.
- Pantheon outputs indicate that the species assemblage types 'scrub-heath and moorland' and 'Sphagnum bog' are in favourable condition at all four sites. The Species Quality Index (SQI) scores for both these habitats are highest at Turf Hill, but are

broadly comparable across the four sites, suggesting no significant difference between recently restored and established sites.

- Acoustic bat data were collected during the first six nocturnal survey visits, with seven species confirmed including a single Barbastelle pass at one site and notably high levels of Serotine activity at Turf Hill. Breeding bird species of open habitats, including Dartford Warbler, Nightjar, and Stonechat were recorded at all four sites, as was Snipe, despite the exceptionally dry spring and summer.
- Overall, the survey results provide new evidence for the high quality of New Forest heathland and wetland habitats and the remarkably swift re-establishment of open habitat species at sites that have been restored from conifer plantations. High-quality macro footage was collected during one of the nocturnal surveys that was subsequently incorporated into a short video produced by the New Forest Biodiversity Forum summarising this encouraging biodiversity response to New Forest heathland restoration.

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1. Introduction

In 2025, Forestry England, on behalf of the New Forest Higher Level Stewardship (HLS) scheme, commissioned the authors to deliver invertebrate surveys at four sites on the Crown Lands of the New Forest. The focus was on nationally rare, scarce, and notable ‘conservation priority’ species, but all other invertebrates were also recorded to enable assessment of species assemblages and habitat quality. The four sites predominantly comprised wet and dry heathland, acid grassland, and mire / bog habitats, and included two sites that had been recently restored from conifer plantations (Sluifers Inclosure and Millersford/Turf Hill) and two sites with long-established open habitats (Picket Plain/Vales Moor and Dockens/Rakes Brakes Bottom). The site locations are shown in **Figure 1** below.

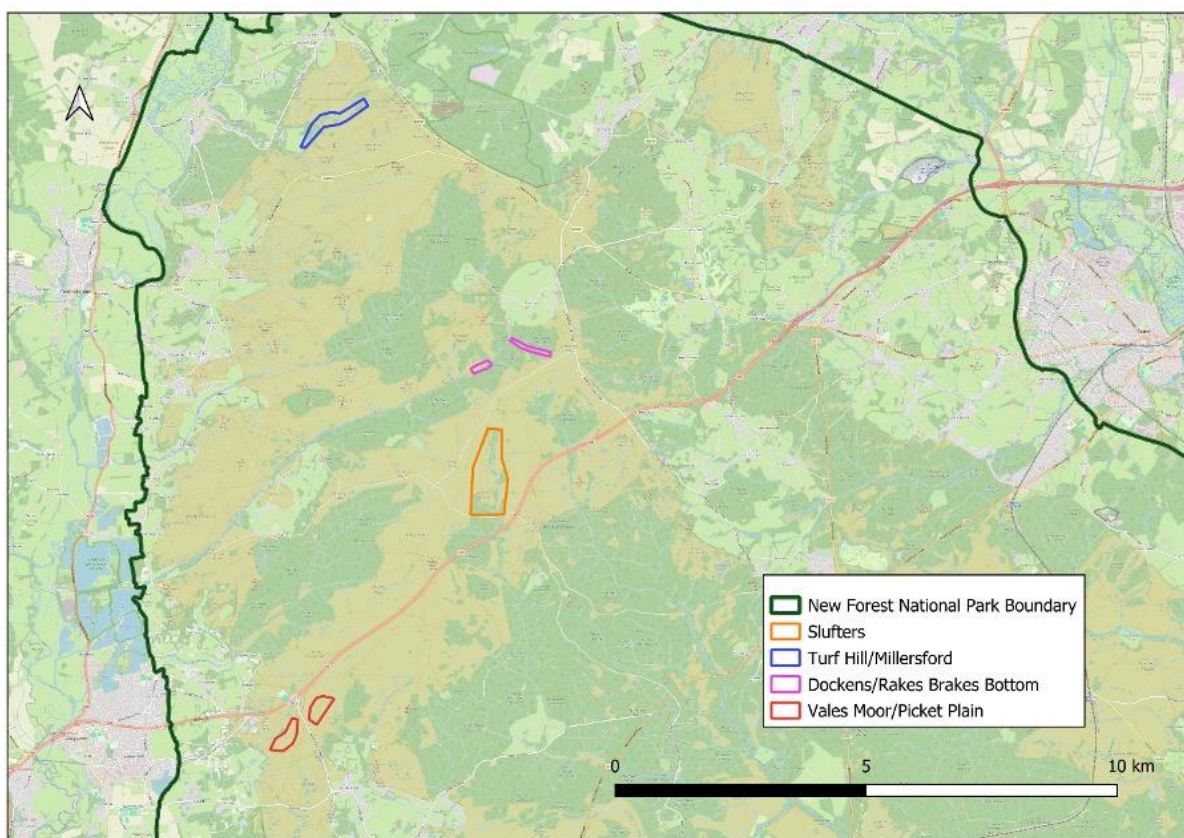


Figure 1: Map showing survey site locations (coloured polygons); detailed maps for each site are shown in Appendix 1.

2. Methodology

The survey comprised both diurnal surveys (delivered by Jonty Denton) and nocturnal surveys (delivered by Russell Wynn). Surveys targeted suitable weather windows for the methods deployed, to maximise the chances of recording priority invertebrate species, i.e. light winds, no precipitation.

Species groups covered during the survey were:

- Mollusca (slugs and snails)
- Arachnida (spiders, harvestmen, and pseudoscorpions)
- Isopoda (woodlice)
- Thysanura (bristletails)
- Ephemeroptera (mayflies)
- Odonata (dragonflies and damselflies)
- Plecoptera (stoneflies)
- Orthoptera (grasshoppers and crickets)
- Dictyoptera (cockroaches)
- Dermaptera (earwigs)
- Hemiptera-Heteroptera (true bugs)
- Hemiptera-Homoptera (hoppers)
- Neuroptera (lacewings)
- Mecoptera (scorpion-flies)
- Lepidoptera (butterflies and moths)
- Trichoptera (caddisflies)
- Diptera (true flies)
- Aculeate Hymenoptera (ants, bees, and wasps)
- Coleoptera (beetles)

In addition, any notable vertebrates were also recorded.

2.1. Diurnal survey methods

Standard field techniques were employed to sample the invertebrate fauna across each site. These included sweeping vegetation with a wide-mouthed sweep net, beating trees and bushes over a beating tray, pitfall traps, and grubbing amongst tussocks and key host-plant rosettes. A modified Black & Decker leaf blower was also employed to collect terrestrial invertebrates. In damper habitats, sphagnum mosses and marsh litter were sieved over a beating tray and/or collected and later dried in the sun over sieves, with invertebrates falling through into trays from which they were collected with a pooter. A 0.5mm-mesh pond net was used to sample aquatic habitats.

2.2. Nocturnal survey methods

Nocturnal surveys commenced at sunset and ran for a period of 3-6 hours, targeting nights with cloud cover or warm clear nights with minimal moonlight. Two different light sources were run from a mobile generator to attract the widest range of invertebrates: a 125W mercury vapour (MV) bulb over a white sheet, and a NHBS moth trap with a 12W blacklight bulb. The two light sources were placed >50m apart to minimise interference. All invertebrates coming to light were recorded, and photographs obtained for many of the priority species. A static acoustic recorder (Wildlife Acoustics Song Meter Mini Bat 2) was

opportunistically deployed during the first six nocturnal surveys to monitor bat activity, typically >200-400m from the fixed-point survey location to avoid interference from the lights.

