

# Cader Idris

**Site:** Cader Idris National Nature Reserve

**Dates of surveys:** 15/06/2022 and 23/06/2022

**Transect routes:** Pony Path, Fox's track and Minffordd Path



A Meadow Pipit (*Anthus pratensis*) on the lower flanks of Cader Idris with a caterpillar ready to feed its brood.

## 1. Survey details

The surveys of this site followed the same routes as in 2020 and 2021, with two main transects carried out during June (see figure 1 below): one took the Pony Path from the north side of Cader at Ty Nant, ascending along its western flank to the summit before returning back into the valley past Llyn y Gader and Llyn Gafr (carried out on 23 June 2022); the second transect took the Minffordd path up through the woodland near Minffordd and into Cwm Cau, before ascending over Craig Cau to Pen y Gader and then traversing across the summit ridge to Mynydd Moel, before descending back into the Cwm Cau area (carried out on 15 June 2022).

During these surveys, observers recorded any birdlife seen during the transect (especially signs of breeding activity), mammal activity, litter abundance along footpaths and fixed-point images along the pathways to compare landscape and habitat change across years (see figure 2 for details of specific survey locations).

Weather conditions: on 15 June conditions were overcast (60% cloud cover), but warm (20°C) and with no wind. On 23 June, skies were clear, with low wind speeds (<5mph) from the west and temperatures of 15°C to 23°C as the day warmed during the survey.

