Recording your observations in your *Raptor Patch*

This guide takes you through how you should record your observations both in the field and once you get home. In order for you to get to grips with what the raptors are doing in your *Raptor Patch* and for the Scottish Raptor Monitoring Scheme (SRMS) to ultimately be able to make use of the data you have collected we would encourage you to follow the best practice guidance below.

Equipment that you need

The only equipment that is essential to be able to take part in *Raptor Patch* is a pair of binoculars, something to write with and copies of maps/aerials and recording forms to write on. You may however find the following useful if you have them – a telescope (for more intimate views of raptors using your patch), a camera (for capturing images of raptor behaviours or field signs that you might want to confirm later) and a GPS device which would allow you to record any nest locations to a finer resolution.

Timing of fieldwork

Please refer to the species-specific information for guidance on scheduling your visits throughout the breeding season.

Please note that you should always avoid disturbing birds in extreme weather conditions (i.e. strong winds, heavy rain or snow, thick fog) as they are more likely to desert the breeding attempt than in more favourable weather conditions. Weather conditions are also likely to affect your observations, both what you are able to see and hear. Many diurnal species are more active on fine, slightly breezy days and nocturnal species are more likely to call on clear, dark, dry nights. We therefore strongly recommend that you carry out your visits to your Raptor Patch in favourable weather conditions, to increase your chance of detecting raptor activity, to minimise disturbance to birds when they are at their most vulnerable and also for your own health and safety.

How to record your *Raptor Patch* observations in the field

Maps

Every time you make a visit to your *Raptor Patch* you should take a clean map/aerial image with you on which to record any raptor activity (behaviours and calls) and field signs that you observe. We would recommend that you take several copies of your map/aerial image with you in case there is lots of raptor activity and you end up with more information than can be captured readily on a single image.

You should annotate your map/aerial image with the following information:

- The date that you are making the observations and the start and end times of visits.
- The vantage point (VP) from which you make any observations. Number sequentially (VP1, VP2….) if you have multiple vantage points, or the areas you have searched on foot.
- All raptor behaviour, calls and field signs that you observe or hear.

If your *Raptor Patch* is somewhere that you pass through regularly during your daily life, it is well worth collecting up casual sightings outwith your dedicated *Raptor Patch* visits and annotating these on a map/aerial image in a similar way. These more casual observations will all add to your understanding of what is going on in your *Raptor Patch*, and might well help unlock a territory that you had not previously detected during a dedicated *Raptor Patch* visit.

You can record raptor activity on your field maps in any way which is meaningful to you. You may find the BTO two-letter codes useful for abbreviating your notes. These include: Common Buzzard (BZ), Kestrel (K.), Raven (RN) and Sparrowhawk (SH). You may also find it useful to use some of the BTO breeding status codes, but this is entirely up to you.

We would recommend that you consider using waterproof coloured pens to annotate your maps as these are best in terms of clarity and preserving the information until you get home.

A good example of a series of completed visit maps can be seen below.

Recording forms

Please use the *Raptor Patch Survey Effort Recording Form* to capture your survey effort information over the course of your study. Please also use this same form to capture the weather conditions on each visit. Recording your visit information in this way is extremely useful as it gives an indication of how much effort you have put in each year which can help us to interpret your findings. Knowing how long you have been observing a particular area and the weather conditions at time of monitoring can be useful in helping us to interpret nil returns (i.e. when you report that you haven't seen any raptor activity or field signs during a particular visit).

Please use the *Raptor Patch Territory Recording Form* to capture the detailed information about each occupied territory that you locate within your *Raptor Patch*.

A good example of a series of completed recording forms can be seen below.

How to record your *Raptor Patch* observations once you have got home

The SRMS is in the process of developing a new online data entry system. From the 2017 breeding season you will be able to record all of your data from each visit into the system from where it can then be usefully analysed and used by the SRMS. Until such time as this new online system is ready we would ask you to carefully store all your paperwork in a safe place until the end of the 2016 field season. We would recommend that you take sensible measures to avoid losing the data, such as not taking out previous visits maps on subsequent visits and potentially making copies, photographs or scans of your maps/aerials/recording forms. At the end of the season we would like you to post your paperwork to us for scanning. Once they have been scanned we will return the originals to you.

