#### **WWF International**



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# Feature Advisory

16 October 2003

## **Human-Wildlife Conflict**

#### The issue

As human populations expand and natural habitats shrink, people and animals are increasingly coming into conflict over living space and food. The impacts are often huge. People lose their crops, livestock, property, and sometimes their lives. The animals, many of which are already threatened or endangered, are killed in retaliation or to 'prevent' future conflicts. Human-wildlife conflict is one of the main threats to the continued survival of many species, in many parts of the world.

#### Solutions

WWF and its partners have a number of projects around the world to reduce human-wildlife conflict and improve the livelihoods of the people affected. The solutions are often specific to the species or area concerned, and are often creative and simple. An important aspect of the work is that it benefits both the animals and local human communities, and actively involves these communities. In most cases, the work has led to people being more enthusiastic and supportive of conservation, and has demonstrated that people can live alongside wildlife while developing sustainable livelihoods.

## What you will find in this advisory

- Brief information on different animals that come into conflict with humans and work to mitigate this conflict:
  - · Asian and African elephant
  - Greater one-horned rhino
  - Tiger
  - Snow leopard and Central Asian leopard
  - Jaguar
  - Mediterranean monk seal
  - Golden jackal
  - Brown bear, Eurasian lynx, wolf, and bearded vulture
- Links to further online information
- Description of resources available from WWF for different animals and projects
  - images
  - footage
  - audio clips
- Contact details for WWF experts in different parts of the world

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• For **information on the animals described**, please contact the relevant WWF person listed in each section

<sup>\*</sup>Please note that footage and audio clips are not available for every species/project — please see the list of resources available from WWF in each of the following sections.



## Summary and index

• In both Africa and Asia, **elephant** habitat is being replaced by agriculture — both by small-scale farmers and international agribusiness such as palm oil. Not only are the animals being squeezed into smaller and smaller areas, but farmers plant crops that elephants like to eat. As a result, elephants frequently raid and destroy crops. And after being persecuted for decades and hunted almost to extinction, a wild elephant's reaction to a human can be similar to our reaction to a mosquito — swat it. So while many people in the West regard elephants with affection and admiration, the animals often inspire fear and anger in those who share their land.

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• The **greater one-horned rhino** is a conservation success story in India and Nepal — numbers have increased from 600 in 1975 to about 2,400 today. But with this success has come conflict: the growing rhino population increasingly competes with humans. The animals have destroyed crops and caused human casualties, often leading to retaliatory actions from affected farmers.

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Throughout their range, tigers, leopards, and jaguars are losing their habitat and also their prey species. As
a result, they move into more marginal areas searching for food, and sometimes kill domestic livestock. They
are either killed in retaliation, or captured and kept in zoos. Although poaching for the traditional Chinese
medicine trade is the largest threat to tigers and snow leopards, retalitory killings are a significant problem for
all these big cats.

.... tigers: page 6 .... snow and Central Asian leopards: pages 7-8 .... jaguars: page 9

• **Mediterranean monk seals** eat octopus, cuttlefish, and fish — the same seafood that people like. Industrial fishing has depleted fish in the Mediterranean Sea over the past 20 years, putting the seals in direct competition with local fishermen for the same limited food supply. The seals are suffering from starvation and reduced breeding success, and also, some fishermen kill the seals in retaliation for 'stealing' fish from their nets. On top of this, young monk seals sometimes become trapped in fishing nets and drown.

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• Jackals have a reputation for being sneaky, skulking scavengers that steal domestic sheep and lambs. But although they do take the occasional lamb, they are actually 50 per cent vegetarian, with the other half of their diet coming mainly from carrion and hunting small animals like frogs, fish, rodents, and rabbits. Their negative public image is more than just a simple case of mistaken identity, however. Labelled as "vile and harmful" animals, golden jackals have been hunted nearly to extinction in Greece.