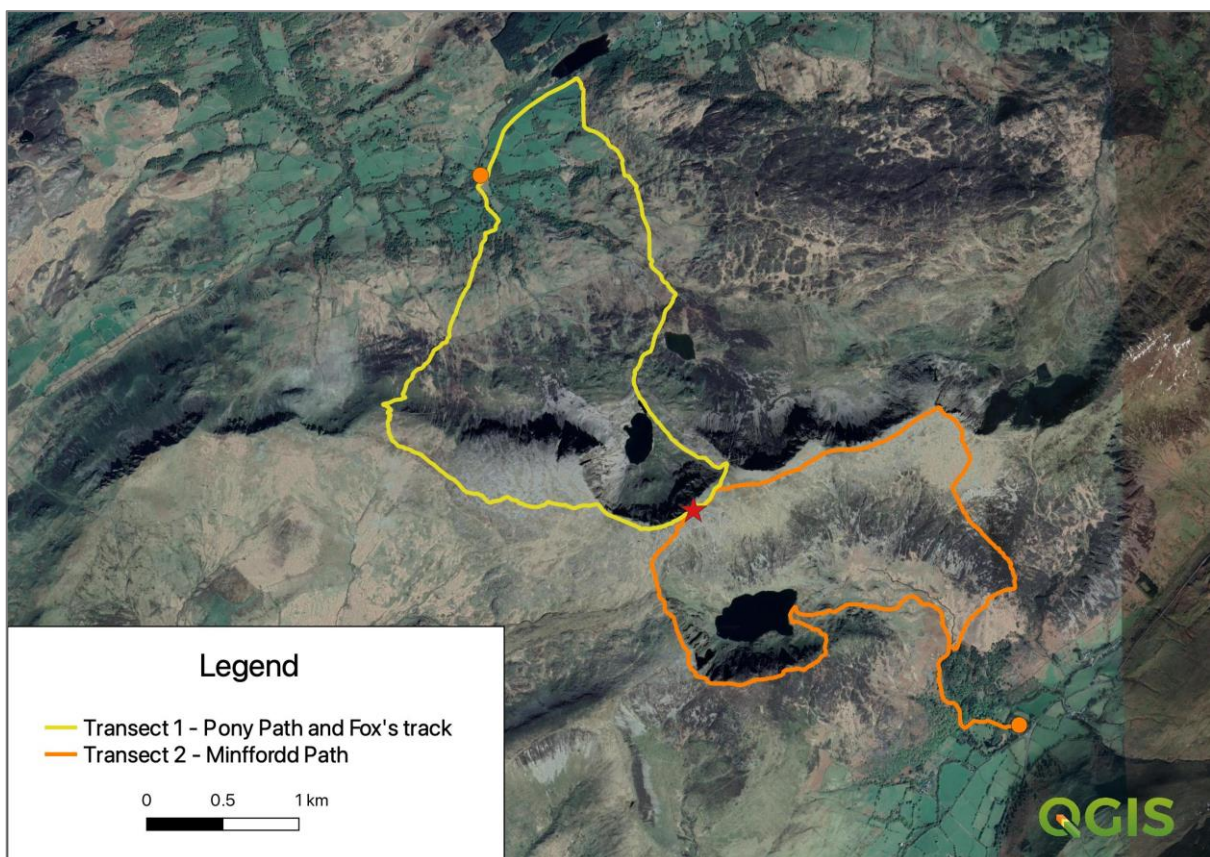


Figure 1. Transect routes for the Cader Idris surveys outlined in orange and yellow tracks; orange dots denote start and end of transect routes and red star denotes the main summit of Penygadair.

