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An investigation of the underlying factors that lead to the shooting of protected birds in the Maltese Islands: a prerequisite for *in situ* conservation and reintroduction programmes

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An investigation of the underlying factors that lead to the shooting of protected birds in the Maltese Islands: a prerequisite for *in situ* conservation and reintroduction programmes

Richard Lia



Barn Owl *Tyto alba* Scopoli
Bern Convention: Appendix II

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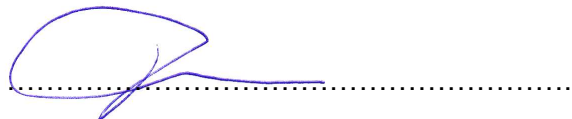
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“Birds were flying from continent to continent long before we were. They reached the coldest place on Earth, Antarctica, long before we did. They can survive in the hottest of deserts. Some can remain on the wing for years at a time. They can girdle the globe. Now, we have taken over the earth and the sea and the sky, but with skill and care and knowledge, we can ensure that there is still a place on Earth for birds in all their beauty and variety—if we want to... And surely, we should.”

Sir David Attenborough

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Acronyms

ALE	Administrative Law Enforcement
AZA	Association of Zoos and Aquariums
BBC	British Broadcasting Corporation
BLM	BirdLife Malta
CBD	Convention on Biological Diversity
CITES	Convention on International Trade in Endangered Species of Wild Fauna and Flora
EC	European Commission
FKNK	Federation for Hunting and Conservation – Malta
IUCN	International Union for Conservation of Nature
KSU	St. Hubert Hunters
MEPA	Malta Environment and Planning Authority
NPI	Nature Protection Inspectorate
RSPB	Royal Society for the Protection of Birds
WCU	Wildlife Crime Unit

Abstract

Although the illegal shooting of protected birds in the Maltese Islands has decreased over the years, it continues to pose a serious threat to avifauna and to the successful reintroduction of extirpated species. This research investigates the root causes of poaching based on a literature review and survey data, including 22 semi-structured interviews with hunters. The study identifies key gaps in the literature and shows that poaching in Malta is the result of 14 underlying motivations that characterise two poacher categories. A set of management options that address these poaching rationales is proposed. The study concludes that the fear of apprehension and harsher penalties are crucial deterrents, yet the provision of incentives and the concerted effort of all stakeholders to clamp down on poaching are equally necessary.

1.0 Introduction

1.1 Background and research area

The illegal shooting of protected birds in the Maltese Islands (Figure 1), commonly referred to as poaching¹, continues to be the subject of heated debates. Triggered by a heightened awareness of exponential avian biodiversity loss at the national and global level, hunting laws were introduced in Malta in the 1980s in an attempt to protect the majority of migratory species as well as all resident ones. Although these laws were later revised to meet European Directives, no attempts were made to understand the underlying factors of poaching.

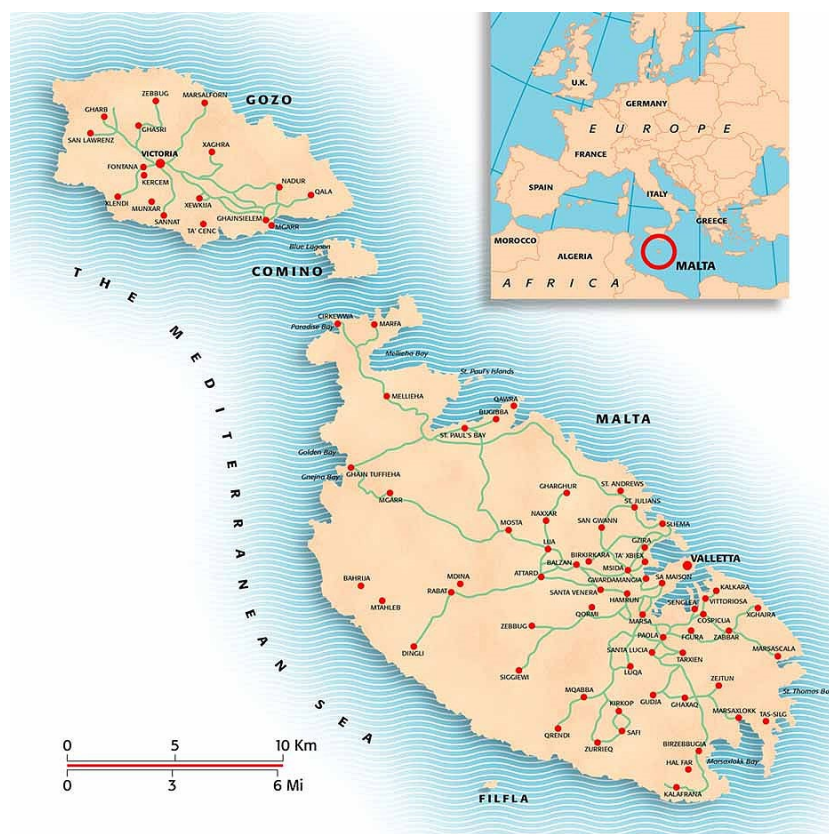


Figure 1 Location map of the Maltese Islands
Source: <http://www.bluhullmarine.com/malta.html>

¹ Hunting of species listed in Appendix A beyond permitted hours, using illegal methods, during the closed season, without a licence or within prohibited areas is beyond the scope of this study.

Until the 1980s, statutory legislation dealing with bird conservation was practically non-existent and widespread shooting of a full suite of avian species was commonplace (Fenech, 1992). Four breeding species became extirpated between 1920 and 1988: the Eurasian Stone-curlew, *Burhinus oedicnemus* L., the Jackdaw, *Corvus monedula* L., the Peregrine Falcon, *Falco peregrinus* Tunstall and the Barn Owl, *Tyto alba* Scopoli, in that order.

Raine, Sultana, and Gillings (2009) and Fenech (2010) contend that Barn Owls and Peregrines continue to be heavily persecuted by poachers and that poaching is the primary cause for their failure to re-colonise these Islands. However, Fenech (2010) claims that two pairs of Peregrines bred successfully in 2009. Notwithstanding, reports of shot protected birds continue to make headlines, both during and outside the legally established hunting seasons. Although the current situation is not as pervasive as it was until the 1980s (Fenech, 2010), protection on paper does not guarantee *in situ* conservation.

Since poachers are still targeting protected migratory birds, any hope for reintroducing extirpated species is bound to be met with disappointment if the causal factors that led to their local extinction are not systematically identified and addressed. This research seeks to determine the root causes of poaching in the Maltese Islands and to recommend actions for its redress. For the purpose of this study, the term poacher applies to any individual the moment he attempts to shoot at legally protected birds.

1.2 Research aims and objectives

Scientific evidence and theory development are required to address the illegal shooting of protected birds. A fundamental approach for combating poaching is to identify and understand its root causes so that appropriate management options to counteract them can be established (Jeffries, 2005; Aebisher, 2009). If the factors that led to the extirpation of avian species remain unresolved, *in situ* conservation will be fraught with difficulties. The extirpation of resident species requires probing into the motivations that compel individuals to shoot not only protected migratory birds but also sedentary ones as this has serious repercussions for species reintroduction programmes.

The availability of suitable habitat for extirpated bird species (Raine *et al.*, 2009) is not enough when considered outside its wider socio-political context. Thus, one of the objectives of this research is to provide decision-makers with a framework to help combat poaching in Malta with a view to facilitating the safe migration of protected birds over the Islands and ensuring that extirpated species are only reintroduced once the problem of poaching is resolved.

This research should serve as a blueprint for understanding why protected species are illegally shot and how to combat poaching. It also seeks to ensure that financial and biological resources are not wasted through reintroduction attempts that are likely to fail if the root causes of poaching are not systematically investigated and addressed. A typology of motivations for poaching in the Maltese Islands has not yet developed. This research seeks to fill such crucial void.

Research aim and objectives

The purpose of this study is to explore, understand and analyse the underlying motivations for the illegal shooting of protected birds in the Maltese Islands and to recommend a set of management options to combat poaching. The ultimate aim is to improve *in situ* conservation, which includes the protection of migratory birds and successful species reintroduction programmes.

The specific objectives of this research are to:

1. Provide a contextual understanding of poaching behaviour and to identify the root causes of poaching.
2. Propose a novel typology of motivations for poaching in the Maltese Islands based on a literature search and survey data.
3. Establish hunters' attitudes toward the illegal shooting of protected birds.
4. Recommend a set of management options to help combat poaching in the Maltese Islands, thus providing on-the-ground protection for migratory and reintroduced avian species.

To meet the stated objectives, the specific research questions are:

1. What are the motives behind the shooting of protected birds in the Maltese Islands?
2. Do Maltese hunters view poaching as a problem?
3. What management options are required to combat poaching in the Maltese Islands?

The first research question, linked to objectives 1 and 2, seeks to establish the reasons why protected birds are illegally shot. It places poaching within a broader context of underlying factors such as resistance to change and ineffective deterrents. The second question looks at the problem of poaching from the point of view of hunters (both law-abiding and those who may engage in some form of poaching). It seeks to determine whether hunters:

- tolerate the shooting of protected species
- view poaching as an undermining threat to bird conservation, including species reintroduction programmes, and to sustainable hunting in general

The final research question investigates a number of management options to address poaching of protected birds and to secure the reintroduction of extirpated species.

2.0 Literature Review

2.1 The Maltese Islands: a stepping-stone for migratory birds

The Maltese archipelago is situated in the heart of the Mediterranean Sea (Figure 1), approximately 96 km south of Sicily and 290 km north of Libya (Cassar, Conrad and Schembri, 2008). The Islands' ornithological significance for the bi-annual migration of avian species between Europe and Africa has long been recognised (Despott, 1917). However, Newton (1998) and Fenech (2010) stress that the Maltese Islands are not located along a major migratory route—the closest principal flyway is located further west between Cap Bon (Tunisia) and Sicily. This contrasts with media reports that tend to claim otherwise (e.g., BBC News, 2009; Wildlife Extra, n.d.).

Notwithstanding, the Islands provide refuge for a good number of migratory birds and are home to at least 21 regular breeding species (BirdLife Malta, 2008; FKNK, 2008; Raine *et al.*, 2009). In turn, the combination of species composition and Malta's geographical setting provide ample scope for a variety of bird-related pursuits—primarily birdwatching, hunting and biodiversity conservation. Unfortunately, many authors affirm that poaching is the sinister side of this continuum (e.g., Theuma, 2000; Eliason, 2003; Zimmermann, 2003; Raine 2008, 2009a; Raine *et al.*, 2009).

2.1.1 Hunting laws: infringements and penalties

Legal bird hunting in and around the Maltese Islands is restricted to mainland Malta and Gozo but is prohibited within and around nature reserves, inhabited areas and transport networks. In terms of huntable species it is entirely dependent on migratory

birds—a subset containing 32 (Appendix A) out of 300 or so species recorded in the Maltese Islands (Appendix B). The Conservation of Wild Birds Regulations (MEPA, 2007) establishes the legal framework for contravening hunting regulations and the extent of fines and penalties (Table 1).

Table 1 Penalties for hunting law violations

	Minimum fine	Maximum fine	Additional penalties
First conviction	€232.94	€4,658.75	<ul style="list-style-type: none"> • Suspension of hunting licence (one to three years)
Second and subsequent convictions	€465.87	€9,317.49	<ul style="list-style-type: none"> • Fine or imprisonment (two months to two years), or both
Hunting without a valid licence			<ul style="list-style-type: none"> • Confiscation of “<i>corpus delicti</i>” and permanent revocation of hunting licence
Hunting after permanent revocation of licence	€6,988.12	€13,976.24	<ul style="list-style-type: none"> • Imprisonment (one to two years)

Data sources: MEPA (2007) and Subsidiary Legislation 504.71, as amended.

