SUPPORT/OPPOSE/ABSTAIN

7TH CONFERENCE OF THE PARTIES TO CITES. LAUSANNE 9-20 OCTOBER 1989

Proposals to amend the appendices

Scientific brief (fauna)

Species: Crocodylus niloticus (Nile crocodile)

Proposal: Maintenance of the Zambian population in Appendix II (ranching)

Proponent: Zambia

Background: Crocodylus niloticus has been listed in Appendix I since July 1975 although certain populations have been downlisted. The Zambian population was downlisted in 1985 with annual quota of 2000. This downlisting was extended at the 1987 CoP with annual quotas of 3350, 5600 and 8200 (2000 wild, rest ranched) for the years 1987, 1988 and 1989 respectively

Biological data: No thorough survey of the whole population has been carried out but a 1984 report suggested a total population of 150,000 with little change in density (crocs/river km) recorded in survey areas between 1973 and 1984 .

Trade data:

	1985	1986	1987	1988
Quota				
- wild	2000	2000	2000	2000
- ranched	0	0	1350	3600
Exports of skins indicated:				
in proposal			3500	5600
in Zambia's annual reports	none submitted			
in importers annual reports	881	2954	1955	

France is the major market
All exported skins are tagged by Wildlife Department staff and all documents issued from Departmental HQ.
A presidential ban in Nov 1987 means no future wild crocs can be hunted in Zambia - all exports will be from farms.

Other information: 7 farms/ranches are noted in the proposal between them they are allowed to take 16,000 eggs annually for stocking purposes. Most have to release 5 - 10% of those taken at a later date.
The Secretariat supports the proposal.

Wildlife Link position: not yet formulated at 17 July 1989.

SWG position: generally supported although concern was expressed that Zambia had exceeded its export quotas in the past and also failed to submit annual reports (the latter a requirement under Conf 3.15).

UK SA position: see SWG position.

AMENDMENTS TO APPENDICES I AND II OF THE CONVENTION

Proposals Submitted Pursuant to Resolution on Ranching

A. PROPOSAL

Maintenance in Appendix II of the Zambian population of *Crocodylus niloticus*.

B. PROPONENT

The Republic of Zambia.

C. SUPPORTING STATEMENT

1. Taxonomy

11. Class: Reptilia

12. Order: Crocodylia

13. Family: Crocodylidae

14. Species: *Crocodylus niloticus* Laurenti 1768

15. Common Names: English: Nile crocodile
French: crocodile du Nil
Spanish: Cocodrilo del Nilo

16. Code Numbers:

2. Biological Data

Zambia acceded to the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) on 23 February 1982 with a reservation on the Nile crocodile (*Crocodylus niloticus*), and the African slender snouted crocodile (*Crocodylus cataphractus*).

This reservation was entered because although the Nile crocodile is placed on Appendix I of the Convention, it is very abundant and common in Zambia, and in some areas is regarded as a vermin because of its predatory habits on human life and livestock. However, Zambia has since withdrawn its reservation on the understanding that its population of the Nile crocodile will be transferred from Appendix I to Appendix II.

21. Distribution: The Nile crocodile occurs throughout Zambia in all the major rivers and their tributaries. Figure 1 shows drainage basins of Zambia. Reliable information on the distribution of crocodile is obtained mainly from surveys especially in the Luangwa, and the Zambezi Rivers and Lake Mweru Wantipa, while egg collection activities by farmers also yields useful information. The other source of information is through field reports by Wildlife officers. In addition, reports on loss of human life and livestock supplement the source of information on its distribution. A questionaire (Annex 1) sent out to provincial centre yielded very useful information on distribution and

relative abundance of the crocodile in Zambia, see Annexes 2a, 2b and 2c which provide examples of information obtained from field stations.

22. Population: Reliable estimates of numbers are only available for the Luangwa and Lake Mweru Wantipa. For the remainder of the lake and river systems, indices of mainly nesting activity have been useful in determining population status.

Recent counts and nesting activity indicate a fairly high and stable population of crocodile in Zambia. José Tello (1984) estimated an average density of 12 crocodiles per river kilometre on the Luangwa River and yielded a population estimate of 150,000 for the entire country. Munyenyembe (1986), yielded a mean density of 15.61 per river kilometre, while Grigg (1985) and Howard (1988) obtained mean densities of 6.2, and 14.8 crocodiles per river kilometre respectively, on the Luangwa River (see Annex 3 of Howard's survey report). These estimates compare favourably with those of Naylor et al. (1973) who obtained a mean of 13.7 crocodiles per river kilometre. This implies that the density of crocodile has not changed significantly in the last 15 years indicating a fairly stable and high population of crocodile in the Luangwa River.