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After centuries of persecution and determined eradication programmes, wolves, Eurasian lynx, bearded vultures and brown bears were driven to extinction in Western Europe and parts of Scandinavia by the early 1900s. Thanks to reintroduction and conservation programmes, the animals have been re-established in some areas and populations are increasing. However, there is a significant and vocal minority that opposes this. In addition, after not seeing them in the wild for up to 100 years, people are not used to living with these animals any more and so come into conflict with them.

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## **Elephants**

In both Africa and Asia, elephant habitat is being replaced by agriculture — both by small-scale farmers and international agribusiness such as palm oil. Not only are the animals being squeezed into smaller and smaller areas, but farmers plant crops that elephants like to eat. As a result, elephants frequently raid and destroy crops. And after being persecuted for decades and hunted almost to extinction, a wild elephant's reaction to a human can be similar to our reaction to a mosquito — swat it. So while many people in the West regard elephants with affection and admiration, the animals often inspire fear and anger in those who share their land.

#### **Quick facts**

- Elephants eat up to 450kg of food per day. They are messy eaters, uprooting and scattering as much as is eaten. A single elephant can destroy a hectare of crops in a very short time.
- Small farmers often already economically and nutritionally vulnerable, forced by circumstances to encroach into elephant habitat can lose their entire livelihood overnight from an elephant raid.
- Large agriculture is also affected: in the largest palm oil producing province in Indonesia, Riau, losses due to elephant damage of oil palm plantations and timber estates are estimated to be around US\$105 million per year.
- People are injured and killed: for example, 200 people are killed by elephants each year in India; over 200 people have been killed in Kenya over the last 7 years; over 160 people have been killed and over 600 injured in Bangladesh over the past 6 years.
- Elephants are killed in retaliation: for example, wildlife authorities in Kenya shoot between 50 and 120 problem elephants each year and dozens of elephants are poisoned each year in oil palm plantations in Indonesia.
- Over the last 100 years, African elephant populations have declined from 3–5 million to 300,000–500,000 and Asian elephant populations have declined from 100,000 to no more than 50,000. Habitat loss and conflict with people are the biggest threats to their continued survival.

### Reducing the conflict

WWF and its partners have had a lot of success in reducing conflict through:

- · chilli-based deterrents to keep elephants out of fields in Africa
- changing farming practises making farms easier to defend; growing crops that elephants don't like
- education
- improving oil palm plantation practises in Malaysia and Indonesia
- restoring degraded biological corridors to facilitate seasonal movement of elephants and other wildlife in the lowland Terai region of Nepal so that the animals don't need to travel through human habitatations
- Habitat management in protected areas in Nepal

#### Links for further information:

- <u>Human-elephant conflict project in Kenya</u> (www.panda.org/africa/elephant-conflict) extensive information about work in Kenya's TransMara district; includes people profiles and audio and video clips
- <u>Human-elephant conflict project in Mozambique</u> (www.panda.org/africa/mozambique/expedition)- information on Quirimbas National Park, which was partly set up to help people deal with elephant conflict
- <u>Elephants get a chilli reception</u> (www.panda.org/news\_facts/newsroom/features/news.cfm?uNewsID=9223) feature article
- <u>Is your ice cream bad for elephants?</u> (www.panda.org/news\_facts/newsroom/features/news.cfm?uNewsId=4941) feature article
- African elephants (www.panda.org/species/african-elephant/) information on African elephants
- Asian elephants (www.panda.org/species/asian-elephant/) information on Asian elephants



#### Resources available from WWF

- Images elephants, conflict mitigation projects, local communities affected by elephants, oil palm plantations, elephant habitat
- Footage elephants, conflict mitigation projects, local communities affected by elephants
- Audio clips Dr Noah Sitati, an elephant expert based in Kenya
- Extensive online information (see "Links for further information", previous page)
- Spokespeople and contact people:

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## **Greater one-horned rhinos**

The greater one-horned rhino is a conservation success story in India and Nepal — numbers have increased from 600 in 1975 to about 2,400 today. But with this success has come conflict: the growing rhino population increasingly competes with humans. The animals have destroyed crops, leading to retaliatory actions from affected farmers. Poaching is the main threat to the species, but conflict with humans is also a problem.

