



Organisation
Mondiale
de la Santé
Animale

World
Organisation
for Animal
Health

Organización
Mundial
de Sanidad
Animal

Other Relevant International Standards

OIE Global Conference on Rabies Control
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Willam B. Karesh, DVM

President, OIE Working Group on Wildlife Diseases

Executive Vice President for Health and Policy, EcoHealth Alliance

Co-Chair, IUCN SSC Wildlife Health Specialist Group



EcoHealth Alliance



Rabies Hosts

- Over 132 host mammal species
 - Domestic, human and wildlife
- Of global concern, with diverse local threats



“Because few tools are available to control infections of wildlife, measures to control diseases associated with wildlife have often resulted in harm to wildlife (e.g. culling...)”
(Cleaveland et al., 2007)



Rabies Hosts

Total Host Mammals	>132
Domestic	16
Wild and Human	116

Current as of August 2011



EUROBATS

The Agreement on the Conservation of Populations of European Bats





International Wildlife and Biodiversity Standards

- Purpose: Transnational frameworks for species/biodiversity protection
- Largely broad standards (CITES is the exception)
- Non-universal signatories; countries may be party to select conventions

Rabies in Host Mammals

Total Host Mammals	132
Conv. on Migratory Species	2
CITES	11

Current as of August 2011

Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES)

- “aim is to ensure that international trade in specimens of wild animals and plants does not threaten their survival”
- 175 signatory parties; CITES entered into force in 1975
- Also regulates the movement of wildlife products - including diagnostic specimens

Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES)

Species listings by Appendices

- I: Most endangered (trade for scientific research only)
- II: Potential for extinction threat if populations not closely controlled
- III: Special requests from trade regulators for species needing “cooperation of other countries



M. Gilbert /

Case Example: *Acinonyx jubatus*

Cheetah

- Cheetah (*Acinonyx jubatus*) export quotas
 - Namibia, 1982: Rabies outbreak in game animals → cheetah predation on livestock (850 killed in protection of livestock)
- Draft resolution for amended quotas (1992)
 - Cheetah hunting trophies to incentivize economic value vs. “Kill at any cost”
 - No compensation system for loss of livestock
 - Live cheetah export for promotion of successful species preservation in captivity

Convention on Migratory Species (CMS)

- Signed 1979 through the United Nations Environmental Programme; 116 parties
- Appendix I: Migratory species threatened with extinction
- Appendix II: Migratory species that need or would significantly benefit from international co-operation

Convention on Migratory Species (CMS)

- *Acinonyx jubatus* (I) and *Lycaon pictus* (II)
- Implications of wildlife migration for rabies control

Convention on Biodiversity

- “the conservation of biological diversity, the sustainable use of its components and the fair and equitable sharing of the benefits arising out of the utilization of genetic resources”
- Officially recognized in 1993
- 193 parties, 168 signatories

Convention on Biodiversity

Article 14:

Impact Assessment and Minimizing Adverse Impacts

- Environmental impact assessment of proposed projects with likely adverse effects on biodiversity
- National and international agreements and cooperation for emergency responses to biodiversity threats

Article 19:

Handling of Biotechnology and Distribution of its Benefits

- Ensure against adverse impact to biodiversity from the use of biotechnology and modified living organisms

Ramsar Convention

- “the conservation and wise use of all wetlands …as a contribution towards achieving sustainable development” .
- Became official in 1975; 160 parties
 - Endangered or vulnerable species or threatened ecological communities
 - Species important for maintaining biological diversity
 - Species at critical life stage or during adverse conditions

Ramsar Convention

- 1,951 wetland sites
- Ex. : Sri Lanka' s Kumana Wetland Cluster
 - Noteworthy vulnerable/ endangered fauna:
 - *Elephas maximus*
 - *Panthera pardus*



IUCN Red List of Threatened Species

- Relative risk of extinction (Least Concern → Extinct)
- Assesses status of plant and animal species in taxonomic groups (not just threatened species)
- Includes species data (updated every 4 years):
 - Assessment information
 - Range
 - Habitat and Ecology
 - Threats
 - Conservation Actions
 - References



Rabies in Mammals - IUCN Red List

Endangered	3
Vulnerable	3
Near Threatened	4
Least Concern	99
Data Deficient	4





Case Example: Lycaon pictus

African Wild Dog

- IUCN Red Listed
(“Endangered”)
- Species decline- loss of habitat, deliberate and accidental killing, infectious diseases
 - Rabies outbreaks have decimated entire packs
 - Die-off despite vaccination
- Rabies led to extinction of a protected population in Kenya
- “Species designated for cooperative actions during 2009–2011”
- CMS-Listed (II) in 2008
 - Large home ranges: ~70% population potentially crosses international boundaries
 - Low density populations



Case Example: Canis Simensis Ethiopian Wolf/Simien Fox

- Endangered (IUCN Red List); population est. <500 adults
- Small, declining Afro-alpine range
- Rabies a major cause of species decline

Convention on Conservation of European Wildlife and Natural Habitats

- *“to conserve wild flora and fauna and their natural habitats and to promote European co-operation in that field”*
- Established 1979, 40 contracting parties
- Appendices II and III: Strictly Protected and Protected Fauna species
- Appendix IV: Prohibited means and methods of killing, capture and other forms of exploitation

Convention on Conservation of European Wildlife and Natural Habitats

- *Article 9*: Regarding Exceptions: “the taking or killing of protected fauna for humane or humanitarian reasons was an accepted practice that did not require a specific provision in the convention and there might be emergency cases where exceptions would have to be made without all conditions having been fulfilled (e.g. the abatement of Rabies)”

EUROBATS

EUROBATS

The Agreement on the Conservation of Populations of European Bats



- Established in 1994
- 33 of 63 range state signatories
- 52 protected bat species “through legislation, education, conservation measures and international co-operation”
- Currently conducting bat population trends study to guide appropriate protective measures
- Implications for rabies control (73 bat host species)



Challenges

- Interactions of treaties
- Pace of regulation
 - Amendments
- National governments must create supporting legislation

Challenges

- When faced with threat of rabies, what is species protection?
- Transmission to other species– some highly susceptible
- Improve ease of transferring diagnostic and research specimens.

Benefits of International Standards

- Protection of vulnerable species
 - Including species/ecosystems affected by rabies
 - Reduces potential for species eradication
 - Involvement of wildlife authorities
 - Scientifically-based interventions

Benefits of International Standards

- Promotion of an ecosystem web perspective
 - Wildlife management affects species populations AND overall ecosystem
 - Consideration of socio-cultural practices
- Convention parties are accountable
- Knowledge sharing

Proposed Definition of Success in Rabies Control

- *A point in time when most cases of rabies are only found in a small number of wild species*