2013-2014

The Taff Trail as a Green Corridor

Wildlife Camera Project in Blackweir, Cardiff, Wales.

Lee Raye

Cardiff, Wales.

With the co-operation of Cardiff University, Sustrans, and Cardiff Council.

Jan 2015

Contents

Lee Raye (lee.raye@gmx.co.uk), January 2015. **For general circulation.**

The Taff Trail as a Green Corridor: Wildlife Camera Project – Final Report

Executive Summary

The Blackweir / Taff Trail camera project is an attempt to measure the 'green corridor' effect. It is claimed that cycle routes act as linear route-ways through urban areas, allowing wildlife to move between superior areas of habitat using comparatively 'low-cost' pathways. According to this theory, the Taff Trail should act as a 'green corridor' through the outskirts of Cardiff and several smaller towns.

In order to test this theory a night-vision, motion-sensing wildlife camera was placed by Cycle Route 8 (the Taff Trail) in the Blackweir area of Bute Park on the edge of Cardiff. This area provides sufficient cover for a concealed camera trap whilst still remaining a comparatively poor habitat compared to the richer habitats of Bute Park to the south-east and Llandaff to the north-west.

The camera was set up in October 2013 and removed in November 2014. Due to extraneous conditions this represented a total of only 301 trapping days across three local camera sites. However in total 18 species were confidently identified, nine mammals and nine birds. The most common five species recorded were squirrel, fox, wood mouse, cat and blackbird (in that order). These species represented 72% of the total camera trigger events.

Introduction

In Sustrans Biodiversity Action Plan of 2007 it is noted:

> *The National Cycle Network, and in particular the traffic-free sections, comprises linear features that act as wildlife corridors linking habitats and species which would otherwise be isolated from each other. Further investigation into the use of the cycle and walking routes by wildlife would be valuable...*[1]

The concept of Sustrans' cycle routes functioning as Green Corridors for wildlife is central to the claim that use of sustainable transport encourages wildlife as well as reducing pollution and keeping humans fitter and healthier.

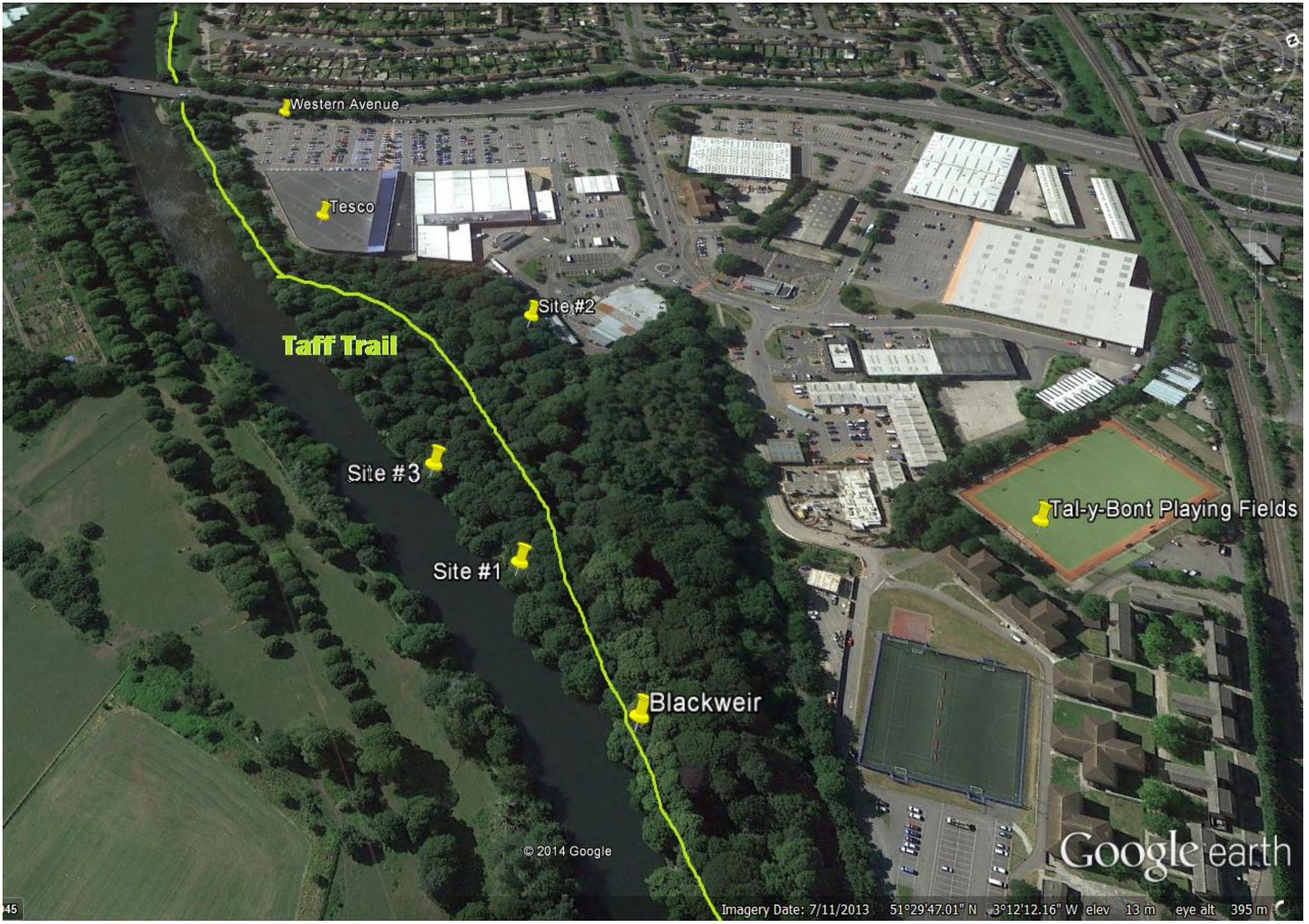
The claim is so important and encouraging that it is has been the object of several leaflets including most especially the *Ways for Wildlife* research leaflet[2]. However, the claim has rarely been tested. The aim of this project is to test the hypothesis that the Taff Trail (National Cycle Network Route 8) functions as a Green Corridor for wildlife through urbanised areas.

Below, map showing green corridor through Cardiff urban area and map showing sites within Blackweir.

1 Sustrans, *Biodiversity Action Plan, 1st edition*, (2007). 2.3.4.

2 Sustrans information sheet FF02, Appendix 1 of the *Biodiversity Action Plan.*


Radyr
Birchgrove
Whitchurch
Heath
Llandaff North
Stockland
Gabalfa
Cathays
Llandaff
Pwll Arthur
St. Fagans
Ely
© 2014 Google
Canton
Cardiff
Google earth
Tour Guide
1945
51°29'57.36" N 3°10'13.36" W elev 16 m eye alt 7.37 km


Western Avenue
Tesco
Site #2
Taff Trail
Site #3
Site #1
Blackweir
Tal-y-Bont Playing Fields
© 2014 Google
Google earth
Imagery Date: 7/11/2013 51°29'47.01" N 3°12'12.16" W elev 13 m eye alt 395 m

Method

Project Timeline	
Date	**Event**
August-October 2013	Planning phase
22nd October 2013	Permission granted by landowner (Cardiff Council) to begin survey
23rd October 2013	Surveying begun in camera site #1, riverside path (ST 166 783).
4th March 2014	End of phase 1 (only 83 trapping days)
4th April 2014	Surveying begun in camera site #2, woodland boundary (ST 164 783)
23rd July 2014	End of phase 2 (110 trapping days)
24th July 2014	Surveying begun in camera site #3, river bank (ST 165 782)
9th November 2014	End of phase 3 (108 trapping days)
November 2014 - January 2015	Analysis stage

An automatic, night-vision camera was concealed to one side of the Taff Trail. The sites are in an area on bank of the River Taff between the underpass under the A48 and the start of Bute Park's main woodland. It was attached to a mature and secure tree close to ground level to cause minimal disturbance and allow the best chance of photographing smaller creatures. The camera was attached with a canvas strip, allowing the tree to expand and contract, but was also both padlocked to a bicycle chain-lock and padlocked shut to prevent vandalism.

This area is a poor habitat, and was not expected to be the exclusive range of any large species of animal, although it may form part of their exploitation area.

The project ran for a full calendar year to allow for seasonal disturbances, and technical difficulties. The photographs were retrieved once every week. Pictures of humans (only obtained from site 1) were deleted immediately, but pictures of domestic and feral dogs and cats alone were retained, because these species have an strong impact on wildlife in the area.