Until very recently, the population of the Nile crocodile on Mwere Wantipa was probably the highest in Africa (Cott, 1961). Munyenyembe (1980) estimated a population of 4,465 crocodiles for an area of 843 square kilometres of Lake Mweru Wantipa. However, the Luangwa River and its tributaries may today harbour the largest crocodile population in Zambia. Howard (1988), had an estimate of 3,587 crocodiles along a stretch of 246 kilometers of the Luangwa. Assuming that the number of egg laying females is between 10-15% of the population. This estimate yields a total of 446 egg laying females at the lower scale on this stretch of only 246 kilometres. This population of egg-laying females is capable of laying an estimated 16,948 eggs at an average nest size of 38.

On Lake Tanganyika, an estimated total of 75 nesting sites have been identified over the last 3 years by Kasaba Bay Crocodile Farm (Circuit Safaris; see Figure 2). However Kasaba Bay Crocodile Farm have only been able to utilize a maximum of 45 nests, and nesting activity has remained fairly constant over the 73 nesting sites. This indicates a stable population along the lake shore.

Bower and Boddy (1981) estimated a population of 98 crocodiles on a stretch of 6 kilometres on the Kafue River during night counts of crocodiles between their camp and the confluence of the Kafue and Zambezi Rivers. This yielded a mean density of 16.33 crocodiles per river kilometre. Taylor et al. (1987) had an estimate of 15 crocodiles per river kilometre on the Zimbabwe side of Lake Kariba. This density compares favourably with those obtained on the river systems on the Zambian side.

While population and density estimates are a good measure of population status of crocodile in a country, indices such as nesting activity are more meaningful in predicting population trends.

Over the last 3 to 5 years egg collection success by most farmers has ranged between 60 and 99% (see Table 1) and has therefore been used as a good indicator of a stable population. Nesting sites in nesting areas have remained the same (refer to Figure 2) indicating that the same breeding females re-visit these sites every year or that the population of breeding female maintains itself at a stable or constant level, due to ecological and population stability.

Reports on nesting activity and nest size are those by Parker (1984) who recorded an average of 49 eggs in twelve nests while collecting eggs for Kariba Crocodile Farm on the shores of the Zambezi and Kafue Rivers. Bills (1985, 1987) recorded average of 51.25 eggs in 11 nests and 51.3 eggs in 42 nests respectively while collecting eggs for Kasaba Bay Crocodile Farm on the shores of Lake Tanganyika.

Constant clutch sizes may be attributed to stability of the crocodile population in Zambia. Population estimates and monitoring of population trends by surveys and indices will continue to yield information closer to the true situation, and will continue to be an important tool in the proper management of the crocodile population of Zambia.

23. Habitat: The main habitat of the Nile crocodile has increased in the past two decades. This has been the result of impoundment of several river channels for dams and lakes to supply electricity. Examples of these are Lakes Kariba, Itezhi-tezhi and the Lushiwashi. This has resulted in the general upward trend of the Nile crocodile population of Zambia.

3. Trade Data

31. National Utilization:

311. Commercial Hunting: On 14 November 1987, a Presidential Decree banning all forms of commercial hunting of the crocodile was imposed (see Annex 4). This was because although crocodile is abundant in Zambia, it was difficult to monitor the activities of holders of special licences as too many licences were being issued. This form of hunting is also indiscriminate in the size and age class of crocodiles taken. In addition, several crocodiles may be killed but not accounted for, as the aim for the licence holder is to get the number he is licenced to kill.

Secondly the ban was intended to support crocodile ranching, which had now registered its potential as the only sustainable and long term utilization programme for Zambia's crocodile population. Indeed through its steady expansion programme, ranching had shown that it could contribute significantly to the country's economic recovery programme through its contribution to the foreign exchange earnings of Zambia, which in 1987 were estimated at US$ 150,000.

In addition, the crocodile ranching industry is easy to monitor and through the hatchling release programme, contributes significantly to the stability of the wild population.

The ban places the crocodile in a very special category above other game animals. While the crocodile is regarded as a game animal, which could be hunted under a licence, the ban disqualified this provision and only allows the collection of eggs and capture of breeding stock for farms.

312. Sport Hunting by Safari Clients: This activity is still under review, and although no licences are being issued because of the ban, active consideration is being given to allow this form of utilization by overseas clients. Before the ban, an estimated 200 crocodiles were being taken on sport hunting licences.

This form of hunting if allowed, is seen as not being detrimental to the crocodile population, as it is very insignificant and is easy to control.

313. Crocodile Ranching: Ranching of crocodiles has become the major industry utilizing crocodiles in the country. Special licences are issued to farmers every year to collect crocodile eggs to support their ranches. Annually about 16,000 eggs are allocated on special licences.

a. Kasaba Bay Crocodile Ranch: Kasaba Bay Crocodile Ranch receives an allocation of 2,500 eggs per annum, and has been able to collect its requirements from a maximum of 45 nests from a total of 75 identified nesting sites. Bills (1985) recorded an average nest size of 51.25 eggs in 11 nests, and in 1987 Roger Bills was able to collect 2,155 eggs from 42 nests; this yielded an average of 51.3 eggs/nest (see Table 2).

With an average yield of 51 eggs per nest, it is possible to conclude that 75 nesting sites would be able to sustain a collection of 2,200 eggs per year required at the Kasaba Bay Crocodile Ranch.

In addition, the ranch is allowed to collect eggs from the nearby rivers, although need has not arisen for the ranch to do so. Egg collection success has ranged between 86 and 96% for the last three years, indicating a stable population.

The farm is also required to release between 5 and 10% of 50 cm hatchlings to the wild, under the supervision of Government officers. This is seen as being beneficial to the wild population as it contributes to its stability and growth.

Consequently, it is possible to conclude that this operation can be sustained without causing any adverse effect on the population of crocodiles on the lake and the nearby river systems.

The hatching success on the farm has also remained fairly constant at about 79% (see Table 1), indicating that the operations of the farm are to the required standards of a crocodile ranching operation.

b. Lake Tropicals Limited: This ranch is allowed to collect a total of 2,000 eggs from the shores of Lake Mweru Wantipa. For the past 5 years, the farm has recorded a collection success rate of between 56 and 66%. The farmer, however, admits that he only has hatchling holding facilities for about 1,000 animals, hence he has not been able to fully utilize the licence allocated to him.

With a crocodile population estimate of 4,465 crocodiles on an effective area of 843 km^2 of Lake Mweru Wantipa (Munyenyembe, 1980) and an average egg collection success rate of 66% it is possible to conclude that this operation can be sustained without causing any adverse effect to the population of crocodiles on Lake Mweru Wantipa. In addition, the programme of releasing 5-10% of the hatchlings back to the lake would seem beneficial to the stability and population growth of crocodiles on the lake.

c. Luangwa Crocodile Ranch: The operation of the Luangwa Crocodile and Fish Ranch Limited are sustained on egg collections from the Luangwa, Lunga and Kabompo Rivers.

Beukes (1985) recorded an average of 38.7 eggs in 64 nests and a second average of 38.5 in 72 nests while collecting eggs for this ranch.

Howard (1988) reported an estimate of 3,587 crocodiles on a stretch of 246 river kilometres of the Luangwa River, this yields a population estimate of 15,310 crocodiles for Luangwa River excluding its tributaries.

Assuming that between 10-15% of this population consists of egg laying females, this population would comprise of between 1,531 and 2,297 mature egg-laying females. Since the average nest size in the Luangwa is about 38 eggs, this populations would annually yield between 58,178 and 87,286 eggs.

Luangwa Crocodile and Fish Ranch Limited is annually licensed to collect a maximum of 5,500 crocodile eggs. It is, therefore, possible to conclude that the population of crocodiles in the Luangwa River can adequately support the egg requirements of the Luangwa Crocodile Farm. In addition, the release of between 5 to 10% of 50 cm crocodile hatchlings is beneficial to the wild population.

The ranch is also allowed egg collection from the Lunga and Kabompo Rivers, but so far no need has arisen for the ranch to do so. Since the farm started operations in 1984, vital installations have been made to improve hatching success, which now stands at 85%, and the general welfare of the crocodiles, such as heating of hatchling ponds etc. In 1987 however, the farm suffered a severe setback due to the outbreak of anthrax in the Luangwa, resulting in only a 30% hatching success. This setback has since passed and the operations of the farm are again in full gear. See Annex 5 for full details on the farm.

d. Kariba Crocodile and Fish Ranch: Kariba Crocodile and Fish Farm was established in 1980. The ranch is supported by eggs collected from the Kafue River and the Lower Zambezi. For the first three years, the ranch was allowed a quota of 1,000 eggs per annum but this has since been raised to 2,000 eggs per years.

Average nest size on the Kafue River and Lower Zambezi has been estimated at 49 eggs (Parker, 1984). A total of 92 nesting sites have been identified on the two rivers. However, the farm has only been able to utilize a maximum of 43 nests. The estimated potential of the 49 nests is 4,508 eggs. With an annual requirement of only 2,000 eggs, it is possible to conclude that this operation can be sustained on these two river segments without causing any adverse effects on the wild populations. Egg collection success has varied between 49 and 72%. However, this has been attributed to changes in management staff.

Hatching success has ranged between 87 and 91%, indicating that the operations of the ranch conform to the required standards of a properly run crocodile ranch.

e. Sumbu Crocodile Ranch: Sumbu Crocodile Ranch is a more recent outfit having started operations in 1986. The farm depends on crocodile eggs from the northern half of Lake Kariba. Although the complete picture of nesting activity has not yet emerged, the farm has so far been able to collect between 75 and 83% of eggs allocated (see Table 1). Average egg collection success has, therefore, been 75%, indicating very high nesting activity along the lakeshore.

On the Zimbabwe side of the lake where there is more development and fishing activity, Taylor et al., (1987) estimