

AMENDMENTS TO APPENDICES I AND II OF THE CONVENTION

A. PROPOSAL

Maintenance of the Malagasy population of Crocodylus niloticus in Appendix II, subject to an annual export quota.

B. PROPONENT

The Democratic Republic of Madagascar.

C. SUPPORTING STATEMENT

1. Taxonomy

11. Class: Reptilia
12. Order: Crocodylia
13. Family: Crocodylidae
14. Species: Crocodylus niloticus
15. Common Names: English: Nile crocodile
French: crocodile du Nil
Spanish: Cocodrilo del Nilo
Malagasy: voay (small specimens)
mamba (large specimens)

16. Code Numbers:

2. Biological Data

This proposal responds to the Secretariat's letter of 9 December 1986 addressed to all Parties having an export quota for the species Crocodylus niloticus and concerns only information relevant to that.

21. Distribution: The Nile crocodile occurs in all water courses, lakes and swamps in Madagascar at altitudes under 1,500 m and is abundant in the low and medium river valleys bordering the western side of the high plateaux.

After the above-mentioned low valleys, it is found in lesser numbers in Lake Alaotra and its tributaries, the River Mangoro and its tributaries, the eastern zone of Vatomandry, the lagoons and extensive swamps of the North which are situated between the coast and the first hills; from the extreme North to the approximate latitude of Sambirano, in the basin of Lake Itasy, Tsironomandidy at the altitudinal limit, in the coastal zone between Mahajanga and Vangaindrano and that of the South West of Morondava at Toliary and, finally in the region of Tolagnaro.

From the studies of Grandidier and Vaillant (1872, 1892), Humbloy (1902), Vaillant and Petit (1925), Vaillant and Perrier de la Bathie (1925), R. Decary (1950) and Paulian (1961), the areas where crocodiles occur remain constant with time.

However, some authors have suggested that the crocodile was also found in lakes and now dried-out swamps at altitudes above 1,500 m.

22. Population: The wide distribution over the whole country does not allow a precise estimate of the population.

Real evaluation of the population has not been carried out because of technical difficulties; the rivers and streams of Madagascar sometimes have rapids and waterfalls which are too dangerous, and aerial censusing is not practical since, for the most part, the rivers are bordered by gallery forests. Nonetheless from studies conducted here and there in areas easy to cover by pirogue and on foot, we have been able to collect the following numbers per km covered:

River	Betsiboku	40
	Tsiribihina	30
	Mangoky	15
	Onilahy	18
	Sofia	30
	Mahajamba	25
	Sambirano	20
	Bemarivo	20
	Lohoho	15
	Onibe	3
	Namorona	5
	Mandrare	2
	Mangoro	4
		<u>237</u>

giving an average of 16.92 per km.

As Madagascar has about 6,127.5 km of rivers populated by crocodiles, their numbers in the rivers can thus be estimated at $6,127.5 \times 16.92 = 103,673$.

The lake banks, on the other hand, have a shoreline of around 27,198 km. The average population density, estimated here and there in areas of easy access, is 10 per km of shoreline. Thus, the population of crocodiles in lakes and marshes can be estimated at:

$$27,198 \times 10 = 271,980.$$

This gives a total population of:

$$271,980 + 103,673 = 375,653 \text{ crocodiles.}$$

Some Malagasy researchers (pers. comm.) do not agree with this figure, judging it to be an under-estimate. In fact, while preparing the inventory, it is necessary to take account of the age structure. Surveys have shown about one breeding adult for around 30 crocodiles, thus, for the total population of 375,653, there are 12,521 breeding males and females. If we assume a sex ratio of 1:1, the number of breeding females is around 6,260, which will produce 165,500 young annually, each female laying 25 eggs.

In summary, Madagascar has a wild population of 376,000 crocodiles producing 165,500 young per year.

23. Habitat: As already noted, the natural habitat of the Nile crocodile in Madagascar is on the edges of lakes, swamps, lagoons, streams and rivers at altitudes less than 1,500 m. Breeding can only occur in waters below 1,000 m altitude.

