

Riverfly Monitoring Newsletter

Southwest Wales

Winter 2014

A word from your Natural Resources Wales Co-ordinator

What a horrible few months we've had weather wise, and unsurprisingly this has affected the number of results sent in from volunteers.

Most of our rivers were too dangerous to sample until March due to high flows, and we've had numerous pollution issues as a result of farm infrastructures being unable to cope with the amount of water on yards and in slurry stores, so we've all been very busy assessing the effects on the environment and advising landowners on pollution prevention to minimise the risk of environmental damage in the event of another wet winter.

Fingers crossed, the weather seems to have improved from March onwards, and a nice dry April means that we have taken the majority of our routine NRW biology samples without too much difficulty.

Training day for new Teifi Rivers Trust volunteers

Two training days for new volunteers took place on the 9th and 10th of May by Teifi Rivers Trust. These were run by Dai Roberts from the Riverfly Partnership at Llandysul, so we're really looking forward to getting more volunteers on board in Ceredigion! Big thanks to Glyn Jones for organising this, the two days were undoubtedly a great success and it was good to meet everyone!



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Bug of the Quarter – Golden Ringed Dragonfly

The featured species for this season's report is the Golden Ringed Dragonfly, *Cordulegaster boltonii*.



Newly emerged adult complete with old skin – Llechwedd Mawr stream near Nant Y Moch Reservoir.

This is one of the largest British dragonfly species, and the one most likely to be found in our kick samples on Welsh Rivers (it is extremely rare in South East England and the Midlands). It is typically found in fast flowing streams, particularly in upland areas where moorland and heath dominates, as it is an extremely acid tolerant species. Adults tend to be seen from May to September, and are extremely obvious with their large size and black and yellow stripes.

The prey of the large, hairy (and downright ugly!) aquatic nymphs is pretty much anything that moves! This ranges from invertebrates and tadpoles to small fish. The adults are also efficient predators, whizzing around like Apache helicopters and grabbing pretty much any other flying insect for lunch. I've also found them to be nosy beasts, and they'll frequently appear when we're doing survey work and hover in front of us checking us out!



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Males are not strictly territorial, but they will fly up and down a length of stream looking for potential hot dates and get into fights with any other males they come across. In the event that he finds a hot date, they will then fly in tandem and then mate on nearby vegetation.

The female then lays her eggs alone, and bobs vertically up and down like a pogo stick over a shallow bit of water laying eggs in the sediment. These eggs then hatch into ravenous hairy brown nymphs, which take 5 years to become ready to turn into adults.

TRIM Results

None this quarter, hopefully our newly trained volunteers can provide better coverage of Ceredigion....watch this space!

Pembrokeshire results

Western Cleddau

Spring 2014		St Catherines Bridge		Cutty Bridge		Cartlett Brook	
Location code [for future interactive map]		1		2		16	
GPS		SM945198		SM941188		SM 983 181	
Date		30/03/2014		14/03/2014		22/03/2014	
Name of Monitors		David Nattress/John Codd		David Nattress/John Codd		WE/BE	
Conditions				Water temp 9° C		Fairy high, slightly coloured.	
Caddis Flies	Cased Caddis		40	B	20	B	15
	Caseless Caddis		30	B	20	A	2
Mayfly nymphs	Up-wing (Ephemeroidea)		0	-	0	A	5
	Blue-winged Olive up-wing		1	B	30	B	50
	Flat-bodied up-wing (Heptageniidae)		200	C	100	B	50
	Olive up-wing (Baetidae)		100	B	20	C	150
Stonefly nymphs	Stonefly nymphs		20	A	4	-	0
Freshwater shrimps	Freshwater shrimps		20	A	1	B	30
Leeches	Leeches		10	A	4	A	3
Snails	Spire shells		0	-	0	-	0
	Ramshorn		0	-	0	-	0
Hoglouse	Hoglouse		0	-	0	B	30
Density/biomass indicator (totals)			421		199		335
Previous Density/biomass indicator (totals)			30.09.13 = 294		07.10.13 = 126		
Previous Density/biomass indicator (totals)			24.6.13 = 1074		25.6.13 = 447		7.5.13 = 142
Previous Density/biomass indicator (totals)			16.4.13 = 434		16.4.13 = 101		-
Previous Density/biomass indicator (totals)			26.2.13 = 103		26.2.13 = 54		-
Previous Density/biomass indicator (totals)			26.10.12 = 558		-		-
Previous Density/biomass indicator (totals)			9.8.12 = 1037		10.8.12 = 184		-
Previous Density/biomass indicator (totals)			21.5.12 = 590		22.5.12 = 274		-
Other	Fish		2 bullheads				
	Other		1 'orange spot' shrimp, 5 beetles, 5 'earth' worms				Large quantity of small beetles and a number of earth
Comments			There was no hatch at time of sample and no fish				



