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3ième Session de la Réunion des Parties Contractantes à l'Accord sur la conservation des oiseaux d'eau migrateurs d'Afrique-Eurasie (AEWA)
23 – 27 Octobre 2005, Dakar, Sénégal

AVANT-PROJET DE PLAN D'ACTION POUR L'IBIS CHAUVE *Geronticus eremita*

INTRODUCTION

Le Plan d'action pour l'Ibis chauve *Geronticus eremita* est une initiative de l'AEWA. Il couvre l'aire de répartition mondiale de l'espèce. Réalisé par SEO/BirdLife Espagne, l'avant-projet de Plan a été principalement rédigé par María J. Jiménez Armesto.

La présente version de l'avant-projet a été diffusée auprès des États de l'aire de répartition de l'espèce et tous les amendements suggérés et reçus sous la forme de remarques officielles y ont été intégrés. Le Comité technique a examiné le document lors de sa 6ème session, en mai 2005, et a fait plusieurs propositions mineures, qui ont ensuite été incluses dans le Plan d'action par les rédacteurs. Lors de sa 3ème session, en juillet 2005, le Comité permanent a approuvé l'avant-projet de Plan d'action par espèce pour soumission à la MOP3.

ACTION DEVANT ETRE ENTREPRISE DE LA RÉUNION DES PARTIES

Il est demandé à la Réunion des Parties d'approuver le Plan d'action pour l'Ibis chauve *Geronticus eremita* en vue de sa mise en œuvre.

NOTE DU SECRETARIAT

Le Plan d'action international par espèce pour l'Ibis chauve *Geronticus eremita* est uniquement disponible en anglais

International Single Species Action Plan for the Conservation of the Northern Bald Ibis *Geronticus eremita*

SEO/BirdLife

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Milestones in the production:

- Experts workshop held in Madrid, January 04
- Draft version of action plan with products of the workshop, April 2004
- Contributions and comments from participants
- Last version to submit to AEWA Technical Committee April 2005

Geographical Scope:

All world population of the species

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Acronyms

BirdLife International / BirdLife Middle East (BLI / BLME)

Food and Agriculture Organization of United Nations (FAO)

Fund for Integrated Rural Development Of Syria (FIRDOS)

Haut Commissariat àux Eaux et Fôrets et la Lutte contre la Desertification (HCEFLD)

International Advisory Group on Northern Bald Ibis (IAGNBI)

International Center for Agricultural Research in the Dry Areas (ICARDA)

IUCN: International Conservation Union

Ministry of Agriculture and Agrarian Reform (MAAR)

Ministry of Local Affairs and Environment (MLAE)

Parc National Souss Massa (PNSM)

Sociedad Española de Ornitología (SEO/BirdLife)

SSC: Species Survival Commission (of the IUCN)

Syrian Society for Conservation of Wildlife (SSCW)

The Arab Center for the Study of Arid zones and Dry lands (ACSAD)

The Royal society for the Protection of Birds (RSPB)

Doga Dernegi (DD) Natural Society (BirdLife Turkey)

Executive Summary

The Northern Bald Ibis *Geronticus eremita* has undergone a long history of decline over at least four centuries, having been distributed over much of North and North-East Africa and the Middle East. Two distinct populations have been identified which are genetically distinct. The main western population occurs in Morocco, where the population is now around 100 pairs. A relict population of two pairs persists in Syria, which provides a precarious opportunity to keep the eastern population going in a truly wild state. Turkish birds are now only semi-wild, but are still a very important genetic resource for a time when reintroduction methodology has been developed further.

It is thought that birds used to winter in Sudan, Eritrea, Saudi Arabia and Yemen. Post-1989 records in Saudi Arabia and Eritrea suggested that an undiscovered breeding colony remained in the Middle East.

The Northern Bald Ibis is still classified as critically threatened because of its small range and population. The improvement of the population in Morocco is very recent and mainly through conservation and management actions. Where this is missing the decline of a population appears dramatically like in Syria over the last 20 years.

The main threats for the species over the centuries have been a combination of direct prosecution but also the loss of steppe and unintensive agricultural areas. The main threats the species now faces are different in the countries where it still occurs.

In Morocco preventing the loss of feeding areas and disturbance to breeding sites are the most important priorities. Illegal buildings and disturbance close to the breeding cliffs and changes in farming on the feeding grounds are threats, which may have the most severe impact on the population.

In Syria there are even greater challenges although it may already be too late. Hunting is the main threat to the tiny population and there is the need to control land-use pressures and other local and regional awareness issues. There is an urgent need to learn where the birds overwinter to reduce potential threats there. Although Turkey has only a semi-wild population it has to be managed well to build up the genetic stock.

The Northern Bald Ibis is susceptible to pesticides and contaminated water sources, and particular attention to this is needed in all areas where the birds forage in all three countries.

The key priority for conservation is to ensure the protection of the Moroccan population, which has two sites where it occurs. The Souss-Massa National Park was designated specifically to protect nesting and feeding areas.

As main targets to increase the number of Northern Bald Ibis colonies in Morocco as well in Syria and Turkey were recognized:

- to maintain agriculture and grazing regimes in order to achieve sustainable exploitation of rangelands and halt advance of desertification processes
- to promote alternative sustainable grazing regimes and energy use, coupled with the promotion of socio-economic development of local communities

- to control firewood collection to prevent destruction or degradation of NBI feeding areas
- to stop hunting
- to control the construction of illegal buildings on or near to NBI breeding and feeding sites
- to reduce the risk of intoxication

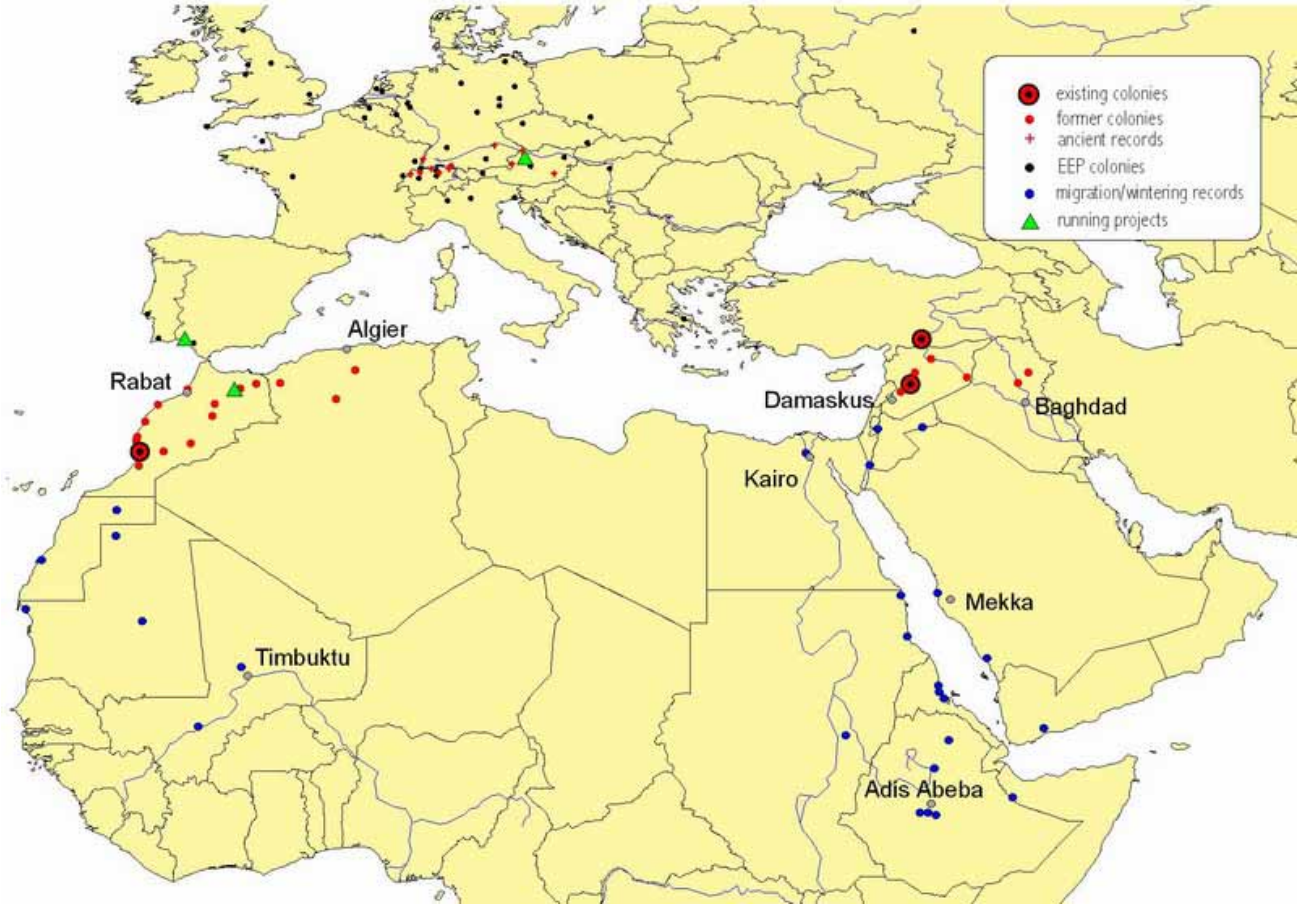
Considerable progress has been made over recent years with methodology that should help with potential reintroduction attempts in future. Establishing a resident population is now a real possibility following work carried out in Austria. But there are still important challenges for getting a migratory population established, which may well prove to be possible in future. Further work in this area will be useful but much more detailed information on ecological requirements and previously occupied sites will be necessary.
But this should not in any way distract from the top priorities in Morocco and in Syria to maintain areas of breeding and feeding habitat for these remaining known wild breeding population.