If during any of your visits you have recorded any other non-raptor sightings we would encourage you to report these via BirdTrack - http://www.bto.org/volunteer-surveys/birdtrack/about.

Raptor Patch survey effort recording form

Observer name

Focal species (one or more)

Date	**Start time**	**End time**	**Activities undertaken** (e.g. carried out 30 min VP survey from Mount Hill then walked throughout Foxburn Wood looking for raptor signs)	**Vantage point (VP) number** (if applicable)	**Grid ref of VP** (if applicable)	**Weather (1-3)**			
						Cloud 1: 0 - 33% 2: 33 - 66% 3: 66 - 100%	**Rain** 1: None 2: Drizzle 3: Showers	**Wind** 1: Calm 2: Light 3: Breezy	**Visibility** 1: Good 2: Moderate 3: Poor

Raptor Patch territory recording form

Instructions: Please complete a separate form for each territory within your *Raptor Patch*.

Observer:										
Species:										
Territory details:	Territory name:									
	1-km grid ref:									
	e.g.	N	O	1	2	3	4			
This year's nest located?	Yes:		No:							
Date nest located:										
Nest location:	100 m grid ref:									
	e.g.	N	O	1	2	5	3	4	6	
Nest type:										
Nest site:										
Outcome:	Failed:		Successful:		Unknown:					
Evidence for failure outcome:										
Cause of failure, if known:										
Evidence for cause of failure:										

Please provide your name.

Please name the species, to whom this territory record pertains.

Please give the territory a name. We would suggest that you name it for something that is clearly marked on the OS map, perhaps the name of a settlement or area of woodland.

Give the 1-km square containing nest site, or if not known or no nesting attempt, give the square best describing area used by birds.

Please tick "Yes or "No" as appropriate.

Please provide the date on which this year's nest was found.

Give the nearest grid reference to the nest location.

Please complete with "New self-built nest", "Old self-built nest", "Old other species' nest", "Natural cavity", "Man-made cavity", "Scrape", "Nest box" or another.

Please complete with the location of the nest - if the nest is in a tree or other vegetation provide the name of the species (e.g. larch or heather) if you are able or if on a man-made structure describe the type (e.g. pylon, derelict building or active quarry).

Please tick "Failed", "Successful" or "Unknown" as appropriate.

If you have recorded the outcome as "Failed" please complete with the evidence for this according to what you have seen, either "Observed failure as it happened", "Empty nest", "Nest removed or destroyed", "Dead/deserted young/eggs" or "No breeding activity observed"

If you have recorded the outcome as "Failed" please complete with more detail about the cause, e.g. "Predation (mammal)".

If you have completed the cause of failure please complete with more detail about the evidence that has led you to draw that conclusion, e.g. "Predator signs in or around nest".

Visit details: Please use the table over the page to record information about territory occupancy and nest contents (if you locate an active nest) on each visit to the territory. Not all columns need to be completed on every visit. Please use a separate row for each visit. If you undertake more than nine visits please print off extra recording forms.