3. Trade Data

31. National Utilization: In Madagascar, under the national legislation, the crocodile is classified as a pest. Thus, it can be hunted at all times, in all places and using all methods except in the protected areas.

National opinion considers the crocodile as a pest which must be destroyed since it attacks domestic animals (cattle, goats, sheep, etc.) and even humans. The instances of accidental death caused by crocodiles have been deplored every year, above all since the application of CITES by Madagascar in 1975 which has given it a certain degree of protection.

Thus, before 1960, rewards were paid to anyone killing crocodiles or destroying their nests.

The crocodile skins which were produced were used by artisans to manufacture articles such as bags, wallets, shoes, belts, etc.

The national trade in these articles is flourishing. Unfortunately, their exportation has been prohibited since the application of CITES by Madagascar in 1975.

The existence of these two contradictory laws [the national legislation classes the crocodile as a pest and the international legislation (CITES) as an endangered species] creates practical difficulties in their application for the country's natural resources management authority.

Thus, it would be preferable to replace the export of these skins with export of finished products. This would bring in supplementary earnings to the peasants and artisans who, having an interest in such exploitation, would ensure a certain degree of protection for the species.

5,000 to 6,000 wild crocodiles are killed each year in Madagascar, and the resulting products are not always used to best effect.

Thus, with the aim of improving the situation, Madagascar is requesting an export quota of 4,000 skins per year for specimens taken from the wild.

In the framework of rearing in a ranch (breeding in captivity), the farm of Mr. Ch. de Lanessan is already approved by Madagascar and included in the CITES Register of Operations Which Breed Specimens of Species Included in Appendix I in Captivity for Commercial Purposes. Actually, the number of crocodiles in the farm is 552 and annual production is estimated at 300.

Moreover, the creation of another crocodile farm at Toamasina, entitled REPTEL by Mr. Peyre Christophe, has just been authorized in Madagascar. Its inclusion in the CITES Register will be requested as soon as the operation becomes effective. The aim is to promote an annual production of 1,000 crocodiles.

Thus, in addition to the annual quota of 4,000 skins for wild specimens, we are proposing another quota of 1,5000 skins of crocodiles bred in captivity.

Sport hunting of crocodiles is carried out in Madagascar by well-off nationals and by foreign tourists. Hunting is done using sophisticated rifles. We do not have the figures for the exact number of crocodiles killed in this way. However, it is noted that the importation of hunting equipment into Madagascar is strictly controlled and the importation of ammunition is limited. Thus, this hunting has no effect on the crocodile populations since the hunters rather turn to hunting other animals, such as the bushpig, which are easier and have trophies which can be exported.

32. Legal International Trade: Madagascar did not enter a reservation with respect to Crocodylus niloticus at the time of ratifying CITES. The export of these reptiles from 1975 to 1985 came from the farm of Mr. Ch. de Lanessan. All these exports were covered by CITES permits issued by the Management Authority. Madagascar has not used CITES tags for the export of products of captive-bred specimens. In 1985, we exported 145 live crocodiles, 4 skins, 2 stuffed specimens and 2 leg and head products coming from Mr. Ch. de Lanessan's farm.

In accordance with Resolution Conf. 5.21, the Malagasy population of Crocodylus niloticus was transferred from Appendix I to Appendix II of the Convention, but subject to annual export quotas. Madagascar received a quota of 1,000 skins per year for wild specimens for 1985, 1986 and 1987.

Madagascar was not able to use its 1985 quota for internal reasons. On the other hand, the 1986 quota was used. The skins have been exported following the CITES procedures (security stamps, etc.)

33. Illegal Trade: To our knowledge, this trade does not exist in Madagascar.

34. Potential Trade Threats:

341. Live Specimens: Assuming that, in accordance with CITES, only specimens deriving from approved farms could be exported, the wild population could not be threatened by trade.

342. Parts and Derivatives: As well as the export of products derived from farms, the quota includes only skins of crocodiles taken from the wild.

4. Protection Status

41. National: Although the crocodile is classed as a pest, its situation from the point of view of survival of the species is not worrying because several habitats, such as the natural reserves, national parks, special reserves, etc. constitute ideal sanctuaries for these animals.

