

Yr Wyddfa

Site: Yr Wyddfa (including Yr Wyddfa National Nature Reserve)

Dates of surveys: 12/06/2022 and 21/06/2022

Transect routes: Miner's track, Llanberis path, Watkin path and Rhyd Ddu path



Mossy Saxifrage (*Saxifraga bryoides*) along the Miner's track above Glaslyn.

1. Survey details

The 2022 repeat surveys of Yr Wyddfa / Snowdon consisted of two visits: one covering the Miner's track and Llanberis path (on 12 June 2022) and another to cover the Cwm Llan area by taking the Watkin path to the summit of Yr Wyddfa and then the Rhyd Ddu ridge path along to Bwlch Cwm Llan and back into Cwm Llan (on 21 June 2022). The map below (figure 1) gives a more detailed overview of the exact routes.

As outlined in the project methodology, this survey involved noting down any birdlife seen during the transect (especially signs of breeding activity), any mammal activity, litter abundance along footpaths, vegetation condition at several points and fixed-point imagery.

Weather conditions: on 12 June there were 10-15mph winds from the west, temperatures of 15°C, and overcast skies with a cloud base just below summit level. On 21 June there were very low winds (5mph from the north-west), clear skies and warm, sunny conditions with temperatures between 16°C (at 7am) and 24°C (at midday).

