International Species Action Plan

Eleonora's falcon *Falco eleonorae*

Final draft, December 1999

Prepared by BirdLife International on behalf of the European Commission

International Species Action Plan for Eleonora's falcon *Falco eleonorae*

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Timetable

Date of workshop: 27-29 March 1999
Date of first draft: 20 July 1999
Date of final draft: 31 December 1999

Reviews

This action plan shall be reviewed and updated every 5 years. An emergency review will be undertaken if sudden major changes occur within the species range, liable to affect the population.

Geographical scope

The Action Plan needs to be implemented in all states were it breeds: Algeria, Croatia, Cyprus, Greece, Italy, Morocco, Spain, Tunisia and Turkey: and in all countries were the species spend some time when not breeding: Albania, Bulgaria, France, Madagascar, Malta and Portugal.

Contents

Summary

The Eleonora's Falcon *Falco eleonorae* is a raptor of the Mediterranean, which is classified as Rare at European level (Tucker and Heath 1994). The world population of 6250 pairs is concentrated in relatively few colonies of up to 300 pairs each, between the Canary Islands in the west and Cyprus in the east. The loss of a single colony can be a substantial loss of the world population. Breeding sites are along the coast of the mainland or islands and to a large extent on uninhabited islets. Due to the breeding season in summer/autumn, the development of tourism and increasing number of sailing and speed boats who visit remote sites, there is an obvious need to consider the conservation of the species in coastal management of the Mediterranean. As it is not possible to protect all these remote sites by wardens, this action plan lists the possibilities compiled during a workshop of the experts and obtained by a wide consultation of competent authorities. In addition to the breeding colonies and their immediate vicinity, the migration route and wintering quarters of the species in East Africa and Madagascar are briefly considered, too.

Threats and limiting factors

Introduction of other species - high

Human disturbance in colonies - high

Predation by cats and rats - medium, locally high

Natural factors - low

Persecution and illegal trade - low

Habitat loss and persecution in the wintering grounds - unknown, probably high

Habitat degradation - unknown, probably medium

Conservation priorities

To promote national and international policies on tourism, agriculture and coastal management which are compatible with the conservation of Eleonora´s Falcon and its habitat.

Ensure that all contracting parties of the Barcelona Convention do ratify the New Protocol on Mediterranean Biodiversity.

Complete the formulation of the criteria for the selection of Special Protected Areas of Mediterranean importance according to the New Protocol of the Barcelona Convention.

Prohibit by law the release of domestic carnivores on uninhabited islets with Eleonora´s Falcon colonies.

Protect all IBAs hosting Eleonora´s Falcon colonies through the most appropriate legal national and international instruments.

Promote pilot projects aimed at developing sustainable tourism in sensitive coastal habitats.

Whenever necessary, wardening must be implemented to avoid disturbance and nest robbery.

To define non-intrusion zones, both in the sea and on land, at colonies on a site by site basis to be implemented in the period from 1st of July till the 1st of November.

If a breeding colony cannot achieve legal protection status, hunting should not be allowed on breeding sites before 1st of November.

To avoid the introduction of terrestrial predators on uninhabited islets with colonies.

To ensure protection of Eleonora´s Falcon´s habitat in wintering quarters and along migration routes.

Assess the total breeding world population of Eleonora´s Falcon by undertaking an international co-ordinated census.

Undertake an annual census of the breeding numbers on selected colonies across the whole species range and repeat the world census every ten years.

Monitor breeding success in selected colonies annually.

Monitor human activities and use on uninhabited islets with Eleonora´s Falcon colonies.

Monitor development (tourist, industrial, and agriculture) in the vicinity of Eleonora´s Falcon colonies.

Research on the impact of rats.

Identify migratory routes and strategies.

Locate wintering areas, define ecological requirements and identify threats in those areas.

Promote the exchange of information on monitoring and research between experts and conservation bodies.

To inform the public all over the Mediterranean plus Morocco and the Canary Islands for the Atlantic population and increase public awareness on the need to protect Eleonora´s Falcon and its habitat.

Introduction

The Eleonora´s Falcon *Falco eleonorae* is classified as Rare for Europe (Tucker and Heath 1994). It is included in Annex 1 of the European Union's Wild Birds Directive, Appendix II of the Bern Convention, Appendix II of the Bonn Convention, and Appendix II of CITES.

Formerly, this medium sized falcon bred quite undisturbed from humans because it lived at sites difficult to reach and unpleasant to stay. With modern means of transportation, improvements in leisure sport equipment, and infrastructure development for tourist business, falcon breeding sites are now within easy reach of tourist resorts. In order to make this development compatible with the conservation of Eleonora´s Falcon, a workshop of experts was held on Aegina Island on March 27-29, 1999. Their recommendations are combined with those of other authorities as obtained by correspondence and comments on a written draft for suggestions. This action plan aims at curbing the level of disturbance for the falcons and in addition seeks to assess the environmental factors which adversely affect the species.

Background information

Distribution and population

The range of Eleonora´s Falcon coincides almost completely with the Mediterranean basin (Walter 1979). Breeding sites are distributed between the Canary Islands in the west and Cyprus in the east (Tab. 1). The centre of the species range is the Aegean islands and Crete, which hold about 70 % of the world population. Whilst the wintering grounds are in Madagascar and for a fraction of the population probably in Tanzania, too, migration data are sketchy (Ristow and Wink 1992). Population trends on a historical scope are not available. From the Balearic Islands a yearly increase of 4 % has been recorded recently, in Italy there seems to be an increase of 10% in ten years. The apparent increase in the Aegean is due to a better coverage of the area through HOS research, whereas a 15 % decline has been noted in Crete in the past decade. In Madagascar, the species appears to have decreased in 1991-97 (Thorstrom and Rene de Roland 2000).

Tab. 1: Estimate of current size of Eleonora´s Falcons' world population. For each region the percentage of the population which is covered by SPAs is listed; to the right of this value, the percentage covered by IBAs is given irrespectively of the SPA status.

Country	Region	Breeding pairs	SPA	IBA
Spain	Canary Islands	100	100 %	100 %
	Columbretes	30	100 %	100 %
	Balearic Islands	600	50 %	100 %
Italy	Sardinia	300	0 %	100 %
	Sicily	100	0 %	100 %
Croatia		40	n.a.	0 %
Greece	Ionian Sea	50	0 %	100 %
	Aegean Sea	3000	20 %	90 %
	Crete	1500	50 %	100 %
Cyprus		60	n.a.	100 %
Turkey*		20	n.a.	0%
Morocco		230	n.a.	100%
Algeria		120	n.a.	0%
Tunisia		95	n.a.	100%
Total		Ca. 6250	ca 28%	ca 86%

Notes:
* Southern France and Corsica, Malta, Albania, and Turkey and to a lesser degree Portugal and Bulgaria are visited regularly by a substantial part of the falcon population during April-October although there are no breeding colonies near-by.

