

# Malvern Grayling *Hipparchia Semele*

## Report & Timed Counts 2021

### Contents

Introduction .....	3
Main Sites on North Hill .....	4
Timed Counts 2021 on North Hill .....	6
Comments on 2021 timed Counts .....	9
Volunteer Work Parties WMBC & MHT .....	10
Habitat Management Jan-2019-July-2021 .....	11
Suggestions for 2021 onwards... ..	12
Aerial views of habitat management 2021 onwards... ..	13
Timed Counts 2010-2021 – Detailed 1 of 2 .....	16
Timed Counts 2010-2021 – Detailed 2 of 2 .....	17
Distribution from total timed counts on each site for each year 2010-2021 .....	18
Sightings of <i>Ichneumon xanthorhous</i> & <i>suspiciosus</i> Jan-Mar 2020 .....	19

#### Further information

Grayling Reports: 2007-2017 / 2018 / 2019 / 2020

Links to several short videos taken on the eastern slopes of North Hill to illustrate:

[Grayling Egg-laying](#)

[Grayling courting & mating](#)

[Grayling perching & feeding](#)

[Grayling on BBC Midlands Today](#)

Mel Mason

WMBC / 16<sup>th</sup> August 2021



Malvern Grayling *Hipparchia semele* on Grayling Crag 10-Aug-2021



Malvern Grayling *Hipparchia semele* female on DeWalden Loop 17-Aug-2021

# Introduction

The population of Grayling seemed to fall over the edge of a cliff in 2020 with a maximum of seven recorded in a single timed count of all sites. As predicted, 2021 is no better with only a maximum of four recorded. It is fairly certain that this species will be one more victim of extinction both locally and regionally next year or in the very near future without more radical intervention. Some may argue that we should allow this vulnerable species on one of the most isolated inland sites in the UK, to follow a natural course towards extinction as in Herefordshire, Gloucestershire, Warwickshire and Staffordshire. Others may argue that until we truly understand the reasons for the decline of this species there is little we can do to prevent this. I do not accept these arguments which inevitably lead to procrastination and the loss of another species on the Malverns. Little is understood because it seems very little research is linked to the Grayling - 58% decline in abundance 62% decline in occurrence in the UK 1976-2015 [BC The State of the UK's Butterflies 2015]. Once very common inland and particularly on the Malverns it is now considered more of a coastal species – but only because it is more common there and not because it is maintaining a healthy population – quite the reverse, it is very much in decline across the UK.

MHT and WMBC and many volunteers have worked very hard over the years to improve the habitat, monitor the population and publicise the successful years – highlighted on BBC Midlands Today 2017. This work is often an uphill task of trying to maintain previously managed sites without sufficient time and funding to improve sites further afield. For many years we have discussed the need to translocate some adult butterflies from further afield, such as the more abundant sites in Shropshire, to improve the genetic mix and perhaps save this iconic butterfly species of the Malvern Hills. Perhaps that time has now arrived!

## **Note historic loss of species:**

**1886** – Malvern Naturalist Field Club publishes a Calendar of 46 Butterfly species regularly seen around the Malverns including Brown Hairstreak, Small (Little or Bedford) Blue, Marsh (Greasy) Fritillary, Pale Clouded Yellow, Bath White, Black-veined White,