In addition, penalties for illegal possession and/or trade in species listed in the appendices of the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) range from a minimum fine of €466 up to a maximum of €4,659 and/or a prison sentence ranging from one month up to two years (MEPA, 2004).

2.1.2 *In situ* conservation and reintroduction of extirpated species

The importance of *in situ* conservation as the primary approach for biodiversity conservation is underscored in Article 8 of the Convention on Biological Diversity (CBD, 1992). *In situ* conservation is multi-faceted, encompassing genetic diversity at

the smallest scale to the management of entire ecosystems and landscapes. Maintaining viable populations of reintroduced species in their natural or semi-natural habitat is a small yet important component of *in situ* conservation. However, guidelines on species reintroductions emphasise that the original causes of threat must be improved or eliminated before initiating such programmes (e.g., AZA, 1992; IUCN, 1998). Groom, Meffe and Carroll (2006) reiterate this requirement by stressing that it is a crucial first step in securing the long-term viability of reintroduced species. Considering the prevalence of poaching in Malta, this prerequisite cannot be overemphasised if the reintroduction of extirpated species is to be secured.

2.2 Poaching in Maltese literature

2.2.1 Research lacunae

Despite the high propaganda about poaching in Malta, research on its underlying factors has never been carried out. The local perception is that poaching is driven primarily by taxidermy for private collections (Fenech 1992, 1997, 2010). Yet a common theme in foreign literature is that the underlying motivations for poaching are manifold (Muth and Bowe, 1998; Eliason, 2003). Historically, whilst poaching in 19th century Britain was essentially an ongoing protest against the game laws and a 'battle' between the poacher and the gamekeeper (Watson 1890, 1891; Niall, 1950), poaching in Malta was a form of retaliation against the aristocrats (Fenech 1997, 2010). Theuma (2000) maintains that centuries of hunting-related oppressions by the nation's former subjugators has led to the parcelling of avifauna as a "*res nullius*"—an entity that cannot be considered as belonging to any individual unless it is actually captured. It is the complete opposite of contemporary common heritage theory.

Today, such open access regime may still condition the poachers' world-view, adopting it as a rationale for shooting protected birds and claiming them as 'their property'.

2.2.2 Fenech's "Fatal Flight" and the dark age of inflated figures

In the mid-1990s, the local hunting community met the publication of Natalino Fenech's infamous "Fatal Flight" (Fenech, 1992) with insurmountable hostility. Quite apart from condemning indiscriminate and widespread shooting, the author also levelled criticism at the very tradition of legal hunting. Fenech estimated that tens of thousands of raptors are shot annually in Malta. However, according to Newton (2008) the maximum annual count of raptors migrating over the Maltese Islands is less than 4,000 individuals, compared to over 35,000 raptors migrating across the nearby Strait of Messina (Sicily, Italy). This provides a contrasting perspective to Fenech's estimates. Fenech supported his data with "bag records" and estimated that amongst a much larger suite of species,

"on average, each shooter [$n = 16,000$] bags a minimum of 5 raptors annually...five [golden] orioles...more than two hoopoes...ten to thirty swallows...[and that]...one third of all shooters shoot a short-eared owl."

Fenech (1992: 73–79)

These figures are still echoed in foreign ornithological discourse (BirdLife International, n.d.; RSPB, 2010). Azzopardi (1992) levelled criticism at Fenech's methodology and quantitative analysis, questioning the validity of the bag records. Fenech's data were obtained from ten hunters and ten taxidermists. The bag records

were extrapolated to a population that, according to the author, stood at 16,000 licensed hunters at the time. Contemporary researchers forewarn that even if a rigorous sampling method is followed, data extrapolation and generalisation should still be restricted to the sampling frame (Stern *et al.*, 2004; Bryman, 2008). Almost two decades later, Fenech continued to justify data extrapolation whilst limiting self-criticism to the small sample size (Fenech, 2010). However, the author did point out that the 1992 figures require revision. In another study, Fenech (1997) claimed that the number of kestrels shot each year amounted to 32,000 individuals. Again, the sample size was too small to arrive at such conclusion (Table 2).

Table 2 Fenech’s bag records for the period 1972–1987

Hunting period	Number of hunters	Duration of record keeping (years)
1972–1981	1	10
1982–1983	4	2
1984–1985	9	2
1986	8	1
1987	7	1

Data source: Fenech (1997: 296).

A comparison between Fenech’s estimate ($n = 32,000$) and the number of confirmed shot Common Kestrels during 2007 ($n = 17$) and 2008 ($n = 28$) (see next subsection) shows that during 2007 only one kestrel in just under 2,000 shot would have been accounted for. In 2008, Fenech’s estimate would represent a ratio of one kestrel to just over 1,000 shot. This seems highly unlikely considering the presence of many birdwatchers stationed in various locations around Malta and Gozo at the time. Fenech’s contribution to the local literature on poaching focuses on quantitative analysis within a broader socio-cultural and political theme that explicitly attributes poaching of protected birds to taxidermy for private collections.

2.2.3 Extent of confirmed poaching in Malta

According to BirdLife Malta (BLM) the majority of birds shot by poachers in 2007 and 2008 were three species of birds of prey (Table 3), representing 61.7% ($n = 81$, 2007) and 60.4% ($n = 91$, 2008) of the total number of protected birds brought to BLM's offices (Raine 2008, 2009a). Although these figures may not represent the full extent of poaching, given that not all illegal activities may be accounted for (Raine 2008, 2009a), they are nevertheless a far cry from the millions of protected birds claimed to be shot annually in Malta (Fenech 1992, 1997).

Fenech (2010) and Sultana (2010) stress that the extent of poaching in the Maltese Islands has seen a gradual decrease over the years. In 2009, two pairs of Common Kestrel managed to breed successfully—the first confirmed breeding record of a raptor species in 15 years (Raine, 2009b). In May 2011, a pair of Black-winged Stilts, *Himantopus himantopus* L., also bred successfully—another first record for Malta (BirdLife Malta, 2011a). Although very promising, this should not sidetrack from prevailing poaching problems (e.g., Anon, 2011a; BirdLife Malta, 2011b,c). Although Fenech (2010) maintains that two Peregrine Falcons also bred in Malta in 2009, he also asserts that those “which attempt to breed are often shot, either from sea-craft or from land”. Newton (1998) maintains that due to their low reproductive rates the killing of raptors rapidly leads to substantial population declines. Therefore, an isolated breeding success of a bird of prey cannot provide the impetus to initiate a Barn Owl reintroduction programme considering that poaching prevents the natural recolonisation of this species (Raine *et al.*, 2009; Fenech, 2010).

Table 3 Three most commonly shot protected species in Malta during 2007 and 2008, and their corresponding listings in the EU's Birds Directive and international conventions

Taxonomic name	Common name	Reported number of shot birds		Birds Directive (2009/147/EC)	CITES	Bonn Convention	Bern Convention
		2007	2008				
<i>Falco tinnunculus</i>	Common Kestrel	17	28	Not listed	Appendix II ²	Appendix II ³	Appendix II ⁴
<i>Circus aeruginosus</i>	Marsh Harrier	15	19	Annex I⁵	Appendix II	Appendix II	Appendix II
<i>Pernis apivorus</i>	Honey Buzzard	8	8	Annex I	Appendix II	Appendix II	Appendix II
Total		40	55				

Data sources: CITES (1975); Bern Convention (1979); Bonn Convention (1979); Raine (2008, 2009a) and EC (2010).

² Appendix II of the **Convention on International Trade in Endangered Species of Wild Fauna and Flora** lists species whose trade must be carefully controlled to ensure that they do not become threatened. Appendix II also contains species that closely resemble Appendix I taxa to prevent their trading as non-regulated wildlife (CITES, 1975: Revised Appendices, valid from 14 October 2010).

³ Appendix II of the **Convention on the Conservation of Migratory Species of Wild Animals** lists “species that have an unfavourable conservation status or would benefit significantly from international co-operation organised by tailored agreements” (Bonn Convention, 1979: Revised Appendices effective from 5 March 2009).

⁴ Appendix II of the **Convention on the Conservation of European Wildlife and Natural Habitats** lists strictly protected species (Bern Convention, 1979: Revised Appendices, March 2002).

⁵ Article 4 of the **Birds Directive** specifies that the “species mentioned in **Annex I** shall be the subject of special conservation measures concerning their habitat in order to ensure their survival and reproduction in their area of distribution” (EC, 2010). Annex II species may be hunted under the provisions of Article 7—any activity beyond its provisions is subject to derogation under Article 9.

2.3 Poaching in foreign literature

2.3.1 The European context

The European Commission acknowledges sustainable hunting as an important socio-cultural activity (EC, 2008). Therefore, attempts to lure hunters away from their *namra* (passion) are unwarranted. Lobbying in favour of a complete hunting ban by local and foreign campaigners is bound to lead to disappointment. As Fenech argues, although campaigns by environmentalists have “sensitised public opinion, they did little to help in changing hunters’ attitudes” (Fenech 2010: 192). Thus, resources should focus on combating poaching rather than legal hunting practices.

A subset of avian species, including raptors, is persecuted on a regular basis in several EU Member States (BBC News, 2010; BirdLife International, 2010). In comparison to the 40 raptors that were shot in Malta in 2007 (Table 3), 119 birds of prey (three species) were killed in Denmark and an unspecified number of raptors (two species) killed in France, Germany and Belgium during the same year (Appendix C). The latter three countries failed to provide basic statistical information, counter to the requirements of Article 7 of the Birds Directive (EC 2009, 2010).

The killing of raptors and other bird species was carried out through the application of derogations under Article 9 of the Birds Directive, which specifies that these shall only be applied if no satisfactory alternatives exist (EC 2008, 2010). In its 2009 composite report on derogations by Member States in 2007 (EC, 2009) the Commission considered the majority of derogations as unlikely to run counter to the provisions of the Birds Directive. In the same report, the Commission did not

explicitly object to the capture of raptors in various parts of Europe for the purpose of falconry (Appendix D), despite that some Member States had failed to meet basic information requirements.

All species and higher taxa subject to derogations by these Member States are included in Appendix II of Bern Convention (strictly protected) and in Appendix II of Bonn Convention (unfavourable conservation status). This seems to have been overlooked by the European Commission. By limiting its remarks solely to the provisions of the Birds Directive the Commission did not take into account the international obligations that are directly relevant to bird conservation within the European Union, particularly the 1979 Conventions on the Conservation of Migratory Species of Wild Animals (Bonn Convention) and on European Wildlife and Natural Habitats (Bern Convention).

Boardman (2006) specifies that the European Union's Birds and Habitats Directives provide the mechanism through which the requirements of the Bern Convention are implemented. However, whilst all raptors (Falconiformes) are listed in Appendix II of the Bern Convention as strictly protected, only a much smaller subset is listed under Annex I of the Birds Directive (thus subject to special conservation measures).

2.3.2 The density-dependent theory of poaching

Bankston and Jenkins (1982), cited in Forsyth and Marckese (1993a: 21), point out that tolerance of wildlife crime is density-dependent. Urban dwellers and rural communities tend to have different perceptions of biological resource use and related activities. On the other hand, in rural areas with low human population

densities and lack of competition the illegal taking of biological resources is not only tolerated, but also encouraged as a way of life. “Poaching is [thus] continually reinforced and...perpetuated by cultural supports and belief systems.” (Forsyth and Marckese, 1993a: 27).

The combination of a high population density and conflicting rural pursuits may explain why poaching activities in Malta attract the attention of both local and international media (e.g., BBC News, 2009). At the same time, an untold number of similar activities may never be reported in Europe—the odds seem to be stacked against poaching in Malta. The saying ‘far from eye, far from heart’ may have strong undertones with respect to poaching overseas, an issue implicit in the European Commission’s report on derogations (EC, 2009), discussed above. This, in turn, may fuel local poachers’ antagonism and resistance to change (e.g., Forsyth and Marckese, 1993a; Muth and Bowe, 1998; Forsyth, 2008).