#### **Quick facts**

- When Kaziranga National Park was established in northeastern India in 1908, only a dozen greater onehorned rhinos survived in the area. The park is now home to 1,700 rhinos, the largest population in India.
- Only 80–100 rhinos survived in Nepal's Chitwan Valley in 1968. After establishment of a national park in 1973, work to reduce poaching and intensive conservation efforts, the population has increased to over 600 today.
- The number of greater one-horned rhinos in many protected areas in India and Nepal is now at the limit of what the area can support.

## **Conflict mitigation**

WWF and its partners are working to reduce human-rhino conflict and improve the livelihoods of the people affected through:

- Translocation of rhinos from Royal Chitwan National Park to Royal Bardia National Park in Nepal to reduce pressure and minimize human-wildlife conflict
- Creation of buffer zones around protected areas and between forests and agricultural fields
- Education
- Promotion of alternative livelihoods that don't encroach on rhino habitat

#### Links for further information:

- Operation rhino (www.panda.org/news\_facts/newsroom/features/news.cfm?uNewsId=7256) feature article
- <u>Greater one-horned rhinos</u> (www.panda.org/species/one-horned-rhino) information on greater one-horned rhinos (also called Indian rhinos)
- Wanted Alive! Asian Rhinos in the Wild (www.panda.org/downloads/species/BrRhinosp1-24.pdf) brochure

#### Resources available from WWF

- Images greater one-horned rhinos, rhino translocation In Nepal, local communities affected by rhinos
- Footage greater one-horned rhinos
- Online information (see "Links for further information" above)
- Spokespeople and contact people:

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WWF, the global conservation organization, works to stop the degradation of the planet's natural environment and to build a future in which humans live in harmony with nature. Visit our website at www.panda.org for further information.



## **Tigers**

Throughout their range, tigers are losing their habitat and also their prey species. As a result, they sometimes kill domestic livestock, and also people. They are either killed in retaliation, or captured and kept in zoos. Although poaching for the traditional Chinese medicine trade is the largest threat to tigers, loss of habitat and conflict with humans is a significant problem, particularly in Malaysia, Nepal, Bangladesh, and India.

#### Quick facts

- Livestock loss due to tigers is estimated to have cost over US\$400,000 in the last decade in Terengganu, one of the poorest areas in peninsular Malaysia.
- Tigers maul and kill a number of plantation workers in Malaysia each year.
- Tigers kill around 20 people in India's Sunderban region each year.
- Around 40 tigers are killed each year in India.
- Over the last 100 years, the number of tigers worldwide has declined from 100,000 to 5-7,000.

## **Conflict mitigation**

WWF and its partners are working to reduce human-tiger conflict and improve the livelihoods of the people affected through:

- Improving livestock management in Malaysia
- Promoting alternative livelihoods that don't encroach on tiger habitat
- Creating buffer zones around protected areas
- Compensating for livestock lost to tigers in India

#### Links for further information:

- Conflict resolution can help save tigers (www.panda.org/news\_facts/newsroom/features/news.cfm?uNewsId=2549) feature article
- <u>Tigers</u> (www.panda.org/species/tiger) information on tigers

#### Resources available from WWF

- Images tigers, oil palm plantations
- Footage tigers
- Online information (see "Links for further information" above)
- Spokespeople and contact people:

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## **Snow leopards and Central Asian leopards**

Like tigers, snow leopards and Central Asian leopards are losing their habitat and their prey species. Wild sheep and goats have been hunted out of many areas in the central Asian mountains, and growing human and livestock populations put pressure on remaining leopards and their prey. This brings the leopards into increased conflict with humans, with the leopards the loser.