Life history

Breeding
Eleonora´s Falcons typically breed in colonies of 10-300 pairs. Nests are spaced 20-50 m apart, but cases of only 2 m nest distance are known. Lowest nests are at an altitude of about 5 m, i.e. just enough so that they are not washed away by high waves of the sea, while others are at the top of a cliff more than 100 m high. Nests can be distributed for several kilometres along a cliff or may be concentrated on uninhabited islands of 1-100 ha in size (Walter 1979). Age of first breeding is at 2-3 years. Although this falcon returns to the Mediterranean in the second half of April, colonies are visited irregularly until intensive courtship in July begins. 1-3 (in the west up to 4) eggs per nest are laid during the second half of July and the chicks hatch one month later, a few as late as 10-15 September. They fledge 40 days later, so by mid October almost all young can fly. In the first days of November colonies are deserted. Egg losses under natural conditions can amount up to 43 % (25 % rat predation, 10 % infertility, 8 % due to sun irradiation in an undisturbed colony) and chick losses up to 10 %, respectively. A breeding success of 1.2 fledgling per started nest is needed for sustaining a colony (Ristow and Wink 1985).

Feeding
This falcon catches prey only in the air and is not capable of pursuing small birds in the vegetation. It feeds on large insects such as beetles, locust, dragonflies, butterflies, moths, cicadas, and flying ants, occasionally bats or in April/May a few migrating birds along the shore line. With the onset of the autumn migration from Europe to Africa, Eleonora´s Falcon changes its diet and catches migrating birds above the sea. Typical size of birds caught is 10-30 g. The world population of this falcon takes about 0.1 % of the total migrant flow. Eleonora´s Falcon is a sensitive indicator of the general environment: on the one hand, colony size and egg production are indicative of local farming and forest activities; on the other hand, standardised plucking collection and analysis (Ristow et al. 1986) during the chick rearing period reveals general environmental conditions in the European breeding areas or African wintering quarters of the prey species.

Habitat requirement
Eleonora´s Falcons nest at the seaside, on steep cliffs as well as on flat quiet islets if there are corners with shade for most of the day as can be found on islets of limestone or volcanic geology. Some nests may be under e.g. *Euphorbia* bush or can even be completely exposed to the sun, a critical situation in case of disturbances. In the pre-breeding months, some adults roost in the breeding cliffs, others stay away for several days. The feeding areas in spring/summer can be more than 20 km away from the breeding site. They must consist of sufficient agriculture, forest, and wetland areas to support the population of a colony with insects from April till August, offer access to fresh water and quiet communal roosting sites (trees) for overnight stays in April to July. This feeding area may well extend over 1000 sq. km for a single colony.

Movements
The typical area visited by falcons around a colony is unknown yet, but definitely can extend more than 50 km away from the breeding site. The 1-2 year old birds do not breed and usually are absent in the colonies. They have been found as far away as 2500 km from their native colony in August (compare foot-note in Tab. 1). But on the other hand, the maximum distance

proven for a young falcon to settle for nesting is only 5 km away from the nest where it was born while the vast majority settles within 500 m; breeding adults tend to stay in the same territory within a colony from year to year (Swatschek *et al*., 1993). It is this extreme site tenacity that will make a re-colonisation of a once abandoned colony unlikely. Eleonora´s Falcon is itself a migrant. Autumn migration to east Africa and Madagascar is in November, spring migration in March/April. Ecological needs during migration are unknown. From a single ring recovery an average travel speed of at least 100 km per day has been derived for the complete journey. Perhaps there are no important stop-over points for resting and feeding, and it seems likely that most of the migration is carried out overland along the shortest route. In the wintering area termites might form an important food basis.

Threats and limiting factors

Natural factors
Snakes, ravens, gulls, or raptors may take eggs or chicks. As Eleonora´s Falcon is capable of defending its nest, even more so in a colony, such natural losses are low. Parasites (Hippoboscid flies *Ornithophila gestroi* and ticks *Haemaphysalis hoody*) or disease (some adults suffer from a special form of malaria) have a detrimental effect, but in spite of their presence in a studied colony falcon numbers remained stable.

Importance: low

Predation by cats and rats
Feral cats have been introduced on a few colony islands where they are a hazard for roosting or breeding adults and the chicks. Rats, usually *Rattus r. alexandrinus*, have been introduced to any site already centuries ago. As Eleonora´s Falcon does not prey upon ground animals, rats are free to check all nests regularly for food remains of the falcons. Unattended eggs are at risk of being eaten by rats. These rodents can destroy up to 25 % of the clutches as shown by a study in a colony undisturbed by game, livestock, or humans.

Importance: medium, locally high

Introduction of other species
Even nowadays uninhabited islets are used by local people for unqualified experiments by introducing excessive numbers of livestock, tame and wild rabbits, game, cats or unintentionally marten and rats. Habitat changes from overgrazing may be the consequence. Falcons respond to livestock and game in the same way as they respond to walking tourists, and the disturbance at nests results in loss of eggs or chicks. As the falcon breeding season coincides with the hunting season, undisciplined hunting dogs kill nestlings.

Importance: high

Persecution and illegal trade
In the past poachers used to eat the chicks. This habit is declining nowadays. Shooting adults or yearlings on the mainland can be a local problem, but this is not specifically aimed at

Eleonora´s Falcon. Due to its size this falcon is not suited for falconry, so it is only of interest for fancy collectors or as a trophy.

Importance: low

Human disturbance in colonies
Tourist development at or near colonies is a major threat, be it indirectly from divers along the shore or from climbers in the rocks or be it directly from curiosity driven nature lovers. Noise from speedboats, hunting shots, or low flying aircraft during military exercises will cause the bird to leave the eggs unattended, exposed to the sun, or free for rats. Infrastructure development right next to a colony (e.g. constructions, landing sites, windmills, masts) must not be allowed. This also applies to the establishment of controlled hunting zones with their need for infrastructure, maintenance and likely release of game species.

Importance: high

Habitat degradation
Change of land use, loss of wetlands or forest area and agricultural intensification with the likely use of insecticides reduce the food basis for Eleonora´s Falcon in the area frequented during the pre-breeding months.

