



BAMFF ESTATE ECOLOGY REPORT

WILD INTRIGUE EXPEDITION JUNE 2017

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for

Paul and Louise Ramsay of Bamff Estate



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Image: Eurasian Beaver (Castor fiber) observed on site at dawn.

1 EXPEDITION SUMMARY

Between the dates of 15th and 18th June 2017, Wild Intrigue (Heather Devey, Cain Scrimgeour and intern Rebecca Gibson), visited the Bamff Estate to begin formally recording the biodiversity on site; identifying the species present and noting the habitat restoration caused by resident Eurasian Beavers (*Castor fiber*). These surveys will continue and develop with the delivery of Wild Intrigue Expeditions on site, and will aim to identify the inter-dependence of species in this altering habitat. During Expeditions, attendees will also receive training in areas such as moth trapping & ID, Longworth trapping, camera trap setting & installation, bat detecting, ethical wildlife photography and more.

This short report will introduce the reader to the methods used in recording species on site, and will list the species identified during this initial site exploration.



Image: Red Squirrel Scurius vulgaris on site

2. SURVEY EQUIPMENT & METHODS

2.1 SURVEY EQUIPMENT

MOTH TRAPS

Heath Moth trap with a 15 watt actinic bulb. Situated in the garden of the Old Brewhouse.

Bulb is photosensitive and comes on at dusk/ switches off at dawn. Run off a battery and so can be placed anywhere on site.

Skinner trap with a 125 watt bulb. Situated by the wood chip barn opposite the piled logs.

Bulb and battery run from mains so requires a power outlet and extension cord to run.

CAMERA TRAPS

3 x Bushnell LiveView trail cameras

All situated around the 'Hideaway' pool.

1. Close to the fallen log 'bridge' by the abandoned cottage, presence of worn away vegetation by stream identified this as a possible entry/ emergence point for Beavers or Otters.
2. On northern side of pool; attached to fence post facing direction of worn vegetation along fence-line.
3. On northern side of pool attached to fence post facing pool and along strong route of Beaver traffic under fence.

LONGWORTH TRAPS

Official Longworth trap containing a Shrew hole; a licence from Scottish Natural Heritage (SNH) is required to intentionally trap Shrews, due to welfare issues associated with their high metabolic rates. Bushnell LiveView trail cameras also have close focus adapter lenses, and so these can also be used to survey small mammals when baited.

BAT DETECTORS

Magenta 4 model: superheterodyne detectors such as Magenta's are appropriate and economical to introduce others to bat activity surveys, and are therefore used in Wild Intrigue Expeditions. Detectors such as the Anabat and the required software would be recommended for use on the Bamff Estate to better understand the Bats present on site.

POND DIPPING EQUIPMENT

2 x nets, white trays, separating pots and ID guides.

OPTICS

Wild Intrigue uses Kite Optics, including Toucan Binoculars 8x42s, as they offer a wide field of view and a sharp image, whilst remaining very economical. A scope adapter as used in along with i-Phones to obtain high quality phone-scoped footage of Beaver behaviour at Bamff.

CAMERA EQUIPMENT

Sony A7S

Sony FS7

Canon 7D Mark 2

Canon 1100D

GoPro Hero Session 5

GoPro Hero4

i-Phone 7+

i-Phone 6S

Footage edited on iMac with Adobe Premier Pro, Lightroom and Photoshop.

2.2 RECOMMENDED EQUIPMENT

The Expedition highlighted the need for the following equipment for future Wild Intrigue Expeditions on to the Bamff Estate:

- Compact microscope; particularly for pond dipping
- Anabat detector and software
- Additional camera traps and python locks/ poles
- Mammal box (to camera trap small mammals)

2.3 SURVEY EQUIPMENT INSTALLATION LOCATIONS

Table 1: Details the locations of each camera trap installed during the visit, the footage gathered, and relative notes.