#### **Quick facts**

- Domestic livestock in Mongolia have increased from 20–25 million to around 33 million over the past 10 years, squeezing out wild sheep (argali) and goats (ibex), the snow leopard's natural prey
- In many countries, leopards are killed out of retaliation for 'stealing' livestock, and then the bones and pelts are illegally traded
- Over the last 100 years, the number of snow leopards has declined to no more than 7,000
- Over the same time period, the habitat of the Central Asian leopard has declined from several million hectares in the mountains of Turkmenistan, southern Uzbekistan, southwestern Tajikistan, and parts of the Caucasus to less than 600,000–800,000 hectares today. The decline is due to overgrazing of domestic herds, timber collection, fires, hunting, agriculture, and, in some cases, tourism.

## **Conflict mitigation**

WWF and its partners are working to reduce human-leopard conflict in Central Asia and improve the livelihoods of the people affected through:

- Offering financial incentives through providing alternative income generation opportunities and initiating
  livestock insurance systems to herders in Mongolia so that they tolerate livestock predation and no longer
  poach snow leopards or their main prey species
- Helping to improve pasture condition in Mongolia in order to decrease the decline of the snow leopard's habitat and that of its prey species
- Forming local snow leopard conservation committees in Dolpo, Nepal, and compensating alternative income sources
- Establishing compensation funds in Bhutan for livestock kills by snow leopards
- compensating local ranchers in Turkmenistan with live animals for those taken by Central Asian leopards, and initiating livestock insurance systems

### Links for further information:

- Enterprising conservation (www.panda.org/news\_facts/newsroom/features/news.cfm?uNewsId=2603) feature article
- <u>Fading Footprints: The Killing and Trade of Snow Leopards</u>
   (www.panda.org/downloads/species/trafficsnowleopardreportaugust2003.pdf) brochure
- International Snow Leopard Trust (www.snowleopard.org/islt/index2.html) information on snow leopards

#### Resources available from WWF

- Images snow leopards, conflict mitigation projects, local communities affected by leopards
- Footage conflict mitigation projects, local communities affected by snow leopards
- Online information (see "Links for further information" above)
- Spokespeople and contact people (see next page):



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## **Jaguars**

Jaguars need large territories to survive. Extensive habitat loss has forced the animals to live within agrolandscapes to survive, where they sometimes prey on domestic livestock. These conflicts usually result in the capture and death of a jaguar, but often not the jaguar responsible for the attack. Habitat loss is the biggest threat to jaguars, with hunting by ranchers trying to protect their cattle a significant problem.

#### **Quick facts**

- Jaguars once lived from Mexico, through Central America to South America, as far south as northern Argentina. By the early 20th century they were extinct in the northern part of their range, El Salvador, Uruguay, and parts of Brazil.
- The species is endangered or vulnerable in much of its range, which is now limited in Central and South America to pockets of remote tropical jungle and lowland river valleys in northern Argentina, Guatemala, Mexico, Bolivia, Panama, Costa Rica, Honduras, Colombia, Peru, and Venezuela. The largest remaining population of jaguars is in the Amazon rainforest.
- Central America no longer has any continuous areas of forest large enough to maintain viable populations of jaguars.
- 263 jaguars have been captured or killed in Costa Rica during the last 10 years.

## **Conflict mitigation**

- WWF's partners work with farmers and ranchers in Costa Rica and Nicaragua to reduce human-jaguar conflict.
   Research has been carried out to characterize predation of domestic animals by jaguars, and the ecological and economic impacts of this predation on cattle ranches will be evaluated in order to develop viable management alternatives and prevention measures in consensus with the affected people.
- WWF's partner organization in Argentina, Fundacion Vida Silvestre, is also working with ranchers to resolve human-jaguar conflict in Misiones Province.

#### Links for further information:

- <u>Jaguars</u> (www.wwfus.org/species/speciessection.cfm?sectionid=122&newspaperid=21&contentid=234) more information on jaguars
- Save the jaguar (www.savethejaguar.com) more information on jaguars

#### Resources available from WWF

- Images jaguars
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## Mediterranean monk seals

Mediterranean monk seals eat octopus, cuttlefish, and fish — the same seafood that people like. Industrial fishing has depleted fish in the Mediterranean Sea over the past 20 years, putting the seals in direct competition with local fishermen for the same limited food supply. The seals are suffering from starvation and reduced breeding success, and also, some fishermen kill the seals in retaliation for 'stealing' fish from their nets. On top of this, young monk seals sometimes become trapped in fishing nets and drown.