Importance: unknown, probably medium

Habitat loss and persecution in the wintering grounds
Whilst the ongoing loss of forest in Madagascar has been widely documented, the effect of this environmental change on insect life and food of the falcons is unstudied. Eleonora´s Falcon is not too shy of humans (because of its breeding at isolated sites) and an easy target for hunters in a society of economic need. Boys with sling shots kill falcons, especially when roosting on eucalyptus trees.

Importance: unknown, probably high

Conservation status and recent conservation measures

An overview of the present conservation status is given in Tab. 1. Details for each country are given below.

Algeria

The Eleonora's falcon is protected by Decree (Algerian law) and then listed as endangered and protected species by Decree n^{o} 83 -509 of July 1983. Only one colony was recently surveyed (ca. 40 pairs) which is under consideration for protection by the Environment Ministry, and the total in Table 1 could be an overestimate.

Croatia

The Eleonora's Falcon is legally protected since 1967, by the "Decision of a Special Protection of Birds of Prey from the Order Falconiformes". This decision from Yugoslavian time is still in effect today. There are three nesting sites on the Dalmatian islands. One of those sites was apparently deserted since 1990 for unknown reasons and seems to be colonised again.

Cyprus

The Eleonora's Falcon is in the strictly protected species list of Law No 24 of 1988 which is the law ratifying the Convention for the Conservation of European Wildlife and Natural Habitats (Bern Convention).
The three cliffs occupied by the species are IBAs since 1988. Episkopi and Akrotiri cliffs are within the U.K. Sovereign Base Area and are Permanent Game Reserves. Cape Aspro cliffs are not a Game Reserve area but are inaccessible from land and therefore are naturally protected.

Greece

Most of the raptors have been legally protected since 1969 (Legislative Decree 86/69), and all raptors are now protected under Ministerial Decision 414985/1985. Public Law 1650/1986 has set a complete classification of the protected areas in Greece. Eleonora's Falcon is listed as Insufficiently known in the Greek Red Data Book (Handrinos 1992).
The National Marine Park of the Northern Sporades has several colonies, which are protected since 1992, and part of it is a SPA since 1997. An archipelago off Crete has been subject to private research for three decades, being partially supported by the University of Heidelberg, and is now a SPA since 1997. The Greek list of IBAs covers about 90 % of the national population of the species.

Italy

The Eleonora's Falcon is listed as Rare in the Red Data Book of Italian Birds (Frugis and Schenk 1981) and is classified as Vulnerable in the Red list of Italian Birds (LIPU e WWF Eds 1999). It is legally protected since 1977, currently by Law 157/1992 for the protection of fauna. The breeding sites (4 in Sardinia and 6 in Sicily) are formally protected by Law 431/1985 for the conservation of special interest areas. All sites are IBAs.

In 1991 LIPU created the “Carloforte Natural Reserve" in Sardinia where volunteers do wardening and research during the breeding season. As a result, the population increased from 70 pairs in 1981 to 100 pairs in 1998.

Morocco

The species is protected by law. The largest colony (about 220 pairs) is located on an island and is protected as Biological Reserve and is managed by the Forest and Eau Dept. The second colony is located on the mainland and is unprotected and available data show a steep decline (from 70+ pairs in 1966 to 10-12 in 1998). Both are IBAs.

Spain

The Eleonora's Falcon is legally protected since 1965, currently under Law 4/1989 for the Conservation of Natural Areas and Wildlife. It has been declared of Special Interest in the National Catalogue of Threatened Species (Royal Decree 439/1990) and is included as Rare in the National Red Data Book (Blanco and Gonzales 1992).
It is listed as “Vulnerable” in the Red Data Book of the Land Vertebrates of the Canary Islands (Martin et al. 1990). All breeding places are protected under Law 12/1994 of the Canary Islands Natural Sites. - Since 1987 the Columbretes are a reserve and additionally since 1990 a Marine National Park. - On the Balearic Islands Eleonora's Falcon breeds at more than twenty sites, two of which belong to National Reserves (Mayol 1996).

Tunisia

The largest colony (with 80 pairs) is in la Galite archipelago which is an IBA and a marine park since 1995. The Fratelli, two islets with 15 pairs are fully protected. Eleonora falcon is regularly observed during migration in spring in El Haouaria (Cap Bon), a migratory bottleneck . Some individuals are often seen in National Park of El Feïja in July.

Turkey

The species is protected from hunting according to the Terrestrial Hunting law n. 3167. In 1978 20 pairs were reported to breed on an island in the Marmara sea and further researches after this date are not available on this colony; possible breeding is reported in 1997 and 1998 in the southern Aegean and western Mediterranean respectively. Coastal areas are visited regularly by falcons from Aegean islands particularly in May and September in large numbers (Eken 1997)

Aims and objectives

Aims
To maintain and enhance the Eleonora´s Falcons´ colonies especially through preserving the uninhabited islets for their importance as breeding sites and their biodiversity value.

Objectives

1. Policy and legislation

1.1 To promote national and international policies which are compatible with the conservation of Eleonora´s Falcon and its habitat.

1.1.1 Tourism

The loss and degradation of coastal habitats engendered by tourism and recreation in the Mediterranean is affecting Eleonora´s Falcon distribution area. Disturbance is the major threat for the species.

1.1.1.1 Coastal tourism policies should concentrate on quality improvement of existing resorts rather than on developing new ones.

Priority: high
Time-scale: ongoing

1.1.1.2 National and international tourism policies should shift from mass tourism to favour environmental friendly, sustainable and high quality ecotourism, particularly in coastal habitats.

Priority: high
Time-scale: ongoing

1.1.2 Agriculture

1.1.2.1 Environmental friendly farming systems need to be promoted and enhanced in order to ensure the food availability for Eleonora´s Falcons.

Priority: low
Time-scale: ongoing

1.1.2.2 Subsidies for the reduction of livestock grazing on islets should be made available in all countries hosting Eleonora´s Falcon colonies.

Priority: medium/high
Time-scale: ongoing

1.1.3 Coastal management

1.1.3.1 Ensure that all member states of the EU carry on Strategic Environmental Assessments (SEA) to assess the full range of coastal development policies, plans and programmes and produce detailed Environmental Impact Assessments (EIA) of individual schemes on coastal areas.

This comprises constructions (roads, harbours, hotels etc.), fishfarms, camp sites, recreational activity centres (water skiing, controlled hunting zone etc.) funded by structural funds.

Priority: essential
Time-scale: short

1.1.3.2 The European Commission should without delay implement the 5th Environmental Action Programme by developing a European wide coastal zone strategy. Coastal IBAs should be identified as priority zones.