The camera was set to take two or three pictures each time it was triggered. Quite often animals moved through the view of the camera before it could trigger. Picture series which were entirely blank were deleted without comment. The remaining 887 photographs represent 225 triggering events. Additional photographs of the same animal, triggered within 5 minutes of the last photograph were classed as the same event.

The species was identified with a confidence level of 1-3 (1 being a possible identification, 3 a certain identification). Some assistance with difficult photographs was received at this stage from Amy Raye; David Oakley, the Mammal Society Camera Trap Trainer; Bernie Higgins, Sustrans ecologist and several members of the iSpot community, especially Jenny Galuschka.

Site #1

Site #1 was used in phase #1 between the 23rd of October and the 4th of March, after which the camera was stolen. It was on the edge of a bamboo plantation area on the bank of the River Taff. It was close to a commonly used diversion from the Taff trail and therefore recorded many dog walkers. Recording was difficult because of poor weather, people and dogs knocking the camera out of position. In practice this led to the camera only being functional for 83 trapping days.

Site #2

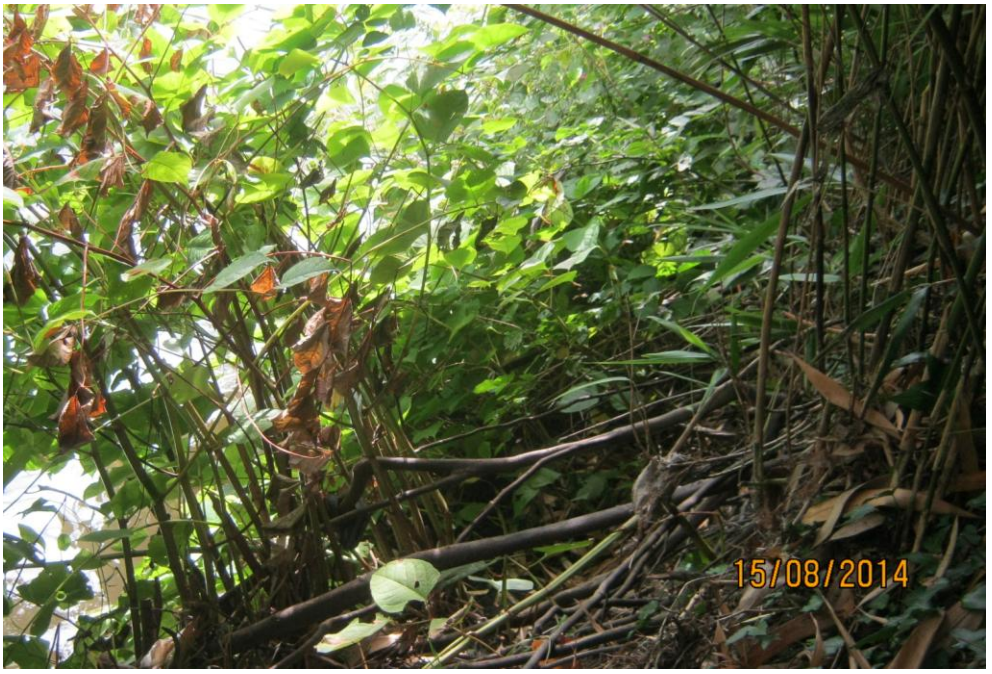
Site #2 was used in phase #2 between the 4th of April 2014 and the 23rd of July. It is a woodland-scrub area. Dominant tree species are ash (*Fraxinus exelsior*), and oak (*Quercus robur*). Few of the trees are of any great age. The wood is covered in ivy (*Hedera* sp.) and holly (*Ilex aquifolium*) and is being invaded by Japanese knotweed (*Fallopia japonica*).

The camera location was on a bank in the middle of a patch of holly within the woodland canopy. It had limited visibility but was oriented along the fence boundary line[3] and was so far from the main trail (c.60m) that it recorded no humans or dogs whatsoever. The camera was on site for 110 trapping days.

Site #3

Site #3 was used in phase #3 between the 23rd of July and the 9th of November. The camera was attached to the roots of a mature tree, on a meander on the riverbank, facing outwards (straight into a bank, away from the water). The bank is dominated by two invasive species, Japanese knotweed (*Fallopia japonica*) and Himalayan balsam (*Impatiens glandulifera*).

The close proximity of the camera to the bank led to a series of technical difficulties with the bright flash obscuring some of the animals it photographed, and the site flooding in the late autumn period. The camera still took photographs during these periods, but the conditions were so wet that the internal timer reset (and could not be changed) meaning that many



[3] Small animals use long boundary features like fences, walls, hedges and logs as easy pathways.

of the photographs from this time period have an incorrect time-stamp. The camera was nevertheless functional for most of the 108 trapping days.

Research Costs October 2013- November 2014

The total cost of the surveying equipment used for the year was £205.21.

Item	Costing
Camera	£ 79.00
Rechargable Batteries (16)	£ 20.80
SD cards (2)	£ 9.00
Chain bike lock	£ 8.50
Padlock (2)	£ 3.00
Set up costs	**£ 120.30**

Item	Costing
Camera	£ 58.51
Rechargable Batteries (8)	£ 10.40
SD card (1)	£ 4.50
Chain bike lock	£ 8.50
Padlock (2)	£ 3.00
Maintance costs	**£ 84.91**

Item	Costing
Camera	£ 58.51
Rechargable Batteries (16)	£ 20.80
SD cards (2)	£ 9.00
Chain bike lock	£ 8.50
Padlock (2)	£ 3.00
Remaining Assets	**£ 99.81**

This represents a cost of 68 pence each trapping day, but the cost should be significantly cheaper in the second year (perhaps only 28p/trapping day) because the set-up costs represent a one-time expense.

Problems in Phase #1

As noted, only 83 full 'trapping days' were produced out of the 132 day total period of phase one. This means only 63% of the period was useful. There were two main reasons:

1. Human interference was the most important factor limiting camera effectiveness. The camera direction was changed by people who were either (i) attempting to reposition of the camera (either to see it better or to conceal themselves from the camera) or (ii) attempting to remove the camera.
   The camera was eventually stolen after someone broke through the case and removed the padlocks, sometime between the 5th and 12th of March.

2. A secondary factor was the poor positioning of the camera. The site was chosen because it was a long way off the trail and unlikely to attract much attention. Unfortunately there were few suitable trees in the area, and the camera was attached to a tree which lent towards the river. Strong winds, rain and human intervention often meant the camera dropped towards facing towards the river, or was turned upwards. The practice of 'supporting the camera with a strap over a horizontal branch' as required by the risk assessment meant this was especially likely to happen and is discouraged in future surveys.

Unfortunately projects surveying wildlife in urban areas are bound to be impacted by humans, and ideal field conditions are unlikely to remain ideal for long.

Problems in Phases #2 and #3

Sites #2 and #3 were chosen in order to minimise disturbance by humans. No humans or dogs were observed by the camera in either placement.

The only limiting factor was the placement of the camera. Because the camera was placed within the dark woodland canopy on site #2, a greater percentage of the photos were taken using the infra-red flash rather than in day-vision mode. This also led to many of the photographs being over-exposed. Site #3 was not within a canopy, but situated so close to its focus that the pictures were overexposed anyway. Some intriguing silhouettes I have tentatively identified as (common) foxes (*Vulpes vulpes*) could actually depict mammals not seen before but known to live further into Bute Park like deer species (*C. elaphus; C. capreolus).* If the camera was on open ground it would be easier to identify sightings with more certainty.

Results

153 of the 225 events were graded 2+ and contributed to the species presence and count statistic data:

Reliable Sightings - TOTAL

Common Name	Latin Name	Number sightings	Count Statistic
squirrel	*Sciurus carolinensis*	43	14.29
fox	*Vulpes vulpes*	22	7.31
wood mouse	*Apodemus sylvaticus*	19	6.31
cat	*Felis catus*	17	5.65
blackbird	*Turdus merula*	12	3.99
magpie	*Pica pica*	8	2.66
jay	*Garrulus glandarius*	7	2.33
wren	*Troglodytes troglodytes*	7	2.33
dog	*Canis familiaris*	6	1.99
rat	*Rattus norvegicus*	4	1.33
hedgehog	*Erinaceus europaeus*	2	.66
weasel	*Mustela nivalis*	2	.66
long-tailed tit	*Aegithalos caudatus*	3	1.00
great tit	*Parus major*	1	.33
moorhen	*Gallinula chloropus*	1	.33
kingfisher	*Alcedo atthis*	1	.33
robin	*Erithacus rubecula*	1	.33
bank vole	*Myodes glareolus*	1	.33
		157[4]	**52.16**

Cat #1	Cat #2	Cat #3
18%	24%	47%

Dog #1	Dog #2	Dog #3	Dog #4
33%	17%	17%	33%

Two notes before we begin analysis. Camera trapping is biased towards observing certain species of animal – especially larger mammals and birds, and biased against capturing reptiles, amphibians, marine species and invertebrates. This project is unable to prove species absence, only presence.

