

## Wyre Forest Reptile Report 2017

correlated with meteorological data

SYLVIA SHELDON AND CHRIS BRADLEY



Grass Snake

Jonathan Cartwright

### Summary of Seasonal Weather 2017

**JANUARY** - The new year brought with it a generally dry, settled and cold spell of weather, up until mid-month when the area witnessed a light snowfall, and also sleet and hail. However, it was a generally dry cold month with 22 ground frosts. Maximum air temperature 10°C on January 15th and 31st. Minimum ground temperature -8.5°C on January 6th. Rainfall total 66.7mm. Highest daily total 12.5mm on January 31st.

**FEBRUARY** - The ninth warmest February since 1910. Storm Doris arrived on 23rd, bringing heavy rain and winds of between 65-75mph. Maximum air temperature 15°C on both 21st and 26th. Minimum ground temperature -4°C on February 6th. Rainfall total 52.8mm. Highest daily total 12mm on February 26th.

**MARCH** - A mostly mild and changeable month, with above average sunshine and average rainfall. Maximum air temperature 19°C on March 31st. Minimum ground temperature -3°C on 21st and 25th. Rainfall total 63.6mm. Highest daily amount 13.2mm on March 21st.

**APRIL** - Mostly dry and sunny, with above average temperatures and below average rainfall, but with a short cold spell between the 24th and 27th of the month. Maximum air temperature 24.5°C on the 9th. Minimum ground temperature -3.5°C on April 27th. Rainfall total 19.1mm. Highest daily total 9.7mm on the 30th.

**MAY** - Warmest since 1910, with well above average

temperatures and below average rainfall, although there was a brief spell of unsettled weather mid-month. Maximum air temperature 28.5°C on the 26th. Minimum ground temperature -0.5°C on May 10th. Rainfall total 46.2mm. Highest daily total 10.6mm on May 16th/17th.

**JUNE** - The first half of June was very unsettled, but the dominance of high pressure mid-month resulted in a mini heat wave, with temperatures exceeding 30°C. This was followed by a ridge of low pressure near month's end, producing wet and windy conditions. Overall, temperature, rainfall and sunshine were all above average. Maximum air temperature 35°C on June 18th. Minimum ground reading 20°C on June 5th. Rainfall total 46.1mm. Highest daily total 16.2mm on June 5th.

**JULY** - This was a largely cloudy month with frequent rainfall, particularly early on, albeit there were a few warm sunny days mid-month. However, conditions were generally unsettled with above average rainfall. Maximum air temperature 29.5°C, recorded on both the 6th and 9th of the month. Minimum ground temperature 2°C on July 4th. Rainfall total 88.7mm. Highest daily total 18.2mm on July 11th.

**AUGUST** - This month commenced as July had ended, with unsettled conditions, resulting in widespread cloud and rain. It was also a generally cool month, with thunderstorms on both the 5th and 18th producing torrential rain, although there were a few pleasant sunny days in between. Indeed, the month ended with

a spell of fine weather just in time for the Bank Holiday weekend. Maximum air temperature 24°C on August the 28th. Minimum ground reading 4.5mm on August 31st. Rainfall total 69.1mm. Highest daily total 12.9mm on August 5th.

**SEPTEMBER** - This was cooler than average with strong winds, as the first storm of the autumn season (Aileen) arrived on September 13th. There were frequent showers, recorded on 18 days, and only occasional sunny days. Maximum air temperature 20°C, recorded on the 4th and 5th of the month. Minimum ground reading 4°C on September 1st. Rainfall total 76mm. Highest daily total 14mm on September 28th.

**OCTOBER** - While this month was milder and drier than average, hurricane Ophelia mid month, and storm Brian a week later, both produced damaging winds and rain. The former resulted in gusts of 120mph being recorded along the west coast of the Irish Republic, Wales and Scotland, although inland, conditions were less severe. The first frosts of autumn occurred on October 28th, 29th and 30th. Maximum air temperature 19.6°C on October 13th. Minimum ground reading -2.5°C on the 30th of the month. Rainfall total 39.1mm. Highest daily total 18mm on October 19th.

**NOVEMBER** - This was drier and sunnier than average, with 13 night frosts recorded, all followed by crisp sunny days. Maximum air temperature 14.7°C on November

22nd. Minimum ground reading -6°C on the 30th and final day of the month. Rainfall total 45.4 mm. Highest daily total 8.2mm on November 3rd.

**DECEMBER** - This month began with cold and frosty conditions prevailing. On the 7th, strong north west winds introduced heavy snow overnight which persisted until late afternoon on the 8th. Snow continued to fall overnight on both the 9th and 10th, and indeed for much of the day, and once again overnight into the 11th day. The weight and depth of the snow causing widespread power failures and damaged telephone lines. The snow cover remained largely undiminished here at Knowles Mill until December 21st, when milder weather introduced a slow but certain thaw. Maximum air temperature 12.2°C on December 6th. Minimum ground reading -14°C on the 12th, (estimated, as thermometer under 20cm of snow.) Minimum air temperature on same night -9.6°C. Rainfall total 109.7mm. Highest daily total 24.6mm on December 26th.

## 2017 Weather data

Total Rainfall/Precipitation = 722.2mm (28.48 inches).

Rain Days with +0.2mm = 207 days.

Rain Days with +1.0mm = 141 days.

Wettest Day, with 24.6mm on 26th December

Wettest Month, with 109.7mm (4.4 inches) was December

Warmest Day, with 29.5 °C on 6th and 9th July.

Coldest Night, with an air temperature of -9.5°C was on 12th December with a ground temperature of -14°C.

Approx. 10 inches of snow during 8th, 9th and 10th December

This data was recorded at Knowles Mill, Dowles Brook, Wyre Forest, at approximately 9am GMT. The site is located only some 31 metres above sea level, with the steep sided valley forming a frost pocket, and limiting direct sunshine to just a few hours daily, even during the summer months.

## Discussion

While not unexpected, the results of the 2017 Adder census further confirmed the sad decline of this iconic species in Wyre Forest. Although total numbers were on a par with 2016, the imminent threat of total demise shows little sign of lifting, with just three sites still containing viable adder populations. In fact Wimperhill, once a key site on Forestry Commission land, has now been lost completely despite a very significant improvement in adder habitat in recent years. While at Cleobury Woods, a large tract of

**Table 1: Rainfall at Knowles Mill**

Year	Total Rainfall		Days with Minimum Of 0.2mm Rainfall	Maximum Daily Rainfall (mm)	Date of Maximum Rainfall
	mm	Inches			
1990	964.3	38	167	42.5	28-Jan
1991	633.5	24.9	158	33	30-Apr
1992	880.4	34.7	196	42.9	28-May
1993	785.9	30.9	177	38	10-Jun
1994	814	32	198	54.8	14-Aug
1995	625.9	24.6	164	41.3	10-Jul
1996	624.8	24.6	169	17.4	12-Apr
1997	753.7	29.7	161	32	25-Jun
1998	805.4	31.7	195	27.2	01-Jun
1999	968.6	38.1	212	45.6	19-Sep
2000	1011.6	39.9	223	36.8	29-Oct
2001	738.1	29.1	187	40.2	17-Jul
2002	843.7	33.3	191	22.8	20-Dec
2003	560.2	22.1	155	27.3	30-Oct
2004	849.6	33.4	209	46.3	03-Aug
2005	748.8	29.5	183	35.3	24-Jul
2006	652.5	25.7	191	20.1	24-Nov
2007	1046	41.25	184	74.7	20-Jul
2008	930	36.67	197	37.2	05-Sep
2009	724.5	28.6	184	25	06-Jun
2010	659.2	25.99	168	27	25-Aug
2011	498.6	19.66	166	18.7	07-May
2012	1077.1	42.47	202	82.3	23-May
2013	807.7	31.35	169	28	14-May
2014	976	38.48	212	26.7	25-Aug
2015	775.5	30.06	207	40	13-Aug
2016	848.7	33.46	197	33	21-Nov
2017	722.2	28.48	207	24.8	26-Dec





A male Adder

Jonathan Cartwright

private land with minimal public pressure, the picture was equally grim. Albeit five females were observed in April/May, all apparently in breeding condition which was more than at any other location, no males were recorded at all during 2017 in this 600 acre block of woodland. It is believed that the three resident males at Breakneck Bank were all predated, possibly by buzzards or pheasants, while basking on the Elan Valley pipeline which was only a few metres from their favoured hibernacula. Consequently no courtship or mating was observed at this site during 2017. Further, unless several mature males are translocated from elsewhere in Wyre Forest or perhaps further afield to this once key site, then there can be little expectation of any natural increase in numbers in the foreseeable future. Indeed this is a similar situation to that observed on Wimperhill in 2016, where three breeding females were seen in the spring sunshine awaiting the arrival of males, a rendezvous which one can assume did not take place, as no males or neonates were seen on Wimperhill during 2017.

A similar pattern has now been observed at Pound



A female Adder

Phil Rudlin

Green Common where, in 2016, there was encouraging news; with 2 females and 7 males having been recorded. However, it was noted in the 2016 Adder Report that "no mating activity was observed, and that the quality and viability of the site, both for reptiles in general and for adders in particular, could be compromised by further management work, such as tree felling and clearance of scrub and the more established gorse thickets". In addition there was also the possibility of overgrazing by sheep in spring and summer. Such activity can cause unnecessary and unwelcome disturbance and also denudes valuable ground cover and soft herbage. In fact, in 2017, only two females and a solitary male were observed on Pound Green Common and, even worse, two mature adders were found dead, at least one of them a male. Both were apparently crushed to death, possibly under the wheels of a quad bike, as two of these vehicles ridden by local children were seen circumnavigating the site in April (when the dead male was discovered) and again in late summer. In nearby Pound Green Coppice, which only a few years ago supported a thriving population of adders and grass snakes, only two males were recorded.

**Table 2: Phenology data in the Wyre Forest**

RECORD	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Frogs Croaking	23-Jan	31-Jan	18-Jan	12-Jan	16-Jan	13-Feb	24-Feb	18-Feb	03-Mar	07-Mar	18-Feb	N/S	N/S	21-Feb
First Frogspawn	16-Feb	09-Feb	26-Feb	15-Feb	09-Feb	18-Feb	26-Feb	22-Feb	03-Mar	08-Mar	21-Feb	07-Mar	22-Feb	22-Feb
First Male adder	04-Mar	15-Feb	15-Feb	14-Feb	12-Feb	16-Feb	20-Feb	12-Feb	21-Feb	17-Mar	19-Feb	18-Feb	01-Mar	24-Feb
First common lizard	25-Mar	15-Feb	22-Feb	07-Mar	12-Feb	02-Mar	07-Mar	12-Feb	25-Feb	13-Mar	24-Feb	18-Mar	01-Mar	14-Mar
First Slow-Worm	16-Mar	18-Mar	25-Mar	07-Mar	01-Mar	25-Feb	18-Feb	17-Mar	25-Feb	16-Apr	24-Feb	10-Mar	01-Mar	02-Apr
First female adder	16-Mar	18-Mar	26-Mar	14-Feb	21-Mar	02-Mar	14-Mar	12-Mar	17-Mar	18-Mar	18-Mar	07-Mar	14-Mar	14-Mar
First grass snake	02-Apr	21-Mar	12-Apr	07-Mar	27-Mar	06-Mar	21-Mar	12-Mar	25-Feb	23-Apr	17-Mar	20-Mar	12-Mar	02-Apr
First grass snake copulation	N/S	04-Apr	N/S	N/S	01-Apr	21-Mar	04-Apr	N/S	N/S	N/S	N/S	N/S	14-Apr	N/S
First male adder slough	19-Apr	16-Apr	19-Apr	06-Apr	02-Apr	26-Mar	13-Apr	08-Apr	17-Apr	24-Apr	08-Apr	13-Apr	20-Apr	10-Apr
First adder courtship and combat	24-Apr	27-Apr	25-Apr	12-Apr	22-Apr	03-Apr	14-Apr	08-Apr	17-Apr	N/S	16-Apr	18-Apr	N/S	18-Apr
First adder mating	25-Apr	27-Apr	26-Apr	12-Apr	23-Apr	11-Apr	14-Apr	08-Apr	17-Apr	N/S	18-Apr	18-Apr	N/S	18-Apr
Last adder courtship	07-May	06-May	07-May	27-Apr	03-May	29-Apr	05-May	30-Apr	26-Apr	N/S	28-Apr	18-Apr	N/S	25-Apr
Last adder	05-Oct	16-Oct	20-Oct	02-Nov	21-Oct	26-Sep	23-Sep	16-Oct	05-Nov	18-Sep	22-Sep	23-Sep	28-Sep	19-Sep

**Table 3: Cumulative data of Adders**

Year	First Sighting	Air Temp. (°C)	Grass Temp. (°C)	First Slough
1990	05-Feb	13	14	08-Apr
1991	23-Feb	14	17	19-Apr
1992	23-Feb	13	15	22-Apr
1993	17-Feb	10.7	12.5	16-Apr
1994	10-Feb	10	15	18-Apr
1995	12-Feb	11.4	11	10-Apr
1996	16-Feb	12.2	15	24-Apr
1997	15-Feb	8.6	11	08-Apr
1998	11-Feb	13.6	12.5	17-Apr
1999	16-Feb	8	9	16-Apr
2000	19-Feb	6.3	12.5	07-Apr
2001	07-Feb	10	11.5	17-Apr
2002	11-Feb	13.5	16	09-Apr
2003	23-Feb	11	23.8	31-Mar
2004	04-Mar	11	17.5	19-Apr
2005	15-Feb	10	14	16-Apr
2006	15-Feb	10	17.3	19-Apr
2007	14-Feb	11.3	19	06-Apr
2008	12-Feb	7	27	02-Apr
2009	16-Feb	11.7	13.7	26-Mar
2010	20-Feb	4	20	13-Apr
2011	12-Feb	11.5	15.6	08-Apr
2012	21-Feb	15	28	17-Apr
2013	17-Feb	5.5	13	24-Apr
2014	19-Feb	10	16	08-Apr
2015	18-Feb	10	16	13-Apr
2016	01-Mar	13	18	20-Apr
2017	24-Feb	14.5	12.5	10-Apr

Therefore only one potentially viable population now remains on Forestry Commission land, at Longdon Orchard. Whereas in previous years, but certainly during the 1980s when the Adder Census was first undertaken in its present format, over fifty adder sites were known to exist on public land. This rapid decline is despite much effort having been devoted to habitat improvement in various locations, with regular work parties creating open areas to provide suitable basking spots and greater connectivity between sites, and numerous refugia having been deposited in favourable locations. The reasons for this dramatic malaise are many and varied but all relate either directly or indirectly to the presence of Man and primarily, so I believe, to the negative effects of mass recreation in the Wyre Forest, especially in more recent times.

It would also appear that there is now a dire shortage of mature males, as they certainly represent a fast diminishing proportion of the total population. It is conceivable that due to their comparatively greater seasonal movements and more flamboyant pelage in the spring that they are liable to attract the attention of both aerial and ground based predators much more frequently than the females, who invariably possess a much more cryptic colouration all year round. If this is

**Table 4: Adder numbers**

Year	Sites Surveyed	Sites with Adders	Mature Males	Mature Females	Total	Average per Site
1990	56	50	185	55	240	4.8
1991	76	61	211	56	267	4.4
1992	78	55	159	33	192	3.5
1993	80	59	186	70	256	4.3
1994	76	50	153	29	182	3.6
1995	76	44	103	14	117	2.6
1996	80	41	112	32	144	3.5
1997	84	44	102	31	133	3
1998	85	42	103	34	137	3.3
1999	67	35	100	20	120	3.4
2000	87	24	69	13	82	3.4
2001	Data incomplete due to FMD					
2002	20	13	36	17	53	4
2003	20	9	26	10	36	4
2004	47	20	40	19	59	3.6
2005	54	25	40* 65*	16* 38*	56*103*	4.1* 2.4*
2006	38	21	74	26	100	2.1
2007	28	19	67	24	101	5.3
2008	51	24	120	35	155	6.5
2009	55	22	96	30	126	5.7
2010	55	24	83	23	106	4.4
2011	44	20	59	27	86	4.3
2012	27	14	56	19	75	5.4
2013	26	12	35	22	57	4.8
2014	26	15	43	16	59	3.9
2015	26	12	44	18	62	5.2
2016	26	10	26	16	42	4.2
2017	26	9	24	17	41	4.6

\*Usual Sites without three new sites added

\* Total when three new sites were added

FMD – Foot & Mouth Disease

true then this represents yet another worrying trend in adder dynamics and does not bode well for their future survival in Wyre Forest.

It is indeed somewhat ironic therefore, that although the adder population is now undoubtedly at an historical low, in all probability facing imminent extinction, the Forest habitat itself is now much more favourable for adders than in the past. Compared to some fifty years ago, when adder populations were still flourishing and possibly well in excess of 500 individuals, suitable habitat was much more limited. Much of the woodland floor was largely shaded out beneath a thick canopy of beech, oak and various conifers. There were few open areas or natural breaks, save for the Elan Valley Pipeline and several recently created and managed deer lawns.

Only one adder population in Wyre Forest, on a site managed by Natural England, appears to be holding its own despite numerous threats. However, if these adders are to survive *in situ*, then this site must be afforded special protection and consequently managed very sensitively in the future.

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**Table 5: Other reptiles recorded during Adder census**

Year	Grass Snakes	Slow-Worms	Lizards
1990	36	26	24
1991	20	35	20
1992	30	35	13
1993	49	62	38
1994	20	46	23
1995	23	36	11
1996	22	48	15
1997	28	53	42
1998	21	42	37
1999	34	41	19
2000	12	24	23
2001	Data incomplete due to FMD		
2002	9	17	14
2003	5	10	26
2004	7	18	19
2005	12/16*	53/71*	58/144*
2006	11	49	70
2007	12	45	52
2008	34	129	169
2009	18	156	98
2010	28	124	90
2011	26	59	117
2012	16	43	34
2013	13	42	21
2014	19	43	23
2015	16	70	38
2016	49	97	31
2017	41	96	32

\*\* the total with the three new sites added  
FMD – Foot & Mouth Disease



Juvenile Grass Snake with Slowworm, refugia Phil Rudlin



Juvenile Adder with Slowworms, under refugia Phil Rudlin



Grass Snake

Jonathan Cartwright