Priority: essential
Time-scale: short

1.1.3.3 Non-EU countries should adopt a similar approach to coastal management as outlined above.

Priority: essential
Time-scale: short

1.1.4 International co-operation

Relevant recommendation on regional and international conventions (Biodiversity, Barcelona, Bonn, Bern, Ramsar) should be fully implemented and actively enforced by all contracting parties to provide stronger protection on coastal habitats and to ensure integrated management of coastal areas.

1.1.4.1 Ensure that all contracting parties of the Barcelona Convention do ratify the New Protocol on Mediterranean Biodiversity.

Priority: high
Time-scale: short

1.1.4.2 Complete the formulation of the criteria for the selection of Special Protected Areas of Mediterranean importance according to the New Protocol of the Barcelona Convention.

Priority: high
Time-scale: short

1.2 Ensure maximum legal coverage of the Eleonora´s Falcon and its habitat in national and international legislation.

1.2.1 Prohibit by law the release of domestic carnivores on uninhabited islets with Eleonora´s Falcon colonies.

Priority: high
Time-scale: short

1.2.2 Provide incentives for the reduction of livestock levels on islets with Eleonora´s Falcon colonies (2078/92 EC Regulation).

Priority: medium
Time-scale: medium

2. Species and habitat protection

2.1 To protect all existing colonies against habitat alteration and human disturbance.

2.1.1 Protect all IBAs hosting Eleonora´s Falcon colonies through the most appropriate legal national and international instruments.

In many cases Eleonora´s Falcon colonies qualify for SPAs.

Priority: high
Time-scale: ongoing

2.1.2 Promote pilot projects aimed at developing sustainable tourism in sensitive coastal habitats.

Priority: high
Time-scale: short

2.2 To fully enforce national legislation for the protection of the species (adults, eggs, chicks).

Traditional enforcement activities of investigation, prosecution and the discharge of appropriate penalties when guilty verdicts are secured, are not sufficient. Successful enforcement of conservation legislation must also include education, carefully targeted publicity campaigns, training of officers within the conservation/enforcement agencies and awareness raising of the prosecutors and the judiciary (See also section 4).

Priority: medium
Time-scale: short

2.3 Whenever necessary, wardening must be implemented to avoid disturbance and nest robbery.

As wardening is expensive, it should be implemented at sites with obvious (regular) disturbance. A warden must have a small speedboat to do his job.

Priority: high
Time-scale: ongoing

2.4 To define non-intrusion zones, both in the sea and on land, at colonies on a site by site basis to be implemented in the period from 1st of July till the 1st of November.

Disturbance at colonies during the breeding season must be prohibited. If the cliff is also a breeding site of other species such as Shearwaters, Peregrine or Audouin's Gull, the period has to be extended accordingly.

Priority: high
Time-scale: short

2.5 If a breeding colony cannot achieve legal protection status, hunting should not be allowed on breeding sites before 1st of November.

Priority: high
Time-scale: short

2.6 Rat and cat populations should be controlled on all islets that host colonies.

Several other bird species would also benefit from this action.

Priority: medium/high
Time-scale: ongoing

2.7 To avoid the introduction of terrestrial predators on uninhabited islets with colonies.

Cat, ferret etc. are unsuited to control the rat population because they endanger the falcons. Measures to avoid the unintentional introduction of predators such as rats still have to be developed.

Priority: high
Time-scale: long

2.8 To avoid transportation of livestock on uninhabited islets with colonies during 1st of July till 1st of November.

Priority: medium
Time-scale: short

2.9 To take into consideration the species needs in national strategies for wetland management and conservation (policies).

Priority: medium
Time-scale: medium/long

2.10 To ensure protection of Eleonora´s Falcon´s habitat in wintering quarters and along migration routes.

The obstacle to get started is primarily lack of knowledge.

Priority: high
Time-scale: medium/long

3. Monitoring and research

3.1 Distribution and population

3.1.1 Assess the total breeding world population of Eleonora´s Falcon by undertaking an international co-ordinated census.

To know the real status of a species is a pre-requisite for justifying the extent of conservation actions. In case of Eleonora´s Falcon due to its restricted range and colonial breeding habit, the knowledge on distribution of the species is fairly satisfactory. So it should not be too difficult to locate the unknown breeding sites, confirm colonies that have not been checked for decades, and include them in the first world census.

Priority: high
Time-scale: short

3.2 Monitoring population

3.2.1 Undertake an annual census of the breeding numbers on selected colonies across the whole species range.

Obtaining trends in population levels is necessary for judging the effectiveness of conservation measures. For this, sampling procedures must be the same and should take place at selected colonies. There should be one colony in the Canary Islands, one in the Balearics, one in Sardinia, one in Sicily, one in Croatia, one in the Aegean, one in Crete, one in Cyprus, one in Morocco, one in Algeria, and one in Tunisia.

Priority: high
Time-scale: short

3.2.2 Repeat the world census every ten years.

The sampling procedure described in 3.2.1 should be sufficient to draw attention to alarming trends, so that a complete assessment is needed only every ten years.

Priority: high
Time-scale: long

3.2.3 Monitor breeding success in the above selected colonies annually.

Eleonora´s Falcon is a long lived raptor (reaching e.g. twice the age of a Sparrow Hawk) and has a prolonged immature life. A decrease in adults´ fertility will show up by a delay of several years in population numbers. Therefore a simplified sampling of breeding success is necessary for proper monitoring.

Priority: high
Time-scale: medium

3.3 To monitor the threats on colonies and development in their vicinity.

3.3.1 Monitor the presence and population levels of introduced predators (especially rats).

The presence of rats can be checked with traps. The recommended type is a brake-neck which does not spring when stepped upon. They should be set ready only during nights to obtain an idea of rat density. Care is advised when a poisoning campaign on rats is necessary so that the poison is not transferred into the environment.

Priority: medium
Time-scale: medium

3.3.2 Monitor human activities and use on uninhabited islets with Eleonora´s Falcon colonies.

Information on direct use of islets should be collected from local municipalities. Traces of camp fire, thrown away cartridges and plastic bottles are circumstantial evidence of human activities and should be recorded annually.

Priority: high
Time-scale: short

3.3.3 Monitor development (tourist, industrial, agriculture) in the vicinity of Eleonora´s Falcon colonies.

This information can be collected from local municipalities and supplemented by local environmental NGOs.

Priority: high
Time-scale: long

3.4 Research on colonies

3.4.1 Impact of rats

The degree of rat predation is known from one colony only. The extent in other colonies needs urgent investigation.

Priority: high
Time-scale: short

3.4.2 Impact of disturbance

This complex topic is best studied at the selected colonies mentioned in 3.2.1 or the ones with wardens.