[4] This is higher than the number of trigger events because some trigger events captured photographs of more than one animal.

$$Count\ Statistic = \frac{number\ of\ trigger\ events}{number\ of\ trapping\ days} \times 100$$

The relative abundance index (RAI) count statistic is used in camera trapping surveys as an indication of how often animals are photographed. It is a crude measure of species abundance.

The RAI count statistic is calculated like a percentage chance of detection[5] – if we looked at only the number of camera trigger events over the total number of days, there would theoretically be a 52% chance of an identifiable picture each day, and a 14% chance that the camera would take an identifiable picture of a squirrel. Since the trigger events are not evenly spaced (some days and weeks the camera detected more wildlife than other days and weeks), it does not work like this in practice.

Comparison of results across sites in Blackweir

Site	Count Statistic *(Abundance)*	Number of Species Identified *(Biodiversity)*	Main species identified
#1 Bamboo Scrub close to minor path	48.19	8 (0 endemic[6])	Cat, magpie, dog, jay, blackbird, squirrel
#2 Woodland 50m from path	42.73	7 (1 endemic)	Squirrel, fox, cat
#3 River bank close to path	65.74	14 (9 endemic)	Squirrel, wood mouse, wren, blackbird

Site #1 had a high biodiversity count and a relatively high RAI count statistic. The animals observed on this site were fairly typical 'park animals'. This site was frequented by humans, dogs and cats. Due to extraneous circumstances there were significantly fewer trapping days on site #1 than site #2 or #3. This

[5] Not quite: count statistics can rise above 100 when there is more than one trigger event each day. Also, multiple sightings on a single day bias the result. For example the wood mice were securely identified on only nine days (3% of total) but have a count statistic of 6.3 because they were seen so often on these days.

[6] Locally endemic, meaning only observed by the camera at this site; not observed at the other two sites.

is accounted for in the count statistic but not the biodiversity count. It is possible that further species would have been identified in a longer time period, especially since the majority of trapping days on site #1 were during winter.

At site #2, no dogs or humans were photographed, meaning the wild animal count statistic was actually higher. The biodiversity was much lower, and the species photographed were those associated with an impoverished woodland habitat.

Site #3 had both the best count statistic (indicative of species abundance) and the best biodiversity. No dogs, humans or even cats were recorded. Songbirds and rodents were more common than predators making this appear a local, balanced, healthy habitat rather than just a low-cost corridor.

Discussion

At the beginning of this project I predicted at the Taff Trail through Blackweir would be used as a green corridor by most species, i.e. as a low-cost way to move between areas of higher-yield. This was clearly the case for some species, but just as clearly it was not the case for all of the pictures. I believe there are actually at least three different exploitation strategies which make use the site. Each one of them can be illustrated with an example:

Green Corridor Commuters – Foxes

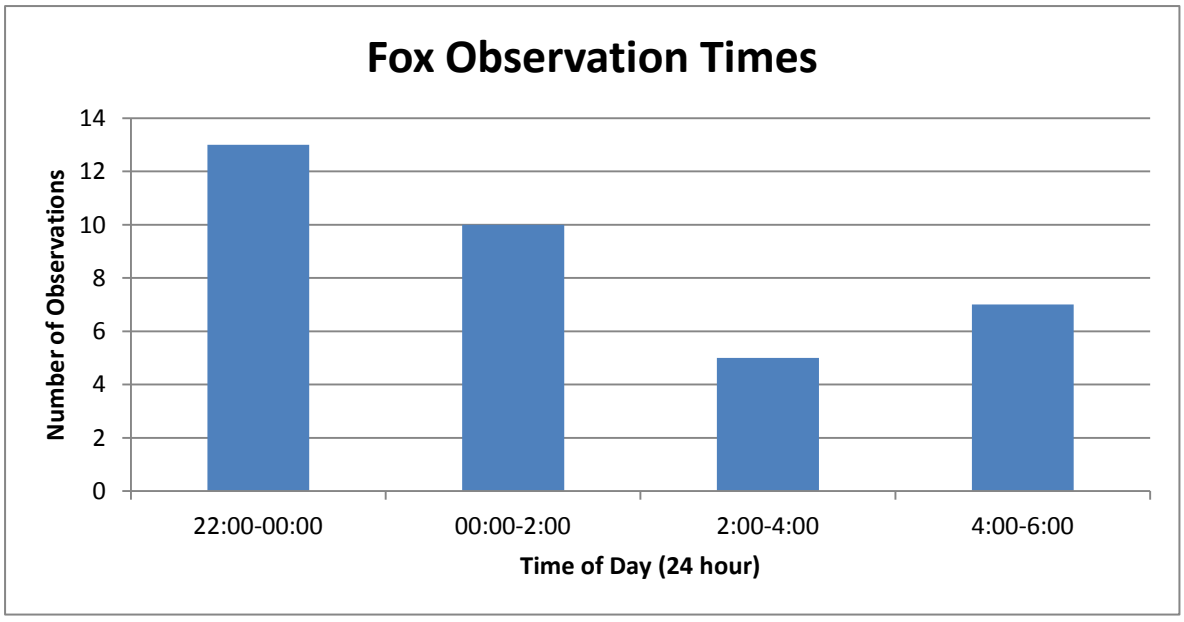
Foxes have large territories so it unsurprising to see that for the most part seem to have been using the zone as a corridors:

Adjusted Date	Adjusted Time	Common Name	Notes
7 Dec 2013	01:36	fox	
28 Dec 2013	22:14	fox	
1 Jan 2014	04:22	fox	
15 Feb 2014	22:09	fox	
8 Apr 2014	01:23	fox	triggered twice
6 May 2014	22:27	fox	
7 May 2014	03:19	fox	
13 May 2014	03:11	fox	

22 May 2014	01:53	fox	
4 Jun 2014	00:01	fox	
7 Jun 2014	23:58	fox	
8 Jun 2014	23:20	fox	
11 Jun 2014	00:58	fox	
12 Jun 2014	01:12	fox	
13 Jun 2014	00:08	fox	
15 Jun 2014	02:06	fox	
16 Jun 2014	23:37	fox	
20 Jun 2014	00:07	fox	
24 Jun 2014	23:33	fox	
28 Jun 2014	05:08	fox	
2 Jul 2014	00:36	fox	
6 Jul `	22:32	fox	big
6 Jul 2014	23:48	fox	
10 Jul 2014	02:43	fox	
10 Jul 2014	03:24	fox	big
19 Jul 2014	22:46	fox	
20 Jul 2014	23:16	fox	triggered twice
21 Jul 2014	23:23	fox	
22 Jul 2014	22:24	fox	
23 Jul 2014	04:40	fox	
25 Jul 2014	04:57	fox	captured twice
11 Oct 2014	*01:38*	fox	
11 Oct 2014	04:03	fox	
21 Oct 2014	06:35	fox	
28 Oct 2014	04:48	fox	

They are usually seen only once each day and rarely trigger the camera twice, and indeed sometimes are only seen in one or two of the initial burst of three photographs. This suggests they are travelling at speed.

It is even possible to find a pattern in the time of night they travel. Like humans, foxes have peak traffic hours:



There were no observations during the day (4:00-22:00), but there were spikes at the beginning and end of the night, suggesting a kind of rush period. Cats seem to have used the site in the same way.