Location	Footage	Notes
Point of entry into stream near abandoned cottage	Beaver entering and emerging from water. Beaver displaying tail-slap behaviour – potentially at camera trap in peripheral vision.	At least two individuals captured; one considerably larger than other(s) so likely a female.
Fence post facing fence-line	Nothing	This route is used by Beavers as we observed an individual in the field opposite along the fence line prior to installing this camera trap, however it may not be a regular route.
Fence post facing water on northern side of pool	Beaver: Entering and emerging from water along trail.	This location is likely used by many individuals to enter the field opposite the pool, and may be used by other species as well.

3 SPECIES OBSERVED

Please refer to Appendix 1 at the end of this report which details the meaning of BTO Codes featured in the Avian list below.

AVIAN

Barn Owl <i>Tyto alba</i>	FF
Blackbird <i>Turdus merula</i>	FF
Blackcap <i>Sylvia atricapilla</i>	S
Blue Tit <i>Parus caeruleus</i>	NY
Bullfinch <i>Pyrrhula pyrrhula</i>	H
Carrion Crow <i>Corvus corone</i>	P
Common Buzzard <i>Buteo buteo</i>	FF
Chaffinch <i>Fringilla coelebs</i>	D
Chiffchaff <i>Phylloscopus collybita</i>	S
Coal Tit <i>Periparus ater</i>	H
Cuckoo <i>Cuculus canorus</i>	S
Curlew <i>Numenius arquata</i>	F
Dunnock <i>Prunella modularis</i>	H
Garden Warbler <i>Sylvia borin</i>	S
Great Spotted Woodpecker <i>Dendrocopos major</i>	H
Great Tit <i>Parus major</i>	NY
Grey Wagtail <i>Motacilla cinerea</i>	NY
Goldfinch <i>Carduelis carduelis</i>	H
Grey Heron <i>Ardea cinerea</i>	U
Herring Gull <i>Larus argentatus</i>	F
House Martin <i>Delichon urbicum</i>	NY
House Sparrow <i>Passer domesticus</i>	N
Jackdaw <i>Corvus monedula</i>	P
Little Grebe <i>Tachybaptus ruficollis</i>	P

Mallard <i>Ana platyrhynchos</i>	NY
Moorhen <i>Gallinula chloropus</i>	P
Mute Swan <i>Cygnus olor</i>	H
Peregrine <i>Falco peregrinus</i>	F (FF)
Pied Wagtail <i>Motacilla yarrelli</i>	NY
Robin <i>Erithacus rubecula</i>	NY
Rook <i>Corvus frugilegus</i>	F
Siskin <i>Carduelis spinus</i>	P
Skylark <i>Alauda arvensis</i>	S
Song thrush <i>Turdus philomelos</i>	FF
Spotted Flycatcher <i>Muscicapa striata</i>	P
Swallow <i>Hirundo rustica</i>	NY
Swift <i>Apus apus</i>	T
Tawny Owl <i>Strix aluco</i>	NY
Woodpigeon <i>Columba palumbus</i>	H
Whitethroat <i>Sylvia communis</i>	S
Willow Warbler <i>Phylloscopus trochilus</i>	S
Wren <i>Troglodytes troglodytes</i>	A

MAMMALIAN

Bank Vole <i>Myodes glareolus</i>	Caught in Longworth trap on evening of 17 th June, identified next morning. Trap situated by log pile.
Common Pipistrelle <i>Pipistrellus pipistrellus</i>	Over most southerly pond.
Eurasian Beaver <i>Castor fiber</i>	Resident
Rabbit <i>Oryctolagus cuniculus</i>	Resident
Red Squirrel <i>Sciurus vulgaris</i>	Resident
Roe Deer <i>Capreolus capreolus</i>	x 2 in region of southerly pond
Soprano pipistrelle <i>Pipistrellus pygmaeus</i>	Over most southerly pond.