2.3. Survey dates and locations

For the diurnal surveys, most visits were conducted in April and May (Table 1), to ensure damp habitats could be sampled before they dried out. 20x pitfall traps spaced at three-metre intervals were deployed at Picket Plain from 24 Apr to 26 May at SU191057, requiring more frequent visits to that site during that period to ensure the traps didn't dry out (especially during the predominantly dry and hot conditions). The high risk of vertebrate bycatch and the requirement for regular maintenance due to drought conditions contributed to the decision to not deploy pitfall traps at other sites.

Site	Diurnal visits	Nocturnal visits	Location
Picket Plain	08 Apr, 24 Apr, 28 Apr, 08 May, 16 May, 26 May, 18 Jun, 08 Jul, 30 Jul, 21 Sep	21 May*, 11 Aug, 16 Oct	SU1956105896
Rakes Brakes Bottom	08 Apr, 11 Apr, 26 May, 19 Jun, 29 Sep	19 Jun*, 18 Jul, 10 Oct	SU2201712582
Sluifers Inclosure	08 Apr, 24 Apr, 26 May, 18 Jun, 16 Jul, 29 Sep	30 Apr*, 25 Jun*, 19 Aug	SU2264910590
Turf Hill	11 Apr, 22 May, 11 Jun, 16 Jul, 21 Sep	01 May*, 30 Jun*, 14 Oct	SU1989917746

Table 1: Survey sites and dates of diurnal and nocturnal surveys, and locations of fixed-point moth surveys (for general site locations see Appendix 1). Nocturnal survey dates marked with an asterisk represent opportunistic acoustic bat detector deployments.

For nocturnal surveys, the aim was to deliver a total of 12 surveys, with a visit to each of the four sites in spring, summer, and autumn (Table 1); this would increase the chances of recording moths and other invertebrates with different flight periods. Nocturnal surveys were conducted at three sites in mid-October, specifically targeting the peak flight period of Southern Chestnut *Anchoscelis haematidea*.

Maps and photos showing the survey areas and fixed-point moth survey locations are shown in Appendix 1 and 2, and a detailed spreadsheet containing location data for many of the priority species has been provided with this report.

2.4. Habitat assessment - using Pantheon to measure site quality

For this study, metrics of species assemblage and habitat quality were generated using Pantheon, a database tool developed by Natural England and the Centre for Ecology and Hydrology (CEH) to analyse invertebrate sample data. The analyses supported by Pantheon

are intended to improve understanding of the resources and structures used by invertebrates within sample locations and aid their conservation.

Users import lists of invertebrates (called “samples”) into Pantheon, which then matches the species to the preferred name in the UK Species Inventory before analysing the sample, attaching associated habitats and resources, assemblage types (adapted from the Invertebrate Species-habitat Information System; ISIS), conservation status, habitat fidelity scores, and other information against them. The analysis then displays a lot of this data as numerical scores. This information can be used to determine site quality by revealing whether the species list is indicative of good quality habitat, inform on species ecology, and assist in management decisions by revealing the key ecological resources.

Not all the macro-invertebrate taxa are included in the database. To date over c13,000 species have been typed, this being about a quarter of the total macro-invertebrate fauna (estimated at 37,000). It remains limited to those taxa and families where there is enough ecological information to give a fair level of coding accuracy. These include species such as beetles, flies, true bugs, moths, bees and many more. A list of groups covered can be found on the Pantheon website. Pantheon focuses on species primarily found in England.

For this study, we provide conservation status and broad biotope data for each priority species in the summary table in Section 3.1, and in Section 3.2 we summarise the Pantheon outputs for specific assemblage types (SATs), which are characterised by ecologically restricted species and are generally only expressed in lists from sites with conservation value. The outputs show whether any of the SATs represented in a sample are sufficiently species-rich to reach Favourable condition status. The raw Pantheon outputs have also been provided as a spreadsheet with this report.

Further information on Pantheon is available [here](#) (referenced as Webb et al., 2018).

3. Results

3.1 Invertebrate survey results

A total of 808 invertebrate species was recorded across all sites during the survey (see accompanying spreadsheets) including 102 priority species, as listed in Table 2 below.

Order	Species	Status	Location	Broad biotope
Araneae	<i>Araneus angulatus</i>	NS	P	Tree-associated
Araneae	<i>Cercidia prominens</i>	NS	S	Open habitats
Araneae	<i>Crustulina sticta</i>	NS	P	Wetland
Araneae	<i>Dolomedes fimbriatus</i>	NS	S; R; T	Wetland
Araneae	<i>Episinus truncatus</i>	NS	T; P	Open habitats
Araneae	<i>Euophrys petrensis</i>	NR; NT	S; T	Open habitats
Araneae	<i>Evarcha arcuata</i>	NS	S; R; T; P	Wetland
Araneae	<i>Hypselistes jacksoni</i>	NS	S; T	Wetland
Araneae	<i>Hyposinga sanguinea</i>	NS	R; T	Open habitats
Araneae	<i>Kochiura aulica</i>	NS	T	Open habitats
Araneae	<i>Neriere furtiva</i>	NS	P	Open habitats
Araneae	<i>Nigma puella</i>	NS	S; P	Tree-associated
Araneae	<i>Pardosa tenuipes</i>	NS	P	Coastal; wetland
Araneae	<i>Pirata tenuitarsis</i>	NS	S; R; T; P	Wetland
Araneae	<i>Sibianor aurocinctus</i>	NS	S; T	Open habitats
Araneae	<i>Thyreosthenius biovatus</i>	NS	S; T	Open habitats
Araneae	<i>Xerolycosa nemoralis</i>	NS	T	Open habitats
Archaeognatha	<i>Dilta hibernica</i>	pNS	R; T; P	N/A
Coleoptera	<i>Agabus brunneus</i>	NR; S41; VU	S	Wetland
Coleoptera	<i>Agabus labiatus</i>	NS; NT	S	Wetland
Coleoptera	<i>Acalyptus carpini</i>	Nb		Tree-associated
Coleoptera	<i>Altica longicollis</i>	NS	T	Open habitats
Coleoptera	<i>Anthracus consputus</i>	NS	S	Wetland
Coleoptera	<i>Aphanisticus pusillus</i>	NS	T	Open habitats
Coleoptera	<i>Arthrolips obscura</i>	pNS	S	N/A
Coleoptera	<i>Bagous brevis</i>	RDB1	S	Wetland
Coleoptera	<i>Brachinus crepitans</i>	NS	P	Open habitats
Coleoptera	<i>Chaetarthria simillima</i>	NS	R; T; P	Wetland
Coleoptera	<i>Chaetocnema confusa</i>	NS	S; R; T; P	Wetland
Coleoptera	<i>Chaetocnema subcoerulea</i>	NS	S; R; T	Wetland
Coleoptera	<i>Cryptocephalus bipunctatus</i>	NS	T	Open habitats; trees
Coleoptera	<i>Cypha pulicaria</i>	Notable	T	Open habitats
Coleoptera	<i>Dieckmanniellus gracilis</i>	RDB3	S	Wetland
Coleoptera	<i>Dinarda maerkelii</i>	pNS	S	Tree-associated
Coleoptera	<i>Dryops striatellus</i>	NS	S; R	Wetland
Coleoptera	<i>Epuraea distincta</i>	Na	P	Tree-associated
Coleoptera	<i>Gabrieus velox</i>	Nb	S	Tree-associated; wet
Coleoptera	<i>Gnypeta ripicola</i>	Notable	R	Wetland
Coleoptera	<i>Helochares punctatus</i>	NS	S	Wetland
Coleoptera	<i>Laccobius atratus</i>	NS	S; R; T; P	Wetland
Coleoptera	<i>Liothorax niger</i>	NR	R; T	Wetland
Coleoptera	<i>Longitarsus lycopi</i>	NS	S	Open habitats
Coleoptera	<i>Myllaena elongata</i>	Notable	R	Wetland