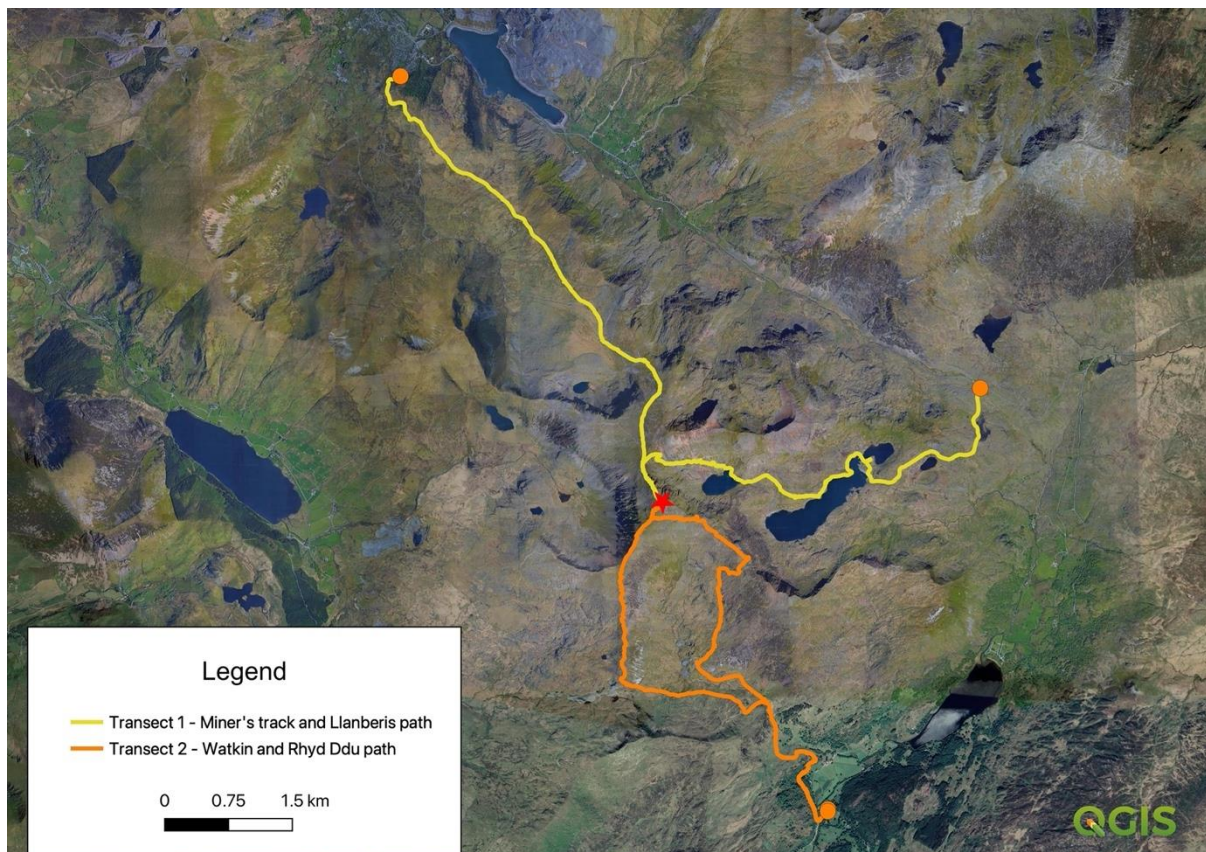


Figure 1. Transect routes for the 2022 repeat surveys on Yr Wyddfa, outlined in orange and yellow tracks: orange dots denote start and end of transect routes; red star denotes Yr Wyddfa summit.

2. Results

A summary of the results for each different survey element are given below. Figure 2 provides an overview of the locations of noteworthy sightings and key survey points (red circles) and of the locations of fixed-point images (blue circles). These numbered points are referred to in the results text using parentheses followed by the numbered code, for example '(P3)'.

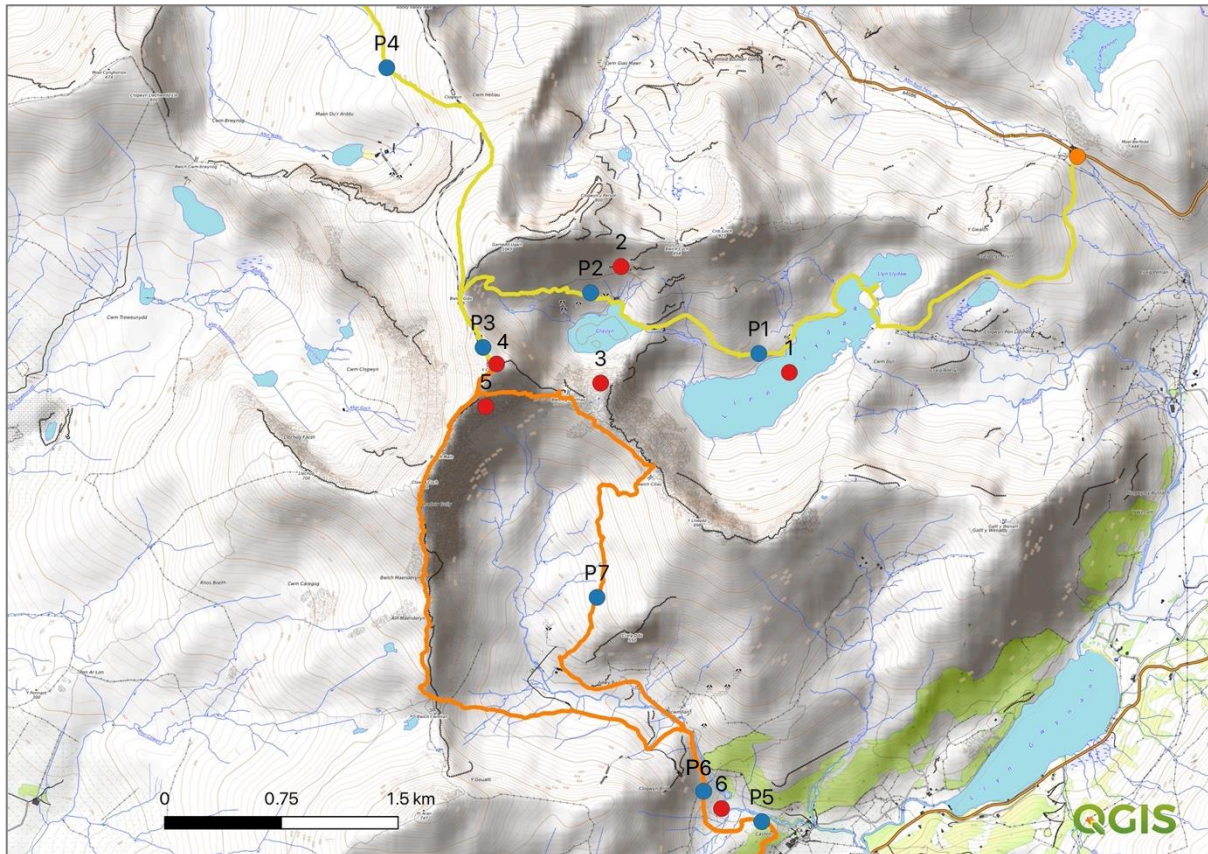


Figure 2. A map of Yr Wyddfa survey area showing the two survey routes (yellow = Miner's Track and Llanberis path, orange = Watkin and Rhyd Ddu path). Numbered **red** points are target notes referred to in the results summary below; **blue** points are fixed-point photography sites (see section below).