Indeed, Madagascar has 11 natural reserves, 2 national parks, 22 special reserves and several forbidden lakes or swamps in which it is prohibited to hunt the crocodile. The length of water courses and lake shores or swamps edges in these areas reaches about 5,000 km.

42. International: Crocodylus niloticus is included in Class B of the list of species protected by the African Convention for the Conservation of Nature and Natural Resources, ratified by Madagascar in 1970.

According to this convention, Crocodylus niloticus can be hunted, killed, captured or collected by virtue of an authorization issued by the competent authority; this convention does not contradict National Decree No. 61-096 of 11 February 1961 which classifies birds and other wild animals occurring in the territory of the Democratic Republic of Madagascar in three categories. Crocodylus niloticus is classed with the "nuisance animals" since it constitutes a danger to humans and domestic animals. There is not need to change the provisions of this decree which follows the provision of the above-mentioned African Convention in which Article XVII states:

"The provisions of this Convention shall not affect the responsibilities of Contracting States concerning the paramount interest of the State, 'force majeure', defence of human life."

The crocodile was listed in Appendix I of the Convention on International Trade in Endangered Species of Wild Fauna and Flora from 1975 to 1985, and in Appendix II since then. This transfer was a result of Madagascar obtaining export quotas for crocodile skins. The transfer is provisional and conditional upon respect of the export quota of 1,000 skins/year.

43. Additional Protection Needs: None, since the crocodile population is considered healthy in Madagascar and, since the application of the Convention, has increased considerably.

5. Information on Similar Species

6. Comments from Countries of Origin

7. Additional Remarks

8. References

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- LISTE DES PRINCIPAUX COURS D'EAU DE MADAGASCAR ET LONGUEUR.

<u>Versant Ouest</u>		<u>Versant Est</u>	
Menarandra	199,500 Km	Bemarivo	125,500 Km
Ibinta	155,500	Antonambalana	165,500
Onilohy	374,500	Mananara	126,500
Fierenana	138,000	Soamiarina	142,500
Mangoky	575,500	Maningory	231,000
Maharivo	191,000	Onibe	123,500
Monrondava	152,300	Tvondro	144,500
Tsiribihina	451,300	Rianila	153,500
Manambolo	258,500	Mangoro	274,500
Manambaho	200,300	Sakaleona	147,500
Ranohe	200,100	Mananjary	205,500
Sambao	152,400	Namorona	144,000
Ikona	365,000	Farony	121,500
Petahoka	488,500	Matitanana	114,500
Mahajamba	344,500	Manampatrana	163,500
Sofia	335,400	Mananara	321,500
Sambirano	115,500	Manambovo	155,500
Mahavavy	152,400		
Loza	225,000		
Mandrare	243,000		

- LISTE DES LACS, LAGUNES ET GRANDS ETANGS DE PLUS DE 100 HA QUI VIT LE CROCODILE NILOTIQUE

Province Antsiranana

- Ampahana (Antalaha) 371 Ha de superficie
- Ampasimbato Sambava 186 Ha
- Andramoty Sambava 136 Ha
- Andohabe et Ankiifihidy 628 Ha
- Betavoa Sambava 235 Ha
- Ihosy Sambava 272 Ha
- Antsatritohana Antsiranana II 101 Ha
- Tanavo (Iac sacré) Antsiranana II 149 Ha
- Anketroka Vohémar 248 Ha
- Antserasera Vohémar 299 Ha
- Sahaka Vohémar 12000 Ha
- Amparihibe Nosy-Be 138 Ha

Province Fianarantsoa

- Bevola Manakara 256 Ha de superficie
- Tampolo Manakara 517 Ha
- Ivakoana Manakara 288 Ha
- Eria Vangaindrano 171 Ha
- Masianaka Vangaindrano 1.329 Ha
- Ambalavontaka Mananjary 386 Ha
- Andranobe Mananjary 316 Ha
- Andranomavona Mananjary 168 Ha
- Manampana Mananjary 114 Ha
- Alanapotry 1.098 Ha
- Analanolona 256 Ha