Coleoptera	<i>Myllaena kraatzii</i>	Notable	S; R; T; P	Wetland
Coleoptera	<i>Orchestes iota</i>	Nb	S; R; P	Wetland
Coleoptera	<i>Paederus caligatus</i>	RDB3	S; R; T	Wetland
Coleoptera	<i>Paracymus scutellaris</i>	NS	S; P	Wetland
Coleoptera	<i>Polistichus connexus</i>	NS; NT	S	Wetland
Coleoptera	<i>Rugilus geniculatus</i>	RDB1	S	Open habitats
Coleoptera	<i>Smicronyx jungermanniae</i>	Nb	P	Open habitats
Coleoptera	<i>Stenus kiesenwetteri</i>	RDB2	R; T	Wetland
Coleoptera	<i>Tachyporus formosus</i>	NS	S; R	Open habitats
Coleoptera	<i>Tachyura walkeriana</i>	NR; NT	S; R; T	Wetland
Dictyoptera	<i>Capraiellus panzeri</i>	NS	S; T; P	N/A
Dictyoptera	<i>Ectobius lapponicus</i>	NS	R; T; P	Open habitats
Dictyoptera	<i>Ectobius pallidus</i>	NS	S; T; P	N/A
Diptera	<i>Dictya umbrarum</i>	Notable	S	Wetland
Diptera	<i>Hippobosca equina</i>	pNS; NT	S; R; T	N/A
Diptera	<i>Microdon analis</i>	NS	S; R; T	Open habitats; trees
Diptera	<i>Microdon myrmicae</i>	NS	T	Wetland
Diptera	<i>Paragus tibialis</i>	NS; NT	S	Open habitats
Diptera	<i>Tachytrechus consobrinus</i>	NS	P	Wetland
Diptera	<i>Tipula marginella</i>	RDB3	P	Wetland
Hemiptera	<i>Adelphocoris ticinensis</i>	Nb	S	Open habitats
Hemiptera	<i>Aquarius paludum</i>	NS	S	Wetland
Hemiptera	<i>Chartoscirta cocksii</i>	NS	S; R; T; P	Wetland
Hemiptera	<i>Delphacodes capnodes</i>	Nb	T	Wetland
Hemiptera	<i>Megalonotus dilatatus</i>	Nb	T	Open habitats
Hemiptera	<i>Myrmecoris gracilis</i>	RDB3	P	Open habitats
Hemiptera	<i>Notochilus limbatus</i>	RDB3	T	Open habitats
Hemiptera	<i>Pachybrachius luridus</i>	RDB3	R; T; P	Wetland
Hemiptera	<i>Pentastiridius leporinus</i>	Nb	S; R; T; P	Coastal
Hemiptera	<i>Rhopalus maculatus</i>	NS	T	Wetland
Hymenoptera	<i>Formica picea</i>	RDB1	T; P	Wetland
Hymenoptera	<i>Tapinoma erraticum</i>	Nb; S41	P	Open habitats
Lepidoptera	<i>Anchoscelis haematidea</i>	NS	R; T; P	Open habitats
Lepidoptera	<i>Apomyelois bistriatella</i>	Nb	S	N/A
Lepidoptera	<i>Buckleria paludum</i>	Na	T	Open habitats
Lepidoptera	<i>Chlorissa viridata</i>	NS	P	Open habitats
Lepidoptera	<i>Cleora cinctaria</i>	NS	P	Open habitats
Lepidoptera	<i>Clostera pigra</i>	NS	S	Tree-associated
Lepidoptera	<i>Coenonympha pamphilus</i>	S41; VU	S	Open habitats
Lepidoptera	<i>Crambus uliginosellus</i>	Nb	R	N/A
Lepidoptera	<i>Eudonia delunella</i>	NS	T	N/A
Lepidoptera	<i>Eupithecia irriguata</i>	NS	S	Tree-associated
Lepidoptera	<i>Idaea muricata</i>	NS	R; T	Wetland
Lepidoptera	<i>Idaea sylvestriaria</i>	NS	T	Open habitats
Lepidoptera	<i>Pachycnemia hippocastanaria</i>	NS	S; P	Open habitats
Lepidoptera	<i>Pediasia aridella</i>	Nb	S; R; T; P	N/A
Lepidoptera	<i>Pediasia contaminella</i>	Nb	S; P	N/A
Lepidoptera	<i>Pempelia genistella</i>	Na	T	N/A
Lepidoptera	<i>Plebejus argus</i>	NS; S41; VU	R; T; P	Open habitats
Lepidoptera	<i>Scopula emutaria</i>	NS	T	Open habitats
Lepidoptera	<i>Scrobipalpa ocellatella</i>	Notable	S	Open habitats

Lepidoptera	Sparganothis pilleriana	NS	R	N/A
Odonata	Coenagrion mercuriale	EN; NS; S41	P	Wetland
Odonata	Ceriagrion tenellum	NS	R; T	Wetland
Orthoptera	Nemobius sylvestris	NS	R	Tree-associated
Orthoptera	Metrioptera brachyptera	NS	R; T; P	Wetland
Orthoptera	Stethophyma grossum	NR; NT; S41	T	Wetland
Plecoptera	Nemoura dubitans	NR	S	Wetland
Trichoptera	Limnephilus griseus	NS	S	Wetland

Table 2: List of priority invertebrate species recorded during the surveys. Status classifiers as follows: NR = nationally rare; NS = nationally scarce; pNS = proposed nationally scarce; Nb= nationally notable B; RDB = Red Data Book; S41 = NERC Section 41; EN = Endangered; NT = Near Threatened; VU = Vulnerable. Locations as follows: P = Picket Plain; R = Rakes Brakes Bottom; S = Sluifers Inclosure; T = Turf Hill. N/A = broad biotope data unavailable.

The list in Table 2 includes all species classified in Pantheon as nationally rare or scarce, but also some additional moth species that are classified as nationally rare or scarce in the most recent assessment but not listed as such in Pantheon; it also includes a small number of species that are proposed nationally scarce. Conversely, it does not include species that are only listed as Section 41 (as many are relatively common and widespread) or species that, based on recent records, are no longer nationally rare/scarce and therefore likely to be downgraded in the next assessment.

The priority species list is dominated by Coleoptera (35 species), Lepidoptera (20 species), Araneae (17 species), Hemiptera (10 species), and Diptera (7 species), which together account for nearly 90% of all priority species. Several priority species, including the three nationally scarce native cockroaches (Lesser Cockroach *Capraiellus panzeri*, Dusky Cockroach *Ectobius lapponicus*, and Tawny Cockroach *Ectobius pallidus*) were regularly encountered across all the survey sites (Table 2).

A summary of priority and notable species recorded at each site is provided below.

3.1.1. Picket Plain

Diurnal surveys

The valley mire at Foulford Bottom was home to Southern Damselfly *Coenagrion mercuriale*, Large Marsh Grasshopper *Stethophyma grossum*, Bog Bush-cricket *Metrioptera brachyptera* and Black Bog Ant *Formica picea*, as well as nationally scarce flies including *Tipula marginella* and *Tachytrechus consobrina*. The seepages also had Keeled Skimmer *Orthetrum coerulescens*, Small Red Damselfly *Ceriagrion tenellum*, the water beetles *Chaetarthria simillima*, *Laccobius atratus*, and *Paracymus scutellaris*, Sphagnum Groundbug *Pachybrachius luridus*, Bog Shorebug *Chartoscirta cocksii*, and rove beetles *Meotica exillima* and *Myllaena kraatzi*. The cixiid bug *Pentastiridius leporinus* abounded on this and all the other mire areas sampled in 2025. *Cixius similis* was also frequent as was the leafhopper *Aphrophora alpina* on Bog-myrtle *Myrica gale*, which also yielded the jumping flea beetle *Orchestes iota*. The beetle *Longitarsus holsaticus* was found on Marsh Lousewort *Pedicularis palustris* - although not nationally scarce it remains an elusive species with only three other modern records in Hampshire.