Bell, Hampshire, and Topalidou (2007) associate the different forms of poaching in northern Greece with resentment to, and defiance of, excessive and bureaucratic regulations, weak enforcement and corruption. The authors maintain that a number of individuals who are supposed to enforce the law are poachers themselves. Enforcement and self-regulation in Kerkini is fraught with difficulty and this stems from a socio-cultural norm—reporting infringements goes against the very spirit of the local rural community, which places great emphasis on mutual respect.

2.3.3 Trends in deviance and poaching theories

A common theme in the literature is that research on the deviant behaviour of poaching is still in its infancy (Muth and Bowe, 1998; Eliason, 2003). Forsyth and Marckese (1993a,b) and Eliason (2003) characterise research on poaching as having shifted from “folk crime” to a recent need for identifying typologies that categorise its various behavioural and social attributes. Forsyth (2008) maintains that violation of hunting laws have only recently become part of the social research discourse on deviant behaviour.

Research on deviance has placed a significant emphasis on sub-cultures and conflicting norms across social classes (Forsyth and Marckese, 1993a,b). Based on Miller’s cultural deviance theory (Miller, 1958) and a sociological analysis of poaching (Forsyth and Marckese, 1993b), the sub-cultural theory of deviant behaviour is grouped into the following categories:

- **fun, adventure and excitement** (including not getting caught)
- **risk, trouble, challenge and fate** (or luck)
- **aesthetics**—pleasure obtained from sensory receptors during deviant acts
- **toughness**
- **smartness**—the drive to outsmart authorities
- **independence**—the need to reject both perceived and factual authoritarian rules, often guided by parallel adherence to sub-cultural norms

Many theorists have attempted to contrast these general categories of deviant behaviour with poaching and to provide specific typologies of motivations (e.g., Forsyth and Marckese, 1993b; Muth and Bowe, 1998; Eliason, 2003). Eliason (2003) maintains that contrary to popular discourse, law violators do not necessarily have to be part of a sub-culture at odds with the public. Neutralisation theory (Sykes and Matza, 1957) specifies that whilst poachers breach nature conservation laws, “it is assumed that they are committed to the dominant normative standards of society” (Eliason, 2003: 228). This contrasts with a popular local belief that hunters may be a threat to society ‘just because they carry a gun’.

However, the validity of Eliason’s argument depends on the type of wildlife crime that is committed. Zimmermann (2003) asserts that illegal wildlife trade is not victimless (both human and nonhuman victims). Eliason (2003) argues that, given the opportunity, individuals will resort to poaching and that the reasons behind this are multi-faceted. However, this assertion must also be viewed with caution since Eliason’s contribution to the poaching literature excludes illegal shooting of protected species.

2.3.4 Foreign typology of motivations for poaching

Muth and Bowe (1998) carried out a literature review and content analysis to categorise the various rationales behind poaching in North America and developed ten motivations for poaching (Table 4).

Table 4 Muth and Bowe's typology of motivations for poaching

-
1. commercial gain
 2. household consumption
 3. recreational satisfaction
 4. trophy poaching
 5. thrill killing
 6. protection of self and property
 7. poaching as rebellion
 8. poaching as a traditional right
 9. disagreement with specific regulations
 10. gamesmanship
-

Source: Muth and Bowe (1998: 9).

Similar to the work carried out by Eliason, the typology developed by Muth and Bowe is not directly related to poaching of protected species. This is a common factor in foreign literature on poaching. The general focus is on the use of illegal hunting equipment, over-harvesting, hunting without a licence, and hunting during the closed season. These issues are beyond the scope of this research but still offer valid insights into the motivations for poaching behaviour in general. The above motivations already show a significant departure from Fenech's theory that, apart from "machismo", poaching in Malta is exclusively a taxidermy-related endeavour (Fenech 1992, 1997). As Muth and Bowe observed:

"...a rigorous and systematic review of the literature leads us to conclude that the social meanings of poaching are more complex than generally perceived."

Muth and Bowe (1998: 21)

3.0 Research methodology

Apart from the literature review, this research is based on the collection and analysis of primary data from:

- Twenty-two semi-structured interviews with hunters held between 28 February and 26 March 2011, generating 18 hours of recordings. Each interview lasted approximately 50 minutes.
- Replies to a questionnaire sent to BLM and the Nature Protection Inspectorate (NPI) of the Malta Environment and Planning Authority, received on 11 March and 19 April 2011 respectively.
- A focus group with the Administrative Law Enforcement (ALE) of the Malta Police Force, held on 22 May 2011.

3.1 Data collection

3.1.1 The sampling frame (hunters)

Besides the Federation for Hunting and Conservation – Malta (FKNK), an umbrella organisation representing sustainable hunting matters and the majority of Maltese hunters, there are three autonomous hunting groups with a much smaller subset of hunters, namely:

- St. Hubert Hunters (KSU), who assumed a more formal tie with FKNK in 2010 (Anon, 2010a);
- *Għaqda Dilettanti tas-Senter u l-Gabjun* (Hunters and Trappers' Group); and
- Malta Movement for Hunting and Environmentalists.

Initially, these hunting groups were earmarked as part of the sampling frame. Stratification of the entire hunting population was envisaged to ensure that any hunter from either one of the four groups would have an equal chance of being selected. However, since this research focuses on the evaluation of underlying motives for poaching, irrespective of membership with a specific affiliation, the other three smaller groups were eliminated from the sampling frame. A simple random sample was thus chosen, based on a sampling frame that contained all FKNK hunters.

The author met FKNK committee in mid-December 2010 to discuss the sampling frame. The committee agreed that this should consist of all hunters who renewed their hunting licence in 2010, together with individuals who applied for a hunting licence for the first time (18-year olds) during the same year. Membership details were drawn from FKNK's database during the first week of January 2011 and transferred to a spreadsheet to facilitate sampling.

3.1.2 Limitations of the sampling frame

The sampling frame excludes hunters that are not FKNK members as well as individuals who may hunt without a licence. However, it must be emphasised that the selected sampling frame represented the majority of hunters in Malta and Gozo and

that data triangulation formed an integral part of the research process. Purposive sampling of poachers was unnecessary considering that half the surveyed hunters declared some form of poaching in the past. Nine interviewees even considered poaching again if the opportunity presented itself.

3.1.3 Sample size and sampling

The sample was based on a sampling frame of 8,979 individuals, representing the total number of hunters registered with FKNK during 2010. Initially, 30 semi-structured interviews were planned. The target sample size was increased to 40 to take into account the likelihood of a low response rate. However, only two hunters refused to participate in the survey. Undoubtedly, FKNK's introductory letter to the survey participants (Appendix E) bolstered the response rate. The final sample size was 22.

The sampling method was quite straightforward. The list containing all members was assigned a unique reference number using the built-in feature of Microsoft Excel™ (row numbers on the left-hand pane). An online random number generator available at <http://www.randomizer.org/form.htm> was used to generate 40 unique numbers from the range 1–8,979. These random numbers were sorted in ascending order and fed back to the spreadsheet. The corresponding contact details were extracted from FKNK's database to mail the introductory letter and to make the necessary appointments. Variations between the age groups of the sample and the sampling frame were minimal as shown in Table 5 and Figure 2 (see also Appendix F).

Table 5 Age distribution of FKNK hunting population and the random sample in 2011

Age bracket	Number of hunters in total population	%	Number of hunters in random sample	%
19–29†	1,735	20	8	20
30–39	1,707	19	8	20
40–49	1,590	18	7	18
50–59	2,018	23	15	38
60+	1,801	20	12	5
Sub-total*	8,851	100	40	100
Average age	45		43	

† The age group 19–29 includes individuals who applied for a hunting licence for the first time in 2010 (the base year).

* Total number of FKNK hunters in 2010 was 8,979. This sub-total excludes foreign nationals and Maltese return migrants.

Data source: FKNK's 2010 hunting licences.

Percentage age distribution of sample as a representative of FKNK hunting population in 2011

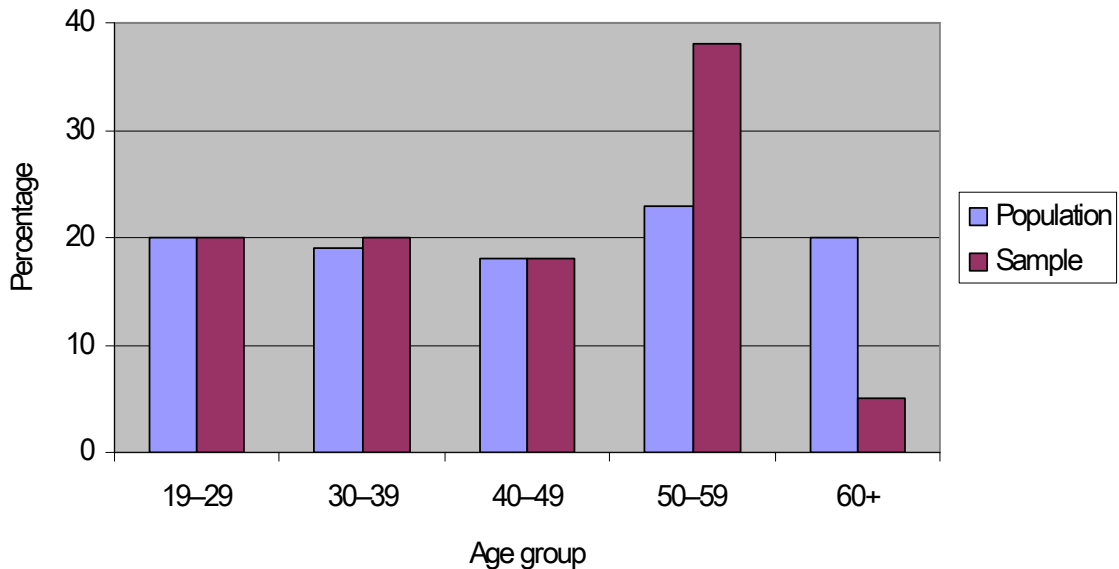


Figure 2 Percentage age distribution of the random sample

Data source: FKNK's 2010 hunting licences.

Stratification of the sampling frame was not necessary—participants were all hunters licensed in 2010 with the same Federation. Thus, the target population was homogeneous. Nevertheless, generalisation of data from the random sample is limited to the sampling frame (FKNK hunters) rather than the entire hunting community.

3.1.4 The interview guides and piloting of the survey

Before the interviews with hunters commenced, an open-ended questionnaire was sent to ALE, BLM and NPI (Appendix G). The replies from NPI and BLM were sufficient to consider follow-up interviews unnecessary. Their feedback helped to substantiate the interview guide used during the surveys with FKNK hunters (Appendix H) and the questions asked during the focus group with ALE (Appendix I). Both interview guides were piloted with the author's family members.

3.1.5 Data saturation

Data saturation refers to a situation when additional interviews would not yield further information on the subject matter. Bryman (2008) maintains that, provided the population is homogeneous, data saturation in qualitative research could be achieved after a small number of interviews. In this case, the nineteenth interview marked the data saturation point—the information obtained from participants 20–22 was already covered during the previous 19 interviews.

3.2 Data analysis

3.2.1 Transcripts

Transcription and initial data analysis commenced after the first interview. The discussions during the latter half of the interviews with hunters reflected the preliminary analysis but remained within the parameters of the research questions. The recordings were transcribed verbatim by the author, which took approximately 90 hours. This reinforced close familiarity with the data. The recordings were crosschecked with the transcripts for errors or omissions before deletion.

3.2.2 Coding, data triangulation and analytic memos

The transcripts of the semi-structured interviews with hunters were coded first, using NVivo 9™. Code definitions were prepared and consulted intermittently to ensure consistency. The process generated a final set of 99 codes and sub-codes, grouped into six categories and subsequently into themes. The transcript of ALE's focus group and the feedback from BLM and NPI were also fed into the coding system. Saldaña (2009) terms this process as "codeweaving".