1- Biological Assessment

General information	The Northern Bald Ibis or Waldrapp Ibis (*Geronticus eremita*) is about 70-80 cm long and weighs 1000-1500g. The body is elongated and robust with a fairly long neck. The legs are short brownish red. Head and throat are naked and deep red. The nape feathers are elongated. Juvenile birds up to two years have feathers on head and neck which are greyish and short. Data of historic colonies in the Alps (Switzerland, Germany, Austria) (GESNER 1555, overview in PEGORARO 1996 and 1999) which disappeared during 17th century.Formerly widespread almost certainly throughout North Africa and into the Middle East (Morocco to Algeria, Turkey Syria, Iraq?) until recently in Turkey and Syria; wintering in Arabia, Ethiopia and N-Somalia. Since the beginning of the 20th century two disjunct wild populations: western population in Morocco and eastern population in Turkey. Lives in semiarid arid rocky plains, but also cultivated fields and high altitude pastures and meadows. Nest and roosts in cliffs, often close to watercourses or along the sea. It is a colonial breeder. Feeds on invertebrates, snails, small vertebrates. Sometimes in association to man however very shy due to hunting and affected by disturbance.
Taxonomy	Aves-Ciconiiformes-Ciconidae_Threskiornithidae Threskiornithinae-***Geronticus eremita*** L. 1758
Population development	Since the beginning of the 20th century sharp decline of the western and eastern population. **Eastern population**: Former records tell of thousand of birds (19th century, DANFORD 1880, KUMMERLOEVE 1962); 3000 birds in Birecik 1930, down to 400 in 1982, 5 pairs in 1986, 7 in 1987 and 1 left in 1989 (Akcakaya 1990). The wild colony was declared extinct in 1992 (Akcakaya *et al*. 1992). Main cause of decline was the use of pesticides (DDT) and human disturbance, no hunting in Turkey but in Syria. In 2002 newly discovered colony with 7 birds which reproduce. **Western population**: many colonies in Morocco and Algeria, however sharp decline in the early 20th century. The last colony in Algeria disappeared in the late 80s. In Morocco in 1940 about 38 colonies, in 1975 15 and in 1989 3 colonies survived. Reasons for the decline were human disturbance, hunting and the use of pesticides. Since the late 90s the population in Souss Massa NP is stable and since 1999 increasing (Status in 2004 420 birds)
Distribution throughout the annual cycle	Eastern population: migratory: The birds left the breeding grounds in late June/early July and returned February. Wintering grounds not well known but most likely the birds migrated south to NE Africa (Ethopia, Eritrea, Sudan). Syrian birds arrive in February and leave in June. The wintering grounds are not known. The migration of the juveniles is unknown but they probably migrated with their parents. Western population: dispersive and erratic, not much known and few winter data from Mauritania and even across the Sahara in Mali. Most birds left the breeding areas (Atlas) but stayed in Morocco. Breeding now confined to the fairly resident population in Souss Massa. Dispersion may occur from September to January.
Survival and	Survival: The Northern Bald Ibis is a long living species. In captivity

productivity	birds reach an average of 20-25 years (oldest male 37y, oldest female 30y (Boehm 1999). As birds start reproduction is an age of 3-5 years the average age can be calculated with 10/15 years. Productivity : Since 1994-2004 the reproduction rate per breeding pair varies from 0,6 to 1,6 (EL BEKKAY *et al*. 2003). Circumstances like time away from the nest when the chicks are young may have the biggest influence in the reproduction success (BOWDEN *et al* 2003).
Life history	**Breeding**: Seasonal pairs. Nest building start in February. Eggs laid in March to early April, incubation 24-28 days, fledging period 40-50 days, time to independence not known, age of maturity 3 years (in captivity). Both parents breeds and feed the chicks.
	Feeding: The NBI feeds on invertebrates (snails, scorpions, spiders, beetles, caterpillars, also earwigs and ants; crickets and locusts seem to play a minor role) and small vertebrates (lizards, small mammals, ground nesting birds). (Malin 1990)
	Outside breeding season: Nearly nothing is known about the life history outside the breeding season of wild colonies. Trials with satellite transmitters carried to obtain information on birds movements outside the breeding season
Habitat requirements	In contrast to other ibis species the NBI is a rather terrestrial bird. It lives in arid and semi arid steppe and plains with sparse vegetation and also (extensive used) pasture and farmland. Important seems that the vegetation is sparse and not over 15-20cm high. Change in cultivation may lead to quick abandonment of feeding areas and nesting grounds (HIRSCH *pers*.). As the NBI is mostly probing for prey and not so much an optical hunter a soft surface seems to be vital (e.g. in riverbeds, farmland, sand, between small shrubs). Nesting habitat: The NBI is nesting in sea cliffs and cliff ledges or hollows inland (usually near a river) and will use artificial ledges. However the size and shape and covering of the ledges seems to be crucial.

Figure 1. Map of the distribution of the species.



Breeding information

Breeding	**Formerly breeding (date of extinction)**	**Migration (period)**	**Non breeding visitor (period):**
Morocco		Resident in Souss Massa, migrating in the Atlas (before extinct there)	
Algeria	1987-1990 (FELLOUS 2004)	Migrating	
Turkey	1989 date of extinction of wild population(Arihan 1999)	migrating (breeding from mid February to early August)	
Syria	breeding, (breeding season from Februrary –July). Recently rediscovered		
Germany	disappeared16th century (last report 1593)	migrating? (no data on breeding season and migration, but surely migrating)	
Austria	disappeared16th century (last report 1584)	migrating (no data on breeding season and migration, but surely migrating)	
Switzerland	disappeared16th century (last report 1535)	migrating (no data on breeding season and migration, but surely migrating)	

Former distribution of Northern Bald Ibis in Europe (Alps Region)

Location	heard / written	bones	seen	Time
Switzerland				
Balm close to Günsberg (Kanton Solothurn)		x (more individuals, with bones from other species) not sure if moved		1941 (Stehlin)
Alt-Warburg bei Olten, Kanton Aargau		x (one specimen)		1400
Bad Pfäfers, Tamina Schlucht, Kanton St. Gallen	a hunter looking for Waldrapp nestlings has found a spring (is the story how this spring has been found!?)			1194-1250?
Mariastein, Jura, south of Basle	A medical doctor F. Plattner is telling in his diary of a NBI "dinner party"			1564
Zurich	A guideline that it is forbidden to kill a NBI			1535
Germany				
Breisach am Rhein			Travel report of a breeding colony of Ladislaus baron of Zierotin	1593
Kelheim	cliffs are described as breeding sites (V. Cordus)		?	1585
Passau	cliffs are described as breeding sites (V. Cordus)		?	1585
Überlingen (Bodensee)			Extreme cold days in March, NBI could be caught by hand	1481
Austria				
Salzburg	Prohibition to catch, hunt , shoot young ibises		Common breeding bird	1544,1558 1578,1584
Graz			Breeding colony	
Area around **Danube** and **Save**	Description by locals		?	

2 – Available key information

Table 2. Population figure

Country	Breeding no.	Quality	Year(s) of the estimate	Breeding Population trend in the last 10 years (or 3 generations)	Quality	Migrating or Non Breeding visitor	Quality	Year(s) of the estimate	Baseline population	References
Morocco	94 pairs		2004	Stable and increasing						Ribi, M., El Bekkay, M., Oubrou, W., Smith, K. 2004
Syria	3 pairs		2003	Unknown only discovered in 2002						Bowden 2003, Serra 2003

Table 3. Knowledge on habitat, diet and occurrence of the Northern Bald Ibis in Inportant Bird Areas and Protected Areas

Type of Knowledge	**Breeding**			**Non Breeding**		
	Morocco	Turkey	Syria	Morocco	Turkey	Syria
Habitat and diet						
- Habitat use						
- Diet						
Site Protection						
- Number of IBAs where the species breeds	1	0		1		
- Proportion of the population in IBAs	100 %	0	0	100 %	0	0
- Proportion of the national population in protected areas	70 %		0			0

3 – Threats

The main threats of the species are described in the following table, combined for the population in Morocco, Syria and Turkey

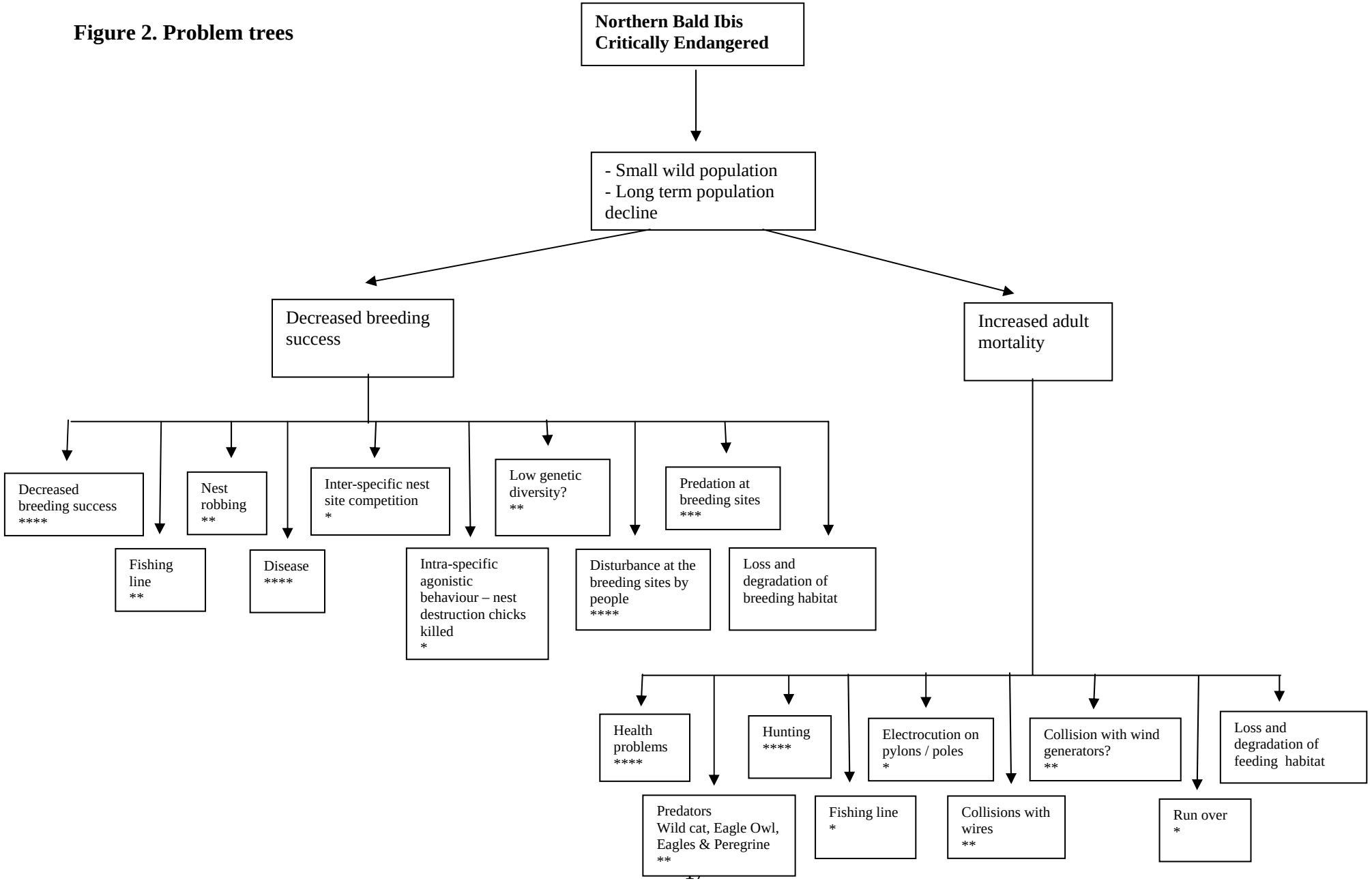
Table 4.1 The importance of threats resulting in a reduction in breeding success at the national level for Morocco, Syria and Turkey. The threats are ranked relative to each other (-1: a threat believed to have a negligible impact, -2: a threat believed to have a medium impact, -3: a threat believed to have a high impact and -4: a threat believed to have a critical impact and that needs to be addressed immediately). Threats are coded according to the IUCN SSC SiS Threats Authority files. Only countries containing wild and semi-wild populations were included in the threat analyses. Countries in which release programmes are proposed should use the threats shown in the executive summary as a starting point for undertaking feasibility assessments for release programmes.