## 2. Results

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

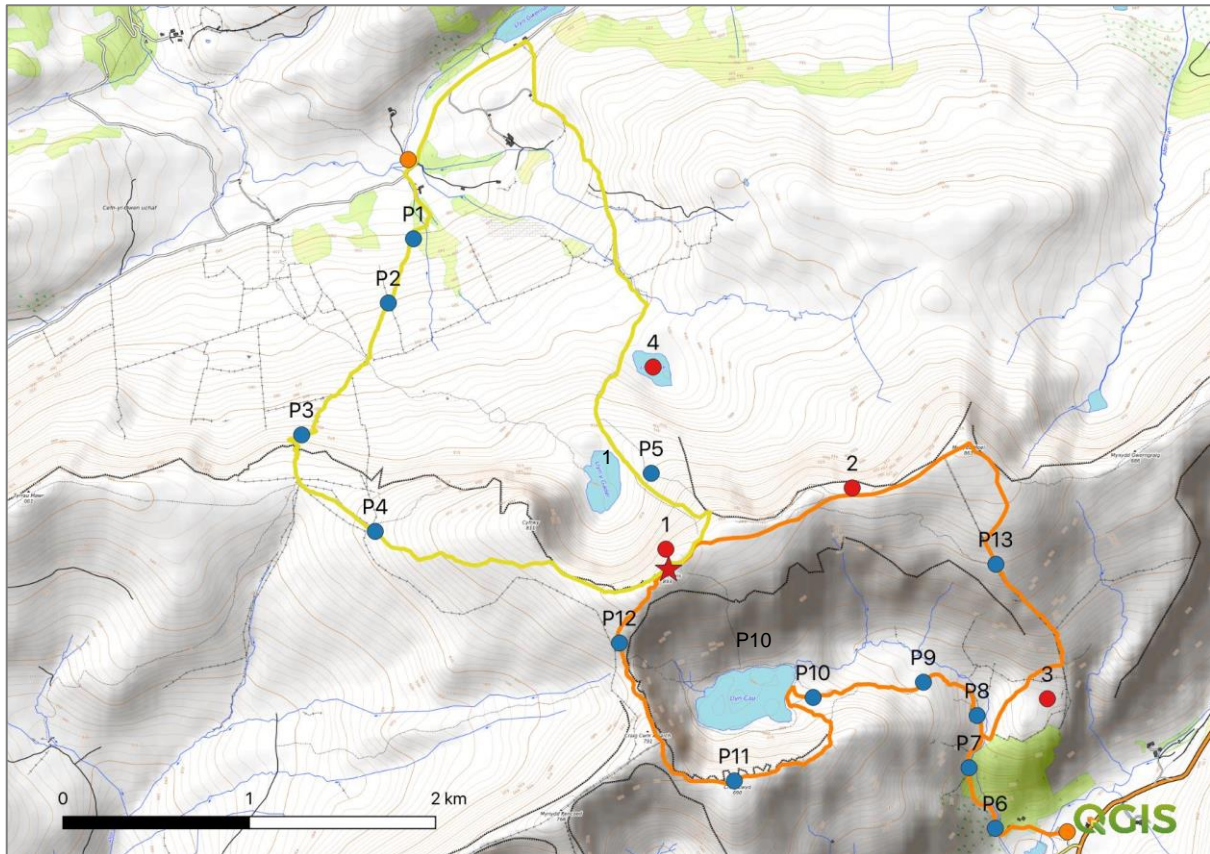


Figure 2: map of the Cader Idris survey area showing the two separate transect routes (yellow line = Pony Path and Fox's track on 23 June; orange line = Minffordd path on 15 June. Orange points are the start and end points of the surveys; red points are target notes referred to in the results summary below and blue points are fixed-point photography sites (see section below).

### 2.1 Birdlife

A total of 36 bird species of 400 individuals were recorded across the transects during the 2022 surveys (see table 1 below). The most numerous species recorded in the more upland regions were Meadow pipits (192 seen in total), Wrens (40) and Northern Wheatears (21), whilst in the mountain's lower reaches (the ffridd and woodland on its northern flanks and above Minffordd), the commonest species were Willow Warblers (nine in total), Blackbirds (nine) and Chaffinches (eight). More noteworthy sightings during the surveys included breeding Ring Ouzels below the summit of Penygadair (point 1 on the map in figure 2), a singing male Whinchat on the descending path from Mynydd Moel (point 3), three young Goosanders and a pair of Common Sandpipers on Llyn Gafr (point 4), and a Merlin near Craig Cau.

Whilst the species total for 2022 was the same as that seen in 2021, there were a number of differences in the selection of the species making up these totals. A total of ten species seen in 2021

were not seen in 2022, including Buzzard, Canada Goose, Coal Tit, Cuckoo, House Martin, Lesser Redpoll, Peregrine, Pied Wagtail, Raven and Red Kite. Conversely, ten species seen in 2022 were not recorded during the last year's surveys. These were Common Sandpiper, Goldcrest, Goosander, Kestrel, Lesser Black-backed Gull, Merlin, Nuthatch, Spotted Flycatcher, Treecreeper and Whinchat. Not all of these species were noted with breeding evidence, and thus were likely just passing through on the day of the survey – similar to those seen in 2021 that were absent in 2022. However, the reappearance of species such as Common Sandpiper, Goosander, Whinchat and Spotted Flycatcher with breeding evidence is noteworthy to record.

An expansion on some of the more noteworthy bird sightings related to changes over the three years of the surveys is outlined below:

- **Overall abundance of birdlife:** whilst there was a higher abundance of breeding birds recorded this year compared to 2021, there was still noticeably less than seen during the 2020 surveys (see figures 3 and 4 below). The reasons for these differences are difficult to explain with confidence, especially given the highly contrasting weather conditions from year-to-year that likely plays a large part. Longer term monitoring would be needed to understand such fluctuations and potential contributions of visitor disturbance to birdlife on these.
- **Ring Ouzels:** just a single pair of Ring Ouzels were recorded during 2022, with birds seen just north of the summit of Penygadair. Whilst other pairs might well have been breeding within the national nature reserve, their absence during the survey visits is noteworthy to report considering their declining status across Eryri, Three Ring Ouzels were recorded across the site in 2021, and five individuals in 2020.
- **Birds on Llyn Gafr (point 4):** whilst in 2021 there were no Common Sandpipers or Goosanders recorded on this small upland lake, both species were seen in 2022, and both with breeding evidence. Both species were seen during the 2020 surveys, and so it is positive to record these birds back at the site.



Two fledgling North Wheatears (*Oenanthe Oenanthe*) along the Pony Path ascending Cader Idris.

Table 1. Results from the breeding bird survey across the two transect routes surveyed on Cader Idris in 2022.