#### **Quick facts**

- Mediterranean monk seals once lived in colonies along the coasts of the Black Sea, the Mediterranean, and the Atlantic Ocean from Portugal to Senegal. Today only 500 remain, scattered between Turkey, Greece, Morocco, Western Sahara, Mauritania, and the Madeira Islands.
- There is evidence that monk seals in Turkey suffer from osteoporosis, a disease that weakens the bones, indicating that they probably suffer from a chronic lack of food.
- Fishermen often blame reduced fishing success on the seals, whereas decreased fish stocks are actually caused by industrial overfishing.
- The biggest threat to their survival in the Mediterrean is loss of habitat and conflict with humans

## **Conflict mitigation**

WWF and its partners are working with local fishermen in Turkey to reduce human-monk seal conflict and improve the livelihoods of the people affected through:

- patrolling against illegal fishing activities
- · establishing no-fishing zones around monk seal breeding caves
- · increasing public awareness of monk seal conservation

#### **Links for further information:**

- Guardians of the monk seals (www.panda.org/news\_facts/newsroom/features/news.cfm?uNewsID=9067) feature article
- Monk seals (www.panda.org/species/monk-seal) information on monk seals in Greece and Turkey

#### Resources available from WWF

- Images monk seals, conflict mitigation projects, local communities living with monk seals
- Footage monk seals, conflict mitigation projects, local communities living with monk seals
- Audio clip the sound of seawater inside a monk seal cave
- Online information (see "Links for further information")
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## Golden jackal

Jackals have a reputation for being sneaky, skulking scavengers and nuisance animals that steal domestic sheep and lambs. But although they do take the occasional lamb, they are actually nearly 50 per cent vegetarian, with the other half of their diet coming mainly from carrion and hunting small animals like frogs, fish, rodents, and rabbits. Their negative public image is more than just a simple case of mistaken identity, however. Labelled as "vile and harmful" animals, golden jackals have been hunted nearly to extinction in Greece.

#### **Quick facts**

- In the last 30 years, Greece's golden jackal population has plummeted to less than 1000 and many local extinctions have occurred
- Between 1974 and 1980, almost 4,000 golden jackals were killed in just two prefectures of Greece's southern peninsular
- Hunting of jackals was legal in Greece until 1990.
- Jackals are increasingly becoming victims of road accidents, baiting, and illegal hunting.

## **Conflict mitigation**

• WWF and its partners are working in Greece to improve the image of the golden jackal so that farmers no longer shoot them.

### Links for further information:

- A golden opportunity for Greece's jackals (www.panda.org/news\_facts/newsroom/features/news.cfm?uNewsId=6709) feature article
- Golden jackal project in Greece (www.panda.org/species/golden-jackal) extensive information about work in Greece; includes people profiles and video clips

#### Resources available from WWF

- Images jackals
- Footage tracking jackals
- Online information (see "Links for further information")
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# Brown bear, Eurasian lynx, wolf, and bearded vulture

After centuries of persecution and determined eradication programmes, wolves, Eurasian lynx, bearded vultures and brown bears were driven to extinction in Western Europe and parts of Scandinavia by the early 1900s. Thanks to reintroduction programmes, the animals have been re-established in some areas and populations are increasing. However, there is a significant and vocal minority that opposes this. In addition, after not seeing them in the wild for up to 100 years, people are not used to living with these animals any more and so come into conflict with them when they return.