Data chunks were assigned a specific code according to the issues they represented. Hence the code 'poaching deterrents', for example, represented what hunters believe may stop an individual from shooting at a protected bird, as well as what ALE, BLM and NPI consider should be in place for combating poaching. In turn, concepts described by ALE, BLM and NPI were compared and contrasted. This cyclical process served as a framework for data analysis and triangulation (Figure 3).

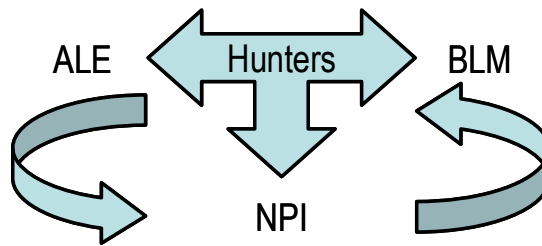


Figure 3 Data triangulation

The analysis conceptualised similar ideas as well as contrasting views on the same topic or issue. Such approach challenged any pre-conceived ideas on poaching motivations by visualising divergent opinions, thus flagging up concerns on how management options could help combat them. Data analysis not only assimilated what the survey participants said but also what they opted not to discuss. The aim was to identify vital poaching-related cues to substantiate the investigation and thus to systematically answer the research questions.

The write-up was planned as an integral part of the data analysis process rather than a separate final task. During the analysis, key issues, concepts and quotes were recorded in several memos—the critical thinking stage. Memos were vital for the preparation of emergent themes and patterns and served as reference points when the report was drafted. The emergent theory on the underlying factors of poaching is a faithful representation of respondents' views. Their recommendations created the framework for a set of management options to help combat poaching.

3.3 Research ethics

A strict protocol on confidentiality and anonymity was ensured throughout the research process. The objective of interviewing participants was to understand the motivations for poaching and to identify related problems for *in situ* conservation and species reintroduction programmes. The focus was on 'why' and 'what', rather than 'who' (see Appendix H). The interviews proceeded through informed consent (Appendix J).

4.0 Research outcomes

4.1 What are the motives behind the shooting of protected birds in the Maltese Islands?

4.1.1 General observations

Although there are several poaching motivations, as discussed in the next subsections, they ultimately depend on two qualifying elements:

1. An innate desire to shoot at protected birds (i.e., individuals must be willing to poach).
2. The individuals' perception that they will not be caught.

In the absence of these two elements poaching does not occur. Not all hunters are interested in shooting at protected birds, yet many only abstain for fear of apprehension. Contrary to popular belief, there is no evidence to suggest that hunters 'shoot at anything that flies'. Whilst five hunters (23%) opposed the addition of other birds to the list of legally huntable species, two (9%) declared they would rather include everything. The remaining 15 (68%) proposed the addition of one or two species, particularly the Eurasian Collared Dove, *Streptopelia decaocto* Frivaldszky, (eight participants), and the Stone-curlew (five participants). One interviewee also proposed all species that are legally huntable in other European countries.

Poaching in Malta is not dependent on any specific hunting season but on the presence of protected birds themselves. BLM maintains that although poaching is most prevalent during peak migration, “illegalities continue to occur during the breeding period in late spring and early summer”. NPI explained this in a “criminological manner” comparing poaching with the “routine activity theory”, which necessitates the co-existence of three elements:

“...the presence of a likely offender [the poacher], a suitable target [protected species] and absence of competent guardianship [enforcement]”.

NPI (pers. comm., 2011)

Poaching incidences increase during a particular influx, stretching limited law enforcement resources much further. This creates a positive feedback loop—failure to apprehend poachers provides an impetus for further poaching. Some poachers hide unregistered guns in the area where they frequent (ALE, pers. comm., 2011). In the event of a spot-check they deny having any weapons on them and may eagerly invite law enforcers to where the legitimate guns are kept (e.g., their place of residence). Due to lack of evidence, it would be impossible for the judiciary to find them guilty of wildlife crime.

4.1.2 Poacher categories

The rationale behind the shooting of protected birds depends on a complex set of motives that define two poacher categories. Category I poachers collect protected birds for taxidermy. On the other hand, Category II poachers shoot either whenever the opportunity presents itself, out of frustration and/or as a form of rebellion.

Category I poachers

The first category consists of individuals who poach throughout the year for taxidermy—the collectors. They are either seasoned poachers or young individuals who wish to start their own collection. The shooting of protected species both for private collections and for business (sold to third parties) is a major drive for these poachers. Uncommon and rare exemplars fuel this illicit acquisition much further. In the process, they suppress and overcome all inhibitions, even the fear of apprehension. Some collectors consider the shooting of protected birds as a right unjustly prevented through legislation.

Category II poachers

The second category contains three sub-groups—the opportunists, the frustrated hunters and the rebels. Opportunism, frustration and rebellion are not mutually exclusive since an opportunistic poacher may shoot out of frustration as well as a form of rebellion. Notwithstanding, a Category II poacher generally adopts only one of the three at any one time—frustration being the most frequent. Nine interviewees explicitly declared that, given the chance, they would poach: “...it depends on the circumstances but also on how I feel at that particular instance”.

Individuals forming part of these three sub-groups seldom poach for taxidermy, but such motive cannot be excluded. These poachers generally shoot without picking up the bird or else consume it, albeit not for subsistence. Although there were divergent thoughts regarding consumption of protected birds, the majority of survey participants claim that all birds are edible.

The opportunists

Opportunists shoot protected birds discreetly, a form of thrill killing. They only poach undercover, thus excel in being elusive, and are particularly afraid of apprehension. If a protected bird is sitting in a concealed spot, flying low or otherwise perceived to be out of sight, the likelihood that opportunists will shoot that bird is very high. One of the surveyed hunters summed up the concept of discreet poaching succinctly:

“When a protected bird is flying low no-one else sees it dropping from the sky.”

The frustrated hunters

The survey data indicate that legal hunting opportunities in Malta are “abysmal”, which can lead to poaching out of frustration. Although the temptation to shoot at protected birds out of frustration is high, some hunters rejected the ‘frustration’ argument by claiming that the legal hunting of starlings or skylarks counteracts frustration without the need to resort to shooting of protected birds. They also assert that whilst the majority of hunters go out in the field just “to get away from it all” some individuals achieve hunting satisfaction from maximising quantity. As one hunter maintained, “...these individuals seem perpetually discontent no matter how many birds they bag”.

Interestingly, most survey participants argued that whoever hunts for quantity misses the whole point of traditional hunting and that these individuals are likely to direct their attention to protected species in addition to legal quarry. A number of protected

species, such as buzzards and herons, are shot by these poachers at sea who then place them in a weighted sack to drown it, thus to get rid of the evidence.

The rebels

Rebels are at odds with the extremist view of some bird conservationists, hunting laws or parts of them. They may resist change and extremism and shoot at protected species as a form of rebellion. A subset of protected species may be their preferred quarry and consider parts of the law as unjust or discriminatory. For example, limiting the hunting season to 3pm in September, as an attempt to protect roosting raptors, discriminates against those who have no interest in shooting them. Poachers may still persecute raptors during the evening, at night, or in the early hours of the following morning. Some form of rebellion is inevitable whenever law-abiding hunters are reprimanded by means of collective punishments. Participants referred to the abrupt closure of the 2007 spring hunting season as a classic example, when allegedly a good number of buzzards were shot at. One of the respondents lamented,

“Do you know what went through my mind when the hunting season was closed because of some irresponsible individuals? That I should have shot at the buzzards myself because whoever shot at them at least got his fix.”

Another form of rebellion has its roots in what hunters claim to be frame-ups by the bird conservation community. Several hunters maintained that, occasionally, protected birds are reported as recently shot, despite having “water still dripping off from them, which implies they were taken out of a freezer”. When asked for their

reaction regarding this statement BLM did not reply, despite a reminder. Frame-ups infuriate some individuals and may use this as an excuse to lash out on protected birds. Notwithstanding, one could also argue that poachers themselves may use defrosting birds to entrap law-abiding hunters, an issue that emerged from one of the survey participants: "...I no longer go hunting there since poachers started hiding protected birds next to my hide, and I'm not keen on getting into trouble".

4.1.3 Poaching motivations

The two categories of poachers encompass the full extent of poaching motivations in the Maltese Islands. A single motivation may be specific to its poacher category whilst another may apply to both. Table 6 lists all poaching motivations and the corresponding poacher categories that emerged from the survey data.

Table 6 A typology of motivations for poaching in the Maltese Islands

Motivations	Category I	Category II		
	Collectors	Opportunists	Frustrated hunters	Rebels
1. Taxidermy / trophy poaching	✓	✓	✓	✗
2. Commercial gain	✓	✗	✗	✗
3. Household consumption (not subsistence)	✗	✓	✓	✗
4. Recreational satisfaction / lack of hunting opportunities	✗	✓	✓	✗
5. Thrill killing	✗	✓	✓	✓
6. Poaching as rebellion	✗	✗	✗	✓
7. Poaching as a traditional right	✗	✗	✗	✓
8. Disagreement with specific regulations	✗	✗	✗	✓
9. Competition	✗	✗	✓	✓
10. Corruption	✓	✓	✗	✗
11. Target shooting	✗	✗	✓	✓
12. Captive rearing	✗	✓	✓	✗
13. Protection of property (agricultural produce)	✗	✓	✓	✗
14. Ineffective deterrents	✓	✓	✓	✓

As shown in Table 6, the motivations for poaching in Malta are manifold. A single poaching incident may be the result of any one of these 14 motives or a combination of two or more, although some are mutually exclusive. Figure 4 illustrates this process schematically.

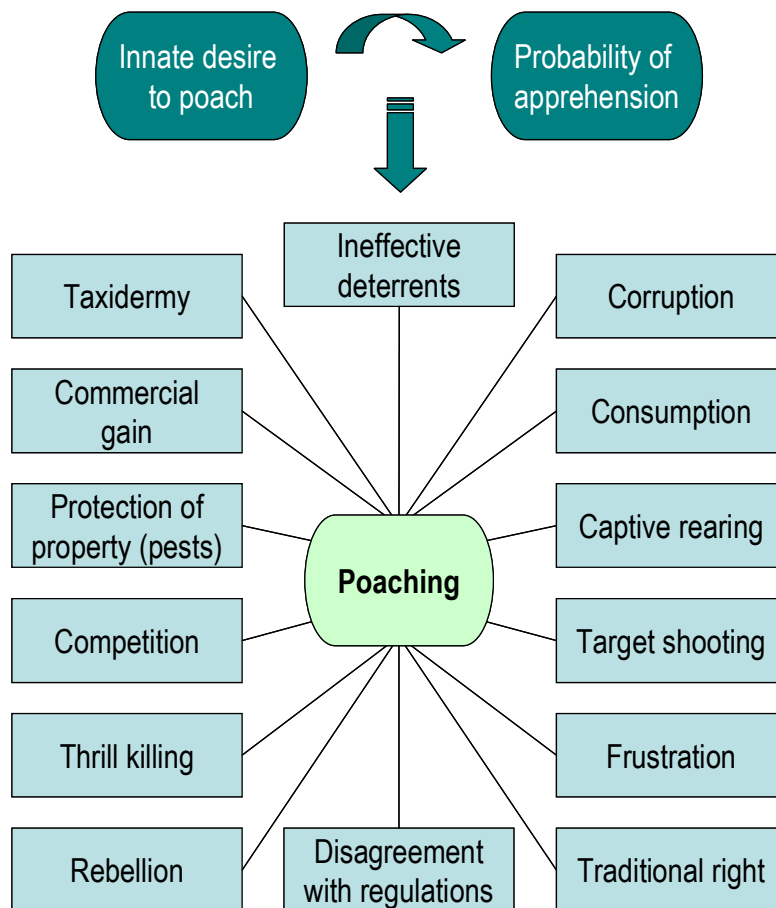


Figure 4 Poaching motivations in the Maltese Islands

The underlying factors of poaching in the Maltese Islands compare well with the ten typologies of motives published by Muth and Bowe in 1998 (Table 4). Two motives ‘gamesmanship’ and ‘protection of self’ did not feature in the data whereas five additional motives were identified—ineffective deterrents, corruption, competition, target shooting, and captive rearing. These five motivations are discussed in more detail below.

