

CONVENTION ON INTERNATIONAL TRADE IN ENDANGERED SPECIES
OF WILD FAUNA AND FLORA

Amendments to Appendices I and II of CITES

Thirteenth Meeting of the Conference of the Parties
Bangkok, Thailand, 2-14 October 2004

A. PROPOSAL

Transfer of the Namibian population of Nile crocodile (*Crocodylus niloticus*) to Appendix II pursuant to Article II, paragraph 2 (a), of the Convention and in accordance with paragraph B.2.b) of Annex 4 of Resolution Conf. 9.24 (Rev. CoP12).

B. PROPONENT

Namibia

C. SUPPORTING STATEMENT

1. Taxonomy

1.1 Class: Reptilia

1.2 Order: Crocodylia

1.3 Family: Crocodylidae

1.4 Genus and species: *Crocodylus niloticus* Laurenti, 1768.
No subspecies are currently recognized.

1.5 Common names: English: Nile crocodile
French: Crocodile du Nil
Spanish: Crocodrilo del Nilo
Rukwangali: Ngandu
Lozi: Kwena
Otjiherero: Ongandu
Oshiwambo: Ongadu/ongandu
Afrikaans: Krokodil

1.6 Code numbers: L-306.002.001.006

2. Biological parameters

2.1 Distribution

Historically, the Nile crocodile occurred in all rivers and wetlands in the Caprivi region of Namibia and in the Kavango (otherwise known as the Okavango River) and Kunene rivers. Natural populations occur primarily in shared waters with Angola, Zambia, Zimbabwe and Botswana. The Nile crocodile is currently present in all the rivers and wetlands that fall within its distribution range (Figure 1), and there has been no significant reduction in range in Namibia within historic times.

2.2 Habitat availability

Although Nile crocodile populations have been reduced in specific areas of high human population in Namibia, a prevailing proportion of historical range-habitat is still available. In the wetlands of northeastern Namibia (where human populations are highest), available habitat has been reduced by a relatively minor amount, and habitat in the Kunene River has probably not been reduced at all. Water levels in this river, however, fluctuate significantly due to an upstream hydro-electric dam, so nesting-success may possibly be compromised.

The species occurs within a number of protected areas (Mudumu National Park, Mamili National Park, Caprivi Game Park, Popa Game Park, Mahango Game Reserve and the Skeleton Coast Park) where its habitat is fully protected (Griffin, 2003).

2.3 Population status

The Namibian wild population of Nile crocodile can be grouped into three sub-populations, on the Kavango River, the Kunene River and in the eastern Caprivi region (Figure 2).

Although Nile crocodile were, in the recent past, regarded as endangered in Namibia, populations today are regarded as normal and perhaps high. Indications are that current populations are increasing.

There is one registered captive breeding operation (A-NA-501), located in the north-central part of the country, with a current population of 2,631 individuals (48 breeding animals).

It is questionable whether a meaningful estimate can be made of the national population of wild crocodiles. Crocodiles in Namibia are part of larger contiguous populations, and move freely across international borders. Except for Angola, the national populations of the neighbouring countries with which crocodiles are shared are included in Appendix II. At least 1,500 crocodiles are estimated to occur in Namibia's protected areas alone (less than 10% of available habitat and known distribution area). Crocodile estimates generally do not include juveniles, and actual populations are considerably larger than sighting surveys biased towards adults and sub-adults.

For this proposal, Namibia intended to conduct a national survey using standard survey techniques. This survey could not be done prior to the date of submitting this proposal because of extreme flood conditions in northeastern Namibia. The survey will be conducted once floods have receded. A population status update will be provided prior to / during CoP13.

2.4 Population trends

During the 1960s and 1970s crocodile populations in the northeastern portion of the national range were significantly reduced to the point that the then Department of Nature Conservation became concerned, and listed it as a protected species under the Nature Conservation Ordinance (Ordinance 4 of 1975). The population reduction was due to uncontrolled hunting for trade. Although illegal killing was not as extensive on the Kunene River population, it was still of high concern, because of the perception that the Kunene population was of relatively low density for natural reasons. Due to this situation, a concerted effort was made to curb crocodile hunting, and by the mid 1980s populations were seen to be recovering. By the late 1980s, crocodiles were so numerous that they were again being reported as pests as well as being implicated with human injuries and fatalities. Today populations are regarded as high.