Spiders included *Nerienne furtiva*, which has few modern records but has occurred widely across the New Forest in the past.

The ant-mimicking mirid bug *Myrmecoris gracilis* was locally frequent at the head of seepages (amongst an area where workers of Black Bog Ant *Formica picea* were abundant) and is only known from a handful of sites across the county.

At the time in April, the collection of a worker of *Myrmecina graminicola* was astonishing, given its normal occurrences are on downland, coastal shingle, and clifftop grassland. However, a worker was subsequently found in the mire at Slufers Inclosure in June as part of this survey, and in a treacherous quaking bog in Wareham Forest in Dorset as part of another survey commissioned by Forestry England, so it would appear that mires can be added to the habitats frequented by this local ant.

The sallows along the streamline yielded the scarce weevil *Acalyptus carpini* and those infested with Blushing Bracket *Daedaleopsis confragosa* held the nationally scarce nitidulid beetle *Epuraea distincta* (which is now regarded as an import and likely to be downgraded).

The pitfalls yielded the nationally scarce spider *Crustulina sticta* which may be first modern record for the New Forest interior. The recent colonist, the Black Timber Bark Beetle *Xylosandrus germanus* was a surprise catch, presumably attracted to the vinegar smell of the preservative. Remarkably, the harvestman *Homalenotus quadridentatus* was also trapped, supposedly a species of calcareous soils.

The dodder weevil *Smicronyx jungermanniae* was abundant on the Common Dodder *Cuscuta epithymum* infesting the heather on the upper slopes south and west of the Picket Plain car park. The spider *Episinus truncatus* was in a typical niche under heathers overhanging paths.

Nocturnal surveys

Nationally scarce moths recorded at light during the May and August visits included Small Grass Emerald *Chlorissa viridata* (Fig. 2) and Ringed Carpet *Cleora cinctaria* (Fig. 3), both of which are New Forest specialities favouring damp heathland and bog with scattered scrubby patches. Four specimens of Beautiful Brocade *Lacanobia contigua* (Fig. 4) were also notable, as this species has seriously declined in our region in recent decades. The October survey produced 15 Southern Chestnuts *Anchoscelis haematidea*.

Of the other invertebrates, the highlight was a Bombardier Beetle *Brachinus crepitans* to light (Fig. 5), which is a nationally scarce species typically found in open chalk and coastal habitats, and that doesn't appear to have been recorded in the New Forest since 1939. The striking but infrequently recorded ichneumon wasp *Opheltes glaucopterus* (Fig. 6) was also notable, as was the nationally scarce Angular Orbweaver Spider *Araneus angulatus* that was found in gorse scrub while the bat detector was being deployed.



Figure 2: Small Grass Emerald at Picket Plain on 20 May 2025 (photo: RW)



Figure 3: Ringed Carpet at Picket Plain on 20 May 2025 (photo: RW)



Figure 4: Beautiful Brocade at Picket Plain on 20 May 2025 (photo: RW)



Figure 5: *Bombardier Beetle* at Picket Plain on 11 Aug 2025 (photo: RW)



Figure 6: *Opheltes glaucopterus* at Picket Plain on 11 Aug 2025 (photo: RW)

3.1.2. Rakes Brakes Bottom / Dockens Water

Diurnal surveys

The mire at Rake Brakes Bottom is remarkably rich, with the nationally rare mire specialist camphor beetle *Stenus kiesenwetteri*, as well as rove beetles *Paederus caligatus*, *Myllaena kraatzii*, Sphagnum Groundbug *Pachybrachius luridus*, and Bog Shorebug *Chartoscirta cocksii*. *Cixius similis* was again frequent as was the leafhopper *Aphrophora alpina* on Bog-myrtle *Myrica gale*, which also held the jumping flea beetle *Orchestes iota*.

The shingle bars exposed along the Dockens Water were home to local exposed river sediment specialists including the ground beetle *Bembidion tibiale*, and rove beetles *Aloconota currax*, *A. insecta* and *Philhygra malleus*. Surprisingly, stream sampling didn't yield Brown Diving Beetle *Agabus brunneus*, despite conditions looking optimal.

Deeper side pools grade into open herb-rich lawn areas: these yielded the beetles *Dryops striatellus*, *Tachyporus formosus*, *Paederus caligatus*, *Myllaena kraatzii*, and Beaulieu Dung Beetle *Liothorax niger*. The tiny ground beetle *Tachyura walkeriana* was abundant on the lawns.

A moribund ground beetle *Nebria brevicollis* was collected on the stream edge from which a 130 mm long horsehair worm emerged. This is likely to be the rarely recorded *Gordius aquatica*, who's macabre ecology sees them somehow manipulate their (often) terrestrial host to seek out water into which they emerge and disperse.

The Springy Beeches clearfell area had the Heath Ant Fly *Microdon analis* around stumps left post-felling, while a Beaulieu Dung Beetle *Liothorax niger* was swept in flight on this area in June. The grassy biotope has abundant Heath Bedstraw *Galium saxatile*, which despite extensive suction sampling *didn't* yield Heath Shieldbug *Legnotus picipes*.

Nocturnal surveys

Nationally scarce moths to light in June included Marsh Grass-moth *Crambus uliginosellus* (Fig. 7) and Purple-bordered Gold *Idaea muricata* (Fig. 8), with good numbers of Bog Snout *Sparganothis pilleriana* (Fig. 9) in July and a total of 22 Southern Chestnuts *Anchoscelis haematidea* (Fig. 10) in October. Also of note were singles of Gothic *Naenia typica* (Fig. 11), which is rarely recorded in Hampshire these days, and Dotted Fan-foot *Macrochilo cribrumalis* (Fig. 12), which appears to be slowly spreading westwards into Hampshire - the latter is probably the first record for the open forest, and possibly for the New Forest National Park, although there have been recent records from Lymington and Blashford. Two Olive-tree Pearl *Palpita vitrealis* (Fig. 13) and a Box-tree Moth *Cydalima perspectalis* in October will likely have wandered from nearby coastal sites. Also of note were seven male Glow-worms *Lampyrus noctiluca* to light in June (Fig. 14).



Figure 7: Marsh Grass-moth at Rakes Brakes Bottom on 19 June 2025 (photo: RW)



Figure 8: Purple-bordered Gold at Rakes Brakes Bottom on 19 June 2025 (photo: RW)



Figure 9: Bog Snout at Rakes Brakes Bottom on 18 July 2025 (photo: RW)



Figure 10: 20x Southern Chestnut at Rakes Brakes Bottom on 10 Oct 2025 (photo: RW)



Figure 11: Gothic at Rakes Brakes Bottom on 18 July 2025 (photo: RW)



Figure 12: Dotted Fan-foot at Rakes Brakes Bottom on 19 June 2025 (photo: RW)



Figure 13: Olive-tree Pearl at Rakes Brakes Bottom on 10 Oct 2025 (photo: RW)



Figure 14: Male Glow-worm at Rakes Brakes Bottom on 19 June 2025 (photo: RW)

3.1.3. Sluifers Inclosure

Diurnal surveys

The seepage that flows under the north track formed a deep pool on the south side at SU22798 11046, which supported a rich assemblage with aquatic beetles *Berosus signaticollis*, *Agabus labiatus*, and remarkably, Brown Diving Beetle *Agabus brunneus* - although the latter was in an on-line pool, there were no interstitial habitats upstream or downstream within 180m....so rather lost! The seepage had *Paracymus scutellaris*.