Priority: medium
Time-scale: medium

3.4.3 Causes of mortality

Epidemics in an Eleonora's Falcon colony are unknown till now. Due to natural causes of mortality (e.g. disease, fatal territory dispute, victim to Peregrine) it is normal to find up to 2% of the adult population as carcasses in a colony per year. Encountering a higher number is reason for concern.
Whenever a dead falcon is found and shooting seems to be the likely cause of death, X-ray analysis should be used for verification.
If unintentional poisoning is the suspected cause, implications for the general environment might be tremendous. Organophosphorus and carbamate pesticides are nowadays widely used, because they act quickly, are short-lived in the environment and do not accumulate in the food chain. If consumed by the falcon in a low non-lethal dose, these substances are degraded by metabolism typically within two weeks and cannot be detected thereafter. If consumed in a lethal dose and the carcass is frozen, they are readily detected by GC (gas chromatography) or HPLC (high pressure liquid chromatography). Each EU country has at least one veterinary laboratory with such modern equipment to perform residue analysis of livestock tissue.
Prior to this final analysis, first actions on the spot should include the following if possible. Check if there are unusual fatal cases of other animals in the area as well, especially those animals with a similar food spectrum as the falcons. If the falcon is still alive, it should be shown to a veterinarian. – For a fresh carcass, it would be best to store it just above 0^{o} C in a refrigerator for a few days (about 5 days) until the pathologist can inspect it, otherwise to freeze it within a day of death. This would help the pathologist who must rule out other causes such as bacterial infections, prior to the residue analysis.

Priority: medium
Time-scale: ongoing

3.5 Determine the range of the vicinity used by the falcons of a colony and define their ecological requirements for this area.

Conventional telemetry is not so well suited as satellite telemetry once this new technology is available. Pellets vomited during the irregular overnight stays in the breeding territories hold clues about food in the pre-breeding months.

Priority: medium
Time-scale: short

3.6 Identify migratory routes and strategies.

Recoveries of ringed birds will barely deliver the data needed. Satellite telemetry is recommended once this new technology is available.

Priority: high
Time-scale: short

3.7 Locate wintering areas, define ecological requirements and identify threats in those areas.

The diet in winter and the relationship between the main insect prey species and the vegetation should be investigated. An evaluation of the present status and prospects of the habitat types is urgently needed.

Priority: essential
Time-scale: short

3.8 Promote the exchange of information on monitoring and research between experts and conservation bodies.

This co-operation should be enhanced. The Hellenic Ornithological Society is willing to keep an Eleonora´s Falcon library and use electronic means to store information on any colony until a better organisation can take over this task.

Priority: high
Time-scale: ongoing

4. Public awareness

4.1 To inform the public all over the Mediterranean plus Morocco and the Canary Islands for the Atlantic population and increase public awareness on the need to protect Eleonora´s Falcon and its habitat.

4.1.1 Promote the value of uninhabited islets.

A campaign should be initiated in the media and by printed material, targeting local inhabitants, tourists, decision makers, and users of the islets.

Priority: essential
Time-scale: long

4.1.2 Produce printed material on Eleonora´s Falcon explaining its biology, threats and need of conservation.

This booklet is targeted to raise awareness within key organisations such as local natural history societies, fishing cooperatives, boat/jet-ski hire companies, tourist organisations, etc.

Priority: high
Time-scale: short

4.1.3 Produce material to inform private boat owners about the "Code of Conduct" on uninhabited islets.

Such a booklet should give information about camping rights in the various countries, safety instructions, and explain the different degrees of protection and non-intrusion zones. It should appeal to the responsibility of everybody, when diving, hiking along the coast, climbing, smoking, having parties and a camp fire, about the release of dogs or other animals, and what to do with garbage. It should explain the consequences of disturbance for wildlife and recommend distances for boating/windsurfing from breeding cliffs, how to watch wild animals, how to take photos of plants, what to do with injured animals and list some information centres. This booklet needs to be written in several languages.

Priority: high
Time-scale: short

4.1.4 Establish seasonal information centres in appropriate locations.

These centres should present posters with informative text, some data, maps and photos and show videos. Synergies of information centres about e.g. Audouin´s Gull, Sea Turtle or Monk Seal should be taken advantage of. Tourist organisers and their groups should be invited to visit such centres.

Priority: medium
Time-scale: medium

4.2 To adequately train all people involved in conservation and monitoring of Eleonora´s Falcon.

As wardening is not possible at all the various breeding sites, there is a special responsibility of the port police and coast guard for conservation. They have to be trained in general about Eleonora´s Falcon and its conservation needs as well as specifically about the local

distribution. Forest guards should be trained in habitat requirements in the vicinity of breeding colonies so that they can monitor the local environmental situation. A prerequisite is that the senior managers of the enforcement authorities endorse such training, otherwise conservation efforts have to start with them.

Priority: medium
Time-scale: long

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Annex - Recommended conservation actions by country

It is understood that all the general aspects listed in chapter **1. Policy and Legislation** apply to all countries where Eleonora's Falcons occur. In the following, the actions specifically related to Eleonora's Falcon per country are given.

Algeria

2.1 Promote an official protection of some important breeding sites.
3.1.1 To complete the inventory of all the colonies on the Algerian coast which seems to be important for breeding of this species to determine the exact distribution and the areas to be protected.
3.4. To raise financial supports for the inventory and also to study closely the behaviour and the ecological breeding requirements.
4.1. Promote public and decision-makers awareness on national and local levels.

Croatia

2.2 To fully enforce national legislation for the protection of the species (adults, eggs, chicks). As the colonies in Croatia are not protected, government and local municipalities should co-operate to improve the official conservation status of the breeding sites.
2.7 To avoid deliberate or accidental introduction of terrestrial predators on uninhabited islets with colonies.
3.1.1 Assess the total breeding population of Eleonora's Falcon on the Croatian islands by undertaking a national census.
3.2.1 Undertake an annual census of the breeding numbers at the largest Croatian colony.
3.2.3 Monitor breeding success in the above mentioned colony annually.
3.3.1 Monitor the presence and population levels of introduced predators (especially rats).
3.3.2 Monitor human activities and use on uninhabited islets with Eleonora´s Falcon colonies.
3.3.3 Monitor development (tourist, industrial, agriculture) in the vicinity of Eleonora´s Falcon colonies.
3.4.2 Monitor the level of disturbance at the colony mentioned in 3.2.1.
3.5 Determine the range of the vicinity used by the falcons of the Dalmatian islands and define their ecological requirements for this area.
3.6 Study the dispersion and migration routes of the Dalmatian population.
4.1.1 Promote the value of uninhabited islets.
4.1.2 Produce printed material on Eleonora's Falcon explaining its biology, threats and need of conservation.
4.1.3 Produce material to inform private boat owners about the "Code of Conduct" on uninhabited islets.
4.1.4 Establish a seasonal information centre in Komiza on the island of Vis. This information centre should present the complete biodiversity of the sea and open sea islands.
4.2 To adequately train all people involved in conservation and monitoring of Eleonora's Falcon.