According to field staff of the Directorate of Parks and Wildlife Management, the numbers of crocodiles in the Caprivi Parks have been steadily increasing since 1999. The current estimate within the parks is 450-500 in Mudumu National Park, 400-600 in Bwabwata East, 80 in Bwabwata West (currently designated as the Caprivi Game Park) and 500 in Mamili NP (MET data).

Population trends within these parks or elsewhere in Namibia should however be seen in the context that its populations are part of contiguous populations of crocodiles that occur in major African river systems (e.g. Zambezi, Kavango-Okavango) beyond Namibia's borders.

2.5 Geographic trends

The species has experienced neither reduction nor expansion of range in Namibia. Limited sections of river (especially the Kavango) have low densities of crocodiles due to high human usage of the riverine-land interface. However even in these sections, crocodiles commonly visit and possibly breed.

2.6 Role of the species in its ecosystem

Young crocodiles until the age of 4-5 years spend a lot of time out of water and eat small prey, including insects (Branch, 1988). They are also prey to bigger predators during this life stage. Adult crocodiles are predators, and can even take large mammals such as zebras or buffalo (Branch, 1988). This species therefore plays a very significant role in the ecosystem.

In communal areas (areas of State land used for subsistence farming), Nile crocodile is a threat to human life and livestock, and several people (mainly women and children) and many more livestock are killed or injured annually.

2.7 Threats

During the 1960-1980 period, Nile crocodile populations were under threat from illegal killing. Illegal killing is no longer an issue, and the population has recovered to an extent that they are now regarded as pests. Crocodiles are not compatible with livestock farming and can therefore be a nuisance to farmers (Branch, 1988), also in Namibia.

Displacement and habitat destruction by human activities is one of the major threats to this population. This includes disturbances of natural riverbeds and natural riverine vegetation as more people move closer to rivers or wetlands. Nonetheless, due to their resilience, crocodiles are able to coexist successfully in areas with human disturbances. Nesting success of the Kunene population may be affected by variable water levels, caused by the hydroelectric dam at Ruacana.

In the case of the eastern Caprivi population, seasonal floods may cause destruction of nests.

3. Utilization and trade

3.1 National utilization

Wild population

Currently the natural Namibian crocodile population is only utilized through problem animal control (Table 1) and a very limited national trophy-hunting quota of not more five animals per annum.

Table 1 Summary of the number of crocodiles killed as problem animals for the period 1998-2003 (The majority of these animals are destroyed by the Ministry of Environment and Tourism):

Year	Number of animals killed
1998	1
1999	5
2000	13
2001	3
2002	5
2003	7

Captive breeding

One captive breeding outfit is currently in operation in Namibia. This operation was registered according to Res. Conf. 8.15 and is recorded on the register that the CITES Secretariat keeps for this purpose (Notification to the Parties No. 940).

The size of captive stock and the production for this operation is as follows:

Breeding stock: 42 females and 6 males

3-year old juveniles (average 90 cm in length): 150 individuals

2-year old juveniles (with an average of 80-130 cm): 1064 individuals

4 to 5 months old (average length of 50-60 cm): 1369 individuals

More than 99.95% of exports from Namibia since 1992 are from this operation and therefore meeting the demand that would otherwise be met from the wild populations.

Ranching

No ranching operation has yet been established in Namibia, and there are no plans to do so.

3.2 Legal international trade

Table 2 provides the details of live crocodiles and crocodile skins exported from Namibia since 1992. The vast majority (99.9% and 99.99% of all skins and live animals, respectively) is of captive-bred origin.