The stream immediately downstream of the recent erosion gulley yielded Brown Diving Beetle *Agabus brunneus* in more typical conditions, in gravelly-bottomed pools left as water levels dropped. The long, dry, spring and summer meant that the deepest pools became the last refuges for large numbers of Minnows *Phoxinus phoxinus*, Bullheads *Cottus gobio*, and Stone Loach *Barbatula barbatula*, plus Common Toad *Bufo bufo* tadpoles.

The rare Lesser Spearwort *Ranunculus flammula* feeding weevil *Bagous brevis* was present near the new exclusion fencing, as was the scarce carabid *Anthraxus consputus* (the last known record from the New Forest was made by Derek Lott in 2000) as well as large numbers of the scarce, hairy, crawling water beetle *Dryops striatellus*, with the pretty little weevil *Dieckmanniellus gracilis* on Water-purslane *Lythrum portula* in the same area.

The side inlet seepage had good numbers of the Bog Snail-killer Fly *Dictyna umbrarum*, Mint Leaf Beetle *Chrysolina herbacea*, the scarce flea beetles *Longitarsus lycopi* (on Water Mint *Mentha aquatica*) *Chaetocnema confusa* and *Chaetocnema subcoerulea* (on sedges). The rove beetle *Rugilus geniculatus* is a scarce component of mire assemblages (with only two other modern records in South Hampshire), as is the money spider *Hypselistes jacksoni*, with the lurid green nymphs and red adults of the scarce mirid *Adelphocoris ticinensis* on Greater Bird's-foot-trefoil *Lotus pedunculatus*. The scarce stonefly *Nemauroa dubitans* was also found in this diverse wetland.

Southern Wood Ant *Formica rufa* nests yielded large numbers of the spider *Thyreosthenius biovatus*, and the beetles *Dinarda maerkeli* and *Thiasophila angulata*.

Nocturnal surveys

Moths included the nationally scarce Small Chocolate-tip *Clostera pigra* (Fig. 15) in June, which has its national stronghold in boggy areas of the New Forest, and a Marbled Pug *Eupithecia irriguata* (Fig. 16) in late April that had presumably wandered from nearby Oak woodland. Two specimens of the nationally scarce Phoenix Knot-horn *Apomyelois bistriatella* (Fig. 17) were recorded in August - the larvae feed on Gorse Cramp Ball fungus *Daldinia fissa* on areas of burnt/dead gorse on heathland. Migrants in August included Dark Sword-grass *Agrotis ipsilon*, Bordered Straw *Heliothis Peltigera* (Fig. 18), and Scarce Bordered

Straw *Helicoverpa armigera* (Fig. 18), while a couple of Jersey Tigers *Euplagia quadripuncta* were not unexpected given the species is now well established around the forest fringe. Another wanderer was Beet Moth *Scrobipalpa ocellatella* (Fig. 19) a nationally scarce micro-moth that has increased recently with a record influx to southern England in 2022 and another influx in 2025.

Two specimens of the distinctive and nationally scarce ground beetle *Polistichus connexus* (Fig. 20) in August were noteworthy, as there don't appear to be any New Forest records prior to 2025. It was recorded at light elsewhere in the New Forest on 18 July, with other recent records from Romsey and Southampton, suggesting it is undergoing range expansion via nocturnal dispersal. A Glow-worm *Lampyrus noctiluca* larva was recorded in late April (Fig. 21), and two males in June. Both Silver-studded Blue *Plebejus argus* and Small Heath *Coenonympha pamphilus* were found roosting in June.



Figure 15: Small Chocolate-tip at Sluflters Inclosure on 25 June 2025 (photo: RW)



Figure 16: *Marbled Pug at Sluifers Inclosure on 30 Apr 2025 (photo: RW)*



Figure 17: *Phoenix Knot-horn at Sluifers Inclosure on 19 Aug 2025 (photo: RW)*



Figure 18: Bordered Straw (left) and Scarce Bordered Straw (right) at Sluifers Inclosure on 19 Aug 2025 (photo: RW)



Figure 19: Beet Moth at Sluifers Inclosure on 19 Aug 2025 (photo: RW)



Figure 20: *Polistichus connexus* at Sluifers Inclosure on 19 Aug 2025 (photo: RW)



Figure 21: Glow-worm larva at Sluifers Inclosure on 30 Apr 2025 (photo: RW)

3.1.4. Turf Hill / Millersford

Diurnal surveys

The assemblage present on the restored mire south of the stream is very rich - this was the only 2025 survey site to yield the nationally rare mire specialist camphor beetle *Stenus kiesenwetteri*, as well as the rove beetles *Paederus caligatus* and *Myllaena kraatzi*, Sphagnum Groundbug *Pachybrachius luridus*, and Bog Shorebug *Chartoscirta cocksii*. Beaulieu Dung Beetle *Lioptorix niger* was found south of stream on wet heath immediately west of the mire area, as was the scarce sedge-feeding jewel beetle *Aphanisticus pusillus*.

The hillside seepage mire north of the stream (central grid ref SU19959 17693) was home to Large Marsh Grasshopper *Stethophyma grossum*, Bog Bush-cricket *Metrioptera brachyptera*, Black Bog Ant *Formica picea* and, at the top of the slope, a single female of the nationally rare Lygaeid bug *Notochilus limbatus* (Fig. 22). This is an ant associate, which doesn't appear to have been recorded in Hampshire since 1961, and there don't appear to be any other modern British records.



Figure 22: *Notochilus limbatus* at Turf Hill (photo: JD)

The tiny jumping spider *Euophrys petrensis* (which is largely reported from dry heath) was found in mire areas on both sides of the stream - it also occurred in mire habitat at two of the Dorset sites surveyed in 2025, so perhaps retreating from drought conditions? The Bog Ant Fly *Microdon myrmicae*, Birch Pot Beetle *Cryptocephalus bipunctatus*, and squash bug *Rhopalus maculatus* were also present.

The seepages had Keeled Skimmer *Orthetrum coerulescens*, Small Red Damselfly *Ceragrion tenellum*, and the nationally scarce water beetles *Chaetarthria simillima* and *Laccobius atratus*. The drier heath areas had the scarce spider *Kochiura aulica*, and the seed bug *Megalonotus dilatatus*.

The clearfell areas west and east of the south mire had the Heath Ant Fly *Microdon analis*, whose larvae develop in nests of the ant *Lasius platythorax* (especially under loose bark); it was also present on the large machine-cleared former plantation as was the wolf spider *Xerolycosa nemoralis*.

Sheep's Sorrel *Rumex acetosella* became locally dominant on the newly cleared ground and had already attracted the weevils *Apion haematodes* and *Rhinoncus castor*, and the Angle-spotted Ladybird *Scymnus frontalis*, but there are several scarcer species likely to colonise in due course. Lesser Cockroach *Capraieilus panzeri* was present in open sunny areas across much of the valley.

The south-facing sandy cliff at SU19957 17758 was somewhat disappointing and yielded very few ground-nesting aculeates: Southern Wood Ant *Formica rufa* is locally abundant and may be partly responsible, but it may be a case of remoteness from good foraging areas. The small Southern Wood Ant nests here did yield the nationally scarce money spider *Thyreosthenius biovatus*, and local rove beetles *Lyprocorrhe anceps* and *Thiasophila angulata*.

Nocturnal surveys

The June survey was conducted on a sultry night and produced 125 moth species (Fig. 23), including the following that are nationally scarce: Dotted Border Wave *Idaea sylvestraria* (Fig. 24), Gorse Knot-horn *Pempelia genistella*, Horse Chestnut *Pachycnemia hippocastanaria*, Pied Grey *Eudonia delunella*, Purple-bordered Gold *Idaea muricata*, Rosy Wave *Scopula emutaria* (Fig. 25), and Saltern Grass-moth *Pediasia aridella*, most of which are heathland/bog specialists.