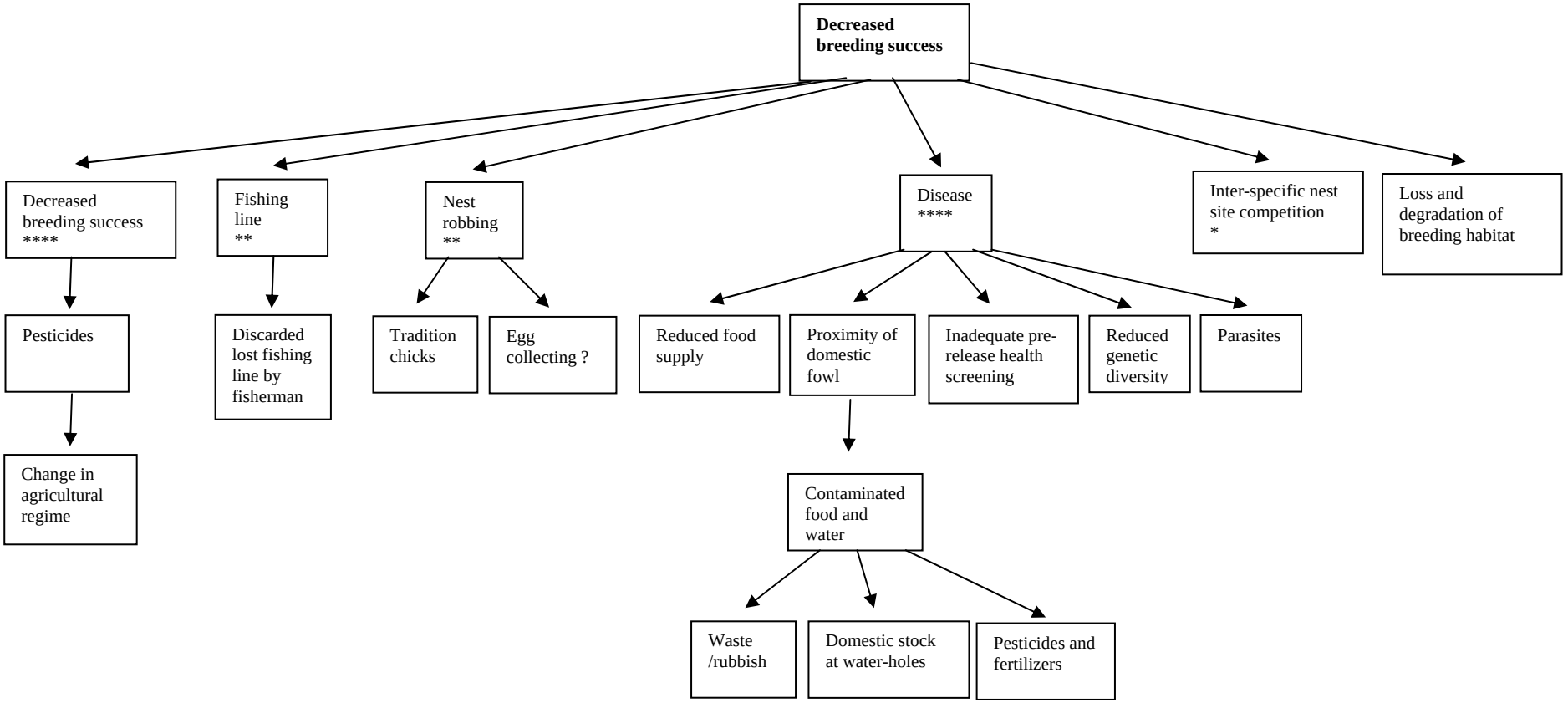
		Countries		
Threat code	**Threats reducing breeding success**	**Morocco**	**Turkey**	**Syria**
1	Loss/degradation of breeding habitat			
1.4.3	Illegal buildings	-4	0	0
1.8	Falling down of cliffs	-2	-2	-1
1.3.1	Mining -extraction of cliffs	0	0	-1
1.4.6	Flooding nesting places by reservoirs	-1	-2	0
10.6	Military exercises	0	0	-2
1.1	Loss/degradation of feeding habitat		-2	
1.1.5	Abandonment	-3	-1	0
1.1.4	Overgrazing	-3	0	-4
1.1.1	Greenhouse crops	-4	-2	0
1.1.1	Irrigated farming barely	-4	0	0
1.3.3.1	Firewood collection	-1	0	-4
7.1	Drought	-2	0	-3
1.4.6	Flooding feeding areas	-1	-2	0
10.1	Tourism development	-4	0	0
1.4.2	Increasing settlements	-2	0	- 4

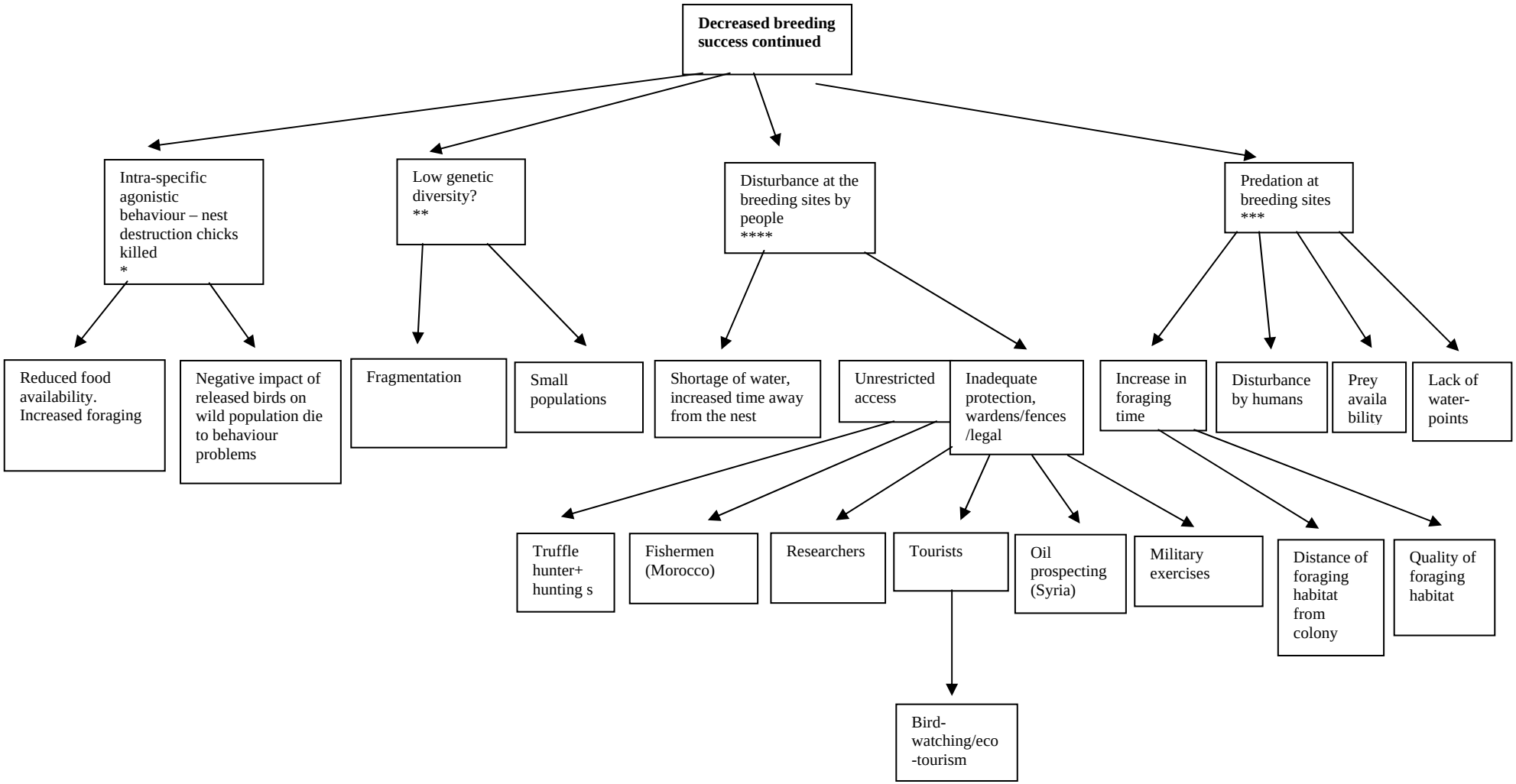
Table 4.2 The importance of threats resulting in a reduction in adult survival at the national level for Morocco, Syria and Turkey. Threats are coded according to the IUCN SSC SiS Threats Authority files. (-1: a threat believed to have a negligible impact, -2: a threat believed to have a medium impact, -3: a threat believed to have a high impact and -4: a threat believed to have a critical impact and that needs to be addressed immediately). Only countries containing wild and semi-wild populations were included in the threat analyses. Countries in which release programmes are proposed should use the threats listed in the executive summary as a starting point for undertaking feasibility assessments for release programmes.