Ineffective deterrents

This is a central and common motivation to all poaching activities. The legal system rarely acts as a sufficient deterrent, although some progress has recently been noted (Schembri, 2011). BLM maintained that, “[w]hile the current national legislation allows for relatively high fines to be given for wildlife crime, high or maximum fines are rarely given by the courts”. According to BLM, in the majority of cases the minimum fine predominates and that in fewer instances “fines below the legal minimum required by law were given”. BLM also argued that jail sentences “are only rarely given”.

According to NPI, there is often a harsher penalty whenever the Court has evidence that an individual was previously convicted of wildlife crime. However, BLM and NPI agreed that repeat offenders are not charged as recidivists, implying that higher penalties cannot be given in such instances, which may include the permanent suspension of the hunting licence.

“[T]he problem lies with the fact that either repeat offenders are not charged (for various reasons) with having offended the regulations for a second or subsequent time, or else, the required proof is not presented in Court, barring the Courts from executing sentences applicable to recidivists.”

NPI (pers. comm., 2011)

ALE rejected these claims arguing that each poaching case is presented to the Court with details of past convictions (if any). They asserted that the individual’s Police Conduct, which contains details of past convictions, is always presented as

evidence. The main problem is when the individual appeals from a sentence since the conviction cannot be listed in his Conduct pending the definitive outcome of the appeal.

Corruption

Whilst reports of bribes have been reported in the media (Anon, 2010b,c), some hunters lamented that a few poachers are never apprehended despite that “the authorities know who they are”. Two participants pointed out that although their own apprehension for using illegal hunting methods was straightforward, poachers nearby “remain free to do whatever pleases them, even during the closed season”. This in itself is also cause for rebellion.

Competition

Some avian species such as Bee-eaters, *Merops apiaster* L., and Night Herons *Nycticorax nycticorax* L., often continue to circle above poachers despite a volley of shots. These birds may even follow the path taken by those that are gunned down. Research suggests that the decimation of such flocks is often the result of a group of individuals trying to out-compete each other.

Target shooting

This form of poaching, whilst being more prevalent until the 1980s, is still practiced today. Some individuals test their shooting skills on hirundines and resident sparrows despite being protected species. Many consider and dub the latter as an agricultural pest.

Captive rearing

The intention of some poachers is not to kill a protected bird but to wound and heal it with the intention of rearing it in captivity. Raptors generally fall victim to this form of poaching, although not for falconry. These individuals do not contend with purchasing captive-bred stock but would rather avail themselves of a wild specimen, rarely two. The concept of “*res nullius*” (Theuma, 2000) manifests itself through this poaching motivation as well as taxidermy. However, the majority of hunters dismissed the idea that there are any special ‘ownership rights’ over migratory birds, explicitly siding with the common heritage theory. The typical response was that birds “belong to everyone”.

4.2 Do Maltese hunters view poaching as a problem?

4.2.1 General observations

There is strong evidence to suggest that hunters link tolerance of poaching with utilisation—they neutralise its adverse impacts if the shot bird ‘serves a particular purpose’ to the poacher. Conversely, the majority of surveyed hunters distinguished between poachers who shoot different species — or dissimilar specimens of the same taxon — for the first time and those who shoot the same species or similar specimens repeatedly. The latter were frowned upon as wrongdoers, killing protected birds “out of spite” but, interestingly, only when they never intend to utilise the birds. “Why kill them if you’re going to leave them there?” they lamented. Whilst against the persistence of such illicit activity, the majority failed to acknowledge that all forms of poaching are unacceptable despite being fully aware that these are crimes punishable by law.

Some hunters consider poaching as “just another crime” and that there is nothing wrong in shooting at a protected bird if this is limited to one specimen from the full suite of species. They argue that newly licensed individuals invariably desire to shoot at protected birds given that “they are only 18 years of age and full of enthusiasm”. ALE confirmed this, claiming that young poachers comprise the majority of apprehensions. Participants maintained that although not all young hunters shoot at protected birds this is nonetheless something to be expected. Some maintained that the authorities should even tolerate it since poaching in Malta could never pose a threat to bird conservation. Many endorse the shooting of novel species, or exemplars with unique plumage, regardless of their conservation status.

4.2.2 Poaching vs. legal hunting

Poaching has placed legal hunting in Malta at a significant disadvantage due to bad publicity, tarnishing the reputation of law-abiding hunters. Hunters claim that this has led to overly restrictive legislation hindering their right to enjoy their *namra*, rather than a tool against poaching. Consequently, law-abiding hunters are likely to suffer disproportionately. For example, whilst poachers do not differentiate between open and closed seasons, law-abiding hunters do. Hunters proclaimed, "...in effect it is useless to use poaching as an excuse to ban traditional hunting".

4.2.3 Poaching in Malta vs. poaching overseas

A limited number of participants were aware of poaching overseas, arguing that such illicit activity not only fails to tarnish the reputation of foreign hunters but that it rarely makes it to the headlines, unlike the local scenario. They linked the latter to the Islands' limited land area, overpopulation and the "obsession of bird conservation groups to ban legal hunting". This echoes Bankston and Jenkins' density-dependent theory of poaching. However, some maintained that a few individuals remain equally obsessed with shooting protected birds at the expense of law-abiding hunters.

4.2.4 Poaching vs. bird conservation

BLM maintained that, "...hunters do not think that they are actually causing any harm to the conservation status of these [protected] species". However, the majority of hunters did consider poaching as a threat to the conservation status of at least *some* protected birds—their emphasis was invariably on raptors. They elaborated their objection to poaching by claiming that raptors take a long time to reach reproductive

age, as discussed by Newton (1998). Conversely, some respondents saw nothing wrong in shooting hirundines and sparrows for target practice.

Two hunters were very indifferent, maintaining that the adverse impacts of poaching are minimal since “Malta is a small country and not along the principal migratory route”. When the scarcity of the Pallid Harrier, *Circus macrourus* Gmelin, was mentioned, both questioned the veracity of its conservation status: “How can they be so sure that only 50 pairs remain in Europe?”, rather than acknowledging the impact of poaching on this species. However, only a handful of individuals felt that if they do not shoot a rare bird others would—the majority were unconditionally against the shooting of rare species.

4.2.5 Poaching vs. reintroduction programmes

Most hunters were in favour of reintroducing extirpated species. Whilst agreeing that their reintroduction is not impossible, they maintained that poaching is their ultimate threat. A common reply was that “they will definitely be shot”. Some hunters admitted that they too would shoot them given the chance. The motivations behind the shooting of reintroduced species are taxidermy and to raise them in captivity. Those explicitly against reintroduction programmes based their objection on poaching and lack of suitable habitat. Interestingly, apart from poaching, ALE considered environmental problems as a threat to the successful reintroduction of extirpated species, particularly habitat loss due to urbanisation and a dearth of freshwater.

4.3 What management options are required to combat poaching in the Maltese Islands?

Poaching of protected avian species in Malta falls within the broad category of open access regime. It is physically and economically impossible to exclude individuals from gaining access to migratory, resident or reintroduced birds. The extirpation of four breeding species is testimony to this “tragedy of the commons” (Hardin, 1968). Although inherently difficult to eradicate, the ultimate key to clamp down on poaching is to uncover and effectively address its underlying rationales. The root cause of the problem thus becomes its own solution if properly tackled, provided there is a political will to do so.

This section outlines a set of management options to combat poaching based on the identified underlying motivations. Decision-makers must consider and implement them collectively—they must resist the temptation of picking out politically appealing ones whilst disregarding the rest. Appendix K purposely regroups them for ease of reference. A long-term monitoring programme must accompany their implementation to gauge progress and to ensure they remain effective over the years.

4.3.1 Bolster enforcement and set up a Wildlife Crime Unit

Continuous monitoring of the countryside, including officers strategically placed at fixed points, is crucial in the fight against poaching. Apart from duties related to poaching on land and at sea, ALE deals with all matters related to environmental law as well as drugs and public security. Poachers take advantage of this situation whenever ALE officers are unavailable. Although law enforcement has improved

over the years, a complete overhaul is required. ALE officers should be dedicated entirely to enforce environmental law and have access to continuous professional development. This is only possible if ALE is detached from the Police Force, retains authority to uphold the law and forms a separate entity along similar lines to the Civil Protection Department. A substantial increase to ALE's current complement of 19 officers is also necessary.

The setting up of a full-time Wildlife Crime Unit (WCU), founded by ALE staff, is crucial for *in situ* conservation in Malta. Interestingly, the WCU proposal has the full backing of ALE, BLM, NPI and the majority of surveyed hunters, "provided it is not composed of, or includes, extremists" (ALE, pers. comm., 2011). The WCU must operate on a 24-hour schedule throughout the year to act as a proper deterrent. As NPI pointed out, the legal system is entirely dependent on enforcement and apprehension.

4.3.2 Match fines with crimes

The survey data show that appropriate deterrents are essential to prevent protected birds from being illegally shot. Together with enforcement, matching fines with crimes will serve a much-needed disincentive for all poaching motivations, although they are particularly crucial against motivations linked to taxidermy and opportunism. Thus, the fear of apprehension and harsher penalties remain inextricably linked. Since the current minimum fine of €233 is not acting as a proper deterrent for first time offenders, it must be increased up to a level that renders a one-off poaching event not worthwhile. The absence of such deterrent would motivate those who continue to poach until eventually apprehended, to the detriment of avifauna.

The “ok to shoot one” rationale will spell disaster for both threatened and reintroduced species as there can never be enough specimens to satisfy each first-time offender. There should also be tougher sentences for recidivists and such convictions prominently featured in the media, “...so as not to leave any doubt in people’s minds that both the judiciary and the police were pulling their weight, and that bird-crime no longer paid.” (Anon, 2011b). The judiciary must be fully aware of the implications of poaching on avifauna. This can be achieved if they are encouraged to participate in educational workshops organised by BLM and the hunters’ representatives.

4.3.3 Involve other hunting groups

Impartiality to poaching by the smaller hunting groups is of significant concern. Whilst FKNK and KSU are working hard in their fight against poaching, the other two hunting groups also need to pull their weight and seen to be doing so. All hunting groups should thus emulate FKNK’s declaration of zero tolerance to poaching. FKNK and KSU have a significant role to play in encouraging their active involvement and to ensure these groups also contribute to tangible results. However, whether a merger of these groups would reduce poaching incidences remains questionable.

4.3.4 Close the taxidermy loophole

During the 1997/8 and 2003 bird registration schemes, no security tags were fitted on stuffed birds and no crosschecks were made. Many over-declared the number of birds in their possession to obtain registration certificates for future specimens. For example, if an individual at the time of registration had three Barn Owls in his private

collection, rather than declaring three, he would purposely declare more—the individual continues to shoot Barn Owls until his registered limit is reached. Even if the declared number of protected birds had to tally with the actual number in private collections, these poorly managed schemes made it possible for fresh specimens to replace poorly mounted or unwanted registered exemplars. Unless this pervasive incentive is rectified, it would be impossible to control poaching for taxidermy. Success depends on dedicated resources to inspect each registered collection with urgency.