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Again, no major problems at any of the sites sampled. It was interesting to see that there is still the "Orange Spot" parasite present in the Gammarus at St Catherines Bridge. We also found them ourselves during an investigation of Rudbaxton Water just upstream of the confluence upstream of the PRT monitoring site on the Western Cleddau, so this is obviously a bit of a hotspot for Thorny Headed Worms!

Eastern Cleddau

Spring 2014		Narberth Brook - Shipping Factory		Narberth Brook - Canaston Bridge		Syfni - Gelli Bridge		Eastern Cleddau - Glanleddau Farm	
Location code [for future interactive map]		6		27		12		13	
GPS		SN 09582 14482		SN 06727 15105		SN 082 195		SN 098 212	
Date		10/03/2014		12/03/2014		12/03/2014		12/03/2014	
Name of Monitors		JH/JeH		JH/JeH		RB/CB		RB/CB	
Conditions						Mild sunny day, river still high/fast		Mild sunny day, river still high/fast	
Caddis Flies	Cased Caddis	B	43	B	34	B	12	B	16
	Caseless Caddis	B	23	A	9	B	15	B	85
Mayfly nym	Up-wing (Ephemeraeidae)	-	0	-	0	-	0	-	0
	Blue-winged Olive up-wing	A	2	A	4	-	0	-	0
	Flat-bodied up-wing (Hepta)	B	38	B	72	B	30	C	110
	Olive up-wing (Baetidae)	B	38	C	139	B	30	B	80
Stonefly nym	Stonefly nymphs	A	1	A	1	-	0	B	65
Freshwater	Freshwater shrimps	B	76	B	26	A	9	-	0
Leeches	Leeches	A	1	A	1	A	2	A	1
Snails	Spire shells/ramshorn	A	2	A	2	-	0	-	0
Hoglouse	Hoglouse	A	1	A	1	-	0	B	40
Density/biomass indicator (totals)		225		289		98		397	
Previous Density/biomass indicator (total)		11.9.13 = 118		29.9.13 = 71		11.12.13 = 394		11.12.13 = 185	
Previous Density/biomass indicator (total)		3.7.13 = 217		5.8.13 = 105		20.9.13 = 357		20.9.13 = 175	
Previous Density/biomass indicator (total)		17.3.13 = 344				22.7.13 = 153		22.7.13 = 89	
Previous Density/biomass indicator (total)		24.10.12 = 262				21.05.13 = 260		21.05.13 = 307	
Previous Density/biomass indicator (total)		28.07.12 = 204				26.4.13 = 135		26.4.13 = 146	
Other	Fish								
	Other					10 earthworms.			
Comments		<p>Depth and flow greater than in all other samples at this site. Monitoring has been delayed to allow reduction in flow. During sampling a great deal of gravel and organic debris was collected which complicated counting. Fallen tree noted at last sampling has moved, been moved? to one side allowing clear flow over half the width at this point. Some interference with flow from fallen branches above the sample site. Few organisms collected in shallows subsample where a great deal of silt was noted under the top stones. 1 hoglouse found for first time at this sample point. More caseless caddis than previously but other levels of abundance similar to previous samples</p>		<p>Depth varying from 25-30cm Sample area open due to lack of deciduous canopy at this time of year. Also bank vegetation appears to have been cut back. Substrate 1/10 weed covered. Stones over rest of sample area. Little visible silt although disturbed from underneath stones during sampling. Variations in depth are causing a weir like effect just above sample area.</p>					