AMPHIBIAN

Common Frog *Rana temporaria*

Common Toad *Bufo bufo*

LEPIDOPTERA

Butterflies

Green-veined White *Pieris napi*

Red Admiral *Venessa atalanta*

Moths

Beautiful Golden Y *Autographa pulchrina*

Brimstone *Opisthocraptis luteolata*

Chimney Sweeper *Odezia atrata*

Clouded Bordered Brindle *Apamea crenata*

Clouded Silver *Lomographa temerata*

Common Pug *Eupithecia vulgate*

Common Wave *Cabera exanthemata*

Double Square Spot *Xestia Triangulum*

Flame Carpet *Xanthorhoe designata*

Flame Shoulder *Ochropleura plecta*

Fraye's Pug *Eupithecia intricata*

Goldspot *Plusia festucae*

Green Arches *Anaplectoides prasina*

Green Carpet *Colostygia pectinataria*

Large Yellow Underwing *Noctua pronuba*

Latticed Heath *Chiasmia clathrate*

Map Winged Swift *Pharmacis fusconebulosa*

Middle Barred Minor *Oligia fasciuncula*

Mottled Pug *Eupithecia exiguata*

Northern Eggar *Lasiocampa quercus*
 Pale Shouldered Brocade *Lacanobia thalassina*
 Peach Blossom *Thyatira batis*
 Phoenix *Eulithis prunata*
 Poplar Hawkmoth *Laothoe populi*
 Purple Clay *Diarsia brunnea*
 Red-necked Footman *Atolmis rubricollis*
 Scalloped Hazel *Odontopera bidentate*
 Silver Ground Carpet *Xanthorhoe montanata*
 Small Fanfoot *Herminia grisealis*
 Small Magpie *Anania hortulata*
 Small Yellow Wave *Hydrelia flammeolaria*
 Snout *Hypena proboscidalis*
 Spectacle *Abrostola tripartite*
 Swallow Prominent *Pheosia tremula*
 White Ermine *Spilosoma lubricipeda*
 Yellow Shell *Camptogramma bilineata*

See Appendix 2 for selected Moth photos

POND INVERTEBRATES

The species below were identified during a short pond study; we are certain that the freshwater contains many more species than listed here.

Alderfly larvae
 Backswimmer
 Biting Midge larvae
 Bloodworm
 Caddisfly larvae
 Damselfly nymph(s)
 Lesser Water Boatman
 Mayfly nymph
 Water Beetle



4 BIOLOGICAL DATA SUBMISSION

Wild Intrigue submits all biological data recorded during Expeditions to the necessary record centres/ online platforms. Records of sensitive species such as Badgers are only submitted with the approval and permission of the land/site- owner.

Accurate identification, recording and submission of biological data enables various conservation bodies to better understand the ecology and population dynamics of species in the UK; therefore contributing to local, national and occasionally global conservation of particular species.

Records of the species listed in this report will be submitted to the suitable record centres as detailed below.

WILDLIFE GROUP	RECORDING PROJECT/ FORM	MANAGED BY...	WEB LINK
All Taxa	Biological Recording	North East Scotland Biological Records Centre (NESBReC)	http://www.nesbrec.org.uk/
Amphibians & Reptiles	Record Pool	ARC & ARG UK	http://www.recordpool.org.uk
Mammals	The Mammal Society Species Recording Form	The Mammal Society	http://www.brc.ac.uk/mammals/recording.php
Bats	National Bat Monitoring Programme	Bat Conservation Trust	http://www.bigbatmap.org/
Beavers	Any interesting records regarding	Scottish Wild Beaver Group	http://scottishwildbeavers.org.uk/