The October survey produced a remarkable 58 Southern Chestnuts *Anchoscelis haematidea* (see front cover image), a new British record count, suggesting the species is thriving on the restored heathland at this site. A specimen of Clifden Nonpareil *Catocola fraxini* (Fig. 26) was likely to have been a wanderer given the absence of the larval host tree (Aspen) in the area.

Other notable invertebrates to light included at least three male Glow-worms *Lampyris noctiluca*, Striped Ladybird *Myzia oblongoguttata*, and Dusky Longhorn Beetle *Arhopalus rusticus*, while the nationally scarce Forest Fly *Hippobosca equina* was an unwelcome visitor!



Figure 23: A busy night at Turf Hill on 30 June 2025 (photo: RW)



Figure 24: Dotted Border Wave at Turf Hill on 30 June 2025 (photo: RW)



Figure 25: *Rosy Wave* at Turf Hill on 30 June 2025 (photo: RW)



Figure 26: *Clifden Nonpareil* (aka *Blue Underwing*) at Turf Hill on 14 Oct 2025 (photo: RW)

3.2. Pantheon analysis

Tables for specific assemblage types (SATs) were generated in Pantheon for each of the four survey sites, using combined species lists from the diurnal and nocturnal surveys (Table 3).

Picket Plain					
Habitat	Code	SAT	No. of species	SQI	Reported condition
	F003	scrub-heath & moorland	24	163	Favourable (24 species, 9 required)
acid & sedge peats	W312	Sphagnum bog	11	427	Favourable (11 species, 8 required)
	F001	scrub edge	7	143	Unfavourable (7 species, 11 required)
decaying wood	A212	bark & sapwood decay	5	100	Unfavourable (5 species, 19 required)
short sward & bare ground	F111	bare sand & chalk	5	440	Unfavourable (5 species, 19 required)
short sward & bare ground	F112	open short sward	3	100	Unfavourable (3 species, 13 required)
running water	W125	slow-flowing rivers	1	100	Unfavourable (1 species, 4 required)
marshland	W211	open water on disturbed mineral sediments	1	100	Unfavourable (1 species, 6 required)
decaying wood	A213	fungal fruiting bodies	1	400	Unfavourable (1 species, 7 required)
acid & sedge peats	W313	moss & tussock fen	1	800	Unfavourable (1 species, 6 required)
Rakes Brakes Bottom					
Habitat	Code	SAT	No. of species	SQI	Reported condition
	F003	scrub-heath & moorland	17	171	Favourable (17 species, 9 required)
acid & sedge peats	W312	Sphagnum bog	13	400	Favourable (13 species, 8 required)
short sward & bare ground	F112	open short sward	3	100	Unfavourable (3 species, 13 required)
	F001	scrub edge	3	200	Unfavourable (3 species, 11 required)
running water	W111	shingle banks	2	100	Unfavourable (2 species, 9 required)
decaying wood	A211	heartwood decay	2	100	Unfavourable (2 species, 6 required)
decaying wood	A212	bark & sapwood decay	2	100	Unfavourable (2 species, 19 required)
	A215	epiphyte fauna	2	100	Unfavourable (2 species, 3 required)
acid & sedge peats	W314	reed-fen & pools	1	100	Unfavourable (1 species, 11 required)
saltmarsh	M311	saltmarsh & transitional brackish marsh	1	400	Unfavourable (1 species, 9 required)
marshland	W211	open water on disturbed mineral sediments	1	100	Unfavourable (1 species, 6 required)
acid & sedge peats	W313	moss & tussock fen	1	800	Unfavourable (1 species, 6 required)
Sluifers Inclosure					
Habitat	Code	SAT	No. of species	SQI	Reported condition
	F003	scrub-heath & moorland	20	180	Favourable (20 species, 9 required)
acid & sedge peats	W312	Sphagnum bog	11	364	Favourable (11 species, 8 required)
	F001	scrub edge	7	100	Unfavourable (7 species, 11 required)
short sward & bare ground	F112	open short sward	5	160	Unfavourable (5 species, 13 required)
short sward & bare ground	F111	bare sand & chalk	3	200	Unfavourable (3 species, 19 required)
	A215	epiphyte fauna	2	100	Unfavourable (2 species, 3 required)
	F002	rich flower resource	2	100	Unfavourable (2 species, 15 required)
marshland	W211	open water on disturbed mineral sediments	2	250	Unfavourable (2 species, 6 required)
decaying wood	A212	bark & sapwood decay	2	100	Unfavourable (2 species, 19 required)
running water	W122	riparian sand	1	400	Unfavourable (1 species, 5 required)
running water	W125	slow-flowing rivers	1	100	Unfavourable (1 species, 4 required)
acid & sedge peats	W311	open water in acid mire	1	100	Unfavourable (1 species, 5 required)
marshland	W221	undisturbed fluctuating marsh	1	400	Unfavourable (1 species, 4 required)
decaying wood	A211	heartwood decay	1	100	Unfavourable (1 species, 6 required)
running water	W111	shingle banks	1	100	Unfavourable (1 species, 9 required)
Turf Hill					
Habitat	Code	SAT	No. of species	SQI	Reported condition
	F003	scrub-heath & moorland	30	193	Favourable (30 species, 9 required)
acid & sedge peats	W312	Sphagnum bog	15	487	Favourable (15 species, 8 required)
	F001	scrub edge	10	160	Unfavourable (10 species, 11 required)
decaying wood	A212	bark & sapwood decay	9	100	Unfavourable (9 species, 19 required)
short sward & bare ground	F112	open short sward	6	200	Unfavourable (6 species, 13 required)
short sward & bare ground	F111	bare sand & chalk	4	175	Unfavourable (4 species, 19 required)
	A215	epiphyte fauna	2	100	Unfavourable (2 species, 3 required)
acid & sedge peats	W313	moss & tussock fen	2	450	Unfavourable (2 species, 6 required)
marshland	W211	open water on disturbed mineral sediments	1	100	Unfavourable (1 species, 6 required)

Table 3: Pantheon SAT analysis for the four survey sites. SATs that are deemed to be in favourable condition are shaded light green. SQI = species quality index.

Although the surveys were targeting priority species and were non-standardised, these analyses can nevertheless provide useful comparisons between the four survey sites.

The Pantheon outputs indicate that the SATs for '*scrub-heath and moorland*' and '*Sphagnum bog*' are in favourable condition at all four sites (Table 3). The most important habitats in these two categories are defined as '*tall sward & scrub*' and '*acid & sedge peats*', respectively. The Species Quality Index (SQI) scores for the two SATs in favourable condition are highest at Turf Hill, but are broadly comparable across the four sites, suggesting no significant difference between recently restored and established sites.

3.3. Other survey results (vertebrates)

3.3.1. Acoustic bat data

A static acoustic bat detector was deployed during the first six nocturnal surveys (Table 1). A total of seven species were recorded with high confidence, with Common Pipistrelle and Soprano Pipistrelle frequently detected at all sites, Brown Long-eared Bat and Noctule sporadically recorded at three sites, and Natterer's Bat detected at one site (Table 4). In addition, a single Barbastelle pass was detected at Rakes Brakes Bottom on 19 June - this species is nationally red-listed as 'Vulnerable' but is widely distributed in the New Forest.