2.1 Birdlife

A total of 34 different bird species and 398 individual birds were recorded across the different transect sections of Yr Wyddfa over the two survey visits (see table 1 below). The most abundant species recorded were Meadow Pipits (a total of 169 individuals), Herring Gulls (51 individuals), Wrens (22 individuals) and Northern Wheatears (22 individuals). More noteworthy sightings included four Ring Ouzels spread across the survey area (several of which showed indications of breeding activity), three singing male Cuckoos (not recorded in 2021) and four Common Sandpipers on Llyn Llydaw.

A total of eight species recorded during the 2022 surveys were not seen in 2021, which included Canada Goose, Cuckoo and Swallow in the upper areas of the survey site, and Chaffinch, Chiffchaff, Nuthatch, Siskin and Spotted Flycatcher in the woodland area of Coed Parc Hafod-y-Ilan. Two species recorded in 2021 were absent from the surveys in 2022, which were Great Spotted Woodpecker and Mistle Thrush.

There were no direct impacts observed regarding the effects of visitors on the birdlife of the area, although some general observations regarding the interaction between people and wildlife are noted below, particularly in reference to the changes observed across the three years of the study:

- **Common Sandpipers** on Llyn Llydaw (point 1 on the map in figure 2): a total of four birds were recorded along the shores of Llyn Llydaw in 2022, which is the same number as 2021 but still down from the figure of eight recorded in 2020. This species is prone to disturbance from people, and so can be impacted by the presence of people around the lakes on which it breeds. Whether the birds recorded in 2022 successfully bred or not is unknown.
- **Herring Gulls** around Yr Wyddfa summit. After a very low count recorded in the 2021 surveys (just 13 birds), a tally of 51 was seen in 2022. It was thought that, during the lockdown period in 2020, there would be a reduction in the numbers of this generalist scavenger given that birds gathering around the summit are reliant mostly on the food waste and discards from visitors. Indeed, only 16 birds were recorded around the summit during the 2020 surveys, and so the higher figure in 2022 could be a result of increased visitor numbers once again and a greater amount of scavenging opportunity.
- **Ring Ouzel territories**: this scarce upland breeding bird is in decline across its range in the UK and is on the Redlist of birds of conservation concern. Snowdonia is an important stronghold for many breeding pairs, but there is concern of declines across the area. This year four birds were recorded in total, consisting of two singing males near Llyn Glaslyn and two birds near the upper area of the Watkin path, below the summit. This is less than the six birds recorded in 2021, but more than the three seen in 2020. The locations of birds recorded in 2022 indicate three territories, outlined in figure 2 with target notes 2, 3 and 5.
- **Nesting birds along pathways**: in 2020, a particularly noteworthy effect of lockdown was the presence of many nests and breeding birds close to main pathways. This was due partly to the lack of path usage, and also due to the profuse growth of vegetation near paths usually compacted by human footfall, allowing more locations for birds to nest. As in 2021, there was no such effect recorded in 2022, with most ground nesting birds only frequenting areas closer to the pathways for feeding as opposed to nesting.

Table 1. Breeding bird survey results for Yr Wyddfa transects in 2022.