Site Name		Cader Idris				
Survey type		Breeding birds				
Surveyor		Ben Porter				
Dates of surveys		15/06/2022 and 23/06/2022				
Species	Scientific name	Transect or site				Evidence of breeding during visits
		Pony Path	Fox's track	Minffordd Path	Total number	
Meadow Pipit	<i>Anthus pratensis</i>	74	44	74	<b>192</b>	Singing males, fledged young, adults with food
Wren	<i>Troglodytes troglodytes</i>	12	8	20	<b>40</b>	Singing males and fledged young
Blue Tit	<i>Cyanistes caeruleus</i>		1	2	<b>3</b>	
Great Tit	<i>Parus major</i>	4	5		<b>9</b>	
Carrion Crow	<i>Corvus corone</i>	2		9	<b>11</b>	Fledged young
Wheatear	<i>Oenanthe Oenanthe</i>	9	4	8	<b>21</b>	Alarm calling adults and fledged young
Stonechat	<i>Saxicola torquata</i>	1	7	3	<b>11</b>	
Skylark	<i>Alauda arvensis</i>	5		6	<b>11</b>	Singing males
Herring Gull	<i>Larus argentatus</i>	2			<b>2</b>	
Grey Wagtail	<i>Motacilla cinerea</i>	1		5	<b>6</b>	Singing males
Ring Ouzel	<i>Turdus torquatus</i>	1	1		<b>2</b>	Adult with food
Willow Warbler	<i>Phylloscopus trochilus</i>	3	2	4	<b>9</b>	Singing males
Blackbird	<i>Turdus merula</i>		4	5	<b>9</b>	Singing males, fledged young
Great Spotted Woodpecker	<i>Dendrocopos major</i>		1		<b>1</b>	
Song Thrush	<i>Turdus philomelos</i>	2	1	2	<b>5</b>	Singing males, fledged young
Chaffinch	<i>Fringilla coelebs</i>	6		2	<b>8</b>	Singing males
Tree Pipit	<i>Anthus trivialis</i>	1	1	1	<b>3</b>	Singing males
Dunnock	<i>Prunella modularis</i>	2	5		<b>7</b>	Singing males
Mistle Thrush	<i>Turdus viscivorus</i>		5		<b>5</b>	Fledged young
Common Redstart	<i>Phoenicurus phoenicurus</i>	1	1	1	<b>3</b>	Alarm calling adults, singing male
Robin	<i>Erithacus rubecula</i>	5		2	<b>7</b>	Alarm calling adults, singing males
Linnet	<i>Carduelis cannabina</i>		3		<b>3</b>	
Jay	<i>Garulus glandarulus</i>	1			<b>1</b>	

Siskin	<i>Spinus spinus</i>		1	5	6	Singing male
Goldcrest	<i>Regulus regulus</i>	1		2	3	Singing male
Kestrel	<i>Falco tinnunculus</i>	1			1	
Lesser Black-backed Gull	<i>Larus fuscus</i>		1		1	
Common Sandpiper	<i>Actitis hypoleucos</i>		2		2	
Treecreeper	<i>Certhia familiaris</i>		1	2	3	
Chiffchaff	<i>Phylloscopus collybita</i>			5	5	Singing male
Spotted Flycatcher	<i>Muscicapa striata</i>			1	1	Singing male
Blackcap	<i>Sylvia atricapilla</i>			3	3	Singing males
Nuthatch	<i>Sitta europaea</i>			1	1	
Merlin	<i>Falco columbarius</i>			1	1	
Goosander	<i>Mergus merganser</i>			3	3	Three fledged young on Llyn Gafr
Whinchat	<i>Saxicola rubetra</i>			1	1	Singing male
<b>Total number of species</b>		<b>20</b>	<b>20</b>	<b>25</b>	<b>36</b>	
<b>Total number</b>		<b>134</b>	<b>98</b>	<b>168</b>	<b>400</b>	



Meadow Pipits (*Anthus pratensis*) are consistently the commonest bird species recorded across upland sites such as Cader Idris, with 192 seen during the 2022 survey.