4.3.5 Education, self-discipline and self-regulation

Poaching is inversely proportional to maturity. Hunters argue that “...only self-discipline [as opposed to education] will eventually wean individuals off poaching”. Although campaigns against poaching do help, on their own they remain ineffective. Youths are particularly susceptible to the full suite of poaching motivations for two reasons: an education system heavily biased against legal hunting (leading to rebellion) and guardians failing to lead by example. The emphasis of bird conservationists must be on combating poaching rather than on eradicating legal hunting. This not only frees hunting groups from continuously having to rebut anti-hunting pressures but also helps all stakeholders to unite in their fight against poaching.

The majority of hunters are not willing to report poaching incidences for fear of repercussions. Although they are prepared to warn off poachers, self-regulation based on reporting remains implausible. A guardian–young hunter approach is necessary to improve self-discipline and self-regulation. It instils a sense of

responsibility and can suppress all poaching motivations from a very early age. For this to be implemented an amendment to current legislation is required—it must be declared unlawful for a person under the age of 25 to hunt unless accompanied by a registered guardian. The latter must be in possession of a valid hunting licence and a clean Police Conduct. Apart from the licensees' details, new licences and subsequent renewals must include the guardian's name and Identity Number until the licensee reaches 25 years of age.

4.3.6 Provide incentives

Whilst the fear of apprehension and harsher sentences will help counteract all poaching motivations, many hunters are equally less likely to poach out of frustration and rebellion if appropriate incentives are in place. The following proposals must be considered in addition to legal hunting, rather than its alternative:

1. Hunting seasons should reflect the species' migration period. For example, the majority of huntable ducks migrate in February during the closed season.
2. Empower an entity to raise huntable birds in captivity to bolster legal hunting opportunities (a 'raise and release' scheme). Although very different from traditional hunting, this incentive will reduce poaching out of frustration.
3. Heavily subsidise clay pigeon shooting to reduce target shooting.
4. Lift the September 3pm-ban and abolish collective punishments to reduce poaching as a form of rebellion.

5.0 Conclusion

This study has investigated the underlying factors that lead to the shooting of protected birds in the Maltese Islands. Two categories of poachers encompass 14 poaching motivations, a core outcome of the first research question. Category I poachers are driven by taxidermy, either for their own private collection or for financial gain. Conversely, Category II poachers act on opportunism, frustration and/or as a form of rebellion. A poaching incident may be due to a single motive or a combination of two or more. Regardless of the motives, poaching only occurs when two qualifying elements are present: an innate desire to shoot at protected species and the likelihood of not being caught.

The second research question attempted to gauge hunters' attitudes toward the illegal shooting of protected birds to determine whether they view poaching as a problem. The desire to shoot at protected avian species remains a considerable drive. Although hunters consider poaching as a serious threat to traditional hunting, many feel that its implications to avifauna are negligible. They not only tolerate but also justify some form of poaching, adopting utilisation as a rationale to neutralise its adverse impacts. Although the majority are against the shooting of rare species, some see nothing wrong in the shooting of a protected bird if restricted to a single specimen from the full suite of species. Others endorse the shooting of novel species, or exemplars with unique plumage, regardless of their conservation status. Although not all hunters are interested in shooting at protected birds, many only abstain for fear of apprehension.

This research has shown that the ultimate key to combat poaching is to uncover and effectively address its underlying factors. The root cause of the problem becomes its own solution if properly tackled, provided there is a political will to do so. A number of management options to reduce the likelihood of protected birds from being shot emerged from the third research question. The fear of apprehension and harsher penalties are crucial deterrents for all poaching motivations, particularly those related to taxidermy and opportunism. However, it is equally necessary to provide incentives to suppress frustration and rebellion. The concerted effort of all stakeholders to clamp down on poaching is also very important. Although not a panacea for *in situ* conservation, poaching will continue to pose a very serious threat to protected avifauna and to the successful reintroduction of extirpated species unless these management options are fully implemented.

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Appendix A Species legally hunted in the Maltese Islands (excluding Comino, minor islets and other nature reserves) during autumn and winter

Scientific name	Maltese name	English name	Birds Directive Annex II ⁶	Migrant	Winter Visitor	Rare and Irregular / Vagrant
Part A						
<i>Anas acuta</i>	Silfjun	Pintail	x	x	x	
<i>Anas clypeata</i>	Palettuna	Shoveler	x	x	x	
<i>Anas crecca</i>	Sarsella	Eurasian Teal	x	x	x	
<i>Anas penelope</i>	Silfjun Ewropew	Eurasian Wigeon	x	x	x	
<i>Anas platyrhynchos</i>	Kuluvert	Mallard	x	x	x	
<i>Anas querquedula</i>	Sarsella Hamra	Garganey	x	x		
<i>Anas strepera</i>	Kuluvert Griż	Gadwall	x		x	
<i>Anser anser</i>	Wizzà Griża	Greylag Goose	x			x
<i>Anser fabalis</i>	Wizzà tal-Ful	Bean Goose	x			x
<i>Aythya farina</i>	Brajmla	Common Pochard	x	x	x	
<i>Aythya fuligula</i>	Brajmla tat-Toppu	Tufted Duck	x			x
<i>Columba palumbus</i>	Tudun	Wood Pigeon	x	x	x	
<i>Fulica atra</i>	Tigjega tal-Baħar	Common Coot	x	x	x	
<i>Gallinago gallinago</i>	Bekkaċċ	Common Snipe	x	x	x	
<i>Lymnocyptes minimus</i>	Ĉinkonja	Jack Snipe	x	x		
<i>Scolopax rusticola</i>	Gallina	Woodcock	x	x	x	
Part B						
<i>Alauda arvensis</i>	Alwetta	Skylark	x	x	x	
<i>Coturnix coturnix</i>*	Summiena	Common Quail	x	x		
<i>Gallinula chloropus</i>	Gallozz Iswed	Moorhen	x	x		
<i>Mergus serrator</i>	Serra	Red-breasted Merganser	x	x	x	
<i>Philomachus pugnax</i>	Girwiel	Ruff	x	x		
<i>Pluvialis apricaria</i>	Pluviera	European Golden Plover	x	x	x	
<i>Pluvialis squatarola</i>	Pluviera Pastarda	Grey Plover	x	x		
<i>Rallus aquaticus</i>	Gallozz tax-Xitwa	Water Rail	x	x	x	
<i>Streptopelia turtur</i>*	Gamiema	Turtle Dove	x	x		
<i>Sturnus vulgaris</i>	Sturnell	Common Starling	x	x	x	
<i>Turdus iliacus</i>	Malvizz Ahmar	Redwing	x	x	x	
<i>Turdus merula</i>	Malvizz Iswed	Blackbird	x	x	x	
<i>Turdus philomelos</i>	Malvizz	Song Thrush	x	x	x	
<i>Turdus pilaris</i>	Malvizzun tal-Qtajja ⁷	Fieldfare	x	x	x	
<i>Turdus viscivorus</i>	Malvizzun Prim	Mistle Thrush	x	x		
<i>Vanellus vanellus</i>	Venewwa	Northern Lapwing	x	x	x	
Sub-totals				28	21	3
Total						32

Data sources: BirdLife Malta (2008)⁷ and FKNK (2008)⁸.

* The Turtle Dove and Quail are the only taxa that may be hunted in spring through derogation under Article 9 of the Birds Directive (2009/147/EC).

⁶ Species listed in Annex II/A of the Birds Directive (2009/147/EC) may be hunted throughout the EU, whereas species listed in Annex II/B may only be hunted in specific Member States.

⁷ BirdLife Malta (2008) *Species list of the birds of the Maltese Islands*. Available at: <http://www.birdlifemalta.org/Content/bird_watchers/bird_watching/malta_birds/880/> [Accessed 20 October 2010].

⁸ FKNK (2008) *Wild Birds' Check-List*. Federation for Hunting & Conservation - Malta (FKNK). June 2008. Available at: <http://www.huntinginmalta.org.mt/uploads/24/375/FKNK_MALTA_WILD_BIRDS_CHECK-LIST_JUNE_2008.xls> [Accessed 20 October 2010].

Appendix B Birds recorded in the Maltese Islands: a comparison between the 2008 checklists of BirdLife Malta and FKNK, and their listings under Annex I of the EU's Birds Directive and international treaties

	Total *	EU's Birds Directive ⁹	CITES ¹⁰		Bonn Convention ¹¹		Bern Convention ¹²	
		Annex I	Appendix I	Appendix II	Appendix I	Appendix II	Appendix II	Appendix III
BLM	382	112†	5	25	18	126	207	170
FKNK	314‡	91	3	18	11	110	171	138

Note: Species may be listed under multiple appendices.

* Excludes two introduced species (Pheasant and Chukar) found only on Comino.

† The correct number of Annex I species recorded in the Maltese Islands is 112, not 104 as reported in BLM's checklist.

‡ FKNK rejected 70 species from a total of 382, based on unspecified "Ornithological & Documented Data". The Federation also pointed out that "165 species are extremely rare, have been sighted only once or have never been sighted in the last 50 years." (FKNK, 2008).

Data sources: CITES (1975); Bern Convention (1979); Bonn Convention (1979); BirdLife Malta (2008)¹³; FKNK (2008)¹⁴ and EC (2010).

⁹ Article 4 of the **Birds Directive** specifies that the "species mentioned in **Annex I** shall be the subject of special conservation measures concerning their habitat in order to ensure their survival and reproduction in their area of distribution" (EC, 2010). **Annex II** species may be hunted under the provisions of Article 7—any activity beyond its provisions is subject to derogation under Article 9.

¹⁰ **Appendix I** of the **Convention on International Trade in Endangered Species of Wild Fauna and Flora** lists species that are in serious danger of extinction. **Appendix II** lists species whose trade must be carefully controlled to ensure that they do not become threatened. Appendix II also contains species that closely resemble Appendix I taxa to prevent their trading as non-regulated wildlife (CITES, 1975: Revised Appendices, valid from 14 October 2010).

¹¹ **Appendix I** of the **Convention on the Conservation of Migratory Species of Wild Animals** lists "migratory species that are in danger of extinction throughout all or a significant proportion of their range". **Appendix II** lists "species that have an unfavourable conservation status or would benefit significantly from international co-operation organised by tailored agreements" (Bonn Convention, 1979: Revised Appendices effective from 5 March 2009).

¹² **Appendix II** of the **Convention on the Conservation of European Wildlife and Natural Habitats** lists strictly protected fauna. **Appendix III** lists protected fauna (Bern Convention, 1979: Revised Appendices, March 2002).

¹³ BirdLife Malta (2008) *Species list of the birds of the Maltese Islands*. Available at: <http://www.birdlifemalta.org/Content/bird_watchers/bird_watching/malta_birds/880/> [Accessed 20 October 2010].

¹⁴ FKNK (2008) *Wild Birds' Check-List*. Federation for Hunting & Conservation - Malta (FKNK). June 2008. Available at: <http://www.huntinginmalta.org.mt/uploads/24/375/FKNK_MALTA_WILD_BIRDS_CHECK-LIST_JUNE_2008.xls> [Accessed 20 October 2010].

Appendix C Raptor species that were killed in EU Member States during 2007 through derogation (Article 9 of the Birds Directive)

Scientific name	Common name	Member State	Number of birds killed	EC's comments (EC, 2009)	Birds Directive (2009/147/EC)	CITES	Bonn Convention	Bern Convention
<i>Accipiter nisus</i>	Eurasian Sparrowhawk	Denmark	3	Not in conflict with the Birds Directive.	Annex I ¹⁵ (<i>A. n. granti</i> only: Canarian–Madeirian subspecies)	Appendix II ¹⁶	Appendix II ¹⁷	Appendix II ¹⁸
<i>Buteo buteo</i>	Common Buzzard	Denmark	68	Not in conflict with the Birds Directive.	Not listed	Appendix II	Appendix II	Appendix II
		France	Unspecified	Derogation should be better documented.				
		Germany	Unspecified	Possibly in conflict with the Birds Directive. No further actions specified.				
<i>Falco tinnunculus</i>	Common Kestrel	Belgium	Unspecified	Not in conflict with/not listed in the Birds Directive.	Not listed	Appendix II	Appendix II	Appendix II
		Denmark	48	Not in conflict with/not listed in the Birds Directive.				