Table 2 Summary of live crocodiles and skins exported by Namibia for the period of 1992 – 2003 (source: Namibia CITES annual reports):

Year	Skins		Live animals	
	Number	Source	Number	Source
1992	162	C	50	C
1993	545	C		
1994	277	C	30	C
1995	515	C	700	C
1996	210	D	1,203	D
1997	120	D	226	D
1998	53	D	2,351	D
1999	115	D	4	D
	1	W	1	W
2000	165	D	2,503	D
	1	W		
2001	0		1,000	D

Year	Skins		Live animals	
	Number	Source	Number	Source
2002	0		1,100	D
2003	159	D	2,500	D
Total	2,323		11,668	

3.3 Illegal trade

There are no recent (post-CITES accession) records of illegal trade in crocodile skins within or leaving Namibia.

The CITES Management Authority of Namibia implements the Universal Tagging System for the identification of crocodile skins, reducing the chance for illegally acquired specimens from Namibia to enter the legal trade.

3.4 Actual or potential trade impacts

The Government of Namibia is committed to the sustainable use of renewable natural resources (Article 95, Constitution of Namibia). In particular this policy has had a major influence on the establishment of a network of communal conservancies. This network of conservancies is expected to place further crocodile habitat under active protection, to the extent that most crocodile habitat in Namibia will be under protection in the next two years. One of the incentives for emerging communal conservancies is the use of renewable natural resources and this includes crocodiles. Benefits from the use of crocodiles, for instance from trophy hunting, will return to the conservancy which will further benefit wildlife conservation in general.

Wetlands have been identified as critical habitats in Namibia (only 3% of Namibian surface), and are increasingly under threat. Namibia regards the protection of wetland habitats as crucial to the national conservation programme. This is, in part, due to the fact that a high proportion of Namibian species of conservation-concern are wetland-dependent (Simmons, Brown & Griffin, 1991). Therefore the sustainable use of crocodiles in conservancies is regarded as a positive step towards national wetland protection.

4. CONSERVATION AND MANAGEMENT

4.1 Legal status

4.1.1 *National*

According to Nature Conservation Ordinance 4 of 1975, the Nile crocodile is protected and therefore may only be hunted with a permit from the Ministry of Environment and Tourism, or alternatively in defense of human life or protection of livestock (with reporting within 10 days to MET)

The current provisional conservation status for this species in Namibia is "Peripheral" (Griffin, 2000 and 2003). This category implies certain vulnerability due to the species' reliance on wetlands, a relatively rare habitat in Namibia. The species is currently not eligible for any traditional threatened category in Namibia.

4.1.2 *International*

The Nile crocodile is distributed throughout Africa in suitable habitats. To date, the following populations are included in CITES Appendix II: Botswana, Ethiopia, Kenya, Madagascar, Malawi, Mozambique, South Africa, Uganda, the United Republic of Tanzania [subject to an annual export quota of no more than 1600 wild specimens including hunting trophies, in addition to ranched specimens], Zambia and Zimbabwe. All other populations, including the Namibian population, are included in Appendix I.

IUCN listed the species as Vulnerable in 1990 (Baillie & Groombridge, 1990), but this species was not subsequently listed in 1994 (Groombridge, 1993), 1996 (IUCN, 1996), 2000 (Hilton-Taylor, 2000), & 2003 (IUCN, 2003).

4.2 Species management

4.2.1 *Population monitoring*

The exceptional flooding that has occurred in the Caprivi region during 2004 hindered a planned dedicated survey of the entire crocodile population. Nonetheless, Namibia is committed to undertake such a survey as soon as conditions allow.

Field staff within protected areas and within communal conservancies routinely patrol the areas, and record sightings of wildlife, including crocodiles.

4.2.2 *Habitat conservation*

Table 3 shows lengths of permanent rivers (where crocodiles occur) and the approximate lengths falling within protected areas. The establishment of communal conservancies, many along rivers (and therefore including crocodile range and habitat) is increasing in Namibia. It is estimated that statute-protected crocodile habitat and populations will more than double the overall protected area network for this species in the next two years.

Table 3 Portions of rivers occurring within protected areas in northern Namibia (Curtis *et al.* 1998)

River	Total length (km) (in Namibia)	Length in protected areas (km)	Percentage in protected area (%)
Kunene	340	40	12
Okavango	470	15	3
Kwando-Chobe	484	85	18
Zambezi	152	0	0
TOTAL	1,446	140	9.68

4.2.3 *Management measures*

Crocodiles present a threat to human lives. People and livestock are killed or injured by crocodiles on an annual basis (Table 4). As stated previously, the Namibian population of Nile crocodile is currently utilized only through problem animal control and very limited trophy hunting of not more than five animals in a year. The Ministry of Environment and Tourism attempts to direct problem individuals to trophy hunting, when possible, but it is challenging at times to identify an individual problem animal.

4.3 Control measures

4.3.1 *International trade*

Namibia only allows a minimal trade in wild-taken skins of the Nile crocodile, hunted as trophies. Since the Namibian crocodile population is listed on Appendix I, all crocodile products are traded in accordance of Article III of the Convention. Despite the conservative approach followed, and the ability to export Appendix I specimens for non-commercial purposes, Namibia has nonetheless experienced difficulties with the export of even a minimal number of hunting trophies due to stricter domestic measures in importing countries.

The Namibian population of Nile crocodile occurs in waters shared with Angola, Botswana, Zambia and Zimbabwe, and freely moves between these countries. All these countries' (except Angola who is not Party to CITES) populations are included in Appendix II. This poses challenges to law enforcement officers and nature conservation authorities.

The CITES Management Authority of Namibia uses the universal tagging system for crocodile skins as outlined in Resolution Conf. 9.22. Concerning trade in captive-bred specimens, also see paragraph 3.1 above.

4.3.2 Domestic measures

According to the Nature Conservation Ordinance (Ordinance 4 of 1975) as amended, the Nile crocodile is a protected species and therefore any utilization is subject to a permit issued by the Ministry of Environment and Tourism. This ensures adequate protection of the species.

Crocodile populations within protected areas, as well as communal conservancies, are subject to high levels of protection.

No incidences of illegal hunting or harvesting have occurred in the past few decades.

5. INFORMATION ON SIMILAR SPECIES

No other crocodilian species occurs in Namibia. The water monitor (*Varanus niloticus*), a CITES Appendix II-listed species, is also dependent on wetland habitat in Namibia. In all Namibian crocodile habitats the two species occur sympatrically, therefore the preservation of crocodile habitat is also regarded as an integral part of the conservation of the water monitor. The water monitor is a legally Protected Species, and its provisional conservation status in Namibia is Vulnerable.

6. OTHER COMMENTS

6.1 Comments from other range States

This proposal concerns the Namibian population only. It is unlikely that this proposal will impact on any other population since most neighboring country populations are already included in CITES Appendix II.

It has been a general consensus of many African countries that this species, while vulnerable, is not endangered and it should have been included in Appendix II from the start. Hence, in 1984 during the CITES seminar in Brussels, Belgium, 25 African countries, excluding Namibia, which was not Party to CITES that time, requested their populations to be down-listed to Appendix II. Malawi presented a proposal at the 5th meeting of the Conference of the Parties to CITES also to transfer nine African country populations to Appendix II, which was adopted.

Botswana has indicated support for the transfer to Appendix II of the Namibian population of *Crocodylus niloticus*.

6.2 The Nile crocodile as a problem animal

In communal areas, Nile crocodile is a threat to human life and livestock. Table 4 summarizes the incidence of human and livestock killed or injured since 2000.