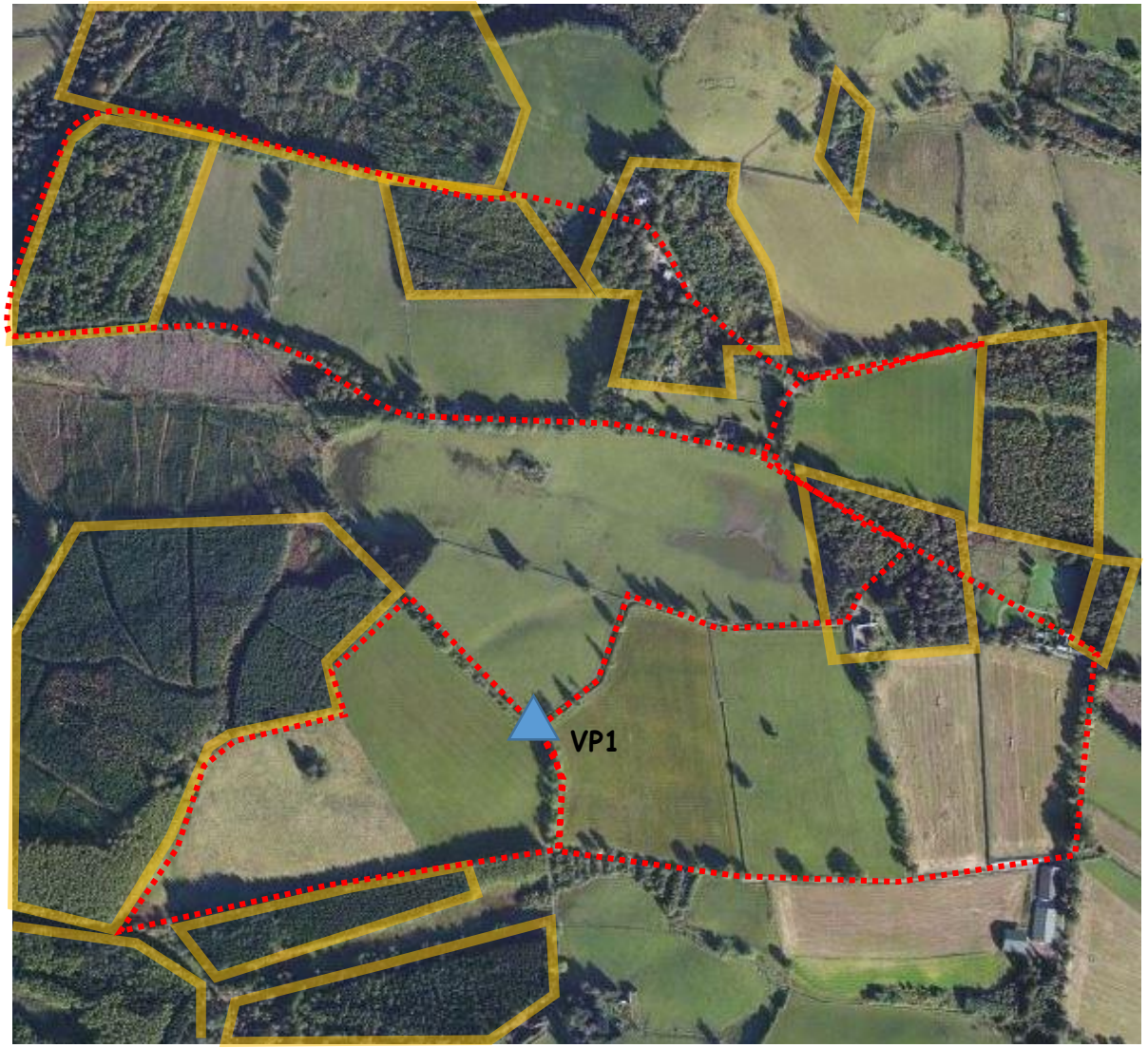
Date	**Territory occupancy**			**Nest contents** Complete with "Unknown", "Yes", "No" or where direct observations of eggs or chicks are possible provide a numerical value either a whole number if you are satisfied that that is a good assessment of the number there (e.g. 2) or a minimum assessment if you are not certain if there are any more present (e.g. 2+). If you complete with "Yes" please give details of evidence (e.g. incubating bird, splash).				**Estimated ages of chicks** Complete with "Unknown" or provide a numerical value.
	Number of birds Complete with "Single", "Pair" or "No birds"	**Field signs** Complete with "Fresh", "Old", "No" or "Not checked"	**Brief summary of raptor activity observed or field signs located**	**Eggs laid**	**Eggs hatched**	**Large young**	**Young fledged**	

Examples of completed maps and recording forms for a single Raptor Patch

- Map 1: Regular route for exploring my *Raptor Patch* on foot and regularly used vantage points.
- Maps 2-5: Breeding season visit maps showing all observed raptor activity with my *Raptor Patch*.
- *Raptor Patch* survey effort recording form.
- *Raptor Patch* territory recording form.
- Map 6: Summary map showing overall coverage of my *Raptor Patch* during breeding season.