| Site Name | | Yr Wyddfa / Snowdon | | | | | |
|------------------|--------------------------------|--|----------------|--------------------------|-------------------------|--------------|--|
| Survey type | | Breeding birds | | | | | |
| Surveyors | | Ben Porter with help from Catrin Glyn and Malcolm Davies | | | | | |
| Dates of surveys | | 12/06/2022 (transect 1) and 21/06/2022 (transect 2) | | | | | |
| Species | Scientific name | Transect or site | | | | | Notes on evidence of breeding during surveys |
| | | Miner's Path | Llanberis Path | Watkin Path and Cwm Llan | Coed Parc Hadod-y-Illan | Total number | |
| Meadow Pipit | <i>Anthus pratensis</i> | 55 | 35 | 79 | | 169 | Singing males, adults with food, fledged young |
| Wren | <i>Troglodytes troglodytes</i> | 4 | | 14 | 4 | 22 | Singing males |
| Herring Gull | <i>Larus argentatus</i> | 26 | 10 | 15 | | 51 | |
| Skylark | <i>Alauda arvensis</i> | | 15 | | | 15 | Singing males |
| Wheatear | <i>Oenanthe oenanthe</i> | 5 | 6 | 11 | | 22 | Fledged young and adults alarm calling |
| Pied Wagtail | <i>Motacilla alba yarellii</i> | 9 | 2 | 4 | | 15 | Fledged young |
| Ring Ouzel | <i>Turdus torquatus</i> | 2 | | 2 | | 4 | Singing males |
| Grey Wagtail | <i>Motacilla cinerea</i> | 2 | | 5 | | 7 | Singing males |
| Stonechat | <i>Saxicola torquata</i> | 1 | | 1 | | 2 | |
| Carrion Crow | <i>Corvus corone</i> | 1 | 3 | | | 4 | |
| Canada Goose | <i>Branta canadensis</i> | 4 | | | | 4 | |
| Common Sandpiper | <i>Actitis hypoleucos</i> | 4 | | | | 4 | Alarm calling (two pairs on Llyn Llydaw) |
| Raven | <i>Corvus corax</i> | 1 | 5 | 2 | | 8 | Fledged young |
| Cuckoo | <i>Cuculus canorus</i> | | 1 | 2 | | 3 | Singing male |
| Buzzard | <i>Buteo buteo</i> | | 2 | | | 2 | |
| Kestrel | <i>Falco tinnunculus</i> | | 1 | 1 | | 2 | |
| Robin | <i>Erithacus rubecula</i> | | | 1 | 4 | 5 | |
| Dunnock | <i>Prunella modularis</i> | | | | 3 | 3 | Singing males |

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| | | | | | | | |
|--------------------------------|-------------------------------|------------|-----------|------------|-----------|------------|---------------|
| Coal Tit | <i>Periparus ater</i> | | | 3 | 3 | 6 | Singing males |
| Willow Warbler | <i>Phylloscopus trochilus</i> | | | | 2 | 2 | Singing males |
| Blue Tit | <i>Cyanistes caeruleus</i> | | | 2 | 11 | 13 | Fledged young |
| Treecreeper | <i>Certhia familiaris</i> | | | | 2 | 2 | Singing males |
| Blackcap | <i>Sylvia atricapilla</i> | | | 2 | 3 | 5 | Singing males |
| Song Thrush | <i>Turdus philomelos</i> | | | | 1 | 1 | Singing male |
| Goldcrest | <i>Regulus regulus</i> | | | | 3 | 3 | |
| Blackbird | <i>Turdus merula</i> | | | | 2 | 2 | |
| Tree Pipit | <i>Anthus trivialis</i> | | | 1 | | 1 | |
| Long-tailed Tit | <i>Aegithalos caudatus</i> | | | | 5 | 5 | Fledged young |
| Nuthatch | <i>Sitta europaea</i> | | | | 4 | 4 | |
| Chiffchaff | <i>Phylloscopus collybita</i> | | | | 2 | 2 | Singing males |
| Chaffinch | <i>Fringilla coelebs</i> | | | 1 | 1 | 2 | |
| Siskin | <i>Carduelis spinus</i> | | | | 5 | 5 | |
| Spotted flycatcher | <i>Muscicapa striata</i> | | | | 2 | 2 | |
| Swallow | <i>Hirundo rustica</i> | | | | 1 | 1 | |
| Total number of species | | 12 | 10 | 17 | 18 | 34 | |
| Total number of birds | | 114 | 80 | 146 | 58 | 398 | |



Male Stonechat (*Saxicola torquata*) along the Miner's track

Comparisons of bird abundance and diversity 2020-2022

The two figures below provide a broad comparison between the breeding bird survey results from 2020, 2021 and 2022, with reference to bird abundance (figure 3) and diversity (figure 4). Overall, both the abundance and diversity of birdlife in 2020 (the year of Covid-19 lockdown) was greater than both the proceeding years. Cold spring conditions in 2021 was thought to be a primary driver of the drop in both these metrics during that year, with a slight increase in abundance and diversity seen during the 2022 season – a year experiencing less severe spring conditions for upland breeding birds.