Locals – Squirrels

When we look at the species presence data from the site as a whole it is clear that for many species the site is acting as a longitudinal habitat or habitat extension rather than a corridor. Many of the species represented have very small zones of exploitation, i.e. they do not move very far from their home- base, although dispersal may be further. Some were captured on camera many times each day indicating that they were foraging a very small and local area. This is especially true of the smallest species like the wood mouse, wren and squirrel. This is not an indication of species passing between areas of superior habitat but an indication of species living in the 'inferior' habitat:

Adjusted Date	Adjusted Time	Common Name	Notes
9 Nov 2013	10:52	squirrel	
10 Nov 2013	10:26	squirrel	camera triggered ten times
6 Dec 2013	09:21	squirrel	jumping
17 Dec 2013	12:48	squirrel	camera triggered twice
15 Jan 2014	08:39	squirrel	camera triggered twice
4 Apr-2014	17:32	squirrel	
5 Apr 2014	06:58	squirrel	
5 Apr 2014	14:01	squirrel	
5 Apr 2014	14:06	squirrel	
6 Apr 2014	09:49	squirrel	
6 Apr 2014	13:51	squirrel	
28 Apr 2014	14:08	squirrel	
30 Apr 2014	14:05	squirrel	
2 May 2014	14:06	squirrel	great pictures
2 May 2014	16:09	squirrel	
4 May 2014	09:04	squirrel	camera triggered twice
14 May 2014	09:14	squirrel	
15 May 2014	08:59	squirrel	camera triggered four times
17 May 2014	13:31	squirrel	
18 May 2014	10:26	squirrel	camera triggered five times
22 May 2014	17:42	squirrel	camera triggered twice

24 May 2014	15:43	squirrel	very wet week
24 May 2014	20:17	squirrel	
26 Jun 2014	09:48	squirrel	
29 Jun 2014	10:48	squirrel	
19 Aug 2014	20:49	squirrel	
31 Aug 2014	*15:33*	squirrel	
31 Aug 2014	*16:39*	squirrel	
12 Sep 2014	*18:06*	squirrel	
17 Sep 2014	*18:52*	squirrel	camera triggered twice
21 Sep 2014	*10:54*	squirrel	
21 Sep 2014	*16:48*	squirrel	
21 Sep 2014	*16:52*	squirrel	
24 Sep 2014	*17:09*	squirrel	
26 Sep 2014	*16:48*	squirrel	
21 Oct 2014	15:23	squirrel	
22 Oct 2014	12:55	squirrel	camera triggered four times
22 Oct 2014	15:32	squirrel	
22 Oct 2014	17:04	squirrel	
26 Oct 2014	12:19	squirrel	
27 Oct 2014	09:03	squirrel	
27 Oct 2014	16:23	squirrel	
28 Oct 2014	11:15	squirrel	
28 Oct 2014	17:50	squirrel	
4 Nov 2014	14:31	squirrel	
5 Nov 2014	10:18	squirrel	
5 Nov 2014	16:45	squirrel	
9 Nov 2014	17:18	squirrel	

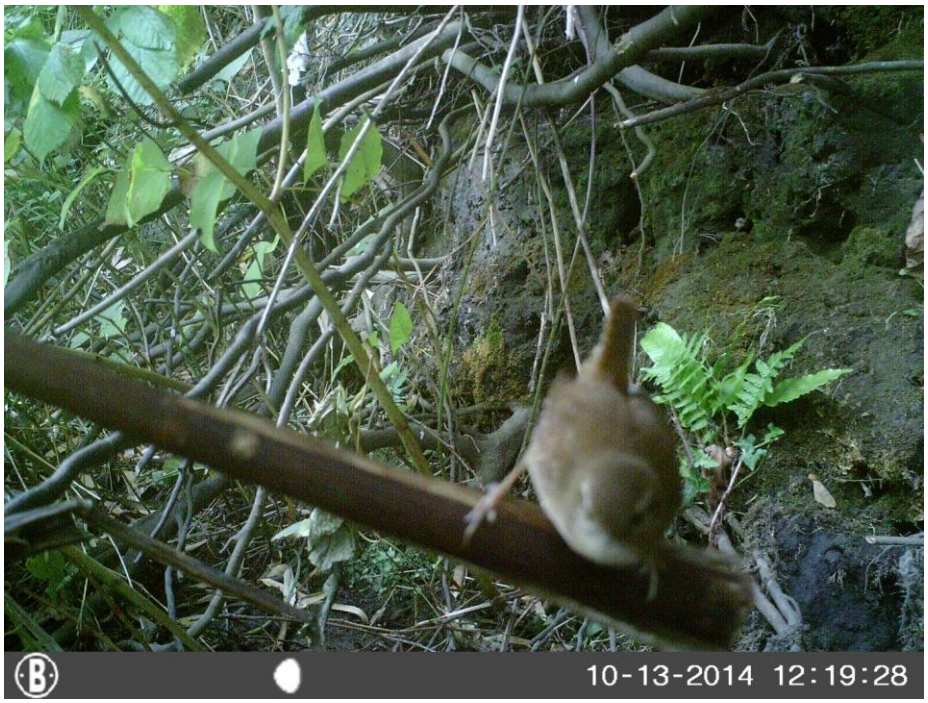
Squirrels offer the best example of this because they are so abundant in the area. They are often captured more than once in a day, and frequently the camera triggers more than once in each trigger event. For example on the 10th of November a squirrel triggered the camera 10 time in a row, apparently not bothered by the sound of the camera.

Squirrels in Blackweir Park seem to have only a very short winter dormancy period, January-April.

Seasonal/Opportunistic exploitation – Wood mice and the Flood

There is a third exploitation strategy which uses Blackweir. Some species do not permanently live in the area or use it as a regular route between higher-yield areas, they instead use the area opportunistically or seasonally.

I have already mentioned that site #3 occasionally flooded, which caused some technical difficulties. The highest water level was on the 21st of October, when it is actually possible to see the water in several of the photographs, and the land area was completely submerged. The water is ordinarily invisible.



This was the single most influential environmental event which occurred over the course of the project. Although the water receded within 12 hours, in the eight days following the flood (the 21st -28th of October) there were 60 camera trigger events. This represents 27% of the camera trigger events for the

whole site, and is an average of 8.5 events every day, whereas the whole-site average was 0.75 events each day.

The reason for this seems to have been that the flooding brought increased foraging opportunities for a variety of species. Most importantly, at least two[7] wood mice moved into the area and used the camera site as one of their main foraging area. Here are all the observations of wood mouse made:

Adjusted Date	Adjusted Time	Common Name	Notes
22 Aug 2014	04:30	wood mouse	
17 Sep 2014	*03:14*	wood mouse	
26 Sep 2014	03:57	wood mouse	
21 Oct 2014	23:40	wood mouse	captured twice
21 Oct 2014	23:50	wood mouse	
22 Oct 2014	19:24	wood mouse	captured three times
22 Oct 2014	19:46	wood mouse	captured twice
23 Oct 2014	02:29	wood mouse	
23 Oct 2014	04:42	wood mouse	
24 Oct 2014	19:45	wood mouse	swings down
25 Oct 2014	19:43	wood mouse	captured three times
25 Oct 2014	21:37	wood mouse	
25 Oct 2014	21:44	wood mouse	captured twice
25 Oct 2014	22:24	wood mouse	
26 Oct 2014	19:09	wood mouse	captured five times
26 Oct 2014	19:25	wood mouse	
26 Oct 2014	20:20	wood mouse	
26 Oct 2014	20:49	wood mouse	captured twice
26 Oct 2014	21:40	wood mouse	captured twice
26 Oct 2014	21:49	wood mouse	
27 Oct 2014	00:15	wood mouse	
27 Oct 2014	01:23	wood mouse	captured three times
27 Oct 2014	06:20	wood mouse	captured twice
27 Oct 2014	06:46	wood mouse	captured twice
27 Oct 2014	18:50	wood mouse	
27 Oct 2014	18:58	wood mouse	captured twice

[7] Since two can be seen in one photograph.

27 Oct 2014	23:44	wood mouse	captured twice
28 Oct 2014	00:56	wood mouse	captured three times
28 Oct 2014	02:18	wood mouse	captured twice
28 Oct 2014	18:23	wood mouse	captured twice; swings down bank
28 Oct 2014	18:47	wood mouse	
28 Oct 2014	19:01	wood mouse	captured twice
28 Oct 2014	19:19	wood mouse	
28 Oct 2014	20:36	wood mouse	
28 Oct 2014	21:41	wood mouse	
29 Oct 2014	01:55	wood mouse	captured twice
29 Oct 2014	04:45	wood mouse	captured twice

Prior to the 21st of October the mice seem to have used the area as a corridor. We see them three times, each time on a different day at around the same time. After the 21st of October this is no longer the case. At times they are in the area constantly. Most of the trigger events recorded above have the camera trigger at least twice, meaning the animals are foraging rather than travelling. Our evidence suggests that mice used our site as a seasonal zone of exploitation during the survey season. This is probably also the way the site was used by other species which only appeared after the flood like the rat.