N.B. Please note that the example maps and recording forms have been completed electronically. It is not a requirement to produce electronic versions for the SRMS – handwritten maps and recording forms are absolutely fine – just ensure that you write clearly so that you can interpret them when you get home.

Name: John MacDonald



Route to walk around my *Raptor Patch*

Vantage points

Woodland blocks to search for nests and signs

Map 1: My regular route around my *Raptor Patch* and the location where I undertake vantage point watches from.

Name: John MacDonald
Date: 5th November 2014
Start time: 0900
End time: 1200

Map 2: Winter explororation of my *Raptor Patch* to look for nests and any signs of raptor activity

Name: John MacDonald
Date: 14th March 2015
Start time: 1300
End time: 1530

Single BZ sky-dancing

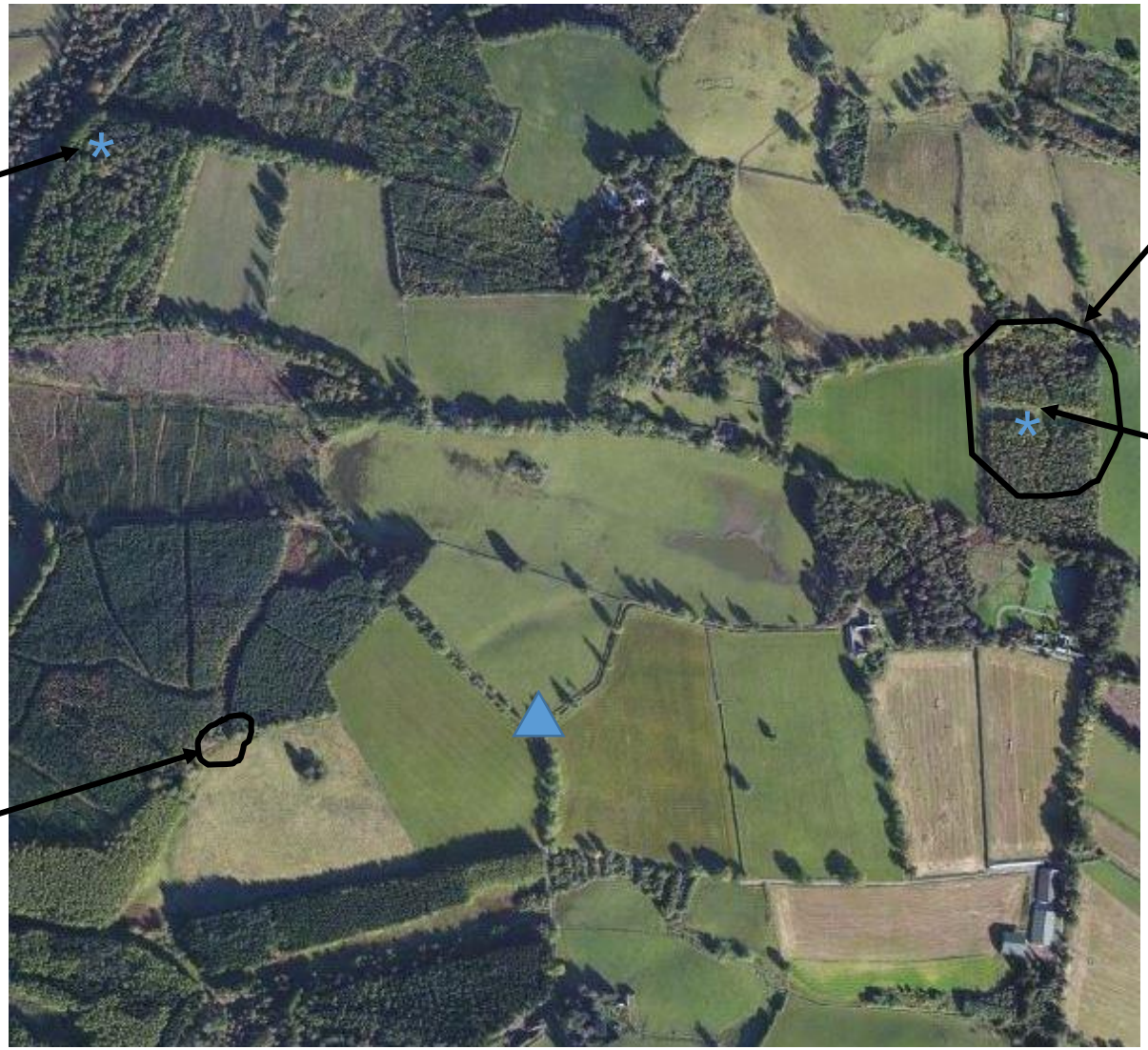
Vantage point
1330-1430

Aggressive encounter between two Buzzards. One Buzzard returned to perch on larch tree

BZ perched on larch tree.

Map 3: First breeding season visit to my *Raptor Patch* to check for occupancy.

Name: John MacDonald
Date: 18th April 2015
Start time: 1100
End time: 1400



Female incubating on nest. Same nest as located during winter! - **Nest 1**

BZ alarm-calling over-head as I walk through wood – nest in here?

BZ carrying nest material into nest - **Nest 2**

Vantage point 1130-1200

Buzzard sky-dancing over wood for ~5 mins then stooped into wood.

Map 4: Second breeding season visit to my *Raptor Patch* to check for active nests.

Name: John MacDonald
Date: 17th May 2015
Start time: 1030
End time: 1300

Map 5: Third breeding season visit to my *Raptor Patch* to check for active nests.

Raptor Patch survey effort recording form