		S	T	P	R	S	T
English name	Scientific name	30/04	01/05	20/05	19/06	25/06	30/06
Barbastelle	<i>Barbastella barbastellus</i>				✓		
Serotine	<i>Eptesicus serotinus</i>	✓	✓	✓		✓	✓
Natterer's Bat	<i>Myotis nattereri</i>						✓
Noctule	<i>Nyctalus noctula</i>	✓		✓		✓	✓
Common Pipistrelle	<i>Pipistrellus pipistrellus</i>	✓	✓	✓	✓	✓	✓
Soprano Pipistrelle	<i>Pipistrellus pygmaeus</i>	✓	✓	✓	✓	✓	✓
Brown Long-eared Bat	<i>Plecotus auritus</i>	✓			✓	✓	✓

Table 4: Bat species recorded during nocturnal surveys. Locations as follows: P = Picket Plain; R = Rakes Brakes Bottom; S = Sluifers Inclosure; T = Turf Hill.

The most interesting result was the presence of Serotine (another red-listed 'Vulnerable' species) at three survey sites. At Turf Hill on 30 June, Serotine was the most frequently recorded species with a total of 528 medium/high confidence passes. Recent heathland restoration surveys conducted in 2023-24 also visually and acoustically recorded foraging Serotines around the margins of the three survey sites (Denny, Dunces Arch, and Turf Hill); it therefore seems likely that restored heathland margins in the New Forest provide important foraging habitat for this species.

3.3.2. Breeding birds

A variety of typical heathland breeding birds were opportunistically recorded during the nocturnal surveys (Table 5), including several that are features of the New Forest Special Protection Area (SPA).

English name	Scientific name	Picket Plain	Rakes Brakes	Sluifers	Turf Hill
Buzzard	<i>Buteo buteo</i>	Present	Present		
Cuckoo	<i>Cuculus canorus</i>			Singing male	Singing male
Curlew	<i>Numenius arquata</i>			Calling	Calling
Dartford Warbler*	<i>Curruca undata</i>	Singing male	Singing male	Singing male	Singing male
Linnet	<i>Linaria cannabina</i>	Singing male		Singing male	Singing male
Meadow Pipit	<i>Anthus pratensis</i>	Singing male		Singing male	Singing male
Nightjar*	<i>Caprimulgus europaeus</i>	Singing male	Singing male	Singing male	Singing male
Redstart	<i>Phoenicurus phoenicurus</i>				Singing male
Snipe*	<i>Gallinago gallinago</i>	Chipping male	Chipping male	Chipping male	Chipping male
Stonechat*	<i>Saxicola rubicola</i>	Singing male	Singing male	Singing male	Singing male
Tawny Owl	<i>Strix aluco</i>		Singing male		Singing male
Tree Pipit	<i>Anthus trivialis</i>				Singing male
Whitethroat	<i>Curruca communis</i>				Singing male
Willow Warbler	<i>Phylloscopus trochilus</i>	Singing male		Singing male	Singing male
Woodcock	<i>Scolopax rusticola</i>	Roding male	Roding male	Roding male	Roding male

Table 5: Breeding bird species recorded during nocturnal surveys.

Dartford Warbler, Nightjar (Fig. 27), and Stonechat were recorded at all four sites, with other species of open habitats such as Linnet and Meadow Pipit recorded at three sites (Table 5). Encouragingly, despite the exceptionally dry spring and summer, Snipe was recorded at all four sites - this species is still widely distributed in bog and mire habitats in the New Forest. Curlew was heard calling distantly at two sites but were not considered to be breeding 'on site'. The only non-breeding birds of note were a Barn Owl *Tyto alba* heard north of Sluifers Inclosure on 30 Apr (this species is relatively scarce on the open forest) and a fly-over Whimbrel *Numenius phaeopus* heard at Turf Hill on 01 May, presumably a northbound migrant. Notable breeding birds recorded during diurnal surveys included a family group of Hawfinches (one adult and four fledglings) near the northeast edge of South Bentley Inclosure on 26 May, and a pair of Peregrines on pylons to the northeast of Turf Hill.

3.3.3. Herptiles

A Slow-worm *Anguis fragilis* was recorded as roadkill on a gravel track close to the survey site at Sluifers Inclosure on 30 Apr. Common Toad *Bufo bufo* was recorded at Rakes Brakes Bottom at night on 19 June (Fig. 28) and breeding in the stream at Sluifers Inclosure during diurnal surveys. Common Frog *Rana temporaria* was recorded at night at Rakes Brakes Bottom and Sluifers Inclosure. Palmate Newt *Lissotriton helveticus* was recorded at Sluifers Inclosure.



Figure 27: Nightjar on gravel track at Rakes Brakes Bottom on 19 July 2025 (photo: RW)



Figure 28: Common Toad at Rakes Brakes Bottom on 19 June 2025 (photo: RW)

4. Conclusions

This study has generated new data evidencing the ecological importance of heathland and wetland habitats on the Crown Lands of the New Forest. A total of over 800 invertebrate species, including 102 priority species, was recorded across the four survey sites in this study, with all four sites being in favourable condition for the specific assemblage types (SATs) of '*scrub-heath and moorland*' and '*Sphagnum bog*'. A further key finding is that, in addition to all four sites being in favourable conditions for these SATs, there is no significant difference in the species quality index (SQI) between the four sites; this indicates that the two recently restored sites (Slufers and Turf Hill) have rapidly (re)acquired their heathland priority invertebrate assemblage following restoration from conifer plantation - this result is in line with recent studies focussed on a wider range of species groups (Wynn, 2025).

Finally, local wildlife film maker, Matt Roseveare, who is an Associate of the New Forest Biodiversity Forum, attended the nocturnal survey at Slufers Inclosure on 25 June to capture additional footage for use in a short film on the biodiversity response to heathland restoration (Fig. 29).



Figure 29: Matt Roseveare filming moths and other invertebrates coming to light at Slufers Inclosure on 25 June 2025 (photo: RW)

The feature was produced by the New Forest Biodiversity Forum, in partnership with Wild New Forest and Forestry England, and primarily focussed on the results of the heathland restoration surveys conducted in 2023-24 (Wynn, 2025). Footage of several moth species from the Slufers Inclosure survey were included, notably Small Chocolate-tip, as well as displaying Nightjar. The feature is available to view on the New Forest Biodiversity Forum YouTube channel [here](#).

5. References

Webb, J., et al. (2018) Pantheon - database version 3.7.6. Available [here](#).

Wynn, R.B. (2025) New Forest Heathland Restoration Survey Report 2023-24. Wild New Forest and New Forest Biodiversity Forum. Available [here](#).