Unsustainable Exploitation – Cats

Although I consider there to be only three methods of exploitation used commonly be the species in Blackweir Park (green corridor, local and seasonal), it is also important to reflect that this survey has not only being observing wild fauna. Over the course of the survey, all of the dogs observed seem to have been closely accompanied by their owners, but cats were not so lucky:

Adjusted Date	Adjusted Time	Common Name	Identifier	Notes
28 Dec 2013	05:17	cat	cat #1	camera triggered twice
3 Jan 2014	02:53	cat	cat #1	
4 Jan 2014	05:36	cat	uncertain	camera triggered twice
9 Jan 2014	18:23	cat	uncertain	
20 Feb 2014	18:15	cat	cat #2	
22 Feb 2014	05:35	cat	cat #2	camera triggered twice
23 Feb 2014	17:42	cat	cat #2	camera triggered twice
25 Feb 2014	18:32	cat	cat #1	camera triggered twice
4 Mar 2014	18:04	cat	cat #2	camera triggered three times
4 Mar 2014	18:05	**cat**	cat #1; cat #2	camera triggered twice, cat #1 following cat #2, cat 1 pounces at end
CAMERA MOVED TO SITE #2				
5 Apr 2014	04:24	cat	cat #3	
7 Apr 2014	03:10	cat		
27 Apr 2014	05:49	cat	cat #3	
27 Apr 2014	06:29	cat	cat #3	
28 Apr 2014	05:46	cat		
29 Apr 2014	01:29	cat	unsure	camera triggered four times
30 Apr 2014	00:46	cat	cat #3	camera triggered twice
30 Apr 2014	04:29	cat	cat #3	
5 May 2014	05:51	cat	cat #3	
6 May 2014	02:20	cat	cat #3	
14 May 2014	05:11	cat	cat #3	
9 Jun 2014	21:17	cat		

Like foxes, cats only used the park at night, but they actually have longer hunting hours than foxes. Cats become active in Blackweir shortly after 18:00 (four hours before the foxes) and stay out until 6:00, just like foxes. This suggests either that locals are “putting the cat out for the night” or feral cats are using the area.

This is worrying because cat predation affects the abundance of other wildlife[8]. Because cats, whether feral or domestic, are often fed by humans[9], they are unaffected by the natural carrying capacity of an area. They don't need to get all their food from the park, because they are getting food elsewhere. This means both that more cats hunt in the park than would naturally be supported, and also that cats can devote more of their time hunting scarce prey than other animals can. A future researcher could attempt to establish the relationship between cat presence and prey abundance on a local level. Before then it is recommended that Cardiff Parks service adopt a proactive approach to feral cats in the area. A campaign asking owners to keep cats in at night is perhaps all that is justified at present. If feral kittens are found a capture-neuter-release scheme would be justified.

Conclusion

The initial hypothesis of this survey was that the site would be used as a green corridor. It is clear now that this hypothesis underestimated the importance of the site to animals on a local level. The Taff Trail in Bute Park, and perhaps cycle routes in general are not just low cost corridors but can also be important habitats in their own right.

The site is probably a home to small animals like the wren, jay, blackbird, and squirrel; a corridor used by the fox and cat and perhaps the magpie; and a seasonal/opportunistic habitat extension for the weasel, wood mouse, rat and perhaps the two species of tit.

A future researcher could test these conclusions about site fidelity and the concept of the green corridor by fitting radio-tracking devices to some of the larger species, to test whether they fit within the paradigm of site-faithful, commuting or opportunistic[10].

[8] See: Woods M; Mcdonald R; & Harriss S (2003) Predation of wildlife by domestic cats Felis catus in Great Britain. *Mammal Review:* 33.

[9] Since feral cats come from domestic stock, those born in the wild stay close to human habitation and can exploit human bins better than most other species. See: Ferreira JP; Leitão I; Santos-Reis M; & Revilla E (2011) Human-related factors regulate the spatial ecology of domestic cats in sensitive areas for conservation. PLoS ONE: 6

[10] This project owes a great deal of thanks to my family, Amy Raye and Nicky Allen; colleagues at Sustrans, especially Andy Cope and Bernie Higgins; contacts at Cardiff Council, especially Gwyn Smith, Mark Tozer; and Kevin Date and the Bute Park Wardens. Invaluable identification help was also given by David Oakley at the Mammal Society and Jenny Galuschka and James McCulloch at iSpot.

Appendix – Raw Data

Please see the Excel document enclosed with this document for more computer-friendly data with more information.

Photograph	Adjusted Date	Adjusted Time	Adjusted Moon Phase	Temp. (°F)	Common Name	Confidence Level	Notes
D:\Pictures\23Oct@14-48-1.jpg	23 Oct-2013	14:48	Gibbous	78	cormorant	1	
D:\Pictures\23Oct@14-58-1.jpg	23 Oct 2013	14:58	Gibbous	80	**cormorant**	**1**	
D:\Pictures\24Oct@10-57-1.jpg	24 Oct 2013	10:57	Gibbous	59	**dog**	**3**	
D:\Pictures\27Oct@10-17-1.jpg	27 Oct 2013	10:17	Half	59	**dog**	**3**	
D:\Pictures\09Nov@10-52-1.jpg	9 Nov 2013	10:52	Half	44	squirrel	3	
D:\Pictures\09Nov@11-37-1.jpg	9 Nov 2013	11:37	Half	46	**dog**	**3**	
D:\Pictures\10Nov@10-26-1.jpg	10 Nov 2013	10:26	Half	50	squirrel	3	camera triggered ten times
D:\Pictures\10Nov@11-46-1.jpg	10 Nov 2013	11:46	Half	64	**magpie**	**3**	
D:\Pictures\12Nov@09-51-1.jpg	12 Nov 2013	09:51	Half	62	magpie	3	camera triggered six times
D:\Pictures\12Nov@11-27-1.jpg	12 Nov 2013	11:27	Half	59	dog	3	
D:\Pictures\14Nov@09-17-1.jpg	14 Nov 2013	09:17	Gibbous	46	magpie	2	
D:\Pictures\06Dec@09-21-1.jpg	6 Dec 2013	09:21	Crescent	41	squirrel	3	jumping
D:\Pictures\07Dec@01-36-1.jpg	7 Dec 2013	01:36	Crescent	46	fox	2	
D:\Pictures\17Dec@12-48-1.jpg	17 Dec 2013	12:48	Full	62	squirrel	3	camera triggered twice
D:\Pictures\27Dec@07-56-1.jpg	27 Dec 2013	07:56	Half	48	blackbird	1	
D:\Pictures\28Dec@05-17-1.jpg	28 Dec 2013	05:17	Crescent	39	cat	3	camera triggered twice
D:\Pictures\28Dec@22-14-1.jpg	28 Dec 2013	22:14	Crescent	35	fox	1	

Lee Raye (lee.raye@gmx.co.uk), January 2015. **For general circulation.**

D:\Pictures\29Dec@11-30-1.jpg	29 Dec 2013	11:30	Crescent	41	jay	3	
D:\Pictures\30Dec@12-45-1.jpg	30 Dec 2013	12:45	Crescent	51	**jay**	3	camera triggered nine times
D:\Pictures\01Jan@04-22-1.jpg	1 Jan 2014	04:22	New	44	fox	1	
D:\Pictures\02Jan@11-45-1.jpg	2 Jan 2014	11:45	New	48	dog	3	camera triggered twice
D:\Pictures\03Jan@02-53-1.jpg	3 Jan 2014	02:53	Crescent	46	cat	3	
D:\Pictures\04Jan@05-36-1.jpg	4 Jan 2014	05:36	Crescent	42	cat	1	camera triggered twice
D:\Pictures\04Jan@12-16-1.jpg	4 Jan 2014	12:16	Crescent	44	magpie	3	
D:\Pictures\09Jan@10-52-1.jpg	9 Jan 2014	10:52	Half	48	jay	3	
D:\Pictures\09Jan@18-23-1.jpg	9 Jan 2014	18:23	Half	42	cat	1	
D:\Pictures\11Jan@09-17-1.jpg	11 Jan 2014	09:17	Gibbous	39	magpie	3	
D:\Pictures\11Jan@09-18-1.jpg	11 Jan 2014	09:18	Gibbous	39	magpie	3	
D:\Pictures\11Jan@12-37-1.jpg	11 Jan 2014	12:37	Gibbous	59	jay	1	
D:\Pictures\14Jan@08-29-1.jpg	14 Jan 2014	08:29	Gibbous	32	jay	3	
D:\Pictures\14Jan@11-14-1.jpg	14 Jan 2014	11:14	Gibbous	42	jay	3	camera triggered three times
D:\Pictures\15Jan@08-39-1.jpg	15 Jan 2014	08:39	Full	48	squirrel	3	camera triggered twice
D:\Pictures\08Feb@09-48-1.jpg	8 Feb 2014	09:48	Half	46	magpie	1	
D:\Pictures\08Feb@12-44-1.jpg	8 Feb 2014	12:44	Half	50	magpie	1	
D:\Pictures\12Feb@16-49-1.jpg	12 Feb 2014	16:49	Gibbous	46	magpie	1	
D:\Pictures\15Feb@08-54-1.jpg	15 Feb 2014	08:54	Full	44	jay	2	
D:\Pictures\15Feb@22-09-1.jpg	15 Feb 2014	22:09	Full	41	fox	3	
D:\Pictures\16Feb@08-19-1.jpg	16 Feb 2014	08:19	Gibbous	33	blackbird	1	
D:\Pictures\18Feb@17-30-1.jpg	18 Feb 2014	17:30	Gibbous	50	starling	1	flock; camera triggered twice
D:\Pictures\20Feb@18-15-1.jpg	20 Feb 2014	18:15	Half	42	cat	2	
D:\Pictures\22Feb@05-35-1.jpg	22 Feb 2014	05:35	Half	44	cat	3	camera triggered twice
D:\Pictures\23Feb@17-42-1.jpg	23 Feb 2014	17:42	Half	51	cat	1	camera triggered twice
D:\Pictures\25Feb@18-32-1.jpg	25 Feb 2014	18:32	Crescent	44	cat	3	camera triggered twice
D:\Pictures\26Feb@15-34-1.jpg	26 Feb 2014	15:34	Crescent	59	blackbird	3	camera triggered twice