Figure 3. Comparison of bird abundance (i.e. number of individual birds recorded) along the main transect routes between 2020 (pale grey), 2021 (dark grey) and 2022 (grey).

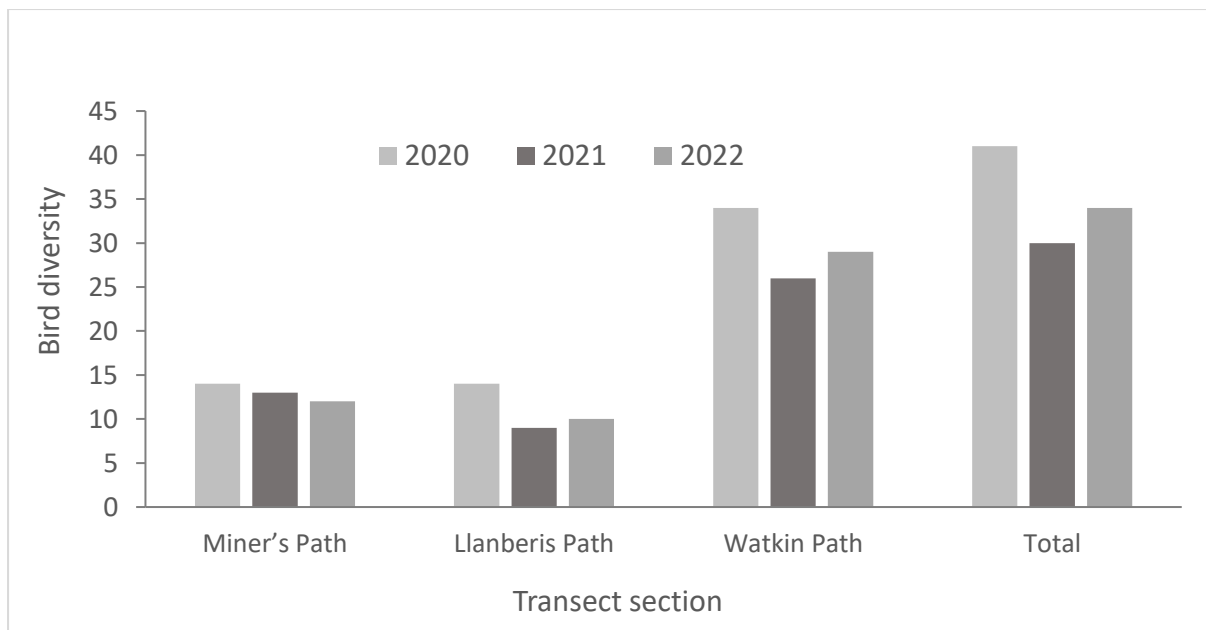


Figure 4. Bird diversity (i.e. number of species) along the main transect routes between 2020 (pale grey), 2021 (dark grey) and 2022 (grey).

2.2 Vegetation

The most noticeable finding in assessing the effects of visitors on vegetation condition across this site was around the Cwm Llan waterfall area (point 6 on the map in figure 2). The waterfalls along this section of the Afon Llan have become increasingly popular with visitors, especially since lockdown 2020. Hundreds of people congregate around this stretch of the river on some occasions, which is just off the Watkin path on the ascent to Cwm Llan. As a result of its popularity, a number of new pathways have developed leading off the main footpath, and a significant amount of trampling and footfall on the banks of the river has become ever more noticeable across the two years of these repeat surveys since 2020. This site was not targeted for the scope of the project's vegetation surveys in the initial year of the surveys, and so there is no comparison data to indicate what effect the increased use of this site is having on the vegetative communities and ecology of the area. However, it is clear that there is increasing pressure on this particular site from visitors, and considerations of this effect should be evaluated for potential mitigation measures.



One of the new pathways that leads off the main Watkin path on the ascent towards Cwm Llan,



An image showing one of the new trodden pathways cutting through the fields below the main Watkin Path to access the Afon Llan and its waterfalls.