Observer name John MacDonald

Focal species (one or more) Buzzard

Date	**Start time**	**End time**	**Activities undertaken** (e.g. carried out 30 min VP survey from Mount Hill then walked throughout Foxburn Wood looking for raptor signs)	**Vantage point (VP) number** (if applicable)	**Grid ref of VP** (if applicable)	**Weather (1-3)**			
						Cloud 1: 0 - 33% 2: 33 - 66% 3: 66 - 100%	**Rain** 1: None 2: Drizzle 3: Showers	**Wind** 1: Calm 2: Light 3: Breezy	**Visibility** 1: Good 2: Moderate 3: Poor
05/11/2014	09:00	12:00	Spent three hours cold searching deciduous woodlands within patch for old nests.			2	1	2	2
14/03/2015	13:00	15:30	Walked around patch following pre-determined route (See map 1) incorporating a 1 hour vantage point survey from VP1 (13:30-14:30).	VP1	NP2076 2137	1	1	1	1
18/04/2015	11:00	14:00	Walked around patch following pre-determined route (See map 1) incorporating a 30 min vantage point survey from VP1 (11:30-12:00). Also walked through both woodland blocks showing most promising Buzzard activity on March visit.	VP1	NP2076 2137	2	1	2	1
17/05/2015	10:30	13:00	Walked around patch following pre-determined route (See map 1). Visited two nest sites discovered on April visit and visited woodland edge to west of patch where there had been display activity on the April visit to locate a third nest.	VP1	NP2076 2137	1	1	1	1
21/06/2015	11:00	13:00	Visited three nests to check for young.			1	1	2	2
25/07/2015	13:00	15:00	Visited three nests to check for young/fledged young.			1	1	1	1
01/08/2015	10:30	13:00	Visited three nests to check for fledged young.			1	1	1	1

Raptor Patch territory recording form

Instructions: Please complete a separate form for each territory within your *Raptor Patch*.