Cyprus

1.2.1 Urge the government to ratify the New Protocol of the Barcelona Convention on Mediterranean Biodiversity.
1.2.2 Urge the government of Cyprus and the United Kingdom to declare the three breeding sites of the Eleonora's Falcon as Special Protection Areas.

2.1 Protect the three sites from habitat alteration and human disturbance.
2.2 Fully enforce national legislation for the protection of the species.
3.2.1 Untertake an annual census of the breeding numbers on the Akrotiri Cliff's colony.
3.2.3 Monitor annually the breeding success of the Akrotiri Cliff's colony.
4.1 Make the public aware of the presence of the Eleonora's Falcon in Cyprus and the need to protect the species and its habitat.

Greece
1.1 To designate as SPAs all the IBAs that fulfill BirdLife criteria for SPAs, and to enlarge the existing SPAs (Vrachonisides Voreiou Dodekanisou, Vrachonisides Astypalaias kai tria nisia, Nisides Kithiron, Nisia Kyra Panagia, Piperi, Psathoura kai gyro Nisides) in order to include all the Eleonora Falcon colonies of the area.
2.1 To protect all existing colonies against habitat alteration and human disturbance.
2.1.1 Protect all IBAs hosting Eleonora's Falcon colonies through the most appropriate legal national and international instruments.
2.2 To fully enforce national legislation for the protection of the species (adults, eggs, chicks).
2.4 To define non-intrusion zones, both in the sea and on land, at colonies on a site by site basis to be implemented in the period from 1st of July till the 1st of November.
2.5 If a breeding colony cannot achieve legal protection status, hunting should not be allowed on the breeding sites before 1st of November.
2.7 To avoid deliberate or accidental introduction of terrestrial predators on uninhabited islets with colonies.
2.8 To avoid transportation of livestock on uninhabited islets with colonies during 1st of July till 1st of November.
2.9 To take into consideration the species needs in national strategies for wetland management and conservation (policies).
3.1.1 Assess the total breeding population of Eleonora's Falcon by undertaking a national census.
3.2.1 Undertake an annual census of the breeding numbers on selected colonies across the species range.
3.2.3 Monitor breeding success in the above selected colonies annually.
3.3 To monitor threats on colonies and development in their vicinity.
4.1 To inform the public and increase public awareness on the need to protect Eleonora's Falcon and its habitat.
4.1.1 Promote the value of uninhabited islets.
4.1.2 Produce printed material on Eleonora's Falcon explaining its biology, threats and need of conservation.
4.1.3 Produce material to inform private boat owners about the "Code of Conduct" on uninhabited islets.
4.1.4 Establish seasonal information centres in appropriate locations.
4.2 To adequately train all people involved, in the conservation and monitoring of Eleonora's Falcon.

Italy
1.1.1 Promote and enhance national tourism policies on islands and coasts centred on the improvement of existing natural and human resources and a sustainable and high quality ecotourism.
1.1.3. Promote the formulation of a national coastal strategy by means of detailed Environmental Impact Assessments and ensure a sustainable development in those areas where Eleonora's Falcon occurs. This coastal management should consider local activities

(tourism, fishery, construction of new infrastructure, etc.) compatible with conservation needs of Eleonora's Falcon and its habitat.
1.1.4.1/1.1.4.2 Promote the ratification of the New Protocol of the Barcelona Convention to ensure that all coastal IBAs should be selected as Special Protected Areas of Mediterranean Importance.
2.1.1 Encourage the designation of all breeding colonies, which are not already protected, as Protected Areas (Regional Parks and Natural Reserves).
2.4 Promote the provisions of qualified monitoring staff and wardens to prevent disturbance and nest robbing in all colonies.
2.5 Promote the definition of non-intrusion zones, both in the sea and on land, at all breeding colonies of Sardinian and Sicilian islands in the period from 1st of July till the 1st of November to prevent any disturbance.
2.6. Promote the compilation of a National Law that does prohibit the release of domestic carnivores on islands.
2.7 Undertake a control on rat and cat populations on all islands that host breeding colonies of Eleonora's Falcon.
3.2 Monitor the status and distribution of the breeding population on Sardinian and Sicilian islands every year through boats and adequate and extensive fieldwork.
3.4 Undertake research on the effects of introduced predators, human activities and development at all breeding colonies.
3.5 Promote research on ecological requirements and distribution patterns of Eleonora's Falcon from April to July.
4.1 Produce and distribute educational material (including a video) on the species' biology and increase public awareness by means of seasonal information centres. Organise local and national events and communications through press and other media to inform the public on the conservation needs for Eleonora's Falcon.

Morocco
1.1.1.2 National and international tourism policies should shift from mass tourism to favour environmental friendly, sustainable and high quality ecotourism, particularly in coastal habitats.
2.1.1 Protect all IBAs hosting Eleonora´s Falcon colonies through the most appropriate legal national and international instruments.
2.2 To fully enforce national legislation for the protection of the species (adults, eggs, chicks).
2.3 Whenever necessary, wardening must be implemented to avoid disturbance and nest robbery.
2.4 To define non-intrusion zones, both in the sea and on land, at colonies on a site by site basis to be implemented in the period from 1st of July till the 1st of November.
2.5 If a breeding colony cannot achieve legal protection status, hunting should not be allowed on breeding sites before 1st of November.

Spain
1.1 To designate as SPA the IBA 309 (Cap Nono-Illa Murada) and to enlarge the SPA existing in the northern coast of Mallorca to include two more colonies (Cap-Gros-Muleta and Sa Foradada, both in IBA 316).
1.1 To elaborate particular regional legislation in the three autonomous regions (Canaries, Balearics and Valencia) to avoid disturbances to the colonies both by sea and by land, between 1st of July and 1st of November (see also 2.4).
1.1 To elaborate a management plan coordinated between the three autonomous regions with Eleonora's Falcons (Canaries, Balearics and Valencia).