Besides the Afon Llan, there was no other noticeable change in vegetation condition along pathways compared to 2021. There were fewer plant species recorded around the summit cairn this year (10 species in total, compared to 15 in 2021) – see table 2 below.

Table 2. Results of a summit vegetation survey on Yr Wyddfa summit (point 4 on the map in figure 2)

| | | | |
|--------------------------------|---|--------------------|--------------|
| Site Name | Yr Wyddfa / Snowdon | | |
| Survey type | Summit vegetation survey (10m radius around summit) | | |
| Surveyors | Ben Porter and Catrin Glyn | | |
| Date of survey | 12/06/2022 | | |
| Species | Scientific name | DAFOR score | Notes |
| English Stonecrop | <i>Sedum annuum</i> | Occasional | |
| Mossy Saxifrage | <i>Saxifraga bryoides</i> | Occasional | |
| Mouse-ear sp. | <i>Cerastium sp.</i> | Rare | |
| Heath Bedstraw | <i>Gallium saxatile</i> | Occasional | |
| Sheep's Fescue | <i>Festuca ovina</i> | Occasional | |
| Woolly Fringe-moss | <i>Racomitrium lanuginosum</i> | Occasional | |
| Annual Meadow Grass | <i>Poa annua</i> | Occasional | |
| Bilberry | <i>Vaccinium myrtillus</i> | Occasional | |
| Parsley fern | <i>Cryptogramma crispa</i> | Rare | |
| Dog Lichen | <i>Peltigera sp.</i> | Occasional | |
| Total number of species | 10 | | |

2.3 Litter

A total of 176 litter items of 18 different types were recorded across the main pathways and survey areas in 2022 (see table 3 below). The summit of Yr Wyddfa was again the worst site for the presence of litter, with a total of 77 different items of 14 types recorded; the three pathways were each similar for the quantity of litter recorded, with the Watkin path being the worst (a total of 38 items of six types were recorded). The most frequently found litter items were cigarette butts (44 in total), sweet wrappers (25), tissues (19), banana peels (16) and metal/aluminium cans (16). Whilst both banana peels and tissues are more biodegradable than the other items, banana peels can take several years to break down, and tissues were not always of the most degradable material (such as wet wipes).

The total number of litter items found during the 2022 surveys (176 in total) is less than was found in 2021 (299), but is still much more than was found in 2020 during lockdown (75). It must also be noted that several different volunteer groups worked tirelessly through the 2022 season to carry out regular litter picks and clean up the waste across the different pathways. The group *Caru Eryri* have been particularly concerted in their efforts to remove litter, and must be recognised for their immense work in this task. On the second survey visit to Yr Wyddfa during 2022 (on 21st June), a group from 'Trash Free Trails' had just returned from a summit clean-up where they removed more than ten bin bags full of litter from the site. The more regular litter pick events from such volunteer groups has likely contributed to a much lower total in this survey than would have otherwise been found, and so illustrates the fact that littering continues to be a significant issue in such popular sites.

Table 3. Results of the litter survey along the three different routes on Yr Wyddfa in 2022.

| Site Name | Yr Wyddfa / Snowdon | | | | |
|-----------------------------------|--|----------------|------------------------|------------------|-------|
| Survey type | Litter survey | | | | |
| Surveyors | Ben Porter with help from Catrin Glyn and Malcolm Davies | | | | |
| Date(s) of survey | 12/06/2022 and 21/06/2022 | | | | |
| Litter type | Quantity | | | | |
| | Miner's track | Llanberis path | Watkin Path & Cwm Llan | Yr Wyddfa summit | Total |
| Banana peel | 5 | 3 | | 8 | 16 |
| Dog poo bag | 3 | 3 | | | 6 |
| Wet wipe | 9 | | | | 9 |
| Hard plastic pieces | 3 | 2 | 2 | 7 | 14 |
| Cigarettes | 4 | 5 | 9 | 26 | 44 |
| Plastic bottle | 3 | 1 | 5 | | 9 |
| Metal/aluminium can | 2 | 10 | 2 | 2 | 16 |
| Sweet wrapper | 5 | | 9 | 11 | 25 |
| Glass bottle | | | | 1 | 1 |
| Other organics (orange peel etc.) | | | | 1 | 1 |
| Dog collar | | | | 1 | 1 |

| | | | | | |
|-------------------------------------|-----------|-----------|-----------|-----------|------------|
| Plastic flag | | | | 1 | 1 |
| Plastic bottle top | | | | 1 | 1 |
| Foil pieces | | | | 6 | 6 |
| Metal can ring pull | | | | 1 | 1 |
| Plastic tub | | | | 3 | 3 |
| Clothing items | | 3 | | | 3 |
| Tissue | | | 11 | 8 | 19 |
| Total number of litter types | 8 | 7 | 6 | 14 | 18 |
| Total number of litter items | 34 | 27 | 38 | 77 | 176 |



A discarded plastic bottle on the slopes of Yr Wyddfa.

2.4 Other sightings and notes from the survey

Feral mountain goats: there were no Feral goats recorded during the surveys this year, with 12 seen in 2021 and 35 seen across the area in 2020.

Insects: the warm, sunny weather during the second survey (on 21st June) provided good conditions for a number of day-flying insects to be recorded, which included Small Heath butterflies, a Hummingbird Hawkmoth, and the micro moths White-barred Gold (*Micropterix aruncella*) and Northern Grass Veneer (*Catoptria furcatellus*).

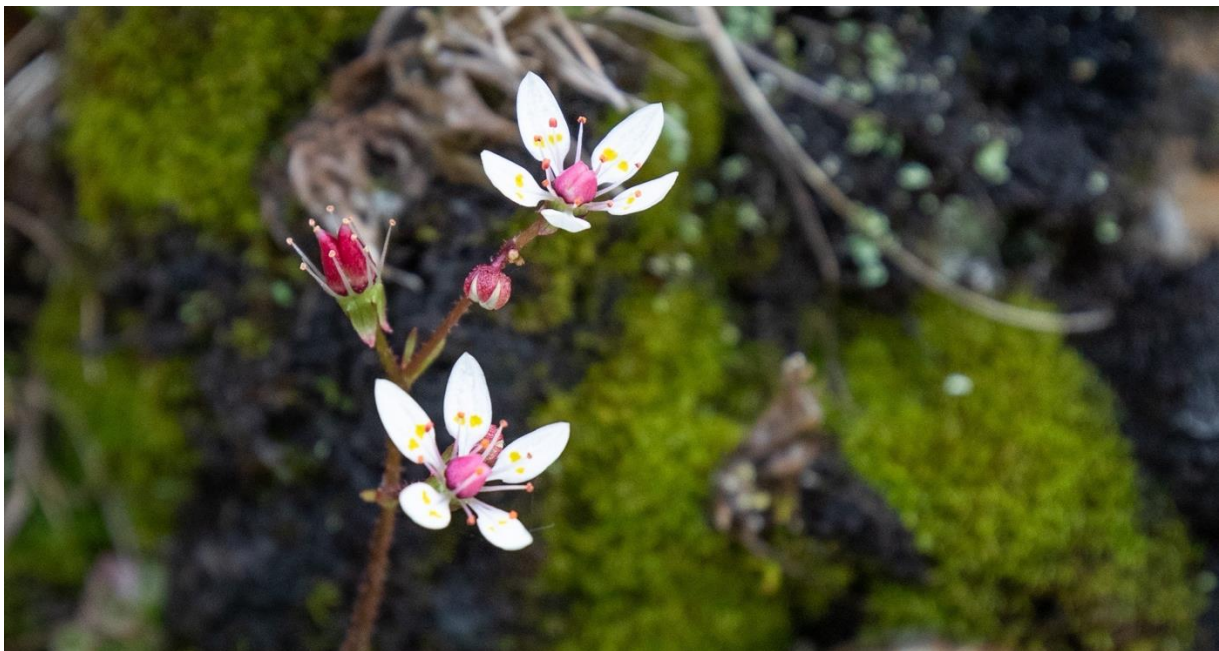
Camping activity: there were no tents or evidence of camping activity noted along the transects covered over the two survey visits to this area.