Data sources: CITES (1975); Bern Convention (1979); Bonn Convention (1979) and EC (2009, 2010).

¹⁵ Article 4 of the **Birds Directive** specifies that the “species mentioned in **Annex I** shall be the subject of special conservation measures concerning their habitat in order to ensure their survival and reproduction in their area of distribution” (EC, 2010). Annex II species may be hunted under the provisions of Article 7—any activity beyond its provisions is subject to derogation under Article 9.

¹⁶ Appendix II of the **Convention on International Trade in Endangered Species of Wild Fauna and Flora** lists species whose trade must be carefully controlled to ensure that they do not become threatened. Appendix II also contains species that closely resemble Appendix I taxa to prevent their trading as non-regulated wildlife (CITES, 1975: Revised Appendices, valid from 14 October 2010).

¹⁷ Appendix II of the **Convention on the Conservation of Migratory Species of Wild Animals** lists “species that have an unfavourable conservation status or would benefit significantly from international co-operation organised by tailored agreements” (Bonn Convention, 1979: Revised Appendices effective from 5 March 2009).

¹⁸ Appendix II of the **Convention on the Conservation of European Wildlife and Natural Habitats** lists strictly protected species (Bern Convention, 1979: Revised Appendices, March 2002).

Appendix D Raptor species that were captured in EU Member States during 2007 through derogation (Article 9 of the Birds Directive) to be used for falconry

Taxonomic name	Common name	Member State	Number of birds captured	EC's comments (EC, 2009)	Birds Directive (2009/147/EC)	CITES	Bonn Convention	Bern Convention
<i>Accipiter gentiles</i>	Goshawk	Germany	17	Not in conflict with the Birds Directive.	Annex I (<i>A. g. arrigonii</i> only: Corsican & Sardinian subspecies)	Appendix II	Appendix II	Appendix II
	[Not recorded in Malta]	Hungary	12					
		Czech Republic	Unspecified					
		Poland	Unspecified					
<i>Falco peregrinus</i>	Peregrine Falcon	Poland	Unspecified	Not in conflict with the Birds Directive. "The correct use of derogations, which should be used as an exception, will be further monitored." (EC, 2009: 35)	Annex I	Appendix I ¹⁹	Appendix II	Appendix II
<i>Falco cherrug</i>	Saker Falcon	Poland	Unspecified					
Falconiformes	Eagles, Falcons, Hawks, Vultures	Spain	Unspecified	No information on alternative solutions.	Undetermined: depends which taxon	Appendix II (except taxa listed in Appendices I & III)	Appendix II	Appendix II

Data sources: CITES (1975); Bern Convention (1979); Bonn Convention (1979) and EC (2009, 2010).

¹⁹ Species in serious danger of extinction



FEDERAZZJONI KAĊĊATURI NASSABA KONSERVAZZJONISTI
F E D E R A T I O N F O R H U N T I N G & C O N S E R V A T I O N - M A L T A

Members of:



F.A.C.E.
Federation of
Associations
for Hunting &
Conservation
in the E.U.



C.I.C.
International
Council
for Game &
Wildlife
Conservation



A.E.C.T.
European
Association Of
Traditional
Hunting

Għażiż Membru,

Diċembru 2010

Permezz ta' din l-ittra, l-Kunsill tal-Federazzjoni Kaċċaturi Nassaba Konservazzjonisti (FKNK) jinfurmak li ġejt magħżul, b'mod każwali mill-lista tal-membri tagħna, sabiex tipparteċipa f'*survey* dwar il-kaċċa fil-Gżejjer Maltin. Dan is-*survey* jikkonsisti f'intervista mas-Sur Richard Lia. Is-Sur Lia qiegħed jagħmel din ir-riċerka bħala parti mill-Masters tiegħu fil-konservazzjoni u l-immanigjar tal-biodiversità ma' l-Università ta' Londra (*Centre for Development, Environment and Policy*).

Skond ir-reqwiziti tal-Università dwar ir-riċerka, s-Sur Lia ser jassigura li l-ebda nformazzjoni personali jew informazzjoni oħra li tista' twassal għall-identità tal-individwu m'hi ser tiġi maħzuna jew imxandra. L-FKNK ser tibqa' l-kustodju assolut ta' l-informazzjoni relatata mas-shubija tiegħek magħna, kif mitlub mill-Att dwar il-Protezzjoni u l-Privatezza tad-Data, 2001. Il-proċess tar-riċerka ser ikun qed isegwi b'mod strett ir-regolamenti tal-Università ta' Londra dwar l-etika, u biss bil-kunsens tiegħek. Nassiguraw li m'intix ser tiġi (u lanqas tista' tiġi) individwat fl-ebda parti tal-pubblikazzjoni sussegwenti. Is-Sur Lia qalilna li għandek dritt tiegħek tipparteċipa f'dan is-*survey* x'hin trid. Għaldaqstant, formola dwar l-etika u l-kunsent ser jiġi ffirmati mis-Sur Lia u dawn jiffurmaw parti mir-reqwiziti għas-sottomissjoni tat-teżi tiegħu lill-Università ta' Londra.

Filwaqt li nisperaw li ma ssib l-ebda oġġezzjoni li tipparteċipa f'dan l-istudju, il-Federazzjoni temmen li inti tista' toffri l-kollaborazzjoni shiha tiegħek. L-FKNK għandha tikkuntattjak għall-aħħar ta' Frar 2011 għal appuntament mas-Sur Lia.

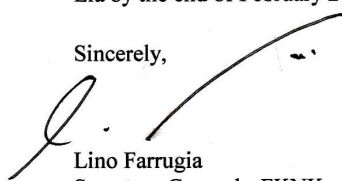
Nirringrazzjawk bil-quddiem,

You have been randomly selected to take part in a survey on hunting in the Maltese Islands. The survey involves an informal interview with Mr. Richard Lia, a post-graduate student who is carrying out the research as part of his Masters degree on Biodiversity Conservation and Management with the University of London (*Centre for Development, Environment and Policy*).

In line with the University's requirements on research projects, Mr. Lia will ensure that no personal information or personally identifiable data will be stored or disseminated. The Federation for Hunting & Conservation – Malta (FKNK) will remain the sole custodian of your membership details, in line with the Data Protection Act, 2001. The research process will be carried out under strict University of London rules and regulations on ethical issues, and will proceed through informed consent. You will not (and cannot) be identified in any subsequent publication. Mr. Lia informs us that you are free to withdraw from the survey at any time. An ethical form and informed consent form will be signed by Mr. Lia in this regard as a prerequisite for the submission of his research report to the University of London.

Whilst hoping that you should not find any objections in taking part in this study, the Federation trusts that you will offer your full collaboration. You will be contacted by the Federation for an appointment with Mr. Lia by the end of February 2011.

Sincerely,



Lino Farrugia
Secretary General - FKNK

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Honorary Officials:

J. Buttigieg President, A. Mifsud Vice President, L. Farrugia Secretary, C. Brincat Treasurer, R. Cilia PRO, J. Perici Calascione Administrative Consultant, Dr. E. Mallia L.P.,LL.D Legal Advisor.

Appendix F A comparison between the sample and the sampling frame

Before deleting the Excel sheet containing the total number of FKNK hunters in 2010 a comparison between the sample and the sampling frame was carried out. The purpose of this exercise was to determine the extent of variability in sample representativeness, based on age groups.

To ensure that no personally-identifiable information could be observed all columns in the spreadsheet were hidden except the one containing the individual's national identity card number (an alpha-numeric code), which was narrowed until only the last three digits were visible.

The last two digits of the ID card numbers represent the birth year, unless the individual is a foreign national or a return migrant, in which case these reflect the year of registration rather than the birth year. Since these are represented by the letters 'A' or 'L' it was possible to filter them out—their age was impossible to establish using such method.

An Excel formula was used to convert the last two digits of the ID card numbers into a four-digit, representing the birth year. For example, '74' would be returned as '1974'. It was adjusted to automatically convert the year to hunters' age in 2011 (e.g., 37), as follows.

$$=2011-(MID(A1,LEN(A1)-2,2)+1900)$$

where A1 is the cell location of the individual alpha-numeric string (ID card number)

Overall, the random sample closely matched the age groups of the sampling frame, with the exception of age groups 50–59 and 60+. The former was slightly over-represented and the latter under-represented in the sample. The average age of all FKNK hunters in 2011 was 45—it compared well with that of the sample, which was 43.

The simple random sample (SRS) explained

Each individual from the sampling frame had an equal chance of being selected. This SRS is considered self weighting using a constant sample fraction for the entire (non-stratified) sampling frame, which is 0.0045 ($P = 40/8979$).

Sampling frame	Sample size	Sampling fraction
8,979	40	0.0045

Appendix G Questionnaire to the Administrative Law Enforcement (ALE) of the Malta Police Force; BirdLife Malta (BLM); and the Nature Protection Inspectorate (NPI) of the Malta Environment and Planning Authority

Understanding the problem of poaching and its extent

1. Why do individuals resort to the shooting of protected species, such as raptors (birds of prey)? Please provide information with respect to what you think their motives behind shooting of protected species are.
2. Is illegal hunting a widespread problem in the Maltese Islands?
3. Which hunting associations contain the highest number of individuals who have been apprehended for shooting protected birds?
4. Have there been incidences of poaching by individuals who do not pertain to any hunting association? Can you provide details in terms of numbers of such poachers during 2009 and 2010? Please do not provide information on individuals!
5. Does expulsion of individuals from their hunting association help reduce the incidence of poaching? How?
6. Do you think individuals expelled from one association can seek membership with another association? If so, what would you recommend for this to be prohibited?
7. When is poaching more frequent, during autumn or spring migration?

Law Enforcement

8. Is ALE under-resourced?
9. Do you agree that ALE should be assisted by a full-time Wildlife Crime Unit?
10. Are hunting laws sufficiently enforced?
11. Is the legal system adequately matching the fine with the crime? In other words, are apprehended individuals being fined according to the severity of the illegality (for example, shooting a very rare protected bird)?
12. Is the legal system a sufficient deterrent for poachers?
13. Is the legal system taking into account repeat offenders (for example, escalating fines if the individual has a history of poaching)?

Reintroduction of extirpated species

14. What are the most pressing threats to the successful reintroduction of extirpated species, such as the Barn Owl, to the Maltese Islands?
15. What would ensure the successful reintroduction of the Barn Owl in the Maltese Islands in terms of poaching? In other words, how can we make sure that poachers do not shoot reintroduced species?

Appendix H Interview guide (FKNK hunters)

Research Question 1: What are the motives behind the shooting of protected birds in the Maltese Islands?

1. *Li kieku kellek iżżid xi għasafar mat-32 speċi li jistgħu jiġu kkaċċjati fil-ħarifa u x-xitwa, liema tagħżel u għalfejn?*

If you could add more birds to the list of 32 species that are huntable in autumn and winter, which ones would you choose and why?

2. *Tikkonsidra tinkludi l-għasafar kollha fil-lista? Għalfejn?*

Would you consider adding all species to the hunting list? Why?

3. *Ħafna jaqblu li l-isparar fuq tajr protett naqas matul is-snin. Pero' dan ifisser li xi għasafar protetti xorta għadhom jinqatlu. Fl-opinjoni tiegħek, għalfejn dawn l-għasafar protetti jisparawlhom?*

Many would agree that the extent of poaching (shooting of protected birds) has decreased over the years. This also means, however, that some protected birds are still shot. In your opinion, why do they shoot these birds?

4. *X'taħseb dwar dil-frażi: 'L-għasafar li jpassu minn fuq il-Gżejjer Maltin huma tal-Maltin'?*

What is your opinion of the following statement: 'Birds that migrate over the Maltese Islands belong to the Maltese people'?

5. *Immagina dis-sitwazzjoni: Erba' t'ihbieb li għadhom kemm ġabu il-licenzja tal-kaċċa marru jikkaċċjaw flimkien għall-ewwel darba. Jaraw qata' kuċċard fuqhom. Taħseb li jisparawlhom? Tista' tispjega għalfejn?*

A group of friends have just obtained their hunting licence and are out in the field for the first time. They see a flock of buzzards soaring overhead. Do you think they will shoot them? Can you explain why?

6. *Immagina xi ħadd ilu joħroġ għall-kaċċa b'mod regolari għal diversi ġimgħat, avolja passa fqira, u ma sparax tir wieħed. F'daqqa waħda jara tajra tal-priża riesqa lejha u għalkemm iħoss kilba biex jispara, ma jisparax. Tista' tispjegali x'hini dik il-kilba li wieħed iħoss u kif tiġi ikkontrollata?*

Someone has been out hunting regularly for several weeks despite not seeing a single bird. He suddenly sees a raptor flying past and despite an urge to shoot, he does not. Can you explain what that urge feels like and how it is overcome?

7. *Individwu ieħor ukoll ma sparax tir wieħed tul il-perjodu tal-kaċċa minħabba passa fqira. Jara barbaġann u jisparalu. Għaliex taħseb li sparalu?*

Another individual also failed to fire a single shot during the hunting season due to poor migration. He sees a Barn Owl and shoots it. Why do you think he shot it?

8. *Is-sena ta' wara l-istess individwu mar tajeb fuq l-imlievez waqt il-perjodu tal-kaċċa. Jara barbaġann u jisparalu. Għaliex taħseb li sparalu?*

The following year the same individual bagged a good number of thrushes during the hunting season. He comes across a Barn Owl and shoots it. Why do you think he shot it?

9. *Taħseb li Malta u Għawdex huma żvantaġġati fir-rigward tal-kaċċa meta mqabbla ma pajjiżi oħra Ewropej?*

Do you feel Malta and Gozo are disadvantaged in terms of hunting when compared to other European countries?

Research Question 2: Do Maltese hunters view poaching as a problem?

10. *Taf jekk tajr protett jinqatlix f'pajjiżi oħra Ewropej? Jekk iva, x'hini l-opinjoni tiegħek dwar dan?*

Do you know whether protected birds are killed in other European countries? If so, what is your opinion about it?

11. *X'hini l-opinjoni tiegħek dwar l-isparar fuq tajr protett fil-Gżejjer Maltin?*

What is your opinion on the shooting of protected birds in the Maltese Islands?

12. *X'taħseb dwar dil-frażi: 'L-isparar fuq għasafar protetti ma jagħmel l-ebda ħsara'?*

What is your opinion of the following statement: 'The shooting of protected birds does no harm.'

13. *Waqt li tkun għall-kaċċa tara għasfur protett jinqatel. Kif tirrejaġixxi?*

Whilst out hunting you see a protected bird gunned down. How would you react?

14. *Immagina tara tajra tal-priża rarissima iddur fuqek. Ma tisparalhiex imma ħaddieħor jisparalha u jwaqqagħha. Kif tħossok f'din iċ-ċirkostanza?*

Imagine seeing a very rare bird of prey circling above you. Although you do not shoot it, someone else guns it down. How would you feel in such situation?

15. *Taqbel li għasafar li m'għadhomx jgħixu f'pajjiżna għandhom jigu ri-introdotti? Għaliex?*

Do you agree that extirpated species should be reintroduced? Why?

16. *Taħseb li għasafar li m'għadhomx jgħixu f'pajjiżna għad jerggħu jstabilixxu?*

Do you think extirpated species will re-establish?

17. *X'taħseb dwar dil-fraži: 'Impossibbli li l-barbaġann jistabilixxi lura f'pajjiżna'.*

What is your opinion of the following statement: 'It is impossible for the Barn Owl to re-establish in our country'.

18. *X'taħseb li hi l-akbar problema għal dawk l-ispeċi t'għasafar li m'għadhomx jgħixu f'pajjiżna biex jistabilixxu lura?*

What would you consider the most pressing threat for extirpated species to re-establish in our country?

Question 3: What management options are required to combat poaching in the Maltese Islands?

19. *X'hinuma l-aktar affarijiet importanti li għandhom jiġu ikkunsidrati biex jieqaf l-isparar fuq tajr protett?*

What are the most important issues one needs to consider to halt the shooting of protected birds?

20. *Huwa impossibbli li l-isparar fuq tajr protett jiġi ikkontrollat?*

Is shooting of protected species impossible to control?

21. *X'taħseb għandu jsir biex nassiguraw li għasafar li m'għadhomx jgħixu f'pajjiżna jiġu ri-introdotti?*

How can we ensure the successful reintroduction of extirpated species?

22. *X'hini l-opinjoni tiegħek dwar l-infurzar tal-liġi rigward sparar fuq tajr protett?*

What is your opinion on law enforcement in terms of poaching?

23. *Taqbel li l-pieni għal min jispara fuq tajr protett huma biżżejjed?*

Are the penalties for shooting protected birds adequate?

24. *X'tipproponi biex ma jisparawx fuq tajr protett?*

What would you propose to stop individuals from shooting at protected birds?

25. *Taqbel li għandha tinħoloq Wildlife Crime Unit?*

Do you agree with the setting up of a Wildlife Crime Unit?

26. *Hemm xi fatturi oħra li għandhom jitqiesu biex jonqos l-isparar fuq tajr protett?*

Are there any other considerations that must be borne in mind to lessen the shooting of protected birds?

Appendix I Interview guide (ALE focus group)

Shooting of protected birds and its extent

1. *Għalfejn individwi jisparaw fuq tajr protett?*

Why do individuals shoot at protected birds?

2. *X'hini l-opinjoni tagħkom dwar l-isparar fuq tajr protett f'pajjiżna?*

What is your opinion on the shooting of protected birds in our country?

3. *Mill-esperjenza tagħkom, hemm xi għaqdiet tal-kaċċa li għandhom iktar persentaġġ ta' membri li inqabdu jisparaw fuq tajr protett?*

From your experience, are there any hunting groups with a higher percentage of individuals apprehended for shooting protected birds?

4. *Ġieli inqabdu individwi jisparaw fuq tajr protett li m'humiex membri ma' l-ebda għaqda tal-kaċċaturi?*

Have there been instances of apprehension of individuals not member of any hunting group?

5. *Taħsbu li individwu li jitkeċċa mill-għaqda tiegħu xorta jispara fuq tajr protett? Għaliex/kif?*

Do you think an individual expelled from his hunting group still shoots at protected birds? Why/how?

6. *Individwu li tkeċċa minn ma' għaqda, jista' jissieheb ma' għaqda oħra? Jekk iva, x'tirakkomandaw biex dan ma jkunx jista' jsir?*

Can an expelled member seek membership with another hunting group? If so, what would you recommend for this to be prohibited?

7. *Meta l-aktar jinqatlu għasafar protetti, fil-ħarifa jew fir-rebbiegħa?*

When is poaching more frequent, during autumn or spring?

Law enforcement

8. *F'hiex jikkonsisti x-xogħol tal-ALE fil-ġlieda kontra l-isparar tat-tajr protett?*

What does ALE's work consist of in its fight against poaching?

9. *Jekk hemm proċedura stabbilita ta' kif toperaw din tvarja bejn staġun magħluq u dak miftuħ?*

If there is an established procedure on how you operate, does it vary between an open and closed season?

10. *L-ALE għandha nuqqas ta' riżorsi? (uffiċjali, vetturi u apparat).*

Does ALE lack resources? (officers, vehicles and equipment).

11. *Taqblu li l-ALE għandha tiġi assistita minn full-time Wildlife Crime Unit?*

Do you agree that a full-time Wildlife Crime Unit should assist ALE?

12. *Il-liġi tal-kaċċa qedha tiġi infurzata biżżejjed?*

Are hunting laws adequately enforced?

13. *Apparti dak kollu li semmejna s'issa, x'taħsbu li għandu jinbidel jew jiġi ppropost biex intejbu l-infurzar tal-liġi vis-à-vis l-isparar ta' tajr protett?*

Besides the issues already discussed, what do you think should be changed or proposed to improve law enforcement vis-à-vis the shooting of protected birds?

14. *X'jista' jsir biex ma jisparawx fuq tajr protett (minn l-iċken bufula sa grawwa jew ċikonja)?*

What can be done to prevent individuals from shooting at protected birds?

Reintroduction of extirpated species

15. *X'taħsbu li hi l-akbar problema għall-dan it-tajr (eż., il-barbaġann, il-bies u iċ-ċawla) biex jistabbilixxi lura f'pajjiżna?*

What, in your opinion, is the greatest threat to the successful reintroduction of extirpated species (e.g., Barn Owl, Peregrine Falcon, and Jackdaw)?

16. *X'jista' jsir biex ma jisparawx fuq dawn l-għasafar li kienu jbejjtu f'pajjiżna?*

What can be done to prevent individuals from shooting at reintroduced birds?

Appendix J Informed consent form

1. *L-iskop tar-riċerka ġie spjegat u tista' ssaqsi kwalunkwe mistoqsija.* []
The purpose of the research has been explained and you may ask any question.
2. *Parteċipazzjoni hija volontarja u għandek dritt tiegħaf x'hin trid.* []
Participation is voluntary and you are free to withdraw at any time.
3. *Nikkonferma li din l-intervista u r-riċerka mhux ser iwasslu għall-identifikazzjoni tiegħek.* []
I confirm that this interview and the research will not lead to your identification.
4. *Nikkonferma li l-informazzjoni ser tinżamm biss minni, li tintuża biss għall-iskop tar-riċerka u b'mod anonimu.* []
I confirm that the information will be kept solely by the interviewer, that it will only be used for the purpose of the research and in an anonymous manner.
5. *Il-parteċipant jaqbel li din l-intervista ser tiġi irrekordjata.* []
The participant agrees to the interview being recorded.



Richard Lia

Firma tal-parteċipant
Participant's signature

Appendix K Management options to combat poaching in the Maltese Islands

- | | |
|-----------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Improve law enforcement | <ul style="list-style-type: none">• Increase ALE workforce• Detach ALE from Police Force and dedicate it solely to enforce environmental law• Establish a full-time 24-hour Wildlife Crime Unit• Create fixed and mobile surveillance |
| Improve legal system | <ul style="list-style-type: none">• Create a more avifauna-conscious judiciary through targeted educational workshops on the effects of poaching, spearheaded by BirdLife Malta and the hunters' representatives• Increase minimum fines• Match fine with the severity of the crime• Issue tougher sentences for recidivists• Use media to communicate tough sentencing |
| Close taxidermy loophole | <ul style="list-style-type: none">• Affix security tags to birds registered in 1997/8 and 2003• Cancel over-declarations and update register |
| Remove anti-hunting bias | <ul style="list-style-type: none">• Focus on combating poaching not on eradicating legal hunting• Plan long-term campaigns against poaching |
| Improve self-regulation | <ul style="list-style-type: none">• Introduce a statutory guardian–young hunter scheme |
| Involve all hunting groups | <ul style="list-style-type: none">• Encourage other hunting groups to unite in the fight against poaching and ensure they are seen to be doing so |
| Provide incentives | <ul style="list-style-type: none">• Align hunting seasons with migration of huntable quarry• Lift the 3pm September ban• Introduce a long-term 'raise and release' scheme• Empower an entity to raise huntable birds in captivity to be released in undisclosed locations weeks in advance of the hunting season• Heavily subsidise clay-pigeon shooting• Abolish collective punishments |
| Monitor progress | <ul style="list-style-type: none">• Develop a long-term monitoring programme in conjunction with these management options to gauge progress and to ensure they remain effective over the years |
-