D:\Pictures\26Feb@16-53-1.jpg	26 Feb 2014	16:53	Crescent	50	blackbird	3	camera triggered twice
D:\Pictures\28Feb@16-49-1.jpg	28 Feb 2014	16:49	New	46	blackbird	3	
D:\Pictures\01Mar@06-38-1.jpg	1 Mar 2014	06:38	New	32	blackbird	3	
D:\Pictures\01Mar@07-58-1.jpg	1 Mar 2014	07:58	New	33	?	1	
D:\Pictures\01Mar@21-22-1.jpg	1 Mar 2014	21:22	New	42	weasel	2	camera triggered twice
D:\Pictures\03Mar@14-14-1.jpg	3 Mar 2014	14:14	Crescent	55	magpie	3	camera triggered twice
D:\Pictures\04Mar@11-52-1.jpg	4 Mar 2014	11:52	Crescent	53	**dog**	3	camera triggered twice
D:\Pictures\04Mar@18-04-1.jpg	4 Mar 2014	18:04	Crescent	46	cat	3	camera triggered three times
D:\Pictures\04Mar@18-05-1.jpg	4 Mar 2014	18:05	Crescent	46	**cat**	3	camera triggered twice, cat #1 following cat #2, cat 1 pounces at end
D:\Pictures\04Apr@17-32-1.jpg	4 Apr-2014	17:32	Crescent	no data	squirrel	3	
D:\Pictures\05Apr@04-24-1.jpg	5 Apr 2014	04:24	Half	no data	cat	3	
D:\Pictures\05Apr@06-58-1.jpg	5 Apr 2014	06:58	Half	no data	squirrel	2	
D:\Pictures\05Apr@14-01-1.jpg	5 Apr 2014	14:01	Half	no data	squirrel	2	
D:\Pictures\05Apr@14-06-1.jpg	5 Apr 2014	14:06	Half	no data	squirrel	3	
D:\Pictures\06Apr@09-49-1.jpg	6 Apr 2014	09:49	Half	no data	squirrel	3	
D:\Pictures\06Apr@11-10-1.jpg	6 Apr 2014	11:10	Half	no data	jay	3	
D:\Pictures\06Apr@13-51-1.jpg	6 Apr 2014	13:51	Half	no data	squirrel	1	
D:\Pictures\07Apr@03-10-1.jpg	7 Apr 2014	03:10	Half	no data	cat	1	
D:\Pictures\08Apr@01-23-1.jpg	8 Apr 2014	01:23	Half	no data	fox	2	triggered twice
D:\Pictures\27Apr@05-49-1.jpg	27 Apr 2014	05:49	Crescent	no data	cat	2	
D:\Pictures\27Apr@06-29-1.jpg	27 Apr 2014	06:29	Crescent	no data	cat	3	
D:\Pictures\28Apr@05-46-1.jpg	28 Apr 2014	05:46	Crescent	no data	cat	1	
D:\Pictures\28Apr@14-08-1.jpg	28 Apr 2014	14:08	Crescent	no data	squirrel	3	
D:\Pictures\29Apr@01-29-1.jpg	29 Apr	01:29	New	no data	cat	2	triggered four times

	2014						
D:\Pictures\30Apr@00-46-1.jpg	30 Apr 2014	00:46	Crescent	no data	cat	3	triggered twice
D:\Pictures\30Apr@04-29-1.jpg	30 Apr 2014	04:29	Crescent	no data	cat	3	
D:\Pictures\30Apr@14-05-1.jpg	30 Apr 2014	14:05	Crescent	no data	squirrel	3	
D:\Pictures\30Apr@21-39-1.jpg	30 Apr 2014	21:39	Crescent	no data	hedgehog	1	
D:\Pictures\01May@00-32-1.jpg	1 May 2014	00:32	Crescent	no data	**hedgehog**	**2**	
D:\Pictures\01May@15-24-1.jpg	1 May 2014	15:24	Crescent	no data	blackbird	3	
D:\Pictures\02May@14-06-1.jpg	2 May 2014	14:06	Crescent	no data	**squirrel**	**3**	great pictures
D:\Pictures\02May@16-09-1.jpg	2 May 2014	16:09	Crescent	no data	squirrel	3	
D:\Pictures\04May@09-04-1.jpg	4 May 2014	09:04	Crescent	no data	squirrel	3	triggered twice
D:\Pictures\05May@05-51-1.jpg	5 May 2014	05:51	Half	no data	cat	3	
D:\Pictures\06May@02-20-1.jpg	6 May 2014	02:20	Half	no data	cat	2	
D:\Pictures\06May@22-27-1.jpg	6 May 2014	22:27	Half	no data	fox	3	
D:\Pictures\07May@03-19-1.jpg	7 May 2014	03:19	Half	no data	fox	2	
D:\Pictures\13May@03-11-1.jpg	13 May 2014	03:11	Full	no data	fox	2	
D:\Pictures\14May@05-11-1.jpg	14 May 2014	05:11	Full	no data	cat	3	
D:\Pictures\14May@09-14-1.jpg	14 May 2014	09:14	Full	no data	squirrel	3	
D:\Pictures\15May@08-59-1.jpg	15 May 2014	08:59	Full	no data	squirrel	3	triggered four times
D:\Pictures\17May@13-31-1.jpg	17 May 2014	13:31	Gibbous	no data	squirrel	3	
D:\Pictures\18May@10-26-1.jpg	18 May 2014	10:26	Gibbous	no data	squirrel	3	triggered five times
D:\Pictures\19May@01-34-1.jpg	19 May 2014	01:34	Gibbous	no data	hedgehog	3	
D:\Pictures\22May@01-53-1.jpg	22 May	01:53	Half	no data	fox	1	