1.2.2 To promote the implementation of the 2078/92 EC Regulation to reduce livestock levels on Vedra islet (Ibiza).
2.4 To define non-intrusion zones in the Columbretes both in the sea and on land to avoid disturbances between 1st of July and 1st of November.
2.6 Control feral cats on Alegranza (Canary Islands). - Maintain rat population at the lowest possible level on Tagomago and Dragonera (Balearic Islands).
2.9 Provide suitable locations of fresh water mainly in Montana Clara colony (Canary Islands).
3.1.1 Determine current status of Eleonora's Falcon on Roque del Este and at Riscos de Famara (Canary Islands).
3.2.1 The annual surveys to determine trends should be carried out on Montana Clara (Canary Islands), Columbretes (Valencia), Dragonera, Cabrera, Tagomago, Vedra and Punta Torretes (Balearics).
3.2.3 Investigate the real incidence of seagulls' predation on Eleonora's Falcon in the Canaries.
3.5/3.6 Do research on dispersion and migration of the Canaries and Columbretes populations.
4.1.2/4.1.3 Elaborate awareness material to inform sailors and tourists in the key areas close to Eleonora's Falcon colonies in the Canaries and the Balearics.
4.1.4 Install a permanent information centre on Eleonora's Falcon in Cape Formentor (Mallorca), the most visited colony.

Tunisia
3.2.1 – 3.2.3 Promote a monitoring of the population of La Galite specially the islets Les Chiens, Le Galiton and La Fauchelle and a general biological study.
4.1. Awareness campaign targeted to the lobster fishermen (40 boats) explaining them why they should not approach Les Chiens islets from May to October.

Turkey
2.1 Designate Marmara islands a protected area
3.1.1 Assess the total breeding population of Eleonora’s Falcon by undertaking a national census.
3.5 Define the importance of continental Turkey for the feeding of falcons breeding in Greece

SCIENTIFIC ANNEX

1. Colony

There is no definition of the word ‘colony’. State clearly if you are referring to an archipelago, a single island or to some kilometers of cliff length.

2. Counting procedure for monitoring

Select a day at the beginning of September, not later than the 15th, with low to medium wind and do the counts between 10 am and 4 pm. Count the flying individuals from a boat after shooting a sky rocket (e.g. types which are popular at New Year) near the cliff. Repeat about every 200 m. Report number of individuals (because paired and unpaired non-breeders cannot be singled out by the method). Response of the falcons to the hissing sound of the rocket is to leave the hide, fly a circle, and perch again. Inform the port police prior to your actions. – This method is applicable for medium (50 pairs) to large colonies. In small colonies a direct count of the individuals is permissible.

3. Census work

The same procedure as described above is to be used at all known colonies. – If the number of colonies is too high to apply this method, turn to alternatives such as a helicopter survey to count flying falcons at a safe distance from the cliff and provide some calibration so that the result can be converted to become comparable with data obtained by the method described under 2.

4. Nest count

In September, sit in the shade, at least 30 m from the nearest nest and observe the falcons from sunrise onwards for the next three hours. The female sits within 5 m from the nest and the male supplies the female with food. Mark the nest sites on a map or a polaroid photo.

5. Productivity and breeding success

The simplest value for comparison would be the number of young counted from mid September onwards in the colony. As losses of chicks at that age are negligable, the result may be referred to as number of fledglings per colony or ‘number of fledglings per successful nest’ (n>20). This has the drawback that lost nests are neglected. -
To include lost nests at least in some way, more than 20 nests should be located in the test area on 5-15 August. Always mention the period when such data were obtained and productivity is derived therefrom.

6. Telemetry

Satellite telemetry is the preferred method to study questions related to Eleonora’s Falcon. As more than 3.5% transmitter weight in relation to body weight is likely to affect flight performances, it is recommended that a transmitter weight of less than 5% be used for local investigations and 2.5-3% for migration studies.

7. Ringing

The expected results from an international co-ordinated colour ringing program are not worth the effort. Local colour ringing programs may be worthwhile doing. Exchange of colour code information is self-understood. Chicks were colour ringed on the Canary Islands 1987-91, in Sardinia, and Crete 1980-90. At present colour ringing takes place on the Columbretes and is planned on the Dalmatian Islands.

8. DNA analysis

The University of Heidelberg has the CITES permission to study the phylogeography. For a start in Eleonora's Falcon, a drop of blood from about 10 chicks per colony is needed; for a detailed study more than 50 samples per colony is asked for across the species' range. Buffer solution in tiny glass capsules to preserve the blood and instructions for field procedures are provided on request. Samples may be kept at room temperature for about a month until being delivered to the laboratory. This is an alternative approach to ringing programmes with a quicker turn-in of results.

9. Veterinary Research

Any dead falcon should be collected and provided with an information sheet in a standardized format (sender, receiver; location, circumstances of finding, biometric data etc.) [see annex 12 Protocol]. If freezing of a fresh carcass is not possible, it should be preserved in 10% formalin solution and labelled appropriately. Certainly, raptor rehabilitation centers can provide fresh carcasses. If the carcass is already too decomposed, the stomach content should be taken to determine the last meal; bones and feathers can be collected for heavy metal analysis. – If unintentional poisoning is the suspected cause of death for several falcons, it should be considered to split the number of specimen between pathologist and analyst and let the pathologist do his work first. As a good guess of the chemical material envolved helps the analysis considerably, in the meantime two or three 'plant protection offices' for farmers and foresters could provide a list of currently recommended insecticides on recent pests and campaigns (e.g. locust). From this list it would be reasonable to exclude those insecticides which make insects drop instantly because Eleonora's Falcon catches prey only in the air.

On living falcons, blood samples can be taken for a veterinary research laboratory. 1 ml of blood per bird is needed which amounts to about 1/3 of the theoretically tolerable limit for this species. Blood plasma and serum have to be seperated on the spot by means of a centrifuge and kept frozen until both parts reach the laboratory. In addition to this, a preserved blood smear should also be supplied. – It is reasonable to approach the adressed questions in three consecutive steps (a) begin with captive falcons from a raptor rehabilitation center (b) go on to wild adult falcons from a colony, ideally one in which a substantial part of the population can be caught (ca. 10 %) and after that (c) turn to the fledglings. Once the nature of an infection seems to become clearer, it might make sense to compare neighbouring colonies, or areas within a colony, or nests with different microclimate.

On all these topics, information on the geographical frequency distribution is needed.

10. Diet, Water

To understand the ecology of the species, diet studies are encouraged. As yet, no systematic procedure to investigate insects and bats as prey is established, whilst the applicable method of plucking investigation has been described in Ristow *et al* (1986). – The importance of accessible fresh water in the vicinity of a colony also needs investigation.