Appendix 1: Location maps

Picket Plain



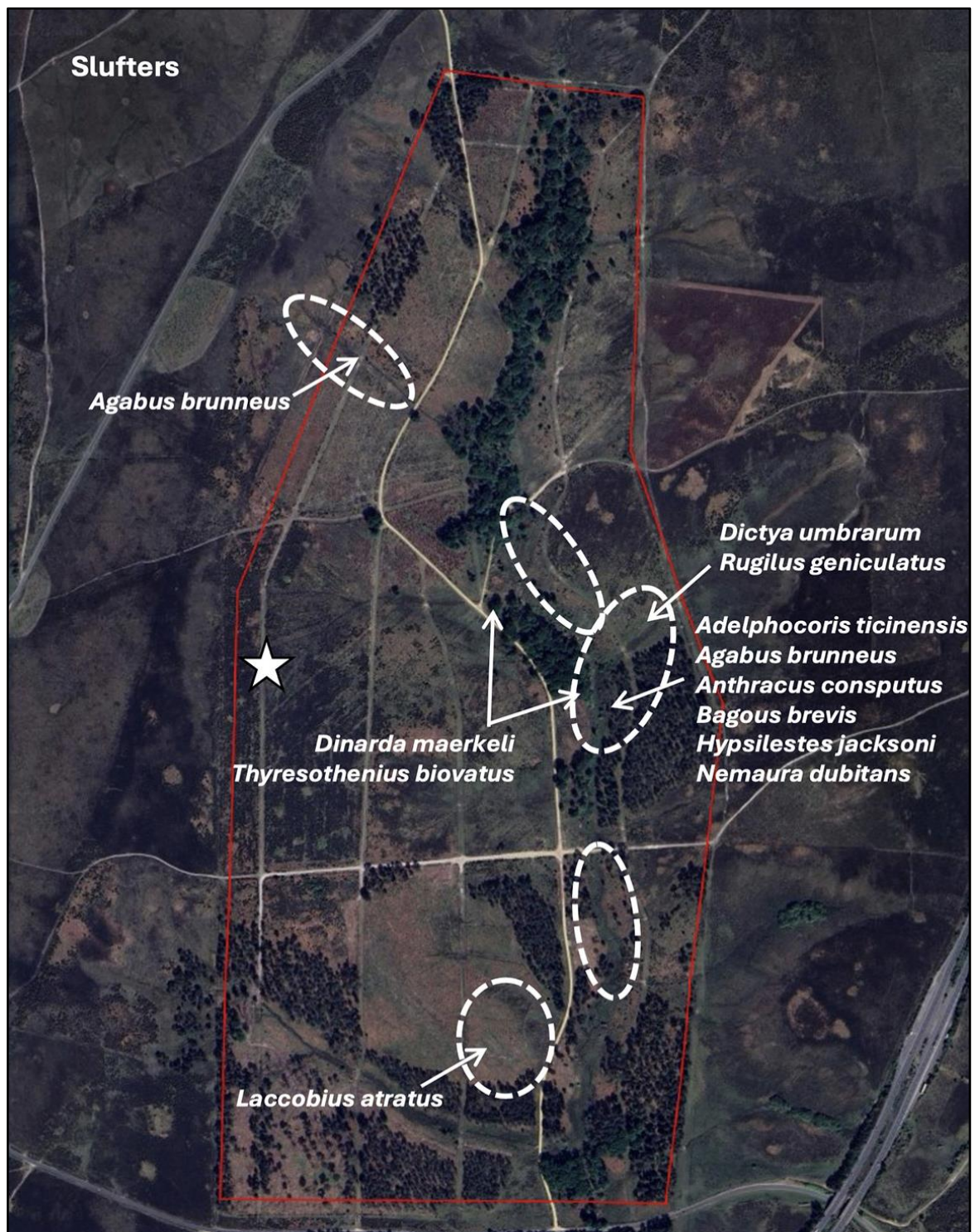
Location map for the Picket Plain survey area, showing survey target areas (red polygons), location of nocturnal moth surveys (white star), location of pitfall traps (solid white line), and location of areas of high-quality heathland/wetland habitat that contained multiple priority species (white dashed ovals). Locations of selected priority species shown with white arrows. For general location see Fig. 1.

Rakes Brakes Bottom / Dockens Water



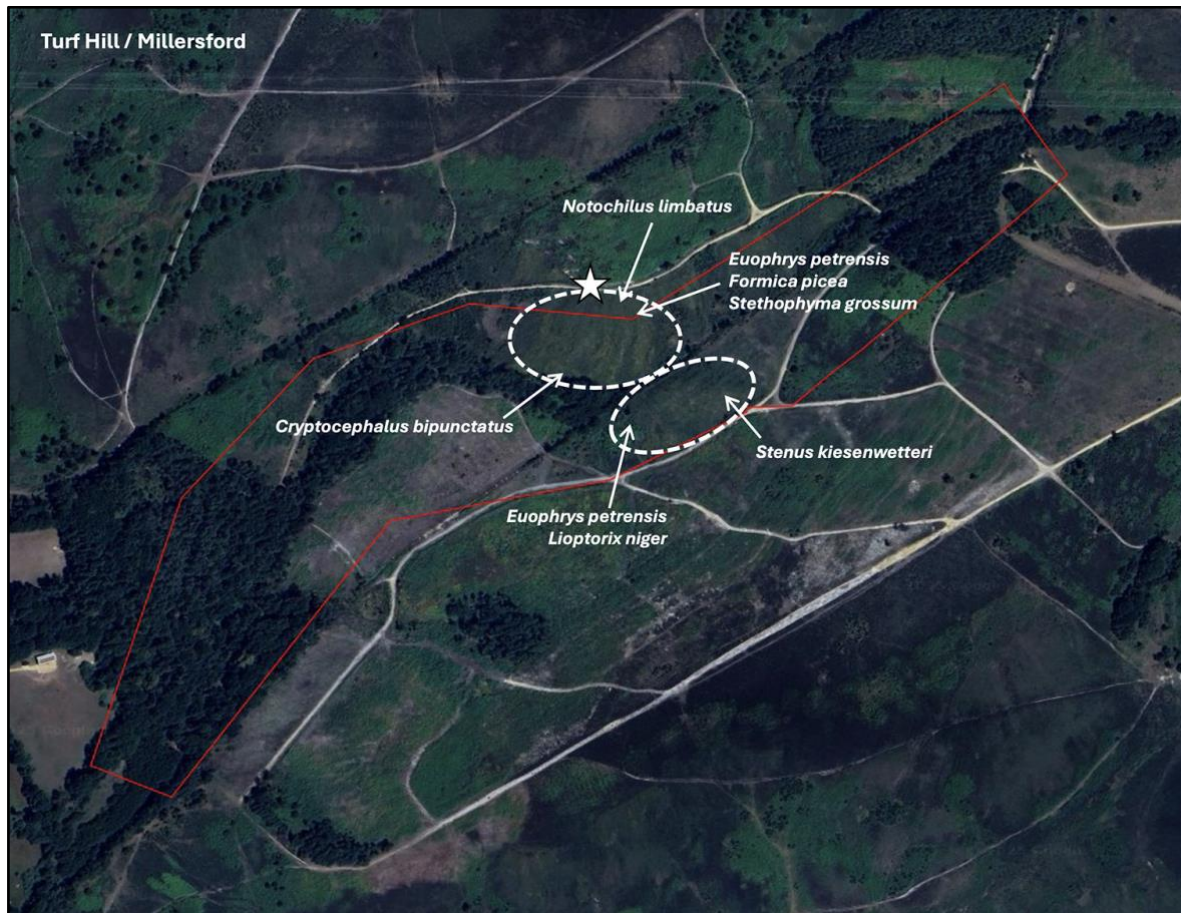
Location map for the Rakes Brakes Bottom / Dockens Water survey area, showing survey target areas (red polygons), location of nocturnal moth surveys (white star), and location of areas of high-quality heathland/wetland habitat that contained multiple priority species (white dashed ovals). Locations of selected priority species shown with white arrows. For general location see Fig. 1.

Slufters Inclosure



Location map for the Slufters Inclosure survey area, showing survey target areas (red polygons), location of nocturnal moth surveys (white star), and location of areas of high-quality heathland/wetland habitat that contained multiple priority species (white dashed ovals). Locations of selected priority species shown with white arrows. For general location see Fig. 1.

Turf Hill / Millersford



Location map for the Turf Hill / Millersford survey area, showing survey target areas (red polygons), location of nocturnal moth surveys (white star), and location of areas of high-quality heathland/wetland habitat that contained multiple priority species (white dashed ovals). Locations of selected priority species shown with white arrows. For general location see Fig. 1.

Appendix 2: Site photos



Nocturnal survey location at Picket Plain on 16 Oct 2025 (photo: RW)



Nocturnal survey location at Rakes Brakes Bottom on 19 June 2025 (photo: RW)



Nocturnal survey location at Sluifers Inclosure on 25 June 2025 (photo: RW)



Nocturnal survey location at Turf Hill on 01 May 2025 (photo: RW)