Table 4 Recorded incidences of people and livestock killed and injured by crocodiles since 2000

Year	People		Livestock	
	Killed	Injured	Killed	Injured
2000	3	2	21	2
2001	6		25	2
2002	10	3	70	4
2003	1	6	26	6
2004 (Jan-March)	3	1	16	1
Total	23	12	158	15

7. RATIONALE FOR THE PROPOSAL

- Namibia's main sub-populations of Nile crocodile occur in shared water with Botswana, Zambia and Zimbabwe and hence are shared sub-populations with these countries. The Nile crocodile is included in CITES Appendix II for these three neighboring countries. The listing of the Namibian population on Appendix II will facilitate management of and trade in specimens from this shared population.
- The Namibian population of Nile crocodile is stable or increasing. A significant portion of riverine habitat is included in protected areas or in conservancies.
- Domestic, international or illegal trade does not threaten this population. The domestic (provisional) conservation-status is "Peripheral", which is a reflection on the vulnerable habitat, which is rare in Namibia.
- This species is not currently listed by the IUCN as Threatened.
- The wild population of Nile crocodile in Namibia is not utilized for commercial international trade. Exports are restricted to trophies.
- The national programme towards establishing communal conservancies has been highly successful and is ongoing. Several of these conservancies include crocodile habitat and populations, and the utilization of crocodiles from these conservancies will benefit conservancies and consequently the conservation of wetland habitats, which have been identified as vulnerable habitats in Namibia. A high proportion of Namibian species of conservation concern are wetland-dependent, and incentives to protect wetland habitats will benefit national conservation programmes.
- An Appendix-II status is required for this population to facilitate exports in support of Namibia's community-based natural resource management and wildlife management programmes. Exports of hunting trophies, albeit for non-commercial purposes are compromised by the stricter domestic measures of certain importing countries concerning Appendix-I species.
- The wild population in Namibia meets the criteria for inclusion in Appendix II (Article IIa).
- Namibia is capable of implementing Article IV and the proposed transfer is in accordance with paragraph B.2.b) of Annex 4 of Resolution Conf. 9.24. Harvesting of the population for purposes other than the export of hunting trophies is not planned. Should other forms of harvesting be considered in future, annual export quotas will be established to aid in the regulation of trade.
- Namibia will establish an appropriate export quota for hunting trophies of this species, with effect from 2005.

8. REFERENCES

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- IUCN, 2003. IUCN Red List of Threatened Species (on-line).
- Namibia CITES Annual Reports, Ministry of Environment and Tourism, Windhoek, Namibia.
- Nature Conservation Ordinance 4 of 1975.
- Simmons, R.E., Brown, C.J. & Griffin, M (eds.) 1991. The status and conservation of wetlands in Namibia . *Madoqua* 17:1-254Figure 1 Map showing the distribution of crocodiles in southern Africa, as well as the populations listed on Appendix I and II.