#### **Quick facts**

- **Brown bears** known as grizzly bears in North America once lived throughout North America, Europe, the Middle East, Russia, and Asia.
- Twenty-four European countries have brown bears today, including Russia, Norway, Finland, Sweden, Estonia, Latvia, Greece, Spain, Italy, France, Austria, Romania, Slovakia, Poland, Bulgaria, and the Ukraine.
- The western European populations are small and fragmented (Pyrenees Mountains on the border of France and Spain, the Cantabrian Mountains of Spain, the Trentino Alps and Apennines in Italy, and in Austria, where they have been reintroduced and appear to be increasing).
- Sweden and Norway promoted campaigns to eradicate Scandinavian brown bear populations during the 19th and 20th centuries.
- Only a tenth of one per cent of Norway's 2.5 million sheep have been killed by bears, but bear predation on sheep is a political issue in the country.
- Growing bear populations in Sweden are coming into conflict with people. The longer the period between original eradication and subsequent re-colonisation, the greater the scope for misunderstanding between bears and humans.
- The Eurasian lynx was one of the widest ranging of all cat species, found throughout Europe, Russia, and central Asia. The species was eradicated from most Europe within the past 150 years, surviving only in the north and the east.
- Lynx have since been reintroduced in several parts of Western Europe. Today there are about 7000 left in central and Western Europe and Scandinavia.
- The Eurasian lynx disappeared in Switzerland in 1894 partly due to human persecution. The species was reintroduced beginning in 1971 and the population has grown to around 100. Although 84% of Swiss people welcome the return of the lynx, a vocal minority opposes it.
- **Wolves** once roamed over much of the Northern Hemisphere. Centuries of persecution have reduced its distribution to a fraction of what it once was. However, environmentally friendly changes in agriculture and changes in the pattern of human settlements, especially in mountainous areas, have helped wolf populations recover in many areas over the past decade.
- In January 2001, the Norwegian government announced plans to kill some 20 wolves as a response to sheep farmers who were losing livestock. The government set aside US\$240,000 for the hunt which included the use of helicopters, snow scooters and specially trained hunters. Only 13 all-Norwegian wolves survived the cull.
- Sweden's Sami people come into conflict with wolves when the animals prey on reindeer.
- **Bearded vultures** became extinct in the Northern Alps in 1885 and in the Southern Alps in 1913, partly because sheep farmers considered them a pest and killed them despite the fact that they actually eat carcasses. Reintroduction began in 1986, and there are now around 100 individuals in Europe's mountains.



## **Conflict mitigation**

WWF and its partners are working in many parts of Western Europe and Scandinavia to reintroduce bears, wolves, lynx, and bearded vultures, and to increase the populations of these species. Measures to reduce conflict between the animals and humans include:

- Monitoring lynx numbers in Switzerland, and translocating animals once they have reached a maximum number in a particular area.
- Working with farmers to protect livestock and property from large carnivores for example, training of Abruzzo mastiffs (a large dog breed) in Italy to protect sheep against wolf attacks and working with farmers in Sweden to minimize encounters with brown bears and wolves
- Compensation schemes for the Sami in Sweden for reindeer taken by wolves
- Education to gain public support for the presence of large carnivores.

#### Links for further information:

- <u>Large Carnivore Initiative for Europe</u> (www.large-carnivores-lcie.org) founded by WWF in 1996; a dynamic network of representatives from governments, international and national non-governmental organizations, scientists, and other experts from 29 countries, working across Europe to promote the coexistence of brown bears, lynxes, wolves, and wolverines with human societies.
- Scandinavian brown bears (www.panda.org/species/europe) work in Sweden on brown bears
- Eurasian lynx (www.panda.org/species/europe) work in Switzerland on lynx
- Wolf (www.panda.org/species/europe) work on wolves in Europe
- No Norwegian wolf packs left (www.panda.org/news\_facts/newsroom/news.cfm?uNewsId=2452) news article
- Bearded vultures (www.panda.org/species/europe) work to reintroduce bearded vultures in the Alps

#### Resources available from WWF

- Images brown bears, Eurasian lynx, wolf, bearded vulture
- Online information (see "Links for further information" above)
- Spokespeople and contact people:

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Based in Switzerland; can provide further information on WWF's work on brown bears, Eurasian lynx, wolves, and bearded vulture in Switzerland and arrange interviews with people working in the field.

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