	2014						
D:\Pictures\22May@17-42-1.jpg	22 May 2014	17:42	Half	no data	squirrel	3	triggered twice
D:\Pictures\24May@15-43-1.jpg	24 May 2014	15:43	Half	no data	squirrel	1	very wet week
D:\Pictures\24May@20-17-1.jpg	24 May 2014	20:17	Half	no data	squirrel	1	
D:\Pictures\04Jun@00-01-1.jpg	4 Jun 2014	00:01	Half	no data	fox	1	
D:\Pictures\07Jun@23-58-1.jpg	7 Jun 2014	23:58	Half	no data	fox	3	
D:\Pictures\08Jun@23-20-1.jpg	8 Jun 2014	23:20	Gibbous	no data	fox	3	
D:\Pictures\09Jun@21-17-1.jpg	9 Jun 2014	21:17	Gibbous	no data	cat	1	
D:\Pictures\11Jun@00-58-1.jpg	11 Jun 2014	00:58	Gibbous	no data	fox	2	
D:\Pictures\12Jun@01-12-1.jpg	12 Jun 2014	01:12	Full	no data	fox	3	
D:\Pictures\13Jun@00-08-1.jpg	13 Jun 2014	00:08	Full	no data	fox	3	
D:\Pictures\15Jun@02-06-1.jpg	15 Jun 2014	02:06	Full	no data	fox	3	
D:\Pictures\16Jun@23-37-1.jpg	16 Jun 2014	23:37	Full	no data	fox	3	
D:\Pictures\20Jun@00-07-1.jpg	20 Jun 2014	00:07	Half	no data	fox	3	
D:\Pictures\23Jun@03-01-1.jpg	23 Jun 2014	03:01	Half	no data	?	1	
D:\Pictures\24Jun@23-33-1.jpg	24 Jun 2014	23:33	Crescent	no data	fox	1	
D:\Pictures\26Jun@09-48-1.jpg	26 Jun 2014	09:48	Crescent	no data	squirrel	3	
D:\Pictures\28Jun@00-26-1.jpg	28 Jun 2014	00:26	Crescent	no data	?	1	
D:\Pictures\28Jun@05-08-1.jpg	28 Jun 2014	05:08	Crescent	no data	fox	2	
D:\Pictures\29Jun@10-48-1.jpg	29 Jun 2014	10:48	Crescent	no data	squirrel	3	
D:\Pictures\02Jul@00-36-1.jpg	2 Jul 2014	00:36	Half	no data	fox	3	
D:\Pictures\06Jul@22-32-1.jpg	6 Jul 2014	22:32	Half	no data	fox	2	big
D:\Pictures\06Jul@23-48-1.jpg	6 Jul 2014	23:48	Half	no data	fox	3	
D:\Pictures\10Jul@02-43-1.jpg	10 Jul 2014	02:43	Gibbous	no data	fox	1	
D:\Pictures\10Jul@03-24-1.jpg	10 Jul 2014	03:24	Gibbous	no data	**fox**	**3**	big

D:\Pictures\19Jul@22-46-1.jpg	19 Jul 2014	22:46	Half	no data	fox	1	
D:\Pictures\20Jul@23-16-1.jpg	20 Jul 2014	23:16	Half	no data	fox	1	triggered twice
D:\Pictures\21Jul@23-23-1.jpg	21 Jul 2014	23:23	Half	no data	fox	1	
D:\Pictures\22Jul@22-24-1.jpg	22 Jul 2014	22:24	Half	no data	fox	1	
D:\Pictures\23Jul@04-40-1.jpg	23 Jul 2014	04:40	Crescent	no data	fox	1	
D:\Pictures\24Jul@14-00-1.jpg	24 Jul-2014	14:00	Crescent	no data	wren	2	
D:\Pictures\24Jul@15-49-1.jpg	24 Jul 2014	15:49	Crescent	no data	**robin**	**2**	
D:\Pictures\25Jul@04-57-1.jpg	25 Jul 2014	04:57	Crescent	no data	**fox**	**2**	camera triggered twice
D:\Pictures\25Jul@09-53-1.jpg	25 Jul 2014	09:53	Crescent	no data	wren	2	
D:\Pictures\11Aug@06-57-1.jpg	11 Aug 2014	06:57	Full	no data	**bank vole**	**2**	daylight
D:\Pictures\11Aug@13-50-1.jpg	11 Aug 2014	13:50	Full	no data	wren	2	
D:\Pictures\12Aug@12-20-1.jpg	12 Aug 2014	12:20	Full	no data	wren	2	
D:\Pictures\12Aug@13-05-1.jpg	12 Aug 2014	13:05	Full	no data	robin	1	
D:\Pictures\13Aug@21-22-1.jpg	13 Aug 2014	21:22	Full	no data	bank vole	1	
D:\Pictures\18Aug@10-14-1.jpg	18 Aug 2014	10:14	Half	no data	**great tit**	**3**	
D:\Pictures\18Aug@11-38-1.jpg	18 Aug 2014	11:38	Half	no data	jay	1	
D:\Pictures\18Aug@13-09-1.jpg	18 Aug 2014	13:09	Half	no data	**wren**	**3**	camera triggered twice
D:\Pictures\18Aug@20-41-1.jpg	18 Aug 2014	20:41	Half	no data	bank vole	1	
D:\Pictures\19Aug@20-49-1.jpg	19 Aug 2014	20:49	Half	no data	squirrel	1	
D:\Pictures\21Aug@01-25-1.jpg	21 Aug 2014	01:25	Half	no data	bank vole	1	
D:\Pictures\21Aug@20-14-1.jpg	21 Aug 2014	20:14	Half	no data	rat	2	
D:\Pictures\21Aug@21-44-1.jpg	21 Aug 2014	21:44	Half	no data	rat	1	
D:\Pictures\22Aug@04-30-1.jpg	22 Aug 2014	04:30	Crescent	no data	wood mouse	2	
D:\Pictures\31Aug@22-03-1.jpg	*31 Aug 2014*	*15:33*	*Half*	no data	squirrel	3	
D:\Pictures\31Aug@23-09-1.jpg	*31 Aug 2014*	*16:39*	*Half*	no data	squirrel	3	
D:\Pictures\03Sep@03-47-1.jpg	*3 Sep 2014*	*21:17*	*Half*	no data	moorhen	1	
D:\Pictures\03Sep@03-57-1.jpg	*3 Sep 2014*	*21:27*	*Half*	no data	moorhen	1	

D:\Pictures\05Sep@02-13-1.jpg	*5 Sep 2014*	*19:43*	*Gibbous*	no data	blackbird	2	
D:\Pictures\11Sep@03-05-1.jpg	*11 Sep 2014*	*20:35*	*Full*	no data	blackbird	2	camera triggered twice
D:\Pictures\12Sep@00-36-1.jpg	*12 Sep 2014*	*18:06*	*Full*	no data	squirrel	3	
D:\Pictures\17Sep@01-22-1.jpg	*17 Sep 2014*	*18:52*	*Half*	no data	squirrel	3	camera triggered twice
D:\Pictures\17Sep@09-44-1.jpg	*17 Sep 2014*	*03:14*	*Half*	no data	wood mouse	1	
D:\Pictures\21Sep@17-24-1.jpg	*21 Sep 2014*	*10:54*	*Crescent*	no data	squirrel	3	
D:\Pictures\21Sep@23-18-1.jpg	*21 Sep 2014*	*16:48*	*Crescent*	no data	squirrel	3	
D:\Pictures\21Sep@23-22-1.jpg	*21 Sep 2014*	*16:52*	*Crescent*	no data	squirrel	3	
D:\Pictures\24Sep@23-39-1.jpg	*24 Sep 2014*	*17:09*	*New*	no data	squirrel	3	
D:\Pictures\26Sep@10-27-1.jpg	*26 Sep 2014*	*03:57*	*Crescent*	no data	wood mouse	1	
D:\Pictures\26Sep@23-18-1.jpg	*26 Sep 2014*	*16:48*	*Crescent*	no data	squirrel	3	
D:\Pictures\11Oct@01-38-1.jpg	*11 Oct 2014*	*01:38*	*Full*	no data	fox	3	
D:\Pictures\11Oct@04-03-1.jpg	11 Oct 2014	04:03	Full	no data	fox	3	
D:\Pictures\12Oct@10-48-1.jpg	12 Oct 2014	10:48	Gibbous	no data	**long-tailed tit**	**3**	
D:\Pictures\13Oct@12-19-1.jpg	13 Oct 2014	12:19	Gibbous	no data	wren		
D:\Pictures\13Oct@17-08-1.jpg	13 Oct 2014	17:08	Gibbous	no data	blackbird	3	
D:\Pictures\21Oct@06-35-1.jpg	21 Oct 2014	06:35	Crescent	no data	fox	1	
D:\Pictures\21Oct@07-46-1.jpg	21 Oct 2014	07:46	Crescent	no data	**long-tailed tit**	**2**	water rises into photograph area
D:\Pictures\21Oct@10-27-1.jpg	21 Oct 2014	10:27	Crescent	no data	**wren**	**2**	
D:\Pictures\21Oct@13-34-1.jpg	21 Oct 2014	13:34	Crescent	no data	wren	1	
D:\Pictures\21Oct@15-23-1.jpg	21 Oct 2014	15:23	Crescent	no data	squirrel	3	
D:\Pictures\21Oct@18-55-1.jpg	21 Oct 2014	18:55	Crescent	no data	**weasel**	**2**	water recedes
D:\Pictures\21Oct@23-40-1.jpg	21 Oct 2014	23:40	Crescent	no data	wood mouse	2	camera triggered twice
D:\Pictures\21Oct@23-50-1.jpg	21 Oct 2014	23:50	Crescent	no data	wood mouse	1	
D:\Pictures\22Oct@05-37-1.jpg	22 Oct 2014	05:37	Crescent	no data	rat	1	
D:\Pictures\22Oct@12-46-1.jpg	22 Oct 2014	12:46	Crescent	no data	blackbird	3	