### Comparisons of bird abundance and diversity across years

The 2022 repeat survey of the Cader Idris provides the third consecutive year of data from this transect, allowing general comparisons to the previous two years of data. The results for both abundance (total number of individual birds) and diversity (number of different bird species) are presented in the graphs below, and reveal mixed patterns for the different sections of the mountain. Overall, the abundance and diversity of birdlife was marginally higher than in 2021, but still noticeably reduced to that of 2020. A slight anomaly to this pattern is the Pony Path and Fox’s track section, which recorded the highest abundance of birdlife across the three years in 2022, with 232 birds overall compared to 200 in 2021 and 192 in 2020. Interestingly, Cader Idris bucks the trend to the other three upland areas surveyed in 2022, where both diversity and abundance was even lower than in 2021. It is positive that this year revealed higher numbers than in 2021, but it is unclear why this might be different to the other areas within the national park. Such comparisons are discussed in greater detail in the separate overall summary report.

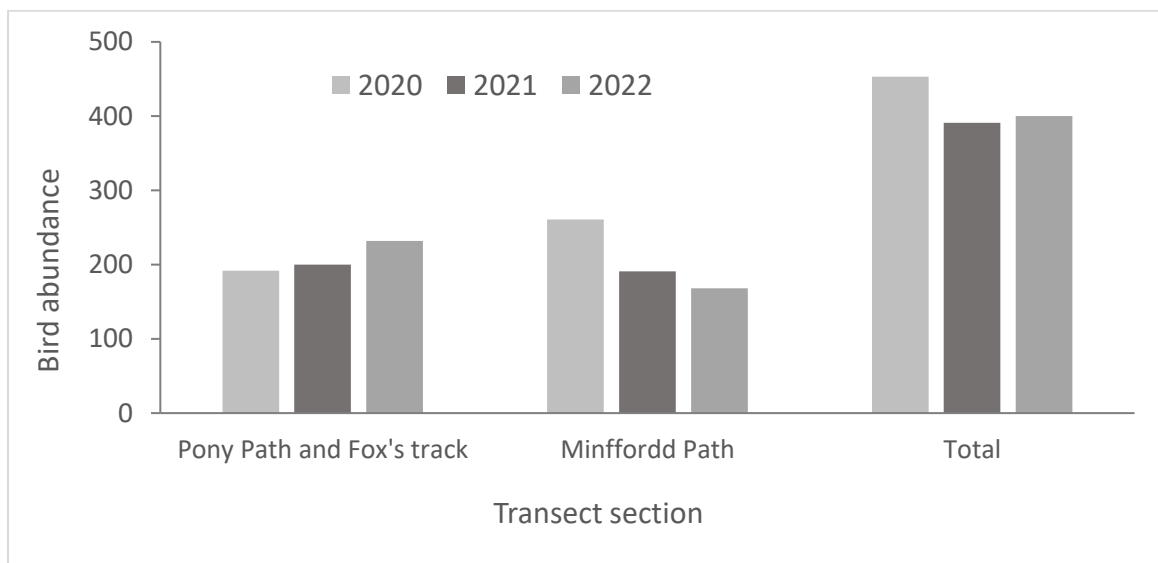


Figure 3. Bird abundance (i.e. number of individual birds recorded) along the main transect routes in 2020 (pale grey), 2021 (darker grey) and 2022 (grey).