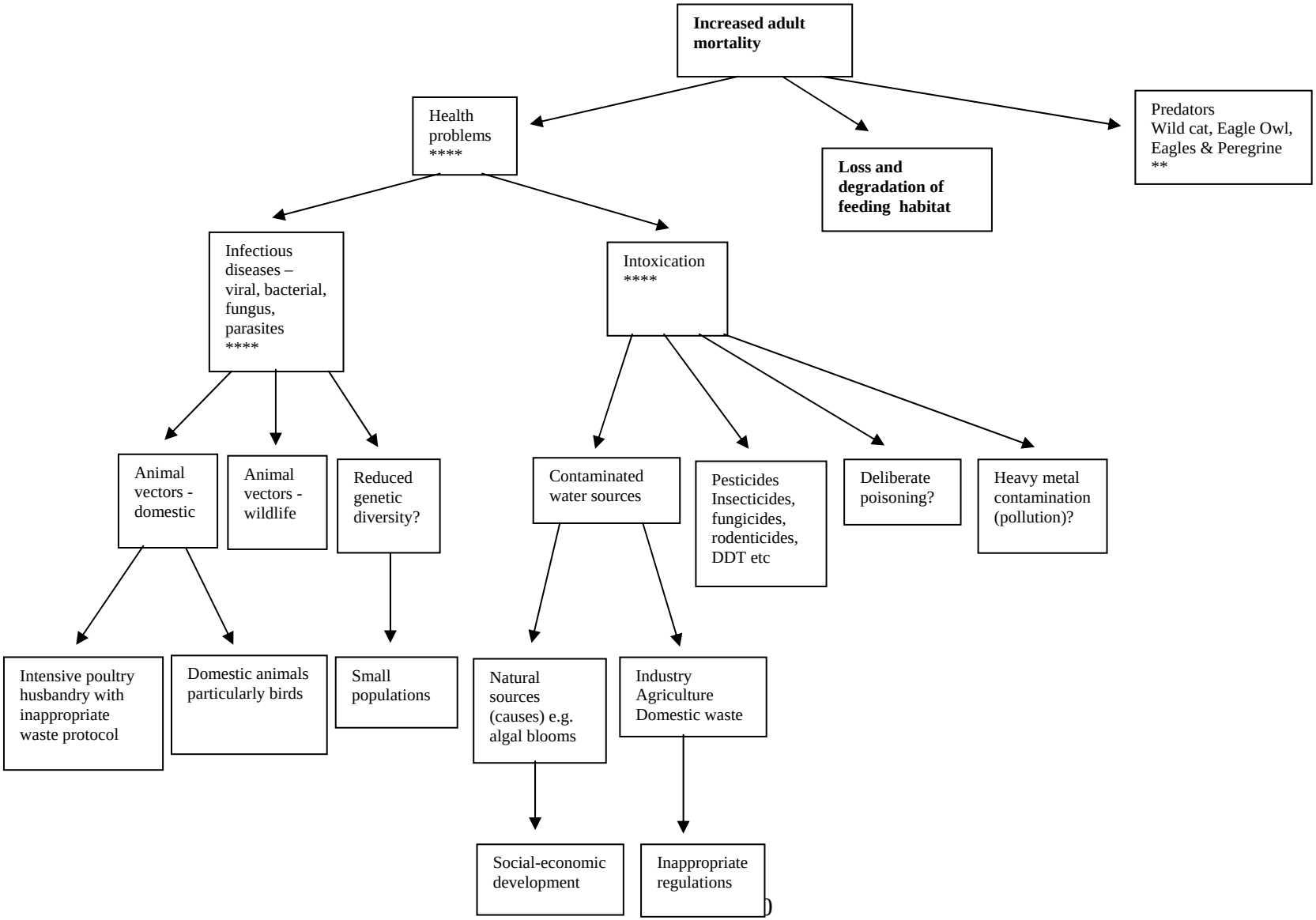
		Countries		
Threat code	**Threats reducing adult survival**	**Morocco**	**Turkey**	**Syria**
	Human activities			
3.5	Nest robbing	-1	0	- 2
10	Disturbance			- 3
10	Unrestricted access			
10.1	Tourists	-2	-2	-2
10.1	Bird-watching	-2	-1	–2
1.3.1	Oil prospecting	0	0	– 3
10.6	Military	-2	0	0
1.3.2.1	Fishermen	-3	0	0
3.1.1	Truffle hunters	0	0	–4
6.2.6	Discarded fishing line	-2	–1	0
8.2	Predation at breeding sites			- 2
10.7	Disturbance by humans	-2	–1	- 4
8.5	Disease			- 4
8.5	Contaminated food & water	-2	–3	- 3
1.1.4	Proximity of livestock	-1	-1	- 3
10.2	Inadequate pre-release health screening	-3	–3	0
8.5	Intensive poultry unit	-4	–1	- 3
1.1.4	Domestic animals (especially birds)	-1	-1	- 3
6	Inappropriate waste disposal			
6.2.3	Industrial	-1	-1	
6.2.1	Agricultural	-2	-1	
6.2.2	Domestic	-1	-1	- 2
6.2.6	Fishermen	-3	-1	0
6.2.1	Application of pesticides	-2	–3	- 3
4.1.2.3	Deliberate poisoning	-1	0	- 1
3	Shooting by hunters	-2	–1	- 4
4.2.1	Erection of pylons/electric poles	-1	–1	-1
4.2.1	Electric cables	-3	–2	- 1
4.2.3	Wind generators	-1	0	0
1.4	Roads through feeding areas	-1	–1	- 2
	Reduced food supply			- 4
6	Pesticides	-2	–3	- 3
1.2.2	Change in agriculture	-3	–2	-2