2.5 Grazing levels

Whilst not specifically monitored during the surveys, the condition of habitats along the transect routes plays a significant role in dictating the abundance and diversity of plantlife, insect life and birdlife existing in these areas. Across the majority of the survey routes, the habitat was largely that of semi-natural grassland grazed by sheep, with lighter grazing levels noted between Pen-y-Pass and Glaslyn along the Miner's track, where flowering plants, flowering grasses, heather and bilberry were present. The Cwm Llan area and land either side of the Llanberis path seemed to support higher levels of sheep grazing and less diversity of plantlife.



Looking across Llyn Llydaw from Bwlch Ciliau.



Starry Saxifrage (*Saxiraga stellaris*) along the Miner's track.

2.6 Fixed-point pathway images to record vegetation conditions

For this year's report, images from the three years of the survey are shown side-by-side from each of the survey points to allow for comparison of landscape, vegetation and pathway conditions.



Image locations (numbers referencing the map in Figure 2 at beginning of report): **left hand column** above Llyn Llydaw on Miner's track (**P1**); **right hand column** above Glaslyn looking towards Lliwedd (**P2**).

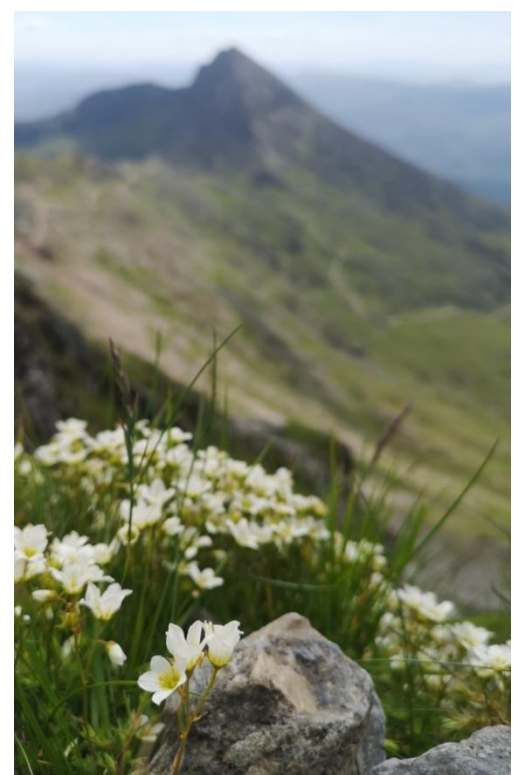
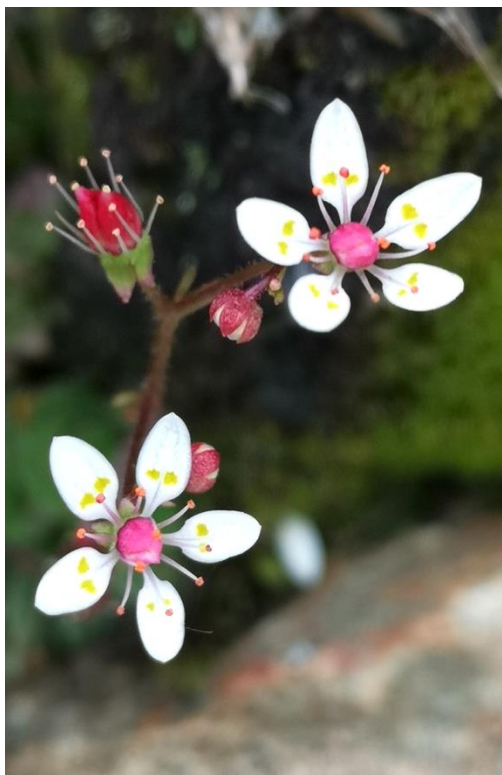


Image locations: **left hand column** looking along the Llanberis path c. 100 metres from the summit (**P3**) and **right hand column** half-way along the Llanberis path (**P4**).



Image locations: **left hand column** at beginning of the Watkin path in Cwm Llan (P5) and **right hand column** along Watkin path on approach to Bwlch Ciliau (P6).

2.7 Additional images from the survey



Top image: looking out over Glaslyn and Llyn Llydaw from the Miner's track; lower left: Starry Saxifrage flowers (*Saxifraga stellaris*); lower middle image: Stagshorn Clubmoss (*Lycopodium clavatum*); and lower right image: Mossy Saxifrage flowers (*Saxifraga bryoides*).