11. Colony description

HOS Athens is asked to start a library with confidential information on the breeding sites of Eleonora's Falcon (compare section 3.8 of the BirdLife International Action Plan for Eleonora's Falcon). The data per colony should include date, author, location name, geographical coordinates, human activities and studies, protection status, geology, summary of flora and fauna, predators, nearest accessible fresh water, distance to next falcon colony; indication of nest areas on map, heighth, cliff or slope, accessability; number of individuals with error estimate.

12. Protocol for the collection of birds of prey found in the field

The results of the examination will depend to a large extend on the quality of the carcass and on the amount of background information about the material which can be provided. To facilitate this a form is drawn up. This protocol will guide you through the form:

A) Sample: 1. All birds collected for this study should be wild (free living) birds or ones that have not been in captivity for more than 10 days. The date of collection means the day when you have put the bird into the freezer or formalin solution. When putting a whole carcass into the solution, please open the body cavity to allow the solution to flow into the carcass. It is important to label the carcass appropriate.

B) Information about the bird: 2. The Latin species name would be the best. 3. The age can be given in years (better, months) or as pullus, juvenile, adult bird or immature, with moult status. 4. The sex can be indicated as male, female, unknown. 5. If a ring is present, please write down the number. 6. The full body weight should be given in grams. 7. Condition can be assessed by palpating the keel and judging the pectoral muscle as round, convex or concave. 8. Indicate, please if the bird is in moult, if the tail feathers are damaged, if any hunger traces are visible or if there are other abnormalities present. 9. The general health appearance should be evaluated by looking at external lesions, exudate in body openings (ear, eye, beak, nostrils, vent) or signs of unnatural behaviour. 10. Signs of diseases should be noticed. 11. The cause of death is important. 12. The biometrics (fig.1) should be performed in a standardised way. To measure the beak use vernier calipers and start at the sharp point of the beak measuring the way to the beginning of the cere in a direct line. The tarsometatarsus should be measured from the beginning of the bone inside the flexed (90°) intertarsal joint to the end of the bone inside the flexed (90°) tarsal joint. The partial bone of the tarsometatarsus is measured from the beginning of the hypotarsus to the end of the bone insid the flexed (90°) tarsal joint. The claws are measured from the border between claw and skin of the first and second digit. The maximum wing length is measured from the wrist (carpal joint) to the tip of the longest feather (primary no. 10). The tail is measured from the tip the first tail feathers to their beginning between the shafts ending in the skin.

C) Circumstances of finding: 13. The exact place where the bird is found together with the date (14.) are needed. 15. The circumstances of finding include the site such as “near the road, power line, window” or caught in a trap, territorial fight or suspicion of poisoning.

D) Information about keeping: If the bird has been kept in captivity (up to 10 days) please indicate the full address (16.), the duration (17.), the food (18.) or any medical treatment (19.).

E) Resolution: 20. This is the date when the bird died or was euthanised and the method used.

F) Sender: Write down your name and address (legible) and maybe your telephone number for any further questions, please.

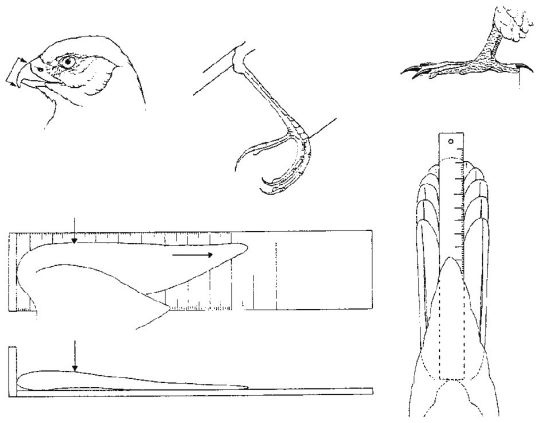

Fig. 1 biometrics

Legislation

The basis for the project on the health status on the Eleonora's Falcon is the appropriate material. Especially the carcasses should be collected as soon as possible. It is reasonable to evolve one central place where to preserve the material. The carcasses can be stored at a central laboratory in a region or for the whole country. The Eleonora's Falcon is included in Annex II of Bern and Bonn Convention and in Annex 1 of the EU Birds Directive. For the detention of specimens of this species collectors need a special permission in most countries. To store the carcasses of endangered species it is advisable to be familiar with the national legislation and the veterinary rules.
The examination should be performed later in an institute specialised in the specific topic of veterinary research in birds of prey with subsequent laboratories. To post carcasses or organs of Eleonora's falcons the CITES management authority in the region must be asked for a special permission, the CITES certificate.

Management authority addresses:

Greece:
Ministry of Agriculture
General Secretariat of Forest and Natural Environment
Dir. of Aesthetic Forests, National Parks and Game Management
Section B
3-5 Ippokratous Street
GR-101 64 ATHENES

Tel: (301) 3609486
Fax: (301) 3635359
Email: daspro1@minagr.gr

Italy:
Ministero per le Politiche Agricole
Direzione Generale delle Risorse Forestali, Montane e Idriche

Divisione V – Servizio CITES
Via G. Carducci, 5
I-00187 ROMA
Tel: (3906) 46657222/8
Fax: (3906) 48905507
Email: cfs.CITES@flashnet.it

Ministero del Commercio con l'Estero
Direzione generale Import-Export
Divisione IV
Viale Americana
I-00144 ROMA

Tel: (3906) 5993325
Fax: (3906) 59932203; 59647531; 59932631

Spain:
Ministerio de Economia y Hacienda
Departmento de Aduanas e Impuestos Especiales
Gzumán el Bueno, 137
E-28071 MADRID
Tel: (3491) 5543200

Centros de Inspección de Comercio Exterior (C.I.C.E.)
Muelle del Navio, 10
E-11271 ALGECIRAS
Tel: (34965) 656621

Standardized background-information form for birds of prey

Keynumber:_____

(Please complete as fully as possible)

_____

other remains

Ident. Nr.:_____

_____

A) Sample

carcass

1. date of collection _____

B) Information about the bird

2. species _____3. age _____4. sex _____

5. ring number _____6. body weight _____

7. condition_____8. feather condition _____

9. general health appearance _____

10. signs of diseases _____

11. cause of death_____

12. Biometrics: beak_____tarsomet._____(bone.)_____claws._____wing_____tail_____

C) Circumstances of finding

13. place (exact locality with county, area,..) _____

_____14. date _____

15. circumstances_____

_____

D) Information about birds that have been in captivity

16. place_____17. time in captivity _____

18. food (e.g. labormice, chicks, etc.) _____

19. any relevant medical treatment_____

E) Resolution

20. date died_____euthanised (modus)_____

F) Sender:

name:_____address:_____

G) Remarks: