

ERBFacility PROOF OF CONCEPT

Considerations to using the Tawny Owl *Strix aluco* vs Common Buzzard *Buteo buteo* as focal species



1. DISTRIBUTION & MIGRATORY STATUS

BEST IF:

- Pan-European covering as many countries as possible
- Resident throughout the distribution range

Possible solutions to the migratory issues:

Use samples from chicks/fledged young/adults of known breeding status

TAWNY OWL

Distribution map



Legend

- Native resident
- Native breeding
- Native non breeding
- Passage
- Season uncertain
- Reintroduced
- Introduced
- Possibly extant
- Possibly extinct
- Extinct
- Origin uncertain

COMMON BUZZARD

Distribution map



Legend

- | | | | | | |
|-----------------|-----------------|---------------------|---------|------------------|--------------|
| Native resident | Native breeding | Native non breeding | Passage | Season uncertain | Reintroduced |
| Introduced | Possibly extant | Possibly extinct | Extinct | Origin uncertain | |

COMMON KESTREL

Distribution map



Legend

- | | | | | | |
|--|--|---|---|--|---|
| ■ Native resident | ■ Native breeding | ■ Native non breeding | ■ Passage | ■ Season uncertain | ■ Reintroduced |
| ■ Introduced | Possibly extant | ■ Possibly extinct | ■ Extinct | ■ Origin uncertain | |

BARN OWL

Distribution map



- Legend
- Native resident
 - Native breeding
 - Native non breeding
 - Passage
 - Season uncertain
 - Reintroduced
 - Introduced
 - Possibly extant
 - Possibly extinct
 - Extinct
 - Origin uncertain

TAWNY OWL

COMMON BUZZARD

Distribution map



- Legend
- Native resident
 - Native breeding
 - Native non breeding
 - Passage
 - Season uncertain
 - Reintroduced
 - Introduced
 - Possibly extant
 - Possibly extinct
 - Extinct
 - Origin uncertain

456 (83%)
100x100km squares

Resident over whole range

Distribution map



- Legend
- Native resident
 - Native breeding
 - Native non breeding
 - Passage
 - Season uncertain
 - Reintroduced
 - Introduced
 - Possibly extant
 - Possibly extinct
 - Extinct
 - Origin uncertain

518 (95%)
100x100km squares

Migratory in N+E

2. POPULATION SIZE AND TREND

	TAWNY OWL	COMMON BUZZARD
EUROPEAN POPULATION SIZE	0.54 – 0.94 million bp	0.8 – 1.4 million bp
TREND	Stable	Stable

3. DIET

	TAWNY OWL	COMMON BUZZARD
Dietary comments (rodenticides)	Generally a rodent specialist but some birds (to S of range and/or bad seasons)	Generalist diet /scavenger (variable proportion of rodents/individual specialisms)
Dietary comments (metals)	Earthworm eater	Scavenger - more likely to ingest Pb shot. Earthworm eater.

4. HABITAT

TAWNY OWL	COMMON BUZZARD
Very broad. Anywhere with trees including urban areas	Very broad. Anywhere with trees

5. BODY SIZE

TAWNY OWL	COMMON BUZZARD
Male: 414 g (310-540) Female: 501 g (415-650)	Male: 756 g (427-1183) Female: 940 g (486-1364)

6. POTENTIAL SOURCES OF SAMPLES

	TAWNY OWL	COMMON BUZZARD
EXISTING SAMPLES IN ESB'S		
CARCASSES (ROAD-KILLED)	+++	+
CARCASSES (POWERLINES)	+	++
CARCASSES (WIND FARMS)	-	+
CARCASSES (MUSEUMS)	++	+++
CARCASSES (Wildlife Rehab Centres)	++	++
CARCASSES (POISONED)	-	+
SKINS - TAXIDERMISTS	+	++
BLOOD - NESTLINGS	?	?
BLOOD - ADULTS	?	?
DESERTED EGGS	?	?
FEATHERS	++	++

7. ACTORS INVOLVED IN COLLECTING SAMPLES

	TAWNY OWL	COMMON BUZZARD
EXISTING SAMPLES IN ESB'S	Collections arena	Collections arena
CARCASSES (ROAD-KILLED)	Road ecology researchers, citizens	Road ecology researchers, citizens
CARCASSES (POWERLINES)	Researchers, EIA companies	Researchers, EIA companies
CARCASSES (WIND FARMS)	Researchers, EIA companies	Researchers, EIA companies
CARCASSES (MUSEUMS)	Collections arena	Collections arena
CARCASSES (Wildlife Rehab Centres)	WRCs	WRCs
CARCASSES (POISONED)	Legal authorities, WRCs	Legal authorities, WRCs
SKINS - TAXIDERMISTS	Taxidermists	Taxidermists
BLOOD - NESTLINGS	Ringers, researchers	Ringers, researchers
BLOOD - ADULTS	Ringers, researchers	Ringers, researchers
DESERTED EGGS	Ringers, researchers, volunteers	Ringers, researchers, volunteers
FEATHERS	Ringers, researchers, volunteers	Ringers, researchers, volunteers

8. PREVIOUS MONITORING

Review of raptor and owl monitoring capacity across Europe (Derlink et al. 2018 BIRD STUDY)	TAWNY OWL	COMMON BUZZARD
Total number of species schemes submitted	26	50
Total number of breeding schemes submitted	24	29
Number of countries submitting breeding schemes A	13	16
Number of breeding schemes of >10 year duration	19	18
Number of countries with breeding schemes of >10 year duration	12	13
Number of breeding schemes per breeding country	0.59	0.69
Proportion of breeding countries with breeding schemes	0.32	0.38
An overview of existing raptor contaminant monitoring activities in Europe (Gómez-Ramírez et al. 2014)		
Number of countries with ecotoxicology studies	9	10

9. CONTEXTUAL DATA

	TAWNY OWL	COMMON BUZZARD
Age	++	++
Sex	+	+
Morph type / plumage pattern	+++	+++
Body measurements	+++	+++
Diet	+	+
Reproductive performance	++	++
Behavioural data	+	+
Population trends	+	++
Population reproductive performance	+	++
Population diet	+	+
Population behavioural data	+	+

10. PROS & CONS

	TAWNY OWL	COMMON BUZZARD
PROS	Widespread distribution; resident; abundant; road-kills as a source of samples; frequent in WRCs; broad habitat use; occupies nest boxes	Widespread distribution; abundant; most frequent species found dead (taken to museums); frequent in WRCs; many specimens already available in museums; large body size; broad habitat use
CONS	Population parameters not frequently studied where no nestboxes schemes exist	Partially migratory in Europe (origin bias), easy to observe and monitor

11. PRACTICALITIES

	TAWNY OWL	COMMON BUZZARD
MONITORING	Difficult to find nest sites, but it occupies nest boxes. May require nocturnal monitoring methods. May require permit for monitoring.	Relatively easy to find nest boxes. Very conspicuous and easy to detect. Simple monitoring methods. May require permit for monitoring.
HANDLING	Requires ringing permit	Requires ringing permit

THANK YOU!!!