	Beavers at Bamff Estate		
Birds	BirdTrack	British Trust for Ornithology (BTO)	http://app.bto.org/birdtrack/main/data-home.jsp
	Breeding Bird Survey	British Trust for Ornithology (BTO)	https://www.bto.org/volunteer-surveys/bbs
	Wetland Bird Survey		https://www.bto.org/volunteer-surveys/webs
Invertebrates			
Butterflies	UK Butterfly Monitoring Scheme	Butterfly Conservation	www.butterfly-conservation.org
Moths	National Moth Recording Scheme (Macro Moths only)	Butterfly Conservation	www.butterfly-conservation.org
	County Moth Recorder	Position currently vacant	Will be identified as soon as position is filled
Flora	County Recorder: Ian Bonner	Botanical Society of Britain & Ireland (BSBI)	BSBI@caetrefor.co.uk

For information on other recording platforms we will use, visit <https://www.brc.ac.uk/recording-schemes>.

5 APPENDIX

APPENDIX 1: BTO BREEDING BIRD CODES

The codes below have been created by the British Trust for Ornithology (BTO) and are the standard system for recording the breeding status of birds.

Non-breeding

F Flying over

M Species observed but suspected to be still on Migration

U Species observed but suspected to be sUmmering non-breeder

Possible breeder

H Species observed in breeding season in suitable nesting Habitat

S Singing male present (or breeding calls heard) in breeding season in suitable breeding habitat

Probable breeding

P Pair observed in suitable nesting habitat in breeding season

T Permanent Territory presumed through registration of territorial behaviour (song etc) on at least two different days a week or more apart at the same place or many individuals on one day

D Courtship and Display (judged to be in or near potential breeding habitat; be cautious with wildfowl)

N Visiting probable Nest site

A Agitated behaviour or anxiety calls from adults, suggesting probable presence of nest or young nearby

I Brood patch on adult examined in the hand, suggesting Incubation

B Nest Building or excavating nest-hole

Confirmed breeding

DD Distraction-Display or injury feigning

UN Used Nest or eggshells found (occupied or laid within period of survey)

FL Recently Fledged young (nidicolous species) or downy young (nidifugous species). Careful consideration should be given to the likely provenance of any fledged juvenile capable of significant geographical movement. Evidence of dependency on adults (e.g. feeding) is helpful. Be cautious, even if the record comes from suitable habitat.

ON Adults entering or leaving nest-site in circumstances indicating Occupied Nest (including high nests or nest holes, the contents of which can not be seen) or adults seen incubating

FF Adult carrying Faecal sac or Food for young

NE Nest containing Eggs

NY Nest with Young seen or heard

APPENDIX 2: SELECTED MOTH PHOTOGRAPHS



Large Yellow Underwing *Noctua pronuba*



Beautiful Golden Y *Autographa pulchrina*



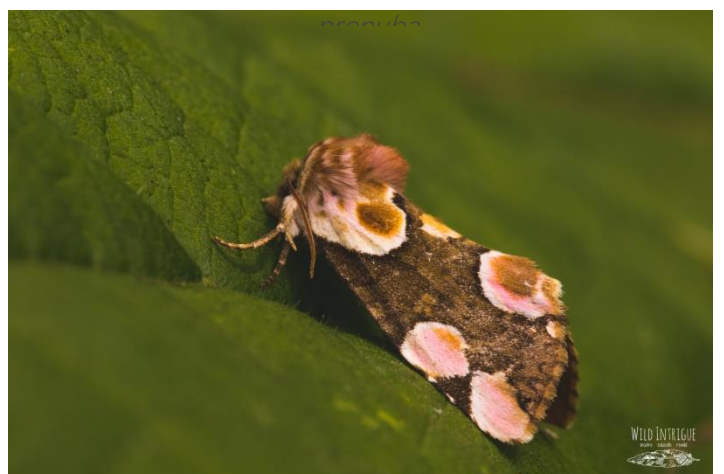
Poplar Hawkmoth *Laothoe populi*



Swallow Prominent *Pheosia tremula*



Green Arches *Anaplectoides prasina*



Peach Blossom *Thyatira batis*