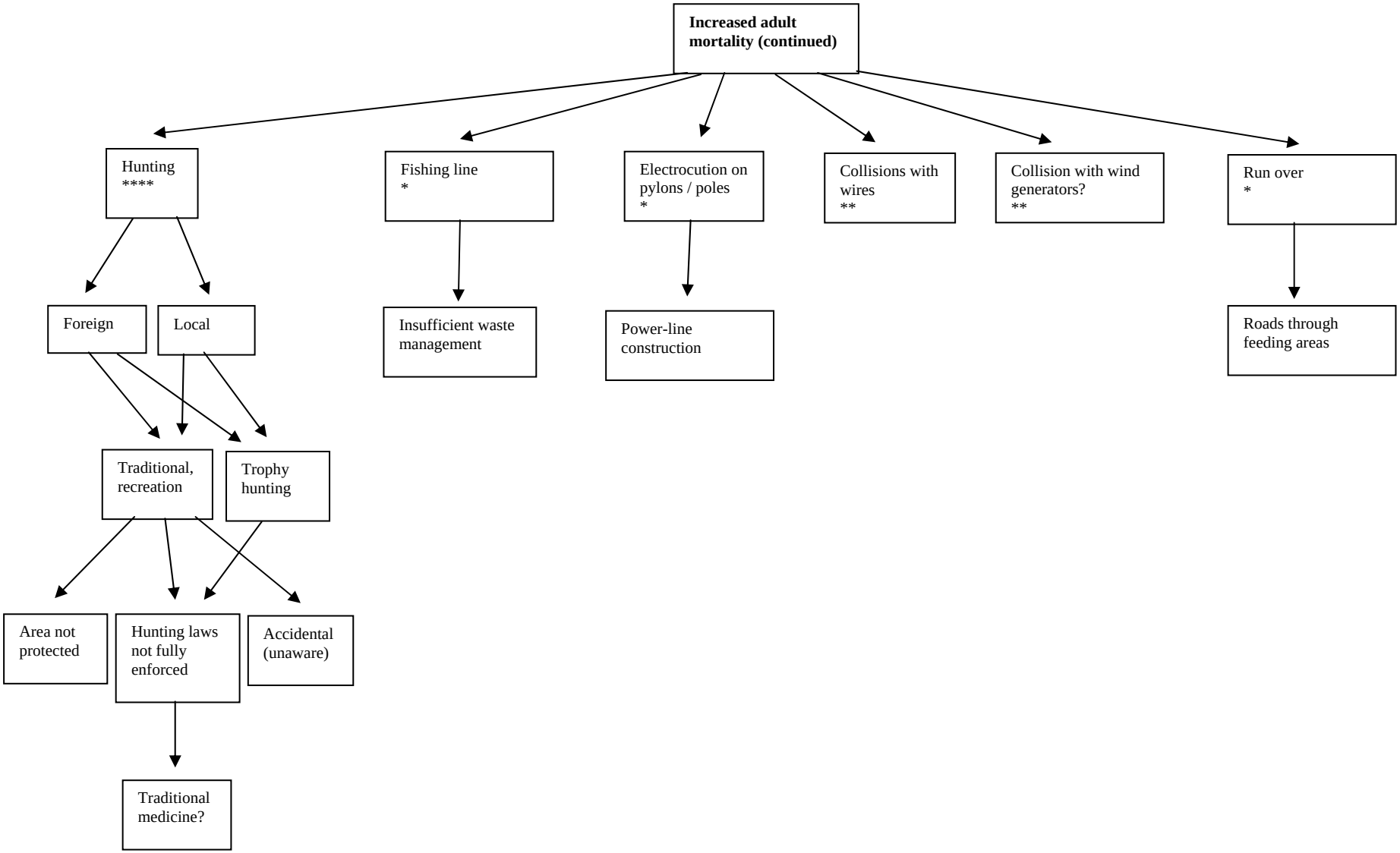
Figure 2. Problem trees

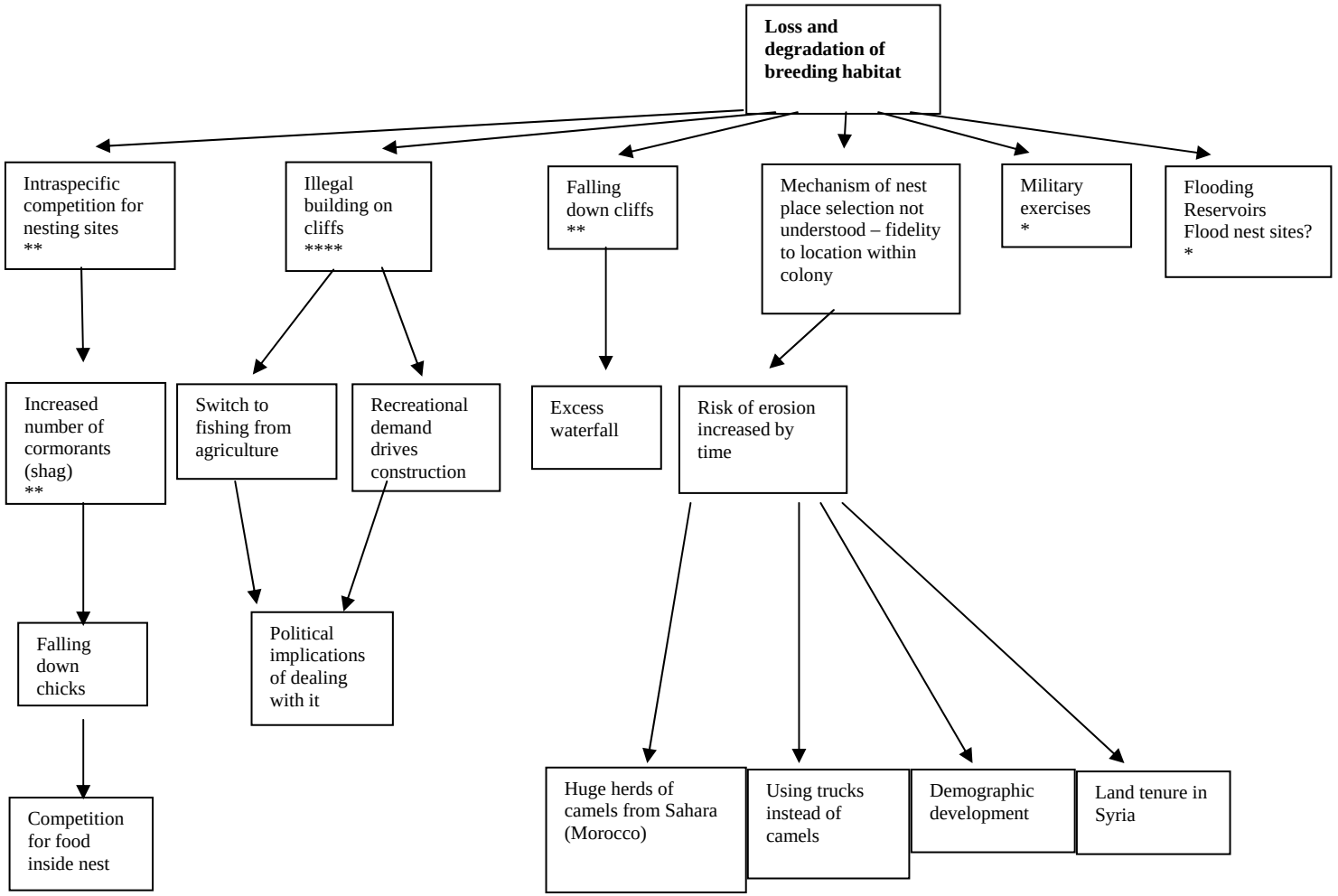


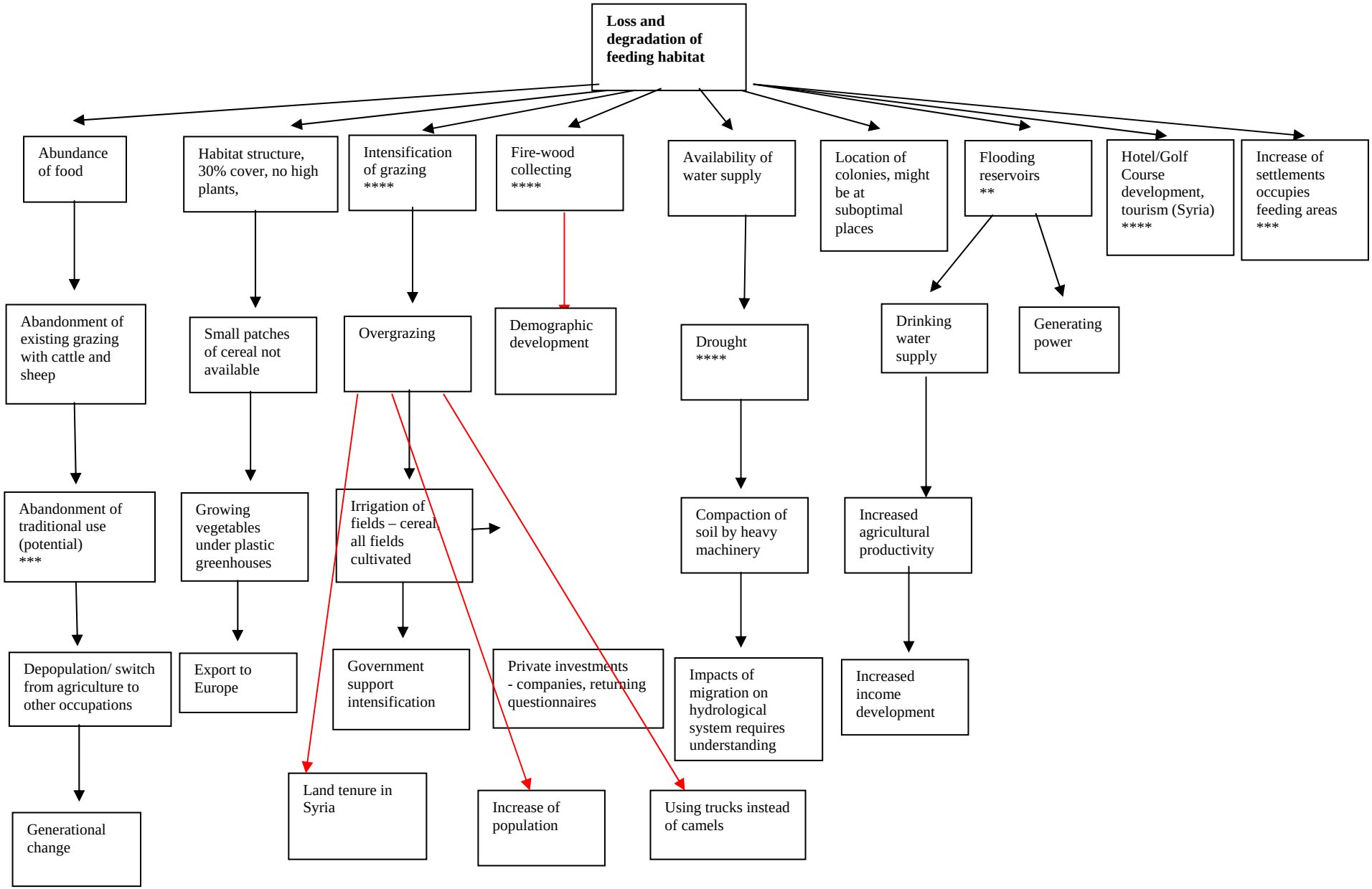

Decreased breeding success
Decreased breeding success ****
Fishing line **
Nest robbing **
Disease ****
Inter-specific nest site competition *
Loss and degradation of breeding habitat
Pesticides
Discarded lost fishing line by fisherman
Tradition chicks
Egg collecting ?
Reduced food supply
Proximity of domestic fowl
Inadequate pre-release health screening
Reduced genetic diversity
Parasites
Change in agricultural regime
Contaminated food and water
Waste /rubbish
Domestic stock at water-holes
Pesticides and fertilizers


Decreased breeding success continued
Intra-specific agonistic behaviour – nest destruction chicks killed
*
Low genetic diversity?
**
Disturbance at the breeding sites by people
****
Predation at breeding sites
***
Reduced food availability. Increased foraging
Negative impact of released birds on wild population die to behaviour problems
Fragmentation
Small populations
Shortage of water, increased time away from the nest
Unrestricted access
Inadequate protection, wardens/fences /legal
Increase in foraging time
Disturbance by humans
Prey availa bility
Lack of water-points
Truffle hunter+ hunting s
Fishermen (Morocco)
Researchers
Tourists
Oil prospecting (Syria)
Military exercises
Distance of foraging habitat from colony
Quality of foraging habitat
Bird-watching/eco-tourism


Increased adult mortality
Health problems ****
Predators Wild cat, Eagle Owl, Eagles & Peregrine **
Loss and degradation of feeding habitat
Infectious diseases – viral, bacterial, fungus, parasites ****
Intoxication ****
Animal vectors - domestic
Animal vectors - wildlife
Reduced genetic diversity?
Contaminated water sources
Pesticides Insecticides, fungicides, rodenticides, DDT etc
Deliberate poisoning?
Heavy metal contamination (pollution)?
Intensive poultry husbandry with inappropriate waste protocol
Domestic animals particularly birds
Small populations
Natural sources (causes) e.g. algal blooms
Industry Agriculture Domestic waste
Social-economic development
Inappropriate regulations


Increased adult mortality (continued)
Hunting ****
Fishing line *
Electrocution on pylons / poles *
Collisions with wires **
Collision with wind generators? **
Run over *
Foreign
Local
Insufficient waste management
Power-line construction
Roads through feeding areas
Traditional, recreation
Trophy hunting
Area not protected
Hunting laws not fully enforced
Accidental (unaware)
Traditional medicine?


Loss and degradation of breeding habitat
Intraspecific competition for nesting sites **
Illegal building on cliffs ****
Falling down cliffs **
Mechanism of nest place selection not understood – fidelity to location within colony
Military exercises *
Flooding Reservoirs Flood nest sites? *
Increased number of cormorants (shag) **
Switch to fishing from agriculture
Recreational demand drives construction
Excess waterfall
Risk of erosion increased by time
Falling down chicks
Political implications of dealing with it
Competition for food inside nest
Huge herds of camels from Sahara (Morocco)
Using trucks instead of camels
Demographic development
Land tenure in Syria


Loss and degradation of feeding habitat
Abundance of food
Habitat structure, 30% cover, no high plants,
Intensification of grazing ****
Fire-wood collecting ****
Availability of water supply
Location of colonies, might be at suboptimal places
Flooding reservoirs **
Hotel/Golf Course development, tourism (Syria) ****
Increase of settlements occupies feeding areas ***
Abandonment of existing grazing with cattle and sheep
Small patches of cereal not available
Overgrazing
Demographic development
Drought ****
Drinking water supply
Generating power
Abandonment of traditional use (potential) ***
Growing vegetables under plastic greenhouses
Irrigation of fields – cereal all fields cultivated
Compaction of soil by heavy machinery
Increased agricultural productivity
Depopulation/ switch from agriculture to other occupations
Export to Europe
Government support intensification
Private investments - companies, returning questionnaires
Impacts of migration on hydrological system requires understanding
Increased income development
Generational change
Land tenure in Syria
Increase of population
Using trucks instead of camels

4. – Policies and legislation relevant for management

Table 5. International conservation and legal status of the species.

World Status	**European status**	**SPEC category**	**EU Birds Directive Annex**	**Bern Convention Annex**	**Bonn Convention Annex**	**African-Eurasian Migratory Waterbird Agreement**	**Convention on the International Trade in Endangered Species**
Critically Endangered				Annex II	Annex 1	Included in list	Annex 1

- National policies, legislation and ongoing activities

Table 6. National conservation and legal status

Country	Status in national Red Data Book	Legal protection from killing	Year of protection status	Penalties for illegal killing or nest destruction	Highest responsible authority
Morocco		The main population included in the Souss Massa National Park	National Park created in 1991 Tamri area is Site d´importance biologique et ecologique		HCEFLD
Syria		There is a hunting moratorium since early 1990s - lack of enforcement makes this regulation uneffective	Decree n. 28 issued in 1967 by the Syrian Min of Agric, aimed at protecting several birds considered beneficial to agriculture, includes NBI (notmentioned,description quite clear)		
Turkey	CR	Hunting Law		2.500.000.000 TI (1850$)	Min of Env and Forestry

Table 7. Site (and habitat) protection and research

Country	Percentage of population included in IBAs	Percentage of population included in SPAs	Percentage of population included in Ramsar sites	Percentage of population included in national protected areas	Reserch carried out in the last 5 years
Morocco	100%			70%	Intensive monitoring of the breeding and feeding sites at the PNSM and Tamri site (by PNSM team and RSPB/SEO
Syria	0			note: a proposal to establish a protected area including the whole ibis breeding area is under process at MAAR	Habitat use and diet, human disturbance and threats, breeding cycle, search for undiscovered colonies, surveying felt needs of locals (unpubl. data, Serra *et al.*)

Table 8. Recent conservation action and attitude towards the species

Country	National protection plan for the species	Is there a national Northern Bald Ibis project / working group?	Is there a national survey / monitoring programme	Is there a monitoring programme in protected areas	Routines for informing the responsible authorities regarding nesting areas and nest sites	Conservation efforts over the last ten years	General attitude towards the species
Morocco		The projet Ibis chauve at the PNSM, carried out by the Park team, RSPB and SEO since 1994	Not carried by the national administration, but the project in place covers such a role	The mentioned project Ibis chauve at PNSM	The PNSM informs the Regional authority and the authority in Rabat (central government)	Intense conservation project at the PNSM, including work with local people living near the colonies (by PNSM/SEO)	Government is very willing to conserve the species, the local people attitude is improving as a consequence of sustainable development projects
Syria		Palmyra project staff (MAAR staff and local community of Palmyra) – increasing interest of SSCW	Not at the moment	?		Conservation programme set in place by Palmyra project since the discovery, in April 2002 (by RSPB)	Locally the people seem to start of being aware of the importance of the birds and the potentials for developing eco-tourism

Current Northern Bald Ibis projects.