Province de Mahajanga

- Andranopongy Antsohihy 286 Ha de superficie
- Befanantonana Antsohihy 146 Ha
- Masiloka Analalava 233 Ha
- Anketraoka Bealanana 12.438 Ha
- Ankitrobaka et Matsahoimadio Bealanana 742 Ha
- Arkotoahoka Bealanana 105 Ha
- Andraiforo Mampikony 102 Ha
- Bevary Mampikony 245 Ha
- Marojoho Mampikony 135 Ha
- Marohambanja Mampikony 159 Ha
- Sinja Mampikony 117 Ha
- Ambalafary Mandritsara 375 Ha
- Ambohibory Port-Bergé 104 Ha
- Ambarihibe Port-Bergé 821 Ha
- Amparihikely Port-Bergé 115 Ha
- Antanambalavy Port-Bergé 203 Ha
- Bemakemba Port-Bergé 263 Ha
- Marovario Port-Bergé 374 Ha
- Matsaholava du Somarivo Port-Bergé 281 Ha
- Teany Port-Bergé 641 Ha
- Andranovorimakoa Antsalova 155 Ha
- Ankerika Antsalova 309 Ha
- Ankotrofotey Antsalova 251 Ha
- Antsamaky Antsalova 131 Ha
- Antsohaly Fenoarivo Antsalova 932 Ha
- Antsatohato Antsalova 156 Ha
- Befotaka Antsalova 386 Ha
- Bemamba Ouest Antsalova 1.586 Ha
- Lac de Jamo Antsalova 389 Ha
- Kakoho Antsalova 100 Ha
- Macoma Antsalova 385 Ha
- Ifasiadolo Antsalova 720 Ha
- Nocy Iova Antsalova 224 Ha
- Sariaika Antsalova 245 Ha
- Soamalipo Antsalova 426 Ha
- Tanandava Antsalova 326 Ha
- Ambaho Besalampy 300 Ha
- Ambanjamba Besalampy 229 Ha
- Amparihy Besalampy 297 Ha
- Antsamaky Besalampy 146 Ha
- Bekadroadraky Besalampy 120 Ha
- Marovoahibe Besalampy 252 Ha
- Marovoaikely Besalampy 249 Ha
- Sahary Besalampy 476 Ha
- Ambonaraha Maintirano 117 Ha
- Perovo Maintirano 101 Ha
- Bevoay Maintirano 105 Ha
- Handrozo Maintirano 1.471 Ha
- Bekitrobaka Morafenobe 106 Ha
- Maheho Morafenobe 107 Ha
- Mangarika Morafenobe 187 Ha
- Befatika Soalala 128 Ha
- Sariaika Soalala 130 Ha
- Ambanja Ambato-Boéni 909 Ha
- Amboanto Ambato-Boéni 241 Ha
- Andoloha Ambato-Boéni 243 Ha
- Belanga Ambato-Boéni 244 Ha
- Bemakamba Ambato-Boéni 141 Ha
- Manary Ambato-Boéni 342 Ha
- Marovoaikely Ambato-Boéni 122 Ha
- Marovovo Ambato-boéni 103 Ha
- Menarano Ambato-Boéni 118 Ha
- Amparihibe Sud Maevatanana 1.247 Ha
- Amparihinandriana Maevatanana 297 Ha
- Bekonoly Maevatanana 412 Ha
- Bondrony et Hatoahibe de Maevatanana 502 Ha
- Bongo Maevatanana 100 Ha
- Kamotro Maevatanana 507 Ha
- Kapingo Maevatanana 130 Ha
- Komodo Maevatanana 334 Ha
- Mangabe Maevatanana 154 Ha
- Marosakoa Maevatanana 103 Ha

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Province de Mahajanga (suite)

- Maroakora Mahajanga II 128 Ha
- Morafeno Mahajanga II 119 Ha
- Ambaromelandy Marovony 650 Ha
- Antsiketrake Mitsinjo 117 Ha
- Katondra Mitsinjo 505 Ha
- Kinkony Mitsinjo 13.900 Ha
- Mahazoarivo Mitsinjo 342 Ha
- Mitsinjo (Mitsinjo) 567 Ha
- Tsiambara Mitsinjo 137 Ha
- Tsiaindahatra Mitsinjo 128 Ha

Province de Toamasina

- Alotra Ambatondrazaka 22.000 Ha
- Antsoranana Ambatondrazaka 974 Ha
- Mahajery Moramanga 2.016 Ha
- Ampitabe et Malotrandro Brickville 1.148 Ha
- Ankarana Brickville 101 Ha
- Doanivato Brickville 125 Ha
- Leakongady Brickville 134 Ha
- Rasoahe Brickville 2.000 Ha
- Pasoaosay Brickville 636 Ha
- Maroloha Vatomandry 125 Ha
- Vangoana Vatomandry 193 Ha
- Varanta Vatomandry 180 Ha

Province d'Antananarivo

- Andrenofotsy Antananarivo 140 Ha
- Ankarakara Antananarivo 268 Ha
- Itasy Miarinarivo 3.500 Ha

- Labodivato Antananarivo 110 Ha
- Maroandiso Antananarivo 125 Ha
- Tompolo Fenoarivo 137 Ha
- Andranobe Ilihanoro 290 Ha
- Ihosy Maharoro 1.129 Ha
- Andovolalina Toamasina II 160 Ha
- Nosive et Varibe Toamasina II 3.411 Ha
- Sarobakina et Siankingitra Toamasina II 890 Ha

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Province de Toliary

- Ambavarano Tolagnaro 339 Ha
- Andranany Tolagnaro 250 Ha
- Andriambe Tolagnaro 698 Ha
- Anony Tolagnaro 2.262 Ha
- Antondrika Tolagnaro 160 Ha
- Erombo Tolagnaro 115 Ha
- Manarivo Tolagnaro 143 Ha
- Ranofotsy Tolagnaro 458 Ha
- Andranomana-Sud Belo/Tsiribihina 770 Ha
- Andranomana Nord Belo/Tsiribihina 544 Ha
- Andranomana III Belo/Tsiribihina 104 Ha
- Andranomiany Belo/Tsiribihina 228 Ha
- Andranomiany et Betamboro Belo/Tsiribihina 192 Ha
- Hina Belo/Tsiribihina 1.547 Ha
- Ibohoka Belo/Tsiribihina 302 Ha
- Komanaomby Belo/Tsiribihina 1.810 Ha
- Mikohoka Belo/Tsiribihina 253 Ha
- Saricka Belo/Tsiribihina 428 Ha
- Tsitampolia Belo/Tsiribihina 154 Ha
- Ambovombasatroka Manja 114 Ha
- Andrambita Manja 135 Ha
- Ankazomana Manja 218 Ha
- Ankoronadabo Manja 102 Ha
- Takavia Erorona 113 Ha
- Sakodono Manja 108 Ha
- Ambala Miandrivazo 262 Ha
- Andemba Miandrivazo 206 Ha
- Andranomazana Miandrivazo 159 Ha
- Andranovonirikihoaka Miandrivazo 143 Ha
- Ankazomanga Miandrivazo 123 Ha
- Ankilimanarivo Miandrivazo 145 Ha
- Antobaka Miandrivazo 264 Ha
- Antroha Miandrivazo 102 Ha
- Bolo miandrivazo 243 Ha
- Bokarano Miandrivazo 204 Ha
- Mangotoka Miandrivazo 136 Ha
- Maombe Miandrivazo 120 Ha
- Iotry Tongobory 176 Ha
- Ampanihy Morombe 227 Ha
- Andahotratratra Morombe 196 Ha
- Anasakoa Morombe 152 Ha
- Andrapolava Morombe 103 Ha
- Ankilimazy Morombe 112 Ha
- Iotry Morombe entre 951 et 965 Ha (superficie variable)
- Kiliolia Morombe 412 Ha
- Mamonty Morombe 653 Ha
- Saronanala Morombe 228 Ha