D:\Pictures\22Oct@12-55-1.jpg	22 Oct 2014	12:55	Crescent	no data	**squirrel**	**3**	camera triggered four times
D:\Pictures\22Oct@15-32-1.jpg	22 Oct 2014	15:32	Crescent	no data	squirrel	3	
D:\Pictures\22Oct@17-04-1.jpg	22 Oct 2014	17:04	Crescent	no data	squirrel	3	
D:\Pictures\22Oct@19-24-1.jpg	22 Oct 2014	19:24	Crescent	no data	wood mouse	2	camera triggered three times
D:\Pictures\22Oct@19-46-1.jpg	22 Oct 2014	19:46	Crescent	no data	wood mouse	1	camera triggered twice
D:\Pictures\23Oct@00-01-1.jpg	23 Oct 2014	00:01	Crescent	no data	rat	1	
D:\Pictures\23Oct@01-36-1.jpg	23 Oct 2014	01:36	Crescent	no data	rat	2	
D:\Pictures\23Oct@02-29-1.jpg	23 Oct 2014	02:29	Crescent	no data	wood mouse	2	
D:\Pictures\23Oct@04-42-1.jpg	23 Oct 2014	04:42	Crescent	no data	wood mouse	1	
D:\Pictures\23Oct@11-44-1.jpg	23 Oct 2014	11:44	Crescent	no data	**blackbird**	**3**	camera triggered three times
D:\Pictures\24Oct@06-57-1.jpg	24 Oct 2014	06:57	New	no data	rat	1	
D:\Pictures\24Oct@19-45-1.jpg	24 Oct 2014	19:45	New	no data	**wood mouse**	**3**	swings down
D:\Pictures\25Oct@07-14-1.jpg	25 Oct 2014	07:14	Crescent	no data	rat	1	
D:\Pictures\25Oct@19-43-1.jpg	25 Oct 2014	19:43	Crescent	no data	wood mouse	1	camera triggered three times
D:\Pictures\25Oct@21-37-1.jpg	25 Oct 2014	21:37	Crescent	no data	wood mouse	2	
D:\Pictures\25Oct@21-44-1.jpg	25 Oct 2014	21:44	Crescent	no data	wood mouse	3	camera triggered twice
D:\Pictures\25Oct@22-24-1.jpg	25 Oct 2014	22:24	Crescent	no data	wood mouse	1	
D:\Pictures\26Oct@11-50-1.jpg	26 Oct 2014	11:50	Crescent	no data	**moorhen**	**3**	
D:\Pictures\26Oct@12-19-1.jpg	26 Oct 2014	12:19	Crescent	no data	squirrel	3	
D:\Pictures\26Oct@17-26-1.jpg	26 Oct 2014	17:26	Crescent	no data	blackbird	2	camera triggered twice
D:\Pictures\26Oct@19-09-1.jpg	26 Oct 2014	19:09	Crescent	no data	wood mouse	1	camera triggered five times
D:\Pictures\26Oct@19-25-1.jpg	26 Oct 2014	19:25	Crescent	no data	wood mouse	1	

D:\Pictures\26Oct@20-20-1.jpg	26 Oct 2014	20:20	Crescent	no data	wood mouse	3	
D:\Pictures\26Oct@20-49-1.jpg	26 Oct 2014	20:49	Crescent	no data	wood mouse	3	camera triggered twice
D:\Pictures\26Oct@21-40-1.jpg	26 Oct 2014	21:40	Crescent	no data	wood mouse	2	camera triggered twice
D:\Pictures\26Oct@21-49-1.jpg	26 Oct 2014	21:49	Crescent	no data	wood mouse	1	
D:\Pictures\27Oct@00-15-1.jpg	27 Oct 2014	00:15	Crescent	no data	wood mouse	1	
D:\Pictures\27Oct@01-23-1.jpg	27 Oct 2014	01:23	Crescent	no data	wood mouse	2	camera triggered three times
D:\Pictures\27Oct@02-27-1.jpg	27 Oct 2014	02:27	Crescent	no data	**rat**	**3**	
D:\Pictures\27Oct@06-20-1.jpg	27 Oct 2014	06:20	Crescent	no data	wood mouse	3	camera triggered twice
D:\Pictures\27Oct@06-37-1.jpg	27 Oct 2014	06:37	Crescent	no data	rat	1	
D:\Pictures\27Oct@06-46-1.jpg	27 Oct 2014	06:46	Crescent	no data	wood mouse	2	camera triggered twice
D:\Pictures\27Oct@06-58-1.jpg	27 Oct 2014	06:58	Crescent	no data	rat	2	
D:\Pictures\27Oct@09-03-1.jpg	27 Oct 2014	09:03	Crescent	no data	squirrel	2	
D:\Pictures\27Oct@16-23-1.jpg	27 Oct 2014	16:23	Crescent	no data	squirrel	3	
D:\Pictures\27Oct@18-50-1.jpg	27 Oct 2014	18:50	Crescent	no data	wood mouse	1	
D:\Pictures\27Oct@18-58-1.jpg	27 Oct 2014	18:58	Crescent	no data	wood mouse	3	camera triggered twice
D:\Pictures\27Oct@23-44-1.jpg	27 Oct 2014	23:44	Crescent	no data	wood mouse	1	camera triggered twice
D:\Pictures\28Oct@00-56-1.jpg	28 Oct 2014	00:56	Crescent	no data	wood mouse	3	camera triggered three times
D:\Pictures\28Oct@02-18-1.jpg	28 Oct 2014	02:18	Crescent	no data	wood mouse	2	camera triggered twice
D:\Pictures\28Oct@04-11-1.jpg	28 Oct 2014	04:11	Crescent	no data	bank vole	1	
D:\Pictures\28Oct@04-48-1.jpg	28 Oct 2014	04:48	Crescent	no data	fox	1	
D:\Pictures\28Oct@11-15-1.jpg	28 Oct 2014	11:15	Crescent	no data	squirrel	3	

D:\Pictures\28Oct@17-50-1.jpg	28 Oct 2014	17:50	Crescent	no data	squirrel	1	
D:\Pictures\28Oct@18-23-1.jpg	28 Oct 2014	18:23	Crescent	no data	**wood mouse**	**3**	camera triggered twice; swings down bank
D:\Pictures\28Oct@18-47-1.jpg	28 Oct 2014	18:47	Crescent	no data	**wood mouse**	**3**	
D:\Pictures\28Oct@19-01-1.jpg	28 Oct 2014	19:01	Crescent	no data	wood mouse	1	camera triggered twice
D:\Pictures\28Oct@19-19-1.jpg	28 Oct 2014	19:19	Crescent	no data	wood mouse	1	
D:\Pictures\28Oct@20-36-1.jpg	28 Oct 2014	20:36	Crescent	no data	wood mouse	1	
D:\Pictures\28Oct@21-41-1.jpg	28 Oct 2014	21:41	Crescent	no data	wood mouse	1	
D:\Pictures\29Oct@01-55-1.jpg	29 Oct 2014	01:55	Crescent	no data	wood mouse	1	camera triggered twice
D:\Pictures\29Oct@04-45-1.jpg	29 Oct 2014	04:45	Crescent	no data	wood mouse	1	camera triggered twice
D:\Pictures\02Nov@16-45-1.jpg	2 Nov 2014	16:45	Half	no data	**kingfisher**	**3**	
D:\Pictures\04Nov@14-31-1.jpg	4 Nov 2014	14:31	Gibbous	no data	squirrel	3	
D:\Pictures\05Nov@10-18-1.jpg	5 Nov 2014	10:18	Gibbous	no data	squirrel	3	
D:\Pictures\05Nov@13-54-1.jpg	5 Nov 2014	13:54	Gibbous	no data	wren	2	
D:\Pictures\05Nov@16-45-1.jpg	5 Nov 2014	16:45	Gibbous	no data	squirrel	3	
D:\Pictures\09Nov@16-09-1.jpg	9 Nov 2014	16:09	Full	no data	**magpie**	**3**	
D:\Pictures\09Nov@17-18-1.jpg	9 Nov 2014	17:18	Full	no data	squirrel	3	