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Nothing too worrying at any of these sites. The site on the Syfynwy at Gelli Bridge had less invertebrates than usual, but most of the sensitive groups were present, indicating a possibility of washout from the recent high flows than a water quality problem.

Nevern

Spring 2014		Afon Gamman - Pont Carreg	
Location code [for future interactive map]		19	
GPS		SN 083 401	
Date		30/03/2014	
Name of Monitors		RR/SR/Jcu	
Conditions		Average flow	
Caddis Flies	Cased Caddis	A	1
	Caseless Caddis	-	0
Mayfly nymphs	Up-wing (Ephemeraeidae)	-	0
	Blue-winged Olive up-wing	-	0
	Flat-bodied up-wing (Heptageniidae)	-	0
	Olive up-wing (Baetidae)	B	30
Stonefly nymph	Stonefly nymphs	A	2
Freshwater shrimps	Freshwater shrimps	B	10
Leeches	Leeches	-	0
Snails	Spire shells	-	0
	Ramshorn	-	0
Hoglouse	Hoglouse	-	0
Density/biomass indicator (totals)		43	
Previous density/biomass indicator (totals)		26.5.13 = 148	
Previous density/biomass indicator (totals)			
Other	Fish		
	Other		
Comments		River bed scoured by recent fast flowing high water levels.	

This result on the Gamman is very poor, probably due to a combination of organic inputs and recent abnormally high flows. The Pembrokeshire EM team are aware of this issue and are planning a series of farm visits throughout the Gamman catchment over the next couple of months.



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Carmarthenshire Results

Doethie Results February

River Name		Nant Gwernog		Doethie		Doethie		Doethie		Pysgotwr	
Site Name		Pysgotwr Fawr		Doethie Fawr u/s Fach		Doethie Fach u/s Fawr		U/S Pysgotwr Conf.		U/S Doethie Conf.	
NGR											
Samplers		Gethyn Thomas, Caroline Orr		Gethyn Thomas, Caroline Orr		Gethyn Thomas, Caroline Orr		Gethyn Thomas, Caroline Orr		Gethyn Thomas, Caroline Orr	
Conditions											
		Category	Number Found	Category	Number found	Category	Number Found	Category	Number Found	Category	Number Found
Caddis Flies	Cased Caddis	A	5	A	3	A	1	A	2	A	1
	Caseless Caddis	A	3	A	1	A	1	A	3	A	2
Mayfly nymphs	Up-wing (Ephemeraidae)										
	Blue-winged Olive up-wing										
	Flat-bodied up-wing (Heptageniidae)	A	1	A	1	A	1	B	23	B	28
	Olive up-wing (Baetidae)										
Stonefly nymphs	Stonefly nymphs	C	116	B	29	B	53	B	14	A	7
Freshwater shrimps	Freshwater shrimps										
Leeches	Leeches										
Snails	Snails										
Hoglouse	Hoglouse										
Density/biomass indicator (totals)											
Notes											
Biological Quality											
Comments		February, 2014		February, 2014		February, 2014		February, 2014		February, 2014	

As usual, the top sites are looking very acidic, and the high flows over the winter will probably have made matters worse by causing acidic pulses from the surrounding forestry.

Doethie results March



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River Name		Doethie		Pysgotw r		Doethie Fach		Doethie Faw r		Doethie		Pysgotw r	
Site Name		Blaendoethie		Nant Gw ernog		U/S Doethie Faw r Confl.		U/S Doethie Fach Confl.		U/S Pysgotw r Confl.		U/S Doethie Confl.	
NGR													
Samplers		Gethyn Thomas, Caroline Orr		Gethyn Thomas, Caroline Orr		Gethyn Thomas, Caroline Orr		Gethyn Thomas, Caroline Orr		Gethyn Thomas, Caroline Orr		Gethyn Thomas, Caroline Orr	
Conditions													
		Cat	Number Found	Cat	Number Found	Cat	Number Found	Cat	Number Found	Cat	Number Found	Cat	Number Found
Caddis Flies	Cased Caddis			A	1	A	3	A	3	A	1		
	Caseless Caddis	A	5	A	1	A	1	A	2	A	5	A	3
Mayfly nymphs	Up-w ing (Ephemeraidae)												
	Blue-w inged Olive up-w ing												
	Flat-bodied up- w ing (Heptageniidae)					A	3			B	16	B	28
	Olive up-w ing (Baetidae)	A	4									A	8
Stonefly nymphs	Stonefly nymphs	B	35	B	47	B	28	B	29	B	20	B	52
Freshwater shrimps	Freshw ater shrimps												
Leeches	Leeches												
Snails	Snails												
Hoglouse	Hoglouse												
Density/biomass indicator (totals)													
Notes		Mainly Brachyptera Risi & Isoperla								1 fry in sample! Obviously hatched from last years redd!			
Biological Quality													
Comments		March, 2014		March, 2014		March, 2014		March, 2014		March, 2014		March, 2014	

Again, all sites are looking acidic, due to the continued high flow issues in the area. Hopefully this will resolve in the summer and once the April liming has taken effect.



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Amman Catchment

River Name		Marlais		Lash		Lash		Cathan		Amman		Pedol		Garnant	
Site Name		at Aberlash		Below Workings		Above Workings		Garnswllt		Road Bridge		Garnant @ road		Jolly Road Bridge	
NGR															
Samplers		Caroline Orr, Gethyn Thomas		Caroline Orr, Gethyn Thomas		Caroline Orr, Gethyn Thomas		Caroline Orr, Gethyn Thomas		Caroline Orr, Gethyn Thomas		Caroline Orr, Gethyn Thomas		Caroline Orr, Gethyn Thomas	
Conditions															
		Cat.	No. Found	Cat.	Number Found	Cat.	Number Found	Cat.	Number Found	Cat.	Number found	Cat.	Number found	Cat.	Number found
Caddis Flies	Cased Caddis	A	4					A	3	A	1	A	1	A	2
	Caseless Caddis	B	10	A	8			A	8	A	5	A	2	B	4
Mayfly nymphs	Up-wing (Ephemeroidea)														
	Blue-winged Olive up-wing														
	wing (Heptageniidae)	B	74	B	24	B	26	B	66	B	11	B	32	B	13
	Olive up-wing (Baetidae)	B	73	C	102	B	22	B	57	B	59	B	38	B	36
Stonefly nymphs		B	37	B	56	B	34	B	23	B	52	B	73	B	42
Freshwater shrimps		B	33												
Leeches	Leeches														
Snails	Snails	A	1												
Hoglouse															
Density/biomass indicator (totals)															
Notes		Bullhead in sample!! Dipper.		Bullhead in sample!!!				Fish pass may need attention as looks as though it may block up soon.				Dipper and Grey Wagtail seen at this site! Japanese Knotweed - Needs Attention!!!		Japanese Knotweed - Needs Attention!!!	
Biological Quality															
Comments		March, 2014		March, 2014		March, 2014		March, 2014		March, 2014		March, 2014		March, 2014	

All of these sites look fine, the Japanese knotweed has been reported to the relevant officer. It's nice to see that there are dippers about too.