Austria
1 – Since 1997 experiment for keeping a self sustaining group of NBI (not a reintroduction yet)
2 - Teaching NBI a suitable migration route (N7S Alps) www.waldrapteam.at

Spain
Started in 2002 similar to 1 (study of different release techniques in south Western Spain
Objective.: see if a free flying colony is self sustaining all year in this area (not a re-introduction)

Morocco (wild population)
1994 NBI Conservation project
Research-monitoring /work with local people
Carried out in Souss Massa National Park and Tamri area
National Park/BLI/RSPB/SEO

Morocco (captive population)
Mezguitem (site for project)
Proposed reintroduction
Established captive population on site
Birds from Munich Zoo and other zoos (including Rabat)
Another aviary built
Project still moving ahead

Turkey (semi wild population)
NBI conservation project:
Birecik
RSPB/DD/Min of Environment and Forestry
Establish contact with Turkish Zoos
Increasing numbers of BI
Restart migration
Make the area more suitable for the birds
Husbandry +site
Educate local people, especially children
Semi-wild population

Syria
2002/03 Palmyra project (FAO / MAAR / Italian Cooperation)
aimed at developing first operative reserve in the country (Al Talila Reserve), through promotion of rangeland rehabilitation and biodiversity conservation. Discovery of relict ibis colony done by Palmyra project in Mar 2002; the project was flexible enough to conserve and protect this colony during breeding seasons 2002, 2003 and 2004. Ibis colony 50 Km outside nearest PA (Al Talila)
BirdLife / RSPB and AEWA have raised funds to continue some aspects of the project (ie, satellite tagging) in breeding season 2004.
Palmyra project is terminating in June 2004. Complete uncertainty about who will continue the work of Palmyra project, and who will support financially conservation activities needed for next breeding seasons

Flexible enough to conserve this colony

Somalia
SEO 2004 planned a survey for Northern Bald Ibis, funded by AEWA. Cancelled due to political situation in country
EEP + SSP + Japan

International Research contribution

- Three separately managed captive populations
- Three separate studbooks

- Genetics research project initiated. E + W population first look

- IAGNBI (International Advisory Group on Northern Bald Ibis) acts as a coordinating mechanism at this point in time. It could act as a species working group.

5 – Framework for Action

Goal
Increase the number of Northern Bald Ibis colonies

Purpose
To conserve the Northern Bald Ibis by securing the wild colonies, increasing the number of birds and improving our understanding of their needs.

Results									
Result 1 Breeding success, inter and intra specific competition, and predation monitored at all exiting breeding colonies. ***	Result 2 Provision of uncontaminated fresh water sources close to breeding sites maintained and improved. + managing existing reservoirs in accordance with ibis needs (Syria) ***	Result 3 The impact of the introduction of new birds to existing breeding colonies researched in captivity during the breeding season. *	Result 4 The level of genetic variation within the captive, semi-wild and wild populations assessed. **	Result 5 A comprehensive health screening conducted on all birds prior to reintroduction. ***	Result 6 Discarded fishing line and other potentially dangerous debris to be collected and disposed of safely. *	Result 7 A captive population maintained with health, inbreeding and age structure managed. ***	Result 8 The conservation of the Northern Bald Ibis through international coordination and cooperation promoted by the International Advisory Group for the Northern Bald Ibis (IAGNBI). ****	Result 9 Techniques for the establishment of new colonies by reintroduction investigated. **	Result 10 Risk of infection disease reduced ***

Objectively Verifiable Indicators (OVI)									
OVI 1 n. chicks fledged successfully / breeding pairs	OVI 2 Availability of freshwater and amphibian preys is ensured during every breeding season	OVI 3	OVI 4	OVI 5	OVI 6	OVI 7	OVI 8 easier access to funding needed for conservation of syrian ibises; medium-term project approved and funded aimed at conservation of Syrian ibises	OVI 9	OVI 10

Means of Verification (MOV)									
MOV 1 Monitoring breeding	MOV 2 Surveying and monitoring occurrence of freshwater and status of reservoirs at different stages of each breeding season	MOV 3	MOV 4	MOV 5	MOV 6	MOV 7	MOV 8 Surveying level of funding and support in Syria in breeding years 2005 and later ones	MOV 9	MOV 10

Results cont 1.									
Result 11 Risk of intoxication reduced ****	Result 12 Reduce impact of predators *	Result 13 Hunting stopped ****	Result 14 Risks reduced related to electric wires and collision *	Result 15 Building on or near to NBI breeding and feeding sites restricted. ****	Result 16 Reservoir construction affecting feeding and breeding sites controlled. *	Result 17 Agriculture and grazing regimes maintained reformed in order to achieve sustainable exploitation of rangelands and halt advance of desertification process . (SYR to provide suitable feeding areas. **** (MOR,SYR, TUR)	Result 18 Collection of firewood controlled to prevent destruction or degradation of NBI feeding areas. **** (MOR + SYR)	Result 19 Socio-economic factors driving land use changes investigated and addressed in partnership with local communities and stakeholders Promotion of alternative sustainable grazing regimes and energy use, coupled with promotion of socio-economic developmnet of local community. ****	Result 20 Habitat requirements, food availability and foraging ecology in the current range and release trial sites researched and compared. ***

Objectively Verifiable Indicators (OVI) cont. 1									
OVI 11	OVI 12	OVI 13- n. birds shot down per breeding season - n. attempts of ibis killing per breeding season - n. of hunters stopped per breeding season	OVI 14	OVI 15	OVI 16	OVI 17 Vegetation coverage increaased or n. species of shrubs increased	OVI 18 Vegetation coverage increaased or n. species of shrubs increased or n. of locals using alternative source of energy increased	OVI 19 Present land use regulation is reformed in order to attain sustainability by traditional users at ibis breeding grounds	OVI 20 Preparation of sound articles to be submitted to scientific and conservation journals

Means of Verification (MOV) cont. 1									
MOV 11	MOV 12	MOV 13 Data collected in the field by rangers and guards	MOV 14	MOV 15	MOV 16	MOV 17 Surveying and monitoring scheme of rangeland species and relative abundance	MOV 18 Surveying and monitoring scheme of rangeland species and their relative abundance and of energy use by locals	MOV 19 Surveying and monitoring the process of reform	MOV 20 Data publication

6 – Activities by country.

Coast: * : 0 – 5,000 $,
** : 50001 – 15,000 $,
*** : 15,001 – 30,000 $ and
**** : > 30,000$

Priority (for results): * : low importance
** : medium importance
*** : high importance
**** : critically important

Morocco

Result	Activity		Agencies	Timescale	Cost
1. Breeding success, inter and intra specific competition, and predation monitored at all exiting breeding colonies. ***					
	1.1 To establish and train a network of wardens to monitor breeding colonies.				
			PNSM, SEO, RSPB	Ongoing	**
	1.2 To provide monitoring equipment e.g. binoculars, telescopes, vehicles etc. for use by wardens.				
			RSPB, SEO	Oct.2005	*
	1.3 To establish a uniform scientific protocol for monitoring breeding colonies.				
			PNSM, RSPB	Ongoing	-
2. Provision of uncontaminated fresh water sources close to breeding sites maintained and improved ***					
	2.1 To create new water points where required.				
			RSPB, PNSM	Ongoing	-
	2.2 To ensure regular maintenance and cleaning of water points.				
			RSPB, PNSM	Ongoing	-
3. The impact of the introduction of new birds to existing breeding colonies researched in captivity during the breeding season. *					
	3.1 To identify suitable institutions and research partners to manipulate captive colonies.				
			EAZA, IAGNBI	March .2006	***
	3.2 To carry out the research required to investigate the impact				
			EAZA, IAGNBI, Zoos, Research institutions.	March.2006	***
4. The level of genetic variation within the captive, semi-wild and wild populations assessed. **					
	4.1 To develop a protocol for assessing genetic variation in Northern Bald Ibis.				
			IAGNBI	March 2006	
	4.2 To identify suitable institutions and collect appropriate samples.				
			IAGNBI	Oct.2006	

Result	Activity		Agencies	Timescale	Cost
	4.3 To evaluate any existing data on colony interference by introduced birds e.g. Birecik.				
			IAGNBI, EAZA, Research Institutions	March 2006	
5. A comprehensive health screening conducted on all birds prior to reintroduction. ***					
	5.1 To establish a protocol of health screening for Northern Bald Ibis prior to reintroduction.				
			IAGNBI, IOZ, Jerez Zoo, Veterinary Institutions.	March .2006	*
	5.2 To conduct a disease risk analysis as part of a feasibility study prior to reintroduction.				
			IUCN SSC Reintroduction SG, IAGNBI	May 2006	**
	5.3 To build capacity in Turkey and Morocco on Health screening techniques				
			PNSM, RSPB, IOZ, Veterinary institutions.	March 2006	**
	5.4 To provide equipment and materials to conduct health assessment of the birds.				
			PNSM, RSPB, Veterinary institutions.	March 2006	***
6. Discarded fishing line and other potentially dangerous debris to be collected and disposed of safely. *					
	6.1 To ensure wardens include fishing line and debris removal as part of their daily activities.				
			PNSM	Ongoing	*
	6.2 To educate fishermen by informal meetings of the hazards posed by lost and discarded fishing debris.				
			PNSM, RSPB, Local NGOs	March 2006	*
7. A captive population maintained with health, inbreeding and age structure managed. ***					
	7.1 To develop and maintain separate captive Eastern and Western populations until further research clarifies their relationship.				
			EAZA, IAGNBI, Zoos	Ongoing	*

Result	Activity		Agencies	Timescale	Cost
	7.2 Conduct genetic research to clarify the relationships between the Eastern and Western populations.				
			EAZA, IAGNBI, Zoos, Research Institutions	Oct.2006	*
	7.3 Increase the number of the captive Eastern population to 200 – 250 birds.				
			EAZA, IAGNBI, Zoos	March.2006	**
	7.4 Investigate other Northern Bald Ibis holders for the Eastern population.				
			EAZA, IAGNBI, Zoos	March.2006	**
	7.5 Investigate the origin of all Eastern population birds held in captivity.				
			EAZA, IAGNBI, Research Institutions.	March 2006	**
8. The conservation of the Northern Bald Ibis through international coordination and cooperation promoted by the International Advisory Group for the Northern Bald Ibis (IAGNBI). ****					
	8.1 To obtain the endorsement of AEWA and other appropriate bodies for IAGNBI as the designated lead coordinating body.				
			IAGNBI, AEWA, IUCN SSC, BirdLife, RSPB	Ongoing	*
	8.2 To maintain IAGNBI as both a group of technical experts and governmental representatives from all current and future range states of the Northern Bald Ibis.				
			IAGNBI	Ongoing	*
	8.3 IAGNBI to promote the development of National Northern Bald Ibis action plans where appropriate.				
			IAGNBI	March 2006	**
	8.4 IAGNBI to maintain cooperation and information exchange with the Southern Bald Ibis Working Group (SBIWG).				
			IAGNBI, SBIWG	Ongoing	**
9. Techniques for the establishment of new colonies by reintroduction investigated. **					
	9.1 To establish protocols for creating both sedentary and migratory Northern Bald Ibis populations in suitable habitat.				
			IAGNBI, IUCN SSC Reintroduction SG,	Ongoing	****

Result	Activity		Agencies	Timescale	Cost
			conservation & research institutions		
	9.2 To develop techniques (model) for assessing suitable release sites.				
			IAGNBI, research institutions	Feb. 2006 - 2007	***
	9.3 To investigate captive colony splitting as a potential technique.				
			IAGNBI, Zoos, Research institutions	Feb. 2006	***
	9.4 To ensure that no reintroductions take place without full consultation with IAGNBI and the IUCN SSC Reintroduction specialist group.				
			IAGNBI, IUCN SSC Reintroduction SG.	Ongoing	*
10. Risk of infection disease reduced ***					
	10.1 Veterinary / post-mortem protocol assured for any sick or dead bird				
			IAGNBI, IOZ, Jerez Zoo, Veterinary Institutions.	March.2006	**
	10.2 To build veterinary capacity in Morocco, Syria and Turkey for post-mortem work.				
			PNSM, RSPB, IOZ, Veterinary institutions.	Ongoing	**
	10.3 To provide equipment and materials to conduct veterinary / post-mortem work.				
			PNSM, RSPB, IOZ, Veterinary institutions.	Ongoing	**
	10.4 Standardised assessment of risks made in each country (domestic and wildlife)				
			RSPB, LAS.VET, PNSM	Oct 2006	**
	10.5 Appropriate waste protocol at intensive poultry units it is assured in all known feeding areas				
			PNSM	Dec 2006	*
	10.6 Douira poultry unit relocated				