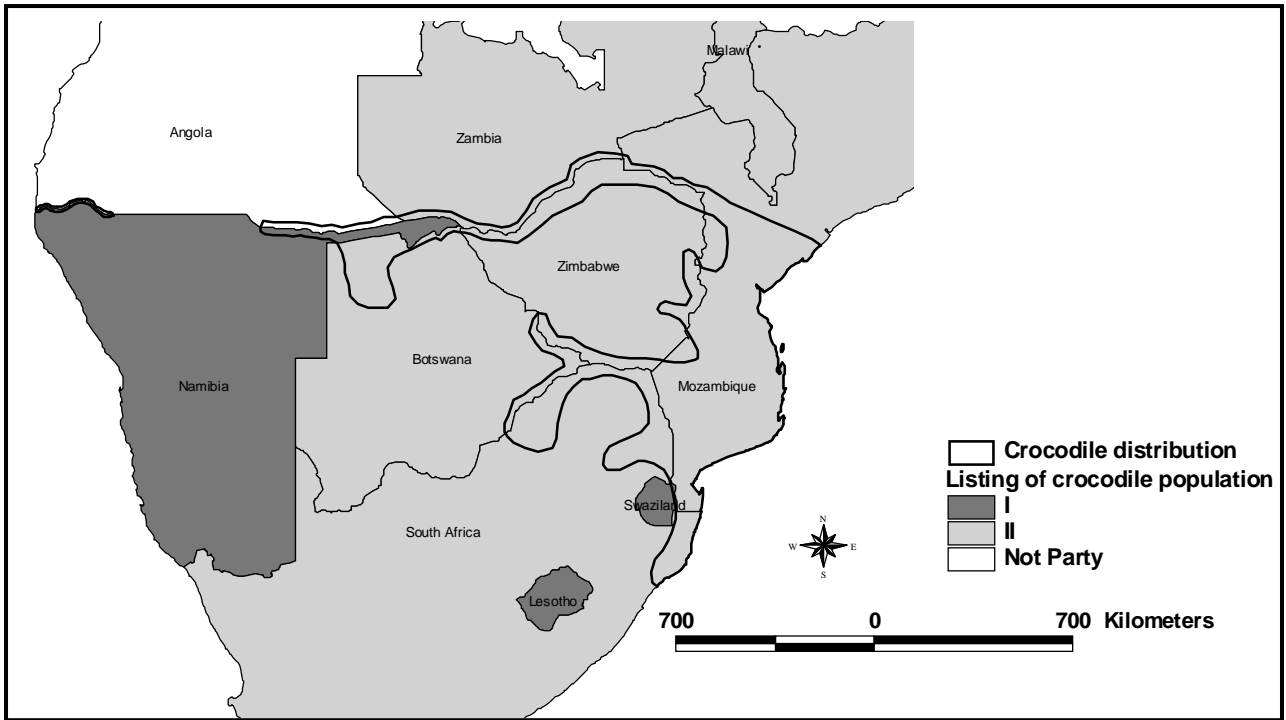


Figure 1 Map of Namibia and neighboring countries, showing the crocodile distribution range, as well as the CITES status of the national crocodile populations.

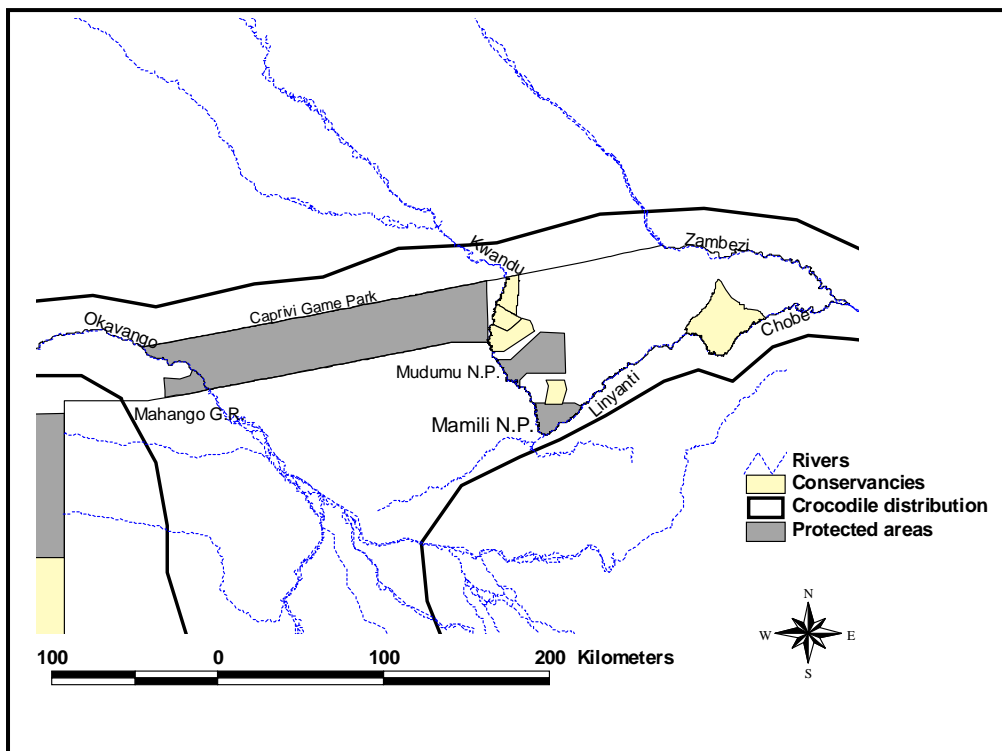


Figure 2 Map of the northeastern part of Namibia, showing the crocodile distribution range, rivers, and the protected areas and conservancies.