Observer:	John MacDonald									Please provide your name.
Species:	Buzzard									Please name the species, to whom this territory record pertains.
Territory details:	Territory name:	Foxburn Wood (Nest 1)								Please give the territory a name. We would suggest that you name it for something that is clearly marked on the OS map, perhaps the name of a settlement or area of woodland.
	1-km grid ref:	N	P	2	0	2	2			Give the 1-km square containing nest site, or if not known or no nesting attempt, give the square best describing area used by birds.
	e.g.	N	O	1	2	3	4			
This year's nest located?	Yes:	✓		No:						Please tick "Yes or "No" as appropriate.
Date nest located:	18/04/2015									Please provide the date on which this year's nest was found.
Nest location:	100 m grid ref:	N	P	2	0	1	2	2	2	Give the nearest grid reference to the nest location.
	e.g.	N	O	1	2	5	3	4	6	
Nest type:	Old self-built nest									Please complete with "New self-built nest", "Old self-built nest", "Old other species' nest", "Natural cavity", "Man-made cavity", "Scrape", "Nest box" or another.
Nest site:	Larch									Please complete with the location of the nest - if the nest is in a tree or other vegetation provide the name of the species (e.g. larch or heather) if you are able or if on a man-made structure describe the type (e.g. pylon, derelict building or active quarry).
Outcome:	Failed:		Successful:	✓	Unknown:					Please tick "Failed", "Successful" or "Unknown" as appropriate.
Evidence for failure outcome:	N/A									If you have recorded the outcome as "Failed" please complete with the evidence for this according to what you have seen, either "Observed failure as it happened", "Empty nest", "Nest removed or destroyed", "Dead/deserted young/eggs" or "No breeding activity observed"
Cause of failure, if known:	N/A									If you have recorded the outcome as "Failed" please complete with more detail about the cause, e.g. "Predation (mammal)".
Evidence for cause of failure:	N/A									If you have completed the cause of failure please complete with more detail about the evidence that has led you to draw that conclusion, e.g. "Predator signs in or around nest".

Visit details: Please use the table over the page to record information about territory occupancy and nest contents (if you locate an active nest) on each visit to the territory. Not all columns need to be completed on every visit. Please use a separate row for each visit. If you undertake more than nine visits please print off extra recording forms.

Date	**Territory occupancy**			**Nest contents** Complete with "Unknown", "Yes", "No" or where direct observations of eggs or chicks are possible provide a numerical value either a whole number if you are satisfied that that is a good assessment of the number there (e.g. 2) or a minimum assessment if you are not certain if there are any more present (e.g. 2+). If you complete with "Yes" please give details of evidence (e.g. incubating bird, splash).				**Estimated ages of chicks** Complete with "Unknown" or provide a numerical value.
	Number of birds Complete with "Single", "Pair" or "No birds"	**Field signs** Complete with "Fresh", "Old", "No" or "Not checked"	**Brief summary of raptor activity observed or field signs located**	**Eggs laid**	**Eggs hatched**	**Large young**	**Young fledged**	
14/03/2015	Single		BZ sky-dancing over wood.	N/A	N/A	N/A	N/A	N/A
18/04/2015	Single		Female incubating.	Unknown	No	No	No	N/A
17/05/2015	Pair		Female incubating, Male arrives with food.	Unknown	No	No	No	N/A
21/06/2015	Pair		Adult Buzzards alarming.	Yes	Yes – lots of splash. Heard begging calls from chicks.	No	No	Unknown
25/07/2015	Pair			Yes	Yes	3 - Good views of chicks when food brought in by adult.	No	~ 3 weeks
01/08/2015	Pair			Yes	Yes	3	3	~ 4 weeks

Name: John MacDonald
Start date: 14th March 2014
End date: 1st August 2015

Didn't cover this area very thoroughly – dense conifer plantation.

Map 6: Summary of survey coverage during 2015 breeding season.