Result	Activity		Agencies	Timescale	Cost
			PNSM	06	**
11. Risk of intoxication reduced ****					
	11.1 Local farmers questioned about use of pesticides.				
			PNSM, RSPB	06	*
	11.2 Meetings with farmers, teachers etc to raise awareness of risks of pesticides used.				
			PNSM, RSPB	06	
	11.3 To identify key foraging areas.				
			PNSM, RSPB	March 2006	*
	11.5 Maintain water provisioning points near colonies (Mor).				
			Ongoing		
	11.6 Veterinary / post-mortem protocol assured for any sick or dead bird				
			IAGNBI, IOZ, Jerez Zoo, Veterinary Institutions.	March 2005	**
	11.7 To build veterinary capacity in Morocco, Syria and Turkey for post-mortem work.				
			PNSM, RSPB, IOZ, Veterinary institutions.	Ongoing	**
	11.8 To provide equipment and materials to conduct veterinary / post-mortem work.				
			PNSM, RSPB, IOZ, Veterinary institutions.	Ongoing	**
13. Hunting stopped ****					
	13.3. Signboards placed in all feeding areas (Syria & Turkey), maintained (Morocco).				
14. Risks reduced related to electric wires and collision *					
	14.1. Poles are low-risk of electrocution design (Morocco & Turkey)				
			MIN E and F	06	**
	14.2. Increasing visibility of electric wires in feeding areas (Tamri & Birecik)				
			MUNICIPALITY,	06	***

Result	Activity		Agencies	Timescale	Cost
			MIN OF ENERGY		
15. Building on or near to NBI breeding and feeding sites restricted. ****					
	15.1 Stop the illegal construction of grottes at or near breeding and roosting sites.				
	15.2 Restrict and consult with IAGNBI on all tourist and hotel developments.				
	15.3 Protected area status for all breeding and feeding areas (best designation to be determined) in partnership with local communities. (Tamri & Tifnit – MOR, Palmyra –SYR, + ?TUR)				
	15.4 Develop a management plan for Tamri and Palmyra in partnership with local communities.				
	15.5 Initiate training and provide equipment for staff to implement management plans.				
16. Reservoir construction affecting feeding and breeding sites controlled. *					
	16.1 Ensure consultation with IAGNBI at early planning stage of all future developments potentially effecting NBI.				
17. Agriculture and grazing regimes maintained/altered to provide suitable feeding areas. ****					
18. Collection of firewood controlled to prevent destruction or degradation of NBI feeding areas. ****					
19. Socio-economic factors driving land use changes investigated and addressed in partnership with local communities and stakeholders. ****					
20. Habitat requirements, food availability and foraging ecology in the current range and release trial sites researched and compared. ***					
21. Disturbance by military firing range reduced.(suggested for MOR – Souss-Massa*) - not fully discussed, but option of moving firing range to be discussed at draft stage)					

Syria

Result	Activity		Agencies	Timescale	Cost
1. Breeding success, inter and intra specific competition, and predation monitored at all exiting breeding colonies. ***					
	1.1 To establish and train a network of wardens to monitor breeding colonies.				
			MLAE, MAAR, SSCW, BLI / BLME	Ongoing	*
	1.2 To provide monitoring equipment e.g. binoculars, telescopes, vehicles etc. for use by wardens.				
			MLAE MAAR, SSCW, RSPB, BLI / BLME, donors	Oct.2006	*
	1.3 To establish a uniform scientific protocol for monitoring breeding colonies.				
			RSPB	Ongoing	-
2. Provision of uncontaminated fresh water sources close to breeding sites maintained and improved ***					
	2.3 To investigate the hydrology of key available sources of water.				
			MLAE, MAAR, SSCW, ACSAD, BLI / BLME	Oct.2006	*
	2.4 To make recommendations to local authorities on best practices for managing key available water sources.				
			ACSAD, BLI / BLME	March 2006	*
3. The impact of the introduction of new birds to existing breeding colonies researched in captivity during the breeding season. *					
	3.1 To identify suitable institutions and research partners to manipulate captive colonies.				
			EAZA, IAGNBI	March 2006	***
	3.2 To carry out the research required to investigate the impact				
			EAZA, IAGNBI, Zoos, Research institutions.	March 2006	***
4. The level of genetic variation within the captive, semi-wild and wild populations assessed. **					
	4.1 To develop a protocol for assessing genetic variation in Northern Bald Ibis.				
			IAGNBI	March 2006	
	4.2 To identify suitable institutions and collect appropriate samples.				

Result	Activity		Agencies	Timescale	Cost
			IAGNBI	March 2006	
	4.3 To evaluate any existing data on colony interference by introduced birds e.g. Birecik.				
			IAGNBI, EAZA, Research Institutions	March 2006	
5. A comprehensive health screening conducted on all birds prior to reintroduction. ***					
	5.1 To establish a protocol of health screening for Northern Bald Ibis prior to reintroduction.				
			IAGNBI, IOZ, Jerez Zoo, Veterinary Institutions.	March .2006	*
	5.2 To conduct a disease risk analysis as part of a feasibility study prior to reintroduction.				
			IUCN SSC Reintroduction SG, IAGNBI	March 2006	**
	5.4 To provide equipment and materials to conduct health assessment of the birds.				
			Min of Env, Veterinary institutions.	March 2006	***
7. A captive population maintained with health, inbreeding and age structure managed. ***					
	7.1 To develop and maintain separate captive Eastern and Western populations until further research clarifies their relationship.				
			EAZA, IAGNBI, Zoos	Ongoing	*
	7.2 Conduct genetic research to clarify the relationships between the Eastern and Western populations.				
			EAZA, IAGNBI, Zoos, Research Institutions	March 2006	*
	7.3 Increase the number of the captive Eastern population to 200 – 250 birds.				
			EAZA, IAGNBI, Zoos	March 2006	**
	7.4 Investigate other Northern Bald Ibis holders for the Eastern population.				
			EAZA, IAGNBI,	March 2006	**

Result	Activity		Agencies	Timescale	Cost
			SOS		
	7.5 Investigate the origin of all Eastern population birds held in captivity.				
			EAZA, IAGNBI, Research Institutions.	March 2006	**
8. The conservation of the Northern Bald Ibis through international coordination and cooperation promoted by the International Advisory Group for the Northern Bald Ibis (IAGNBI). ****					
	8.1 To obtain the endorsement of AEWA and other appropriate bodies for IAGNBI as the designated lead coordinating body.				
			IAGNBI, AEWA, IUCN SSC, BirdLife, RSPB	Ongoing	*
	8.2 To maintain IAGNBI as both a group of technical experts and governmental representatives from all current and future range states of the Northern Bald Ibis.				
			IAGNBI	Ongoing	*
	8.3 IAGNBI to promote the development of National Northern Bald Ibis action plans where appropriate.				
			, IUCN SSC ? BLI / BLME ?IAGNBI	March 2006	**
	8.4 IAGNBI to maintain cooperation and information exchange with the Southern Bald Ibis Working Group (SBIWG).				
			IAGNBI, SBIWG	Ongoing	**
9. Techniques for the establishment of new colonies by reintroduction investigated. **					
	9.1 To establish protocols for creating both sedentary and migratory Northern Bald Ibis populations in suitable habitat.				
			IAGNBI, IUCN SSC Reintroduction SG, conservation & research institutions	Ongoing	****
	9.2 To develop techniques (model) for assessing suitable release sites.				
			IAGNBI, research institutions	Feb. 2006 - 2007	***
	9.3 To investigate captive colony splitting as a potential technique.				
			IAGNBI, Zoos, Research institutions	Feb. 2006	***

Result	Activity		Agencies	Timescale	Cost
	9.4 To ensure that no reintroductions take place without full consultation with IAGNBI and the IUCN SSC Reintroduction specialist group.				
			IAGNBI, IUCN SSC Reintroduction SG.	Ongoing	*
10. Risk of infection disease reduced ***					
	10.1 Veterinary / post-mortem protocol assured for any sick or dead bird				
			IAGNBI, IOZ, Jerez Zoo, Veterinary Institutions.	March .2006	**
	10.2 To build veterinary capacity in Morocco, Syria and Turkey for post-mortem work.				
			Min of Env, IOZ, Veterinary institutions.	March 2006	**
	10.3 To provide equipment and materials to conduct veterinary / post-mortem work.				
			Min of Env, IOZ, Veterinary institutions.	March 2006	**
	10.4 Standardised assessment of risks made in each country (domestic and wildlife)				
			MLAE	06	**
11. Risk of intoxication reduced ****					
	11.1 Local farmers questioned about use of pesticides.				
			MLAE , SSWC, ICARDA	Jul 2006	**
	11.2 Meetings with farmers, teachers etc to raise awareness of risks of pesticides used.				
			MLAE, SSWC	Jul 2006	**
	11.3 To identify key foraging areas.				
			MLAE, SSCW, BLI / BLME	Ongoing	**
	11.4 Quality of water sources monitored each year (Mor).				
			MAAR, MLAE MIM, IVRIG,	06	*

Result	Activity		Agencies	Timescale	Cost
			ACSAD		
	11.6 Veterinary / post-mortem protocol assured for any sick or dead bird				
			MLAE, MAAR, IOZ, Veterinary institutions.	March 2006	**
	11.7 To build veterinary capacity in Morocco, Syria and Turkey for post-mortem work.				
			Min of Env, IOZ, Veterinary institutions.	March 2006	**
	11.8 To provide equipment and materials to conduct veterinary / post-mortem work.				
			MLAE, MAAR, IOZ, Veterinary institutions.	March 2006	**
12. Reduce impact of predators *					
	12.1 Surveillance of any predation events.				
			MLAE, SSWC, BLI / BLME	Ongoing	**
	12.2 Control measures taken (for special cases)				
13. Hunting stopped ****					
	13.1. Surveillance of any potential hunting and define all feeding areas.				
			MLAE, MAAR, SSWC	Ongoing	**
	13.2. Meetings (sensitisation) with hunters and schools.				
			MLAE, MAAR SSWC	2005 and 2006	*
	13.3 Preparation of an official statement by enforcement Syrian authorities stating the strict forbiddance of hunting in the ibis breeding area				
	MLAE, MAAR, SSWC				
	13.4. Signboards placed in all feeding areas (Syria & Turkey), maintained (Morocco).				