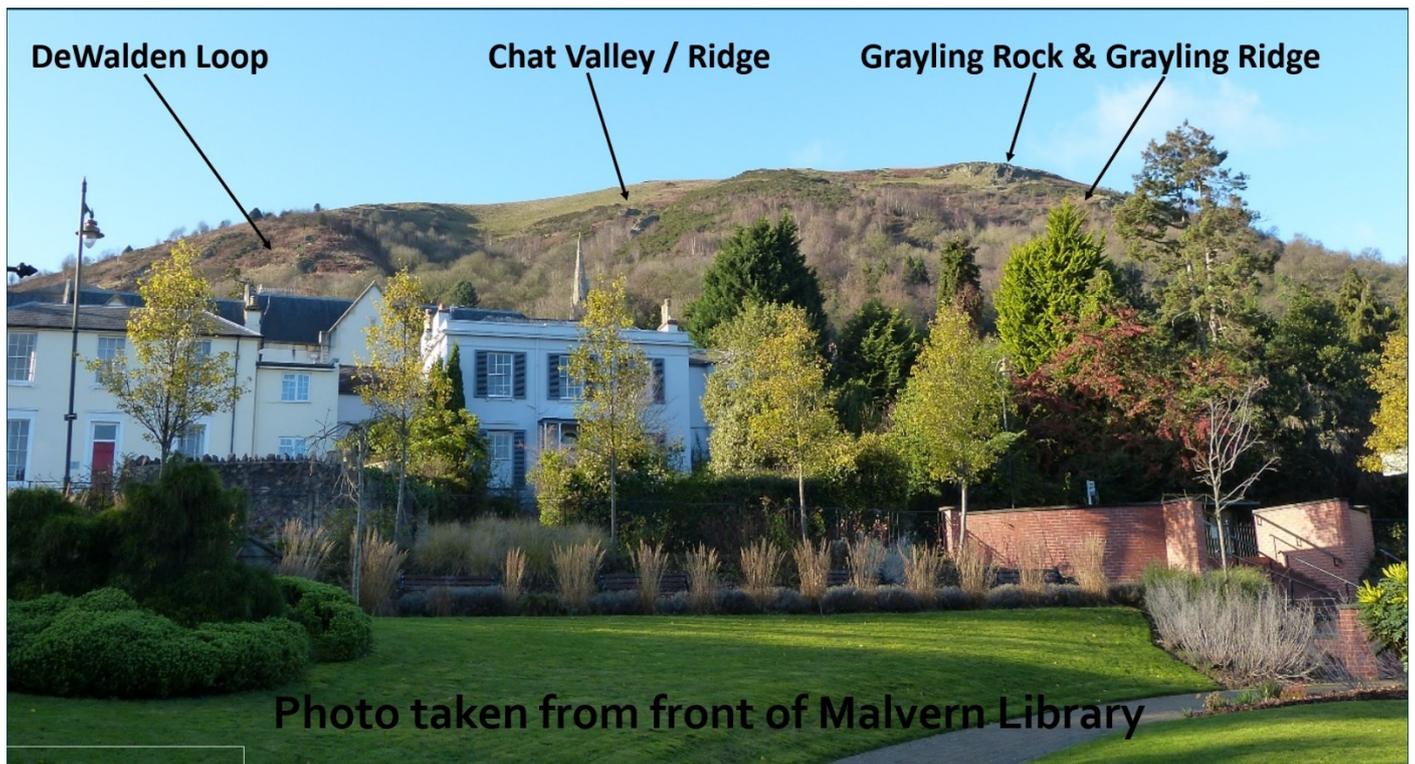
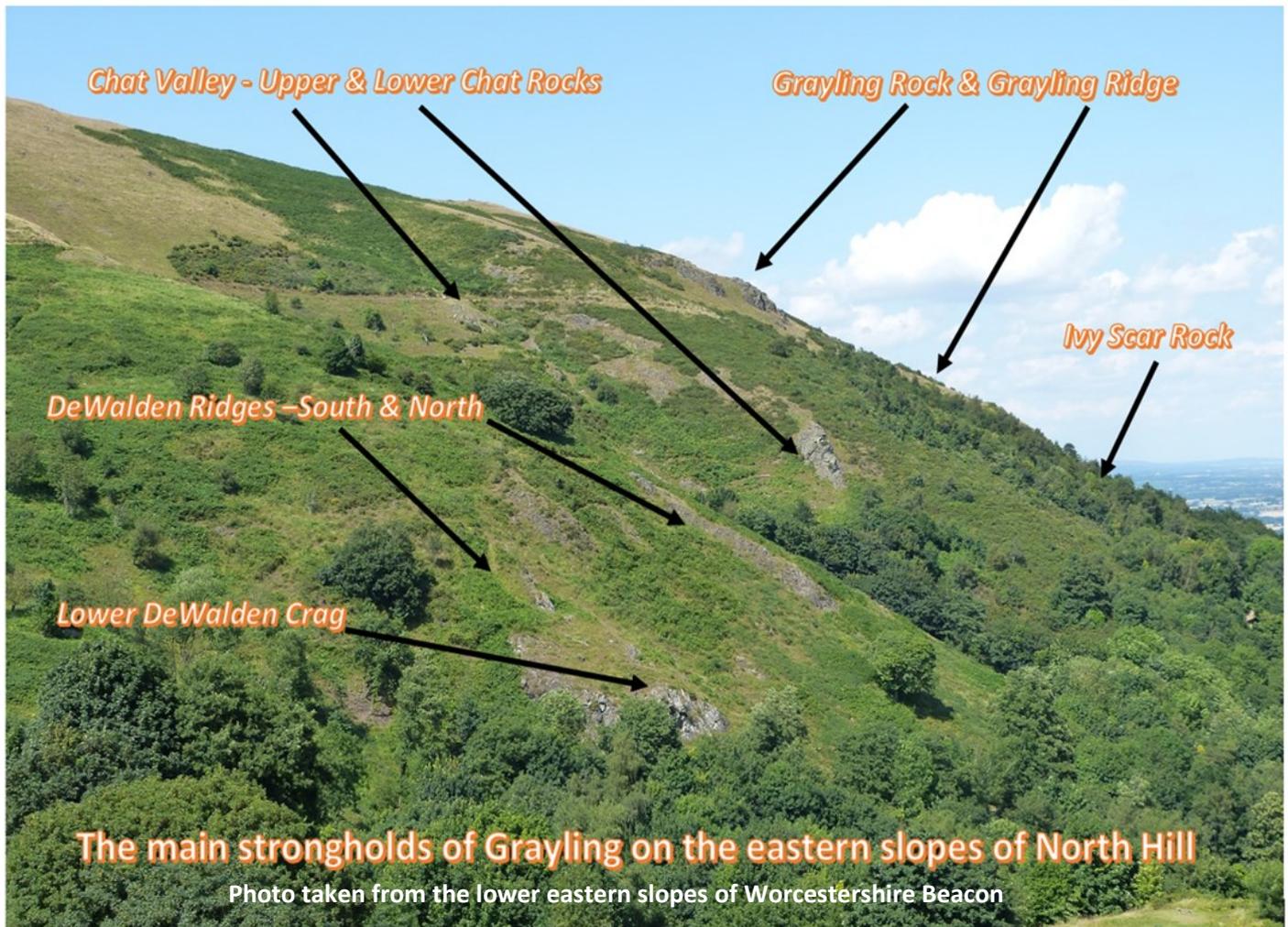
**1960's** – WMBC & MHC report 40 Butterfly species including Large Tortoiseshell, Camberwell Beauty and Purple Emperor

**1980's** – WMBC and MHC report 37 species including Wood White, Wall, Grizzled Skipper, High Brown Fritillary, Pearl-bordered Fritillary, Small Pearl-Bordered Fritillary

**2000's** – WMBC and MHC report 31 species regularly seen around the Malverns including Grayling and a new species Essex Skipper – plus regular sightings of Dark-Green Fritillary in small numbers and occasional sightings of Clouded Yellow

**2021** –Grayling on the verge of extinction!

## Main Sites on North Hill



## Sites viewed from Poolbrook Common 2018

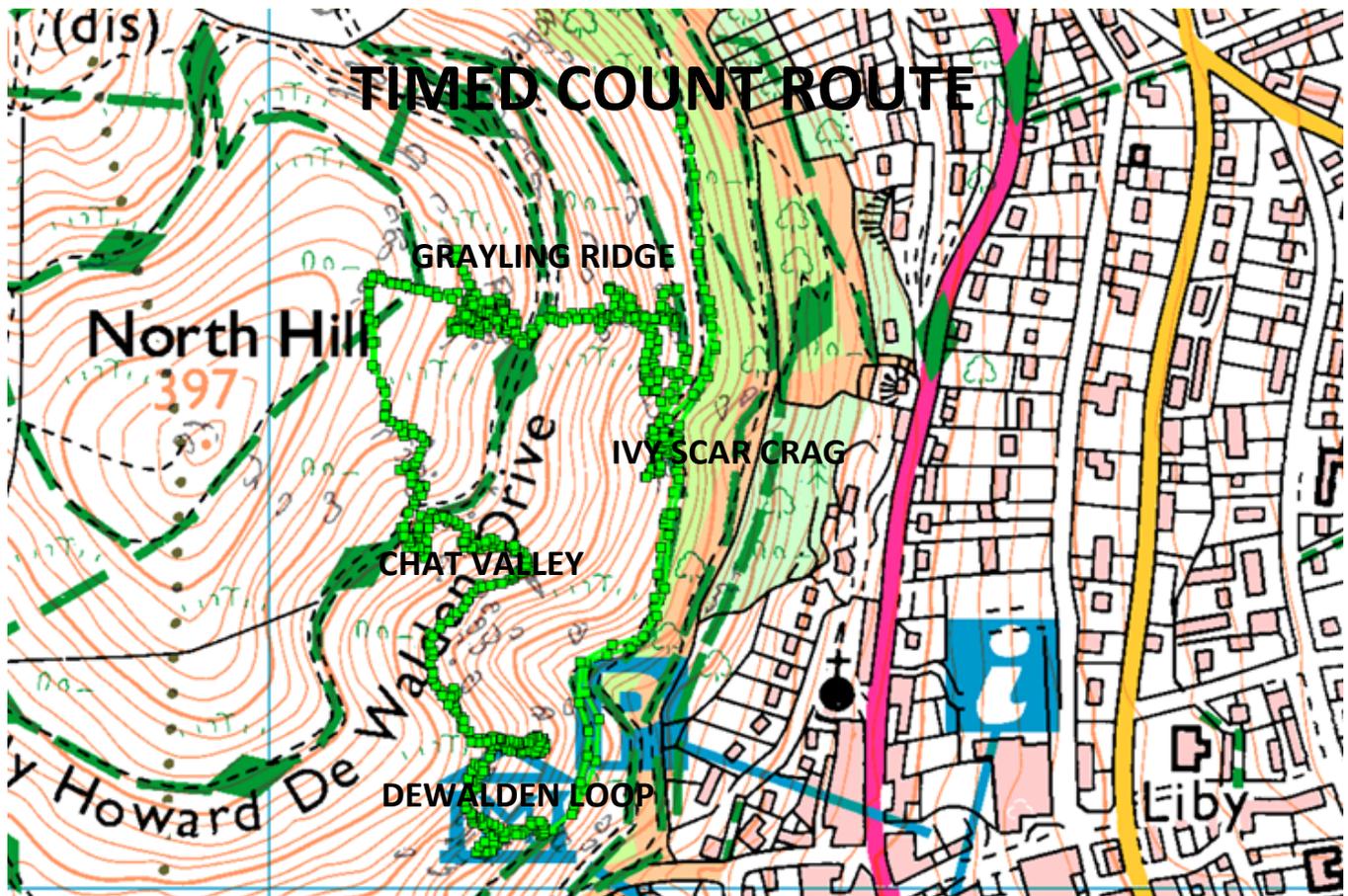


## Sites viewed from eastern slopes of Worcestershire Beacon Mar-2020



**NORTH HILL MAR-2020 – MUCH IMPROVED HABITAT - ALL ROCKY RIDGES CLEARED OF SCRUB**

# Timed Counts 2021 on North Hill



Year	MAX TC IN ONE DAY	MAX TC ALL SITES	MAX EXCEPT DWL
2010	49	49	49
2011	39	39	39
2012	46	46	46
2013	56	56	56
2014	41	49	35
2015	22	26	24
2016	24	25	21
2017	33	37	32
2018	32	35	26
2019	27	33	21
2020	7	7	2
2021	4	5	2

### Maximum TC in One Day

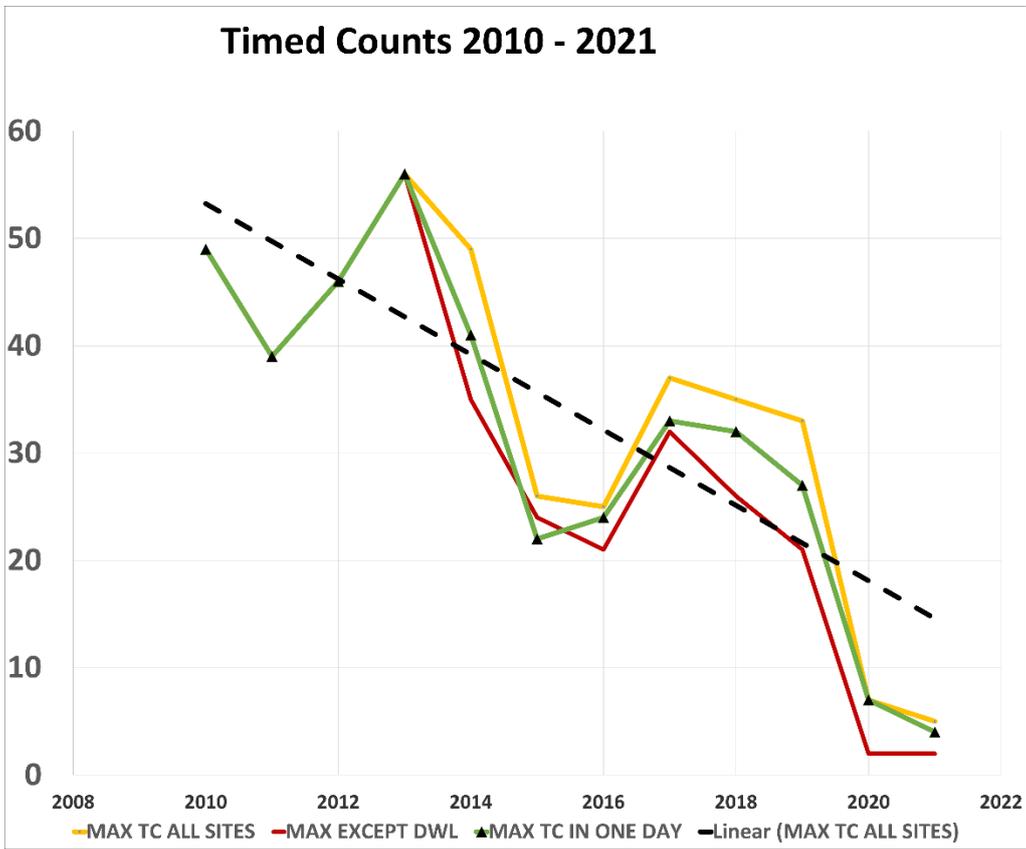
Total recorded on all sites in one day (2-3hr)

### Maximum TC All Sites

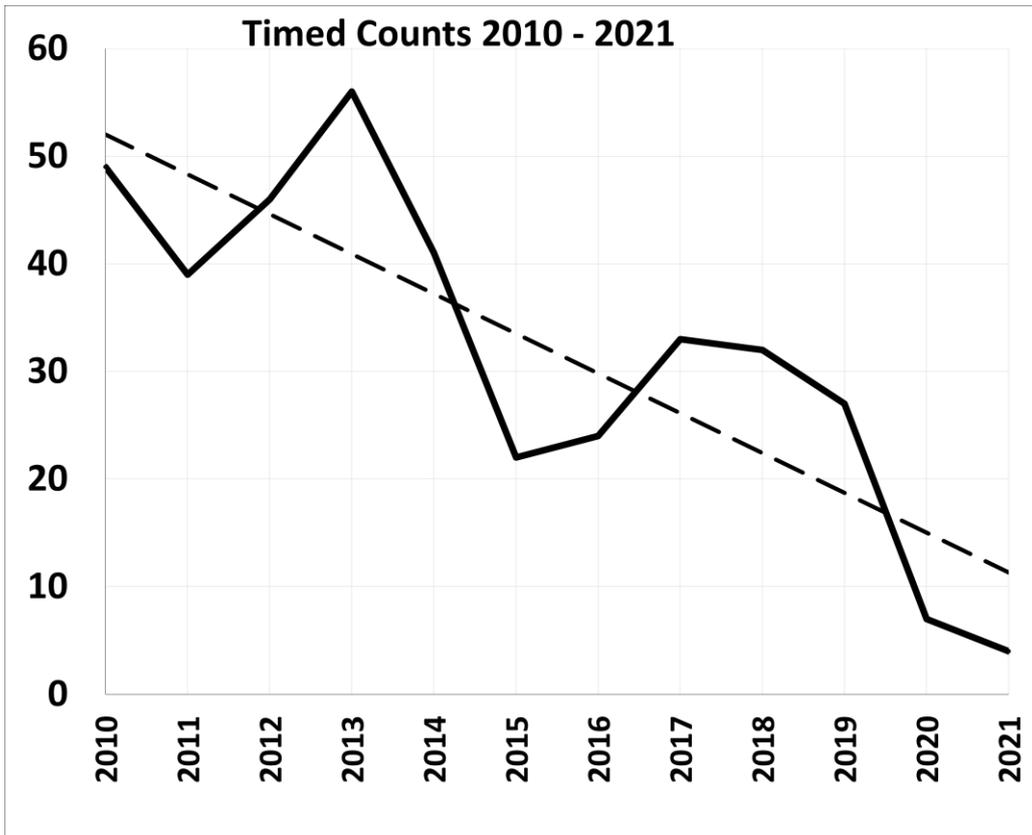
Sum of maximum TC for each site regardless of date

### Maximum except DWL

Maximum TC All Sites minus the maximum count for DWL - this shows a more accurate TC compared with 2010-2013 that does not include TC for DWL



**Maximum recorded in one day (one timed count)**



## 2021 MALVERN GRAYLING TIMED COUNTS – NORTH HILL – ROUTE 2-3 HOURS

Recorder	Date	IVS	CVA	DWL	GRI & GRO	TOTAL	TEMP oC	LIGHT %	WIND	Comment
Mel Mason	16/06/2021	0	0	0	0	0	20	80	2	NONE
Mel Mason	26/06/2021	0	0	0	0	0	19	80	2	NONE
Mel Mason	02/07/2021	0	0	0	0	0	20	90	2	NONE
Mel Mason	08/07/2021	0	0	1	0	1	21	80	1	FIRST RECORD - 12:00, MALE - DWLoop
Mel Mason	14/07/2021	0	0	0	0	0	21	80	2	NONE
Mel Mason	16/07/2021	X	X	X	0	0	26	100	1	NONE
John Howes	16/07/2021	0	1	3	0	4	26	100	1	DWLoop & the Nose
Mel Mason	17/07/2021	0	0	2	1	3	26	100	1	DWLoop (M&F) & GraylingCrag
John Howes	21/07/2021	0	0	1	0	1	27	100	1	POSSIBLE FEMALE
Mel Mason	23/07/2021	0	0	0	1	1	25	80	2	FEMALE
John Howes	26/07/2021	0	0	2	0	2	23	70	1	DWLoop
Mel Mason	29/07/2021	0	0	0	0	0	19	70	2	NONE
Mel Mason	03/08/2021	0	0	0	0	0	20	80	2	NONE
Stuart Brown	05/08/2021					1				Casual - Few metres west of Worcestershire Beacon on gravel path-photo provided
Mel Mason	10/08/2021	0	0	0	0	2	20	80	2	Grayling Crag
Recorder	Date	IVS	CVA	DWL	GRI & GRO	TOTAL	TEMP oC	LIGHT %	WIND	Comment

Key: IVS – IVY SCAR CRAG, GRI – GRAYLING RIDGE, CVA – CHAT VALLEY, DWL – DEWALDEN LOOP

## Comments on 2021 timed Counts

John Howes and Mel Mason completed 14 timed counts (2-3 hour each count) between 23-June and 08-Aug.

As in 2020, most sightings in 2021 were on DeWalden Loop with very few sightings on Grayling Ridge & Grayling Rock, the sites with most records in previous years. Again, there were no records in Chat Valley or on Ivy Scar Rock, both strongholds for Grayling in previous years.

### Casual records

Most years record occasional sightings of Grayling on nearby peaks and in Rushy Valley on the east side of Worcestershire Beacon. This year there was one casual record with photo from the summit of Worcestershire Beacon 05-Aug-21.

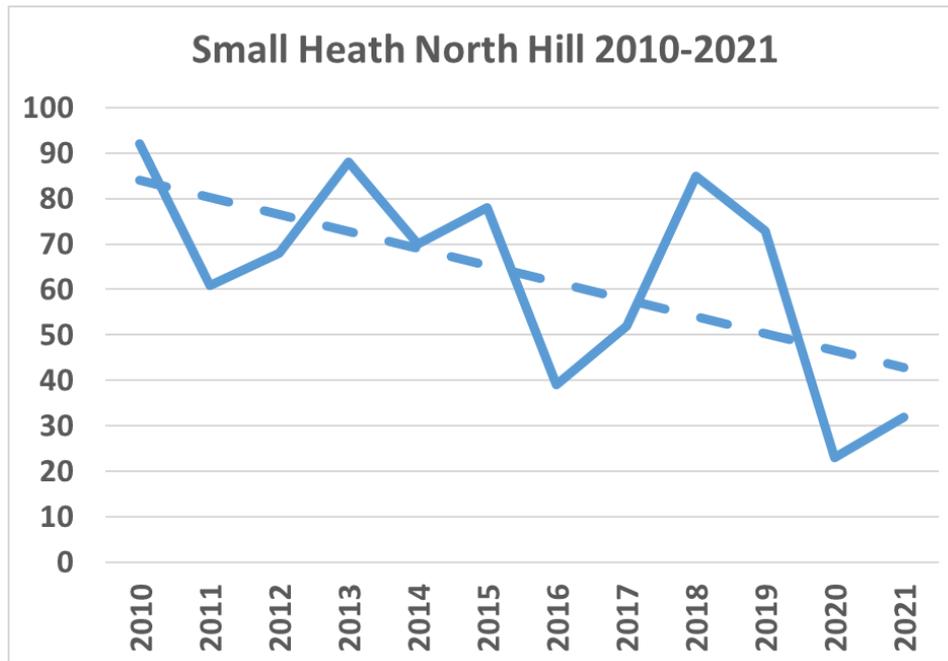
**The habitat** for Grayling on North Hill has improved considerably, particularly since the 2015 Habitat Survey [Mel Mason & Liz Lloyd] and significant increase in habitat management by MHT & WMBC. The population increase in 2016 and 2017 seems to reflect the improvement in the habitat – but the trendline on the graph above shows a dramatic decline between 2013 -2021.

The past four years 2017-2020 witnessed the earliest ever first records between 23<sup>rd</sup> – 27<sup>th</sup> June. Conversely, the last recorded sightings have decreased from 06-Sep-2014 to 30-Jul-2020. The earliest recorded sighting in 2021 was 08-Jul-21 and possibly reflects a very cold and wet spring; the last sighting [so far, recorded] is 10-Aug-21.

The population over recent years has been too low and vulnerable to survive sudden changes in the environment. The dramatic decline in 2020 may partly be due to the effect of two parasitic wasps - *Ichneumon xanthorius* & *suspiciosus* – refer to Report 2020. These wasps appeared on all the Grayling sites between January to March during a very mild winter. These wasps were much less in evidence during 2021.

### Correlation with Small Heath *Coenonympha pamphilus*

The local North Hill transect shows a large decline of just 23 **Small Heath** in 2020 – which may also be affected by parasitoid wasps - and little better this year [32 on 16<sup>th</sup>-Aug-21], compared with 73 in 2019 and 85 in 2018. This species uses the same habitat and larval host-plant.



## Volunteer Work Parties WMBC & MHT

Malvern Grayling Work Party Volunteer Hours North Hill - Autumn 2016 - Autumn 2020								
Year	2016	2017	2018	2019	2020	2021		Total
						up to July 2021		
<b>WMBC</b>								
Days per year	2	18	7	5	4	Lockdown		36
Total Volunteer Days	16	90	51	51	28			236
<b>MHT</b>								
Days per year	5	4	5	3	3	2		22
Average No. volunteers	20	20	20	20	15	6		101
Total Volunteer Days	100	80	100	60	45	12		397
<b>TIMED COUNTS</b>								
Total Volunteer Days	15	10	9	18	18	14		84

# Habitat Management Jan-2019-July-2021

Despite Covid-19, MHT and WMBC completed 9 work parties between periods of lockdown from Jan-2020 to July-2021 on all the main strongholds – GRI, DWL, CVA AND IVS. Small groups of volunteers helped to partially maintain the open habitat around some of the prominent rocky ridges. Two of these work parties helped to open up access particularly to complete timed counts which are difficult and risky on very steep slopes covered in bramble and bracken during the flight season.

Stem injection... MHT have treated some young trees around Grayling sites but there are too many mature trees overshadowing rocky sites reducing surface temperatures and reducing potential territory for Grayling.

## **Sheep grazing**

In past years sheep occasionally grazed around DWL but in 2019 a flock of sheep were fenced in around all Grayling sites for several weeks during winter 2019-2020. This helped to maintain the previously managed habitat on all sites. Unfortunately, this was not repeated in 2020-21 and the managed sites have become overgrown with long grasses and bramble.

Although the habitat is looking better than in recent years – less scrub, more open patches around exposed rocks, boulders and crags, and plentiful Sheep's Fescue, the main larval host-plant – the lack of sufficient grazing last year has been a set-back.

# Suggestions for 2021 onwards...

## **Funding**

BC has successfully applied for funding to support some habitat management over the next 3 years. I hope this will support the removal of trees and scrub linking the main sites on the eastern slopes of North Hill and Worcestershire Bacon and uncovering rocky areas presently covered or surrounded in scrub and bramble.

**Aerial Maps...** please refer to the 3 maps for locations of main sites and nearby isolated / hidden potential sites on rocky outcrops.

## **Grazing**

Grazing is the key to maintaining managed areas which have recently become overgrown again with long grasses and, eventually, scrub.

## **Volunteers**

Volunteers from MHT and WMBC work hard to maintain open sites but do not have the capacity to extend the habitat essential for the survival of this species in the future.

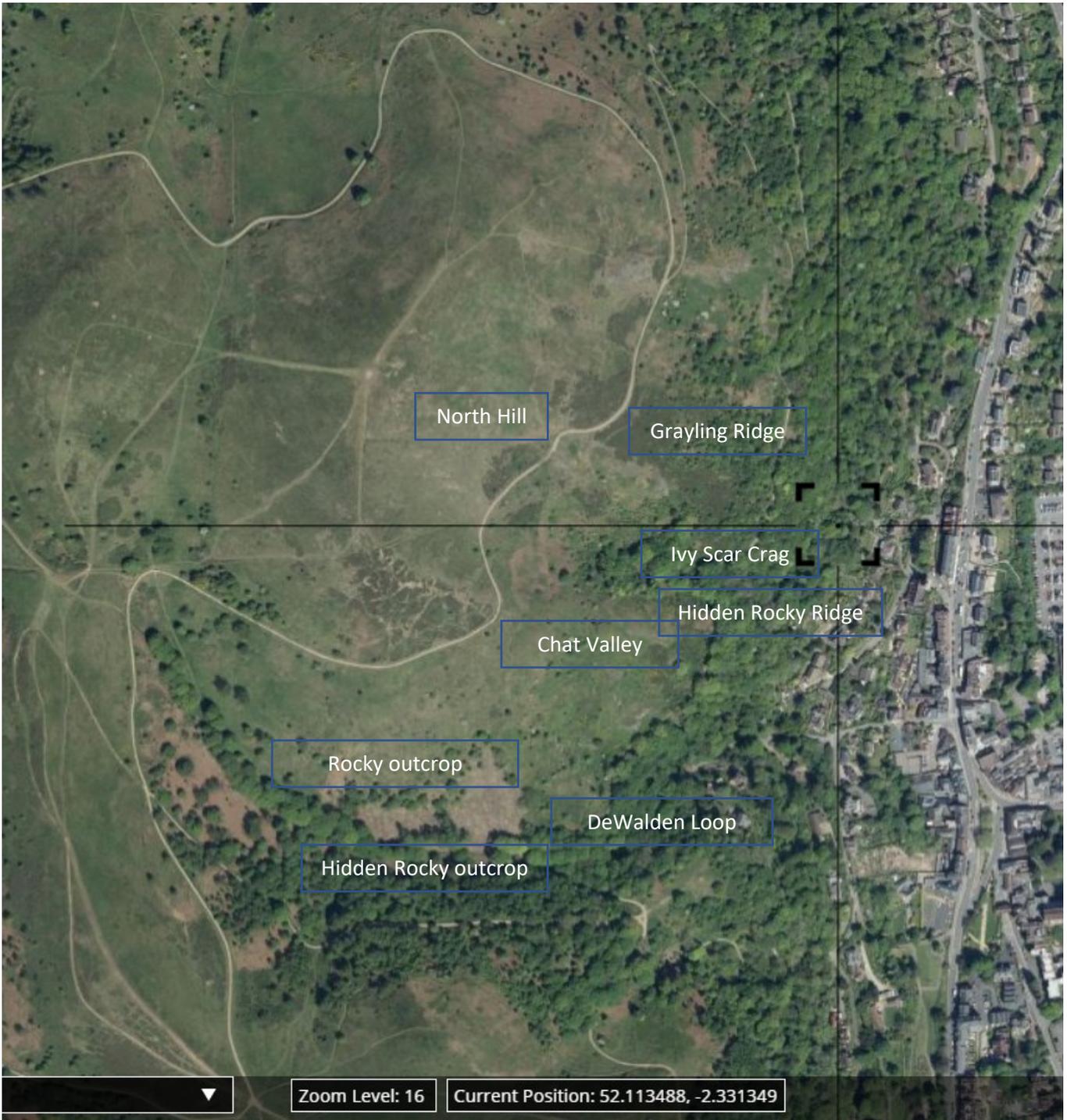
## **Translocation or extinction?**

Grayling have been recorded on the Malvern Hills since the Malvern Naturalists Field Club was established in 1853. Presumably they have occurred on the Malvern Hills for centuries and probably millennia. It was considered a common species until the beginning of the twenty first century. However, I fear the population is now so low there is little hope of a significant recovery next year.

I suggest that adult Grayling are introduced from similar sites, such as the Bog and Earl's Hill in Shropshire – or more abundant coastal sites - to improve the genetic mix and prevent their extinction on one of the most remote inland sites in the UK.

# Aerial views of habitat management 2021 onwards...







# Timed Counts 2010-2021 – Detailed 1 of 2

Recorder	Date	IVS	CVA	DWL	GRI & GRO	Rushy V.	TOTAL	TEMP eC	LIGHT %	WIND	Comment
Simon Roberts	19/07/2010	0	0	0	0	9	9	22	100	3	
Simon Roberts	21/07/2010	5	0	0	0	0	5	22	85	2	
Simon Roberts	23/07/2010	0	0	0	27	0	27	20	75	2	
Simon Roberts	02/08/2010	0	8	0	0	0	8	18	50	3	
Simon Roberts	24/07/2011	0	0	0	20	0	20	21	100	3	
Simon Roberts	24/07/2011	0	11	0	0	0	11	22	100	2	
Simon Roberts	24/07/2011	3	0	0	0	0	3	21	100	2	
Simon Roberts	24/07/2011	0	0	0	0	5	5	21	100	4	
Simon Roberts	28/07/2012	0	0	0	0	7	7	18	100	4	
Simon Roberts	03/08/2012	3	0	0	0	0	3	20	90	3	
Simon Roberts	10/08/2012	0	0	0	28	0	28	22	80	3	
Simon Roberts	10/08/2012	0	8	0	0	0	8	22	70	3	
Simon Roberts	22/07/2013	0	0	0	27	0	27	25	95	2	
Simon Roberts	22/07/2013	0	16	0	0	0	16	27	100	2	
Simon Roberts	22/07/2013	6	0	0	0	0	6	23	70	1	
Simon Roberts	24/07/2013	0	0	0	0	7	7	22	70	3	
Mel Mason	15/07/2014	0	2	14	25	0	41	22	60	1	
Simon Roberts	17/07/2014					0	0	26	100	2	
Mel Mason	17/07/2014	1	7	8	15	0	31	26	100	1	
Mel Mason	23/07/2014	2	8	6	20	0	36	26	100	2	
Mel Mason	09/07/2015	1	8	0	13	0	22	20	100	2	
Simon Roberts	16/07/2015					0	0	21	70	2	
Mel Mason	16/07/2015	2	8	0	7	0	17	21	70	2	
Mel Mason	18/07/2015	0	2	0	11	0	13	19	70	2	
Mel Mason	23/07/2015					1	1	20	10	3	
Mel Mason	25/07/2015	0	5	2	11	0	18	19	70	2	
Mel Mason	31/07/2015	0	2	2	8	0	12	20	100	1	
Mel Mason	08/08/2015	0	0	0	4	0	4	23	70	2	
Mel Mason	09/07/2016	0	0	0	0		0	19	10	2	
Mel Mason	10/07/2016	1	0	0	1		2	20	30	3	
Mel Mason	14/07/2016	2	2	2	8		14	18	60	2	
Mel Mason	16/07/2016					0	0	18	70	2	
Mel Mason	19/07/2016	1	2	2	11		16	27	100	3	
Simon Roberts	20/07/2016					1	1				
Mel Mason	22/07/2016	0	3	0	7		10	26	100	2	
Mel Mason	23/07/2016	0	7	4	9		20	22	70	2	
Mel Mason	25/07/2016	1	7	4	11		23	22	60	2	
Simon Roberts	26/07/2016					1	1				
Mel Mason	30/07/2016	2	5	1	9		17	19	40	2	
Mel Mason	31/07/2016					0	0	20	10	1	
Simon Roberts	31/07/2016					0	0	20	10	1	
Mel Mason	06/08/2016	0	4	1	4		9	21	100	2	
Mel Mason	15/08/2016	0	1	0	0		1	20	80	3	
Mel Mason	23/06/2017				1						Earliest record up to 2017 - 16:00 23.06.2017 (Casual)
Mel Mason	24/06/2017	0	1	0	0		1	21	70	2	
Mel Mason	01/07/2017	0	5	2	1		8	21	100	2	
Mel Mason	05/07/2017	1	12	0	3	0	16	26	70	2	
Mel Mason	07/07/2017	1	15	3	11		30	26	70	1	
Mel Mason	08/07/2017	0	16	4	13		33	24	70	1	
Mel Mason	14/07/2017	1	4	5	6		16	19	60	2	
Mel Mason	17/07/2017	1	7	3	13		24	26	100	1	
Mel Mason	20/07/2017	0	1	0	15		16	20	80	2	
Mel Mason	25/07/2017	0	0	1	4		5	24	100	1	
Mel Mason	29/07/2017	0	0	1	1		2	17	40	2	
Mel Mason	27/06/2018				1						
John Howes	01/07/2018	0	5	2	3		10	20	90	3	Second consecutive year of June records
John Howes	02/07/2018	0	4	3	7		14	25	100	4	
John Howes	06/07/2018	1	4	5	10		20	22	90	2	
Mel Mason	07/07/2018	0	9	7	16		32	24	100	1	
Mel Mason	11/07/2018	0	6	9	13		28	25	100	1	
Simon Roberts	15/07/2018					1	1	25	90	1	
Mel Mason	17/07/2018	0	0	2	3		5	20	50	2	
Mel Mason	22/07/2018	1	4	1	15		21	25	90	1	

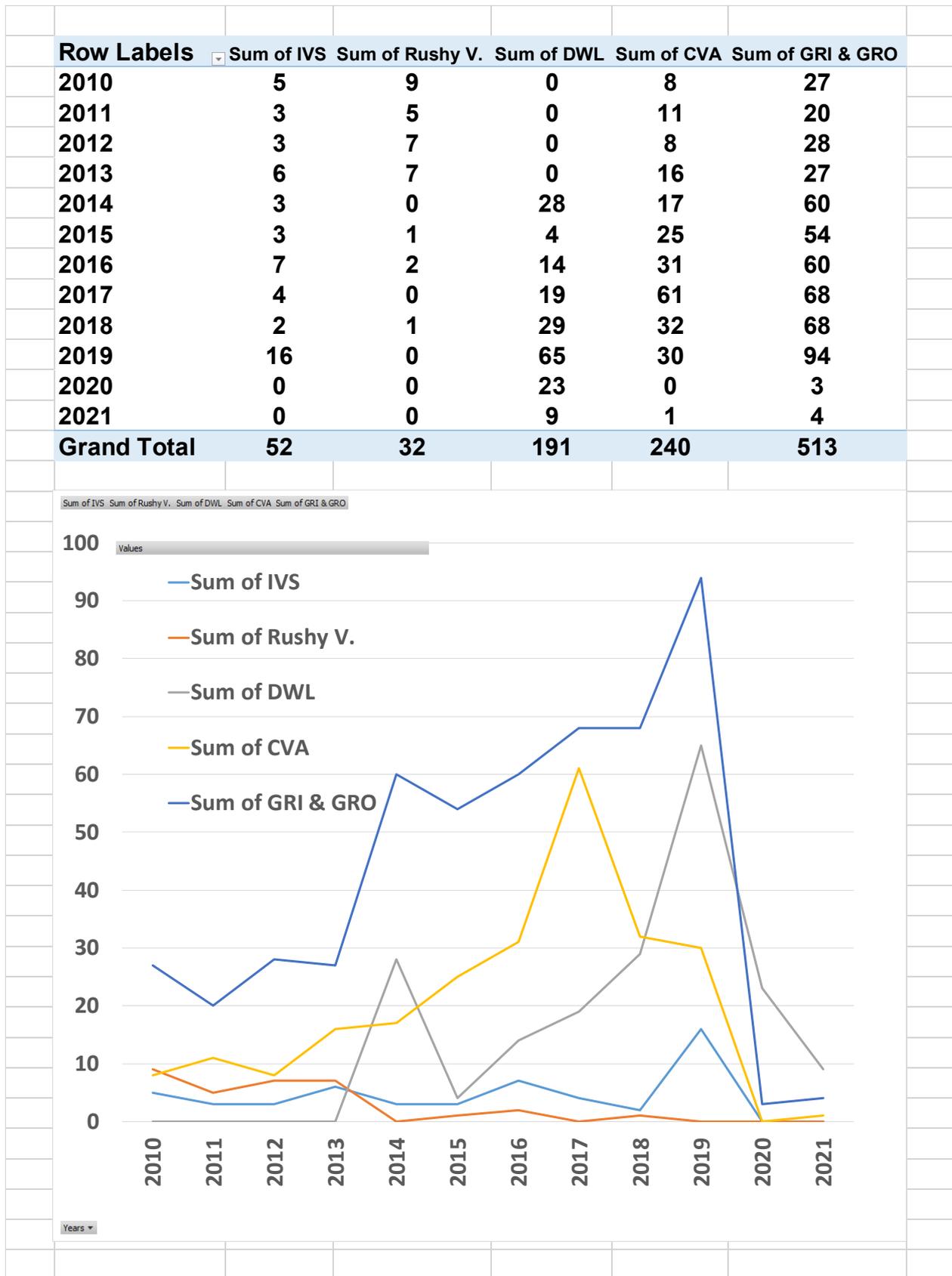
Recorder	Date	IVS	CVA	DWL	GRI & GRO	Rushy V.	TOTAL	TEMP eC	LIGHT %	WIND	Comment
		SO773463	SO772463	SO772461	SO773465	SO773454					

# Timed Counts 2010-2021 – Detailed 2 of 2

Recorder	Date	IVS	CVA	DWL	GRI & GRO	Rushy V.	TOTAL	TEMP eC	LIGHT %	WIND	Comment
Andy Pearce	28/06/2019	1					1	20	90	2	
Mel Mason	28/06/2019	0	0	0	0		0	20	90	2	FIST SIGHTING - ON PATH BELOW IVY SCAR
John Howes	29/06/2019	0	0	1	0		1	26	90	1	Third consecutive year of June records
Mel Mason	02/07/2019	0	1	0	0		1	19	60	2	
John Howes	03/07/2019	2	0	1	2		5	22	80	1	
John Howes	05/07/2019	0	1	2	3		6	24	90	2	
Mel Mason	10/07/2019	0	1	6	7		14	20	60	1	
John Howes	15/07/2019	0	4	10	13		27	21	90	1	
Mel Mason	15/07/2019					0	0	21	90	1	
John Howes	18/07/2019	1	6	8	7		22	18	70	2	CASUAL NONE
Mel Mason	21/07/2019	2	1	7	11		21	19	40	2	
John Howes	22/07/2019	2	0		11		13	22	70	2	
Mel Mason	23/07/2019	1	4	5	10		20	26	100	1	
John Howes	24/07/2019	2	3	12	10		27	23	90	2	
Mel Mason	26/07/2019	1	4	3	6		14	24	50	2	
Mel Mason	29/07/2019	2	1	3	3		9	24	70	2	
John Howes	29/07/2019	2	2	2	5		11	19	100	2	
Mel Mason	02/08/2019	0	0	2	4		6	24	70	2	
John Howes	02/08/2019	0	1	3	2		6	19	70	1	
Liz Lloyd	08/08/2019	0	1		0		1	19	60	1	LAST RECORD - Chat rock just below LHDW Path
John Lane	15/08/2019						1				LAST SIGHTING - ABBEY ROAD after VERY WET PERIOD
Mel Mason	23/06/2020	0	0	1	0		1	24	100	2	Earliest record ever 12:00 23.06.2020 (Transect)
Mel Mason	26/06/2020	0	0	0	0		0	25	100	2	Fourth consecutive year of June records
Mel Mason	05/07/2020	X	X	X	X	0	0	26	70	2	
John Howes	06/07/2020	0	0	2	0		2	16	60	4	
Mel Mason	06/07/2020	0	0	2	0		2	18	60	3	
John Howes	12/07/2020	0	0	5	2		7	19	80	1	
Mel Mason	12/07/2020	0	0	3	0		3	20	90	2	
Mel Mason	15/07/2020	X	X	X	X	0	0				NONE REPORTED IN RUSHY VALLEY THIS YEAR 2020
John Howes	17/07/2020	0	0	1	0		1	21	90	2	
Mel Mason	17/07/2020	0	0	0	1		1	21	90	2	
Mel Mason	20/07/2020	0	0	1	0		1	20	90	2	
John Howes	21/07/2020	0	0	3	0		3	18	90	2	
John Howes	24/07/2020	0	0	0	0		0	25	90	1	
Mel Mason	24/07/2020	0	0	1	0		1	21	70	2	
John Howes	26/07/2020	0	0	2	0		2	17	25	3	
Mel Mason	30/07/2020	0	0	2	0		2	21	100	2	LAST RECORDS & LAST SIGHTINGS.
John Howes	31/07/2020	0	0	0	0		0	26	100	2	NONE
Mel Mason	07/08/2020	0	0	0	0		0	23	100	1	NONE
Mel Mason	16/06/2021	0	0	0	0	X	0	20	80	2	NONE
Mel Mason	26/06/2021	0	0	0	0	X	0	19	80	2	NONE
Mel Mason	02/07/2021	0	0	0	0	X	0	20	90	2	NONE
Mel Mason	08/07/2021	0	0	1	0	X	1	21	80	1	FIRST RECORD - 12:00, MALE - DWLoop
Mel Mason	14/07/2021	0	0	0	0	X	0	21	80	2	NONE
Mel Mason	16/07/2021	X	X	X	0	X	0	26	100	1	NONE
John Howes	16/07/2021	0	1	3	0	x	4	26	100	1	DWLoop & the Nose
Mel Mason	17/07/2021	0	0	2	1	X	3	26	100	1	DWLoop (M&F) & GraylingCrag
John Howes	21/07/2021	0	0	1	0	X	1	27	100	1	POSSIBLE FEMALE
Mel Mason	23/07/2021	0	0	0	1	X	1	25	80	2	FEMALE
John Howes	26/07/2021	0	0	2	0	X	2	23	70	1	DWLoop
Mel Mason	29/07/2021	0	0	0	0	X	0	19	70	2	NONE
Mel Mason	03/08/2021	0	0	0	0	X	0	20	80	2	NONE
Stuart Brown	05/08/2021						1				Casual / summit of Worcs. Beacon on gravel path-photo provided
Mel Mason	10/08/2021	0	0	0	0	X	2	20	80	2	GraylingCrag
Recorder	Date	IVS	CVA	DWL	GRI & GRO	Rushy V.	TOTAL	TEMP eC	LIGHT %	WIND	Comment
		S0773463	S0772463	S0772461	S0773465	S0773454					

## Distribution from total timed counts on each site for each year 2010-2021

The distribution data suggest DeWalden Loop is now slightly more favoured than Grayling Ridge while few are now recorded on Chat Valley and Ivy Scar Crag.



## Sightings of *Ichneumon xanthorivus* & *suspiciosus* Jan-Mar 2020



Searching for *Ichneumon xanthorivus* on the Nose, Lower Chat Valley









Ichneumon suspiciosus?