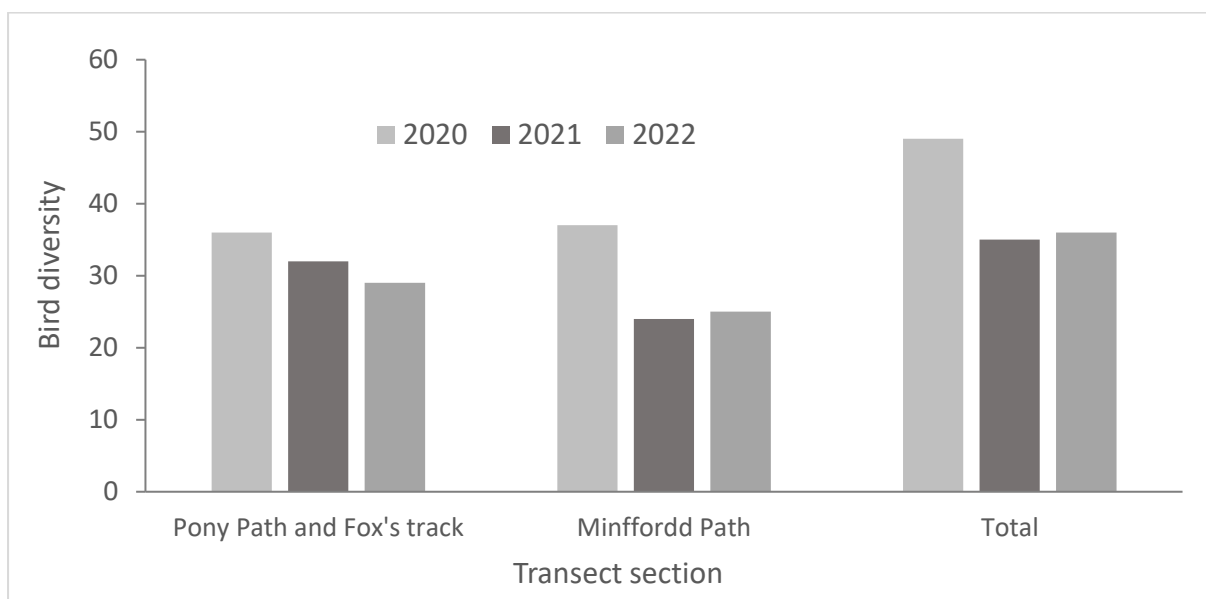


Figure 4. Bird diversity (i.e. total number of species) along the main transect routes in 2020 (pale grey), 2021 (darker grey) and 2022 (grey).

## 2.2 Vegetation

The condition of vegetation along the transect sections was more comparable to that of 2020, after the greatly reduced growth noted in 2021 amidst the cold and late spring growing season. However, the luscious growth that almost obscured paths in some sections in the 2020 lockdown period was not seen. Following on from last year's observations of footpath erosion, the 2022 survey revealed increased trampling and erosion to several sections of the pathways and popular gathering sites. These points of potential concern that may be in need of intervention are outlined in table 2 below.

The return to higher usage of pathways also revealed areas where trampling and some erosion was noticeable, such as along the edge of Llyn Cau (point 3) and on the ascent from Craig Cau to Penygadair (see images below). The latter of these sites is seeing a gradual widening of the ascent path as alternate routes are increasingly being used.

Table 2. Notes on footpath erosion and increased trampling.

Site name	Grid Reference	Remarks
Ystrad-gwyn	SH 72749 12300	Several addition pathways now developing through the bracken and vegetation parallel to the main designated pathway.
East side of Llyn Cau	SH 71817 12397	Area east of the lake at its east end is experiencing greater trampling as a popular gathering (and also camping) site.
Craig Cau	SH 71060 12084	Footpath section to east of Craig Cau rocky summit section is increasingly worn and widened by erosion in some areas
South-west ascent of Penygadair summit	SH 70843 12682	Pathway ascending the summit from Craig Cau is braided and developing into a wide and eroded section of footpath



Footpath section at Ystrad-gwyn where much greater usage of pathway is causing a much wider and eroded pathway than in previous years.





Comparison image taken in 2020 to illustrate the significant difference both in surrounding vegetation and footpath condition during lockdown compared to in 2022.



The footpath leading to Craig Cau, showing increasingly eroded pathway.

## 2.3 Litter

A total of 22 items of 11 different litter types were recorded across the transects surveyed in 2022 (see table 3 below). The most litter was once again recorded along the Minffordd path (19 items of eleven types), with only three items of two types along the Pony Path and Fox's track. The commonest items recorded were cigarettes (five in total) and sweet wrappers (five items).

The total of 22 items is six fewer than were found in 2021, but is still much greater than the five items found overall in 2020. There more types of litter seen this year compared to 2021 (eleven in 2022 compared to eight in 2021), but the smaller overall total of items might reflect a generally improved littering situation compared to that of 2021 in the post lockdown period.

Table 3. Results of litter survey around Cader Idris in 2022.

<b>Site Name</b>	Cader Idris			
<b>Survey type</b>	Litter survey			
<b>Surveyors</b>	Ben Porter			
<b>Date(s) of survey</b>	15/06/2022 and 23/06/2022			
Litter type	Quantity			
	Pony Path	Fox's track	Minffordd Path	Total
Cigarette			5	5
Sweet wrapper	1		4	5
Plastic bottle			1	1
Glass bottle			1	1
Dog leash			1	1
Tissue	1	1	1	3
Plastic bottle top			1	1
Foil pieces			2	2
Hard plastics			1	1
Organics			1	1
Clothing items			1	1
<b>Total number of litter types</b>	<b>2</b>	<b>1</b>	<b>11</b>	<b>11</b>
<b>Total number of litter items</b>	<b>2</b>	<b>1</b>	<b>19</b>	<b>22</b>

## 2.4 Other sightings and notes from the survey

**Insects:** the weather conditions for the 2022 surveys were very favourable for the recording of day-flying insects, and especially daytime-active moths. The species recorded across the two transects included Small Pearl-bordered Fritillary (*Boloria selene*), Yellow-barred Gold (*Micropterix aureatella*), Bilberry Roller (*Ancylis myrtillana*), Broken-barred Roller (*Ancylis unguicella*), Six-spot Groundling (*Prolita sexpunctella*), Common Heath (*Emarturga atomaria*), Large Marble (*Phiaris schulziana*), Small Tortoiseshell butterfly (*Aglais urticae*), Small Heath butterfly (*Coenonympha pamphilus*), Bilberry Bumblebee (*Bombus monticola*) and Golden-ringed Dragonfly (*Cordulegaster boltonii*).



Bilberry Bumblebee (*Bombus monticola*) amongst fresh shoots of Crowberry on Penygadair ridge (*Empetrum nigrum*).



The micro moth Broken-barred Roller (*Ancylis unguicella*).

**Camping activity:** no tents were recorded in the survey area during this year's two transect visits.

## 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. The majority of habitats along the upland areas of the transect routes were that of semi-natural grassland. Reduced grazing pressure along the lower section of the Pony Path and the area surrounding Llyn Cau and Nant Cadair was noticeable, although 20-30 sheep were recorded within the NNR in this section. The lower section of the Pony Path was once again particularly noticeable in its gradual recover from historically intense grazing pressure, with many flowering grasses, vascular flowering plants such as Heath Bedstraw (*Galium saxatile*), and species such as Bilberry (*Vaccinium myrtillus*) and Heather communities in this area.



Cowberry (*Vaccinium vitis-idaea*) flowering on the summit ridge near Penygadair, along with the moss *Racomitrium lanuginosum*.



Cottongrass (*Eriophorum vaginatum*) in Cwm Cau.

## 2.6 Fixed-point pathway images to record vegetation conditions

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. Locations are referenced below the images on each page and refer to the map in figure 2.

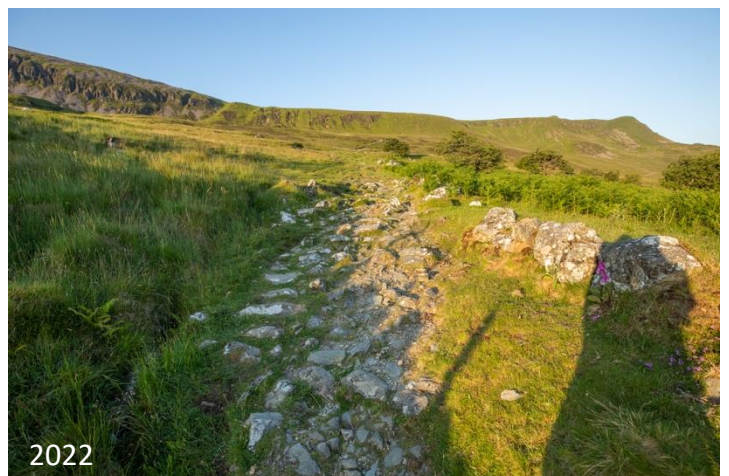


Image locations: **left hand column** at beginning of Pony Path (**P1** on the map in figure 2); **right-hand row** ascending towards Cader Idris along the Pony Path (**P2**).



Image locations: **left hand column** mid-way along the Pony Path (**P3**) and **right-hand column** on the Pony Path along the ridge near Cyfrwy (**P4**).



Image locations: **left-hand column** at base of scree descent off Cader near Llyn y Gadair (P5) and **right-hand column** at beginning of Minffordd path in the woodland (P6).



Image locations: **left-hand column** leaving the woodland on the Minffordd path in approach to Nant y Gader (P7) and **right-hand column** on Minffordd path in Nant y Gader (P8).



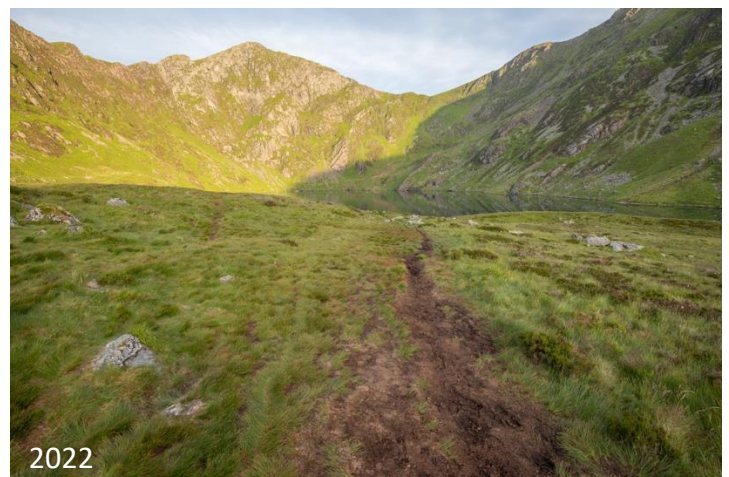
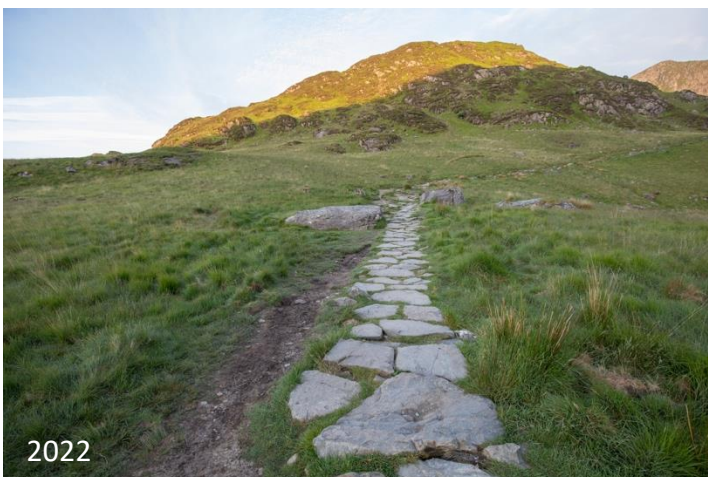


Image locations: **left-hand column** along Minffordd path to Llyn Cau (**P9**) and **right-hand column** on path approaching Llyn Cau (**P10**).



Image locations: **left-hand column** on Minffordd path approaching Craig Cau (**P11**) and **right-hand column** looking towards Craig Cau from the ascent to the summit of Cader (**P12**).



Image location: on descent from Mynydd Moel towards Nant y Gader (**P13**); note new laying of hard core on this section pathway.