Result	Activity		Agencies	Timescale	Cost
	13.5. Media campaign (TV etc) promoting importance of NBI and hunting laws (Syria & Morocco) and produce posters/calendars (Turkey).				
			MLAESSWC	2005 and 2006	***
	13.6. Identify and close all trophy shops (Syria)				
			MLAE, SSWC, MAAR	2005	
	13.7. Improved hunting law enforcement				
			MLAE, SSWC, MAAR	2005 and 2006	***
	13.8. Involve and train local hunters in wardening, ecotourism etc.				
			MLAE, SSWC, BLI / BLME	2006	**
14. Risks reduced related to electric wires and collision *					
	14.3. NBI considered during any new construction of wind generators and roads in feeding zones.				
			MLAE, SSWC, MIN. TRANSPORTATION		
15. Building on or near to NBI breeding and feeding sites restricted. ****					
	15.2 Restrict and consult with IAGNBI on all tourist and hotel developments.				
			MLAE, SSCW	2006	
	15.3 Protected area status for all breeding and feeding areas (best designation to be determined) in partnership with local communities. (Tamri & Tifnit – MOR, Palmyra –SYR, + ?TUR)				
			MAAR, MLAE, SSCW, BLI / BLME, FIRDOS	2006	*
	15.4 Develop a management plan for Tamri and Palmyra in partnership with local communities.				
			MAAR, MLAE, SSCW, BLI / BLME,	2006	**

Result	Activity		Agencies	Timescale	Cost
			FIRDOS		
	15.5 Initiate training and provide equipment for staff to implement management plans.				
			MAAR, MLAE, SSCW, BLI / BLME	2006	***
16. Reservoir construction affecting feeding and breeding sites controlled. *					
	16.1 Ensure consultation with IAGNBI at early planning stage of all future developments potentially effecting NBI.				
			MAAR, MLAE, SSCW	2005 and 2006	-
17. Agriculture and grazing regimes reformed in order to achieve sustainable exploitation of rangelands and stop desertification**** maintained/altered to provide suitable feeding areas. ****					
	17.1 Following up the exception to the open access rule (i.e., pioneeristic attempt of land reform in Syria), promoted by Palmyra project, and in the process of being applied in the buffer zone of Al Talila reserve (Palmyra)				
17.2. Applying the reform of land tenure attempted in Palmyra to all protected areas of Syria 17.3. Extending the reform of land tenure attempted in Palmyra to all steppe of Syria 18. Collection of firewood controlled to prevent destruction or degradation of NBI feeding areas. ****					
19. Socio-economic factors driving land use changes investigated and addressed in partnership with local communities and stakeholders. ****					
20. Habitat requirements, food availability and foraging ecology in the current range and release trial sites researched and compared. ***					

Turkey

Result	Activity		Agencies	Timescale	Cost
1. Breeding success, inter and intra specific competition, and predation monitored at all exiting breeding colonies. ***					
	1.1 To establish and train a network of wardens to monitor breeding colonies.				
			Min of Env & Forestry, DD	March 2005	*
	1.2 To provide monitoring equipment e.g. binoculars, telescopes, vehicles etc. for use by wardens.				
			Min of Env & Forestry, DD, RSPB	March 2005	*
	1.3 To establish a uniform scientific protocol for monitoring breeding colonies.				
			Min of Env & Forestry, DD	Ongoing	-
3. The impact of the introduction of new birds to existing breeding colonies researched in captivity during the breeding season. *					
	3.1 To identify suitable institutions and research partners to manipulate captive colonies.				
			EAZA, IAGNBI	March 2006	***
	3.2 To carry out the research required to investigate the impact				
			EAZA, IAGNBI, Zoos, Research institutions.	March 2006	***
4. The level of genetic variation within the captive, semi-wild and wild populations assessed. **					
	4.1 To develop a protocol for assessing genetic variation in Northern Bald Ibis.				
			IAGNBI	March 2006	
	4.2 To identify suitable institutions and collect appropriate samples.				
			IAGNBI	March 2006	
	4.3 To evaluate any existing data on colony interference by introduced birds e.g. Birecik.				
			IAGNBI, EAZA, Research Institutions	March 2006	
5. A comprehensive health screening conducted on all birds prior to reintroduction. ***					
	5.1 To establish a protocol of health screening for Northern Bald Ibis prior to reintroduction.				
			IAGNBI, IOZ, Jerez Zoo, Veterinary	March 2006	*

Result	Activity		Agencies	Timescale	Cost
			Institutions.		
	5.2 To conduct a disease risk analysis as part of a feasibility study prior to reintroduction.				
			IUCN SSC Reintroduction SG, IAGNBI	March 2006	**
	5.3 To build capacity in Turkey and Morocco on Health screening techniques				
			Min of Env & Forestry, IOZ, Veterinary institutions.	March 2006	**
	5.4 To provide equipment and materials to conduct health assessment of the birds.				
			Min of Env & Forestry, Veterinary institutions.	March 2006	***
7. A captive population maintained with health, inbreeding and age structure managed. ***					
	7.1 To develop and maintain separate captive Eastern and Western populations until further research clarifies their relationship.				
			EAZA, IAGNBI, Zoos	Ongoing	*
	7.2 Conduct genetic research to clarify the relationships between the Eastern and Western populations.				
			EAZA, IAGNBI, Zoos, Research Institutions	March 2006	*
	7.3 Increase the number of the captive Eastern population to 200 – 250 birds.				
			EAZA, IAGNBI, Zoos	March 2006	**
	7.4 Investigate other Northern Bald Ibis holders for the Eastern population.				
			EAZA, IAGNBI, Zoos	March 2006	**
	7.5 Investigate the origin of all Eastern population birds held in captivity.				
			EAZA, IAGNBI,	March 2006	**

Result	Activity		Agencies	Timescale	Cost
			Research Institutions.		
	7.6 Build the capacity at Birecik to support and increase their population to 150 birds (e.g. removing trees, expanding cages and promoting good husbandry).				
			Min of Env & Forestry, DD, RSPB, EAZA.	Ongoing	***
8. The conservation of the Northern Bald Ibis through international coordination and cooperation promoted by the International Advisory Group for the Northern Bald Ibis (IAGNBI). ****					
	8.1 To obtain the endorsement of AEWA and other appropriate bodies for IAGNBI as the designated lead coordinating body.				
			IAGNBI, AEWA, IUCN SSC, BirdLife, RSPB	Ongoing	*
	8.2 To maintain IAGNBI as both a group of technical experts and governmental representatives from all current and future range states of the Northern Bald Ibis.				
			IAGNBI	Ongoing	*
	8.3 IAGNBI to promote the development of National Northern Bald Ibis action plans where appropriate.				
			IAGNBI	March 2006	**
	8.4 IAGNBI to maintain cooperation and information exchange with the Southern Bald Ibis Working Group (SBIWG).				
			IAGNBI, SBIWG	Ongoing	**
9. Techniques for the establishment of new colonies by reintroduction investigated. **					
	9.1 To establish protocols for creating both sedentary and migratory Northern Bald Ibis populations in suitable habitat.				
			IAGNBI, IUCN SSC Reintroduction SG, conservation & research institutions	Ongoing	****
	9.2 To develop techniques (model) for assessing suitable release sites.				
			IAGNBI, research institutions	Feb. 2006 - 2007	***
	9.3 To investigate captive colony splitting as a potential technique.				
			IAGNBI, Zoos,	Feb. 2006	***

Result	Activity		Agencies	Timescale	Cost
			Research institutions		
	9.4 To ensure that no reintroductions take place without full consultation with IAGNBI and the IUCN SSC Reintroduction specialist group.				
			IAGNBI, IUCN SSC Reintroduction SG.	Ongoing	*
10. Risk of infection disease reduced ***					
	10.1 Veterinary / post-mortem protocol assured for any sick or dead bird				
			IAGNBI, IOZ, Jerez Zoo, Veterinary Institutions.	March 2006	**
	10.2 To build veterinary capacity in Morocco, Syria and Turkey for post-mortem work.				
			Min of Env & Forestry, IOZ, Veterinary institutions.	Ongoing	**
	10.3 To provide equipment and materials to conduct veterinary / post-mortem work.				
			Min of Env & Forestry, IOZ, Veterinary institutions.	Ongoing	**
	10.4 Standardised assessment of risks made in each country (domestic and wildlife)				
			Min of Environement, DD	05/06	**
11. Risk of intoxication reduced ****					
	11.1 Local farmers questioned about use of pesticides.				
			Min of Env & Forestry, DD, RSPB	06	
	11.2 Meetings with farmers, teachers etc to raise awareness of risks of pesticides used.				
			Min of Env & Forestry, DD, Min of AgricultureMIN,	06	**

Result	Activity		Agencies	Timescale	Cost
			EAV, FOR, DD, AGR		
	11.3 To identify key foraging areas.				
			Min of Env, and Forestry DD, RSPB	Ongoing	*
	11.6 Veterinary / post-mortem protocol assured for any sick or dead bird				
			IAGNBI, IOZ, Jerez Zoo, Veterinary Institutions.	March 2006	**
	11.7 To build veterinary capacity in Morocco, Syria and Turkey for post-mortem work.				
			Min of Env & Forestry, IOZ, Veterinary institutions.	Ongoing	**
	11.8 To provide equipment and materials to conduct veterinary / post-mortem work.				
			Min of Env & Forestry, IOZ, Veterinary institutions.	Ongoing	**
12. Reduce impact of predators *					
	12.1 Surveillance of any predation events.				
			Min of Env and Forestry, DD, RSPB, DHKD	Ongoing	**
13. Hunting stopped ****					
	13.2. Meetings (sensitisation) with hunters and schools.				
			DD, MUNICIPALITY	ongoing	*
	13.3. Signboards placed in all feeding areas (Syria & Turkey), maintained (Morocco).				
			Min of Env and Forestry, DD		**

Result	Activity		Agencies	Timescale	Cost
	13.6. Improved hunting law enforcement				
			Min of Env and Forestry		
14. Risks reduced related to electric wires and collision *					
	14.1. Poles are low-risk of electrocution design (Morocco & Turkey)				
			Min of Env and Forestry MIN E and F	06	**
	14.2. Increasing visibility of electric wires in feeding areas (Tamri & Birecik)				
			MUNICIPALITY, Min of Energy	06	***
	14.3. NBI considered during any new construction of wind generators and roads in feeding zones.				
			Min of Energy, Min of Env & Forestry, Municipality	06	**
15. Building on or near to NBI breeding and feeding sites restricted. ****					
	15.3 Protected area status for all breeding and feeding areas (best designation to be determined) in partnership with local communities. (Tamri & Tifnit – MOR, Palmyra –SYR, + ?TUR)				
	15.5 Initiate training and provide equipment for staff to implement management plans.				
16. Reservoir construction affecting feeding and breeding sites controlled. *					
	16.1 Ensure consultation with IAGNBI at early planning stage of all future developments potentially effecting NBI.				
17. Agriculture and grazing regimes maintained/altered to provide suitable feeding areas. ****					
19. Socio-economic factors driving land use changes investigated and addressed in partnership with local communities and stakeholders. **** Promotion of alternative sustainable grazing regimes and energy use, coupled with promotion of socio-economic development of local community					
20. Habitat requirements, food availability and foraging ecology in the current range and release trial sites researched and compared. ***					

7 – Implementation

The International Advisory Group on Northern Bald Ibis (IAGNBI) could act as Species working group and monitor the implementation of the actions mentioned in the tables if funding is available.

Since 1998 regular monitoring committee meetings have been held in Souss Massa National Park to monitor the activities carried out in the Bald Ibis conservation project. A similar thing could be established in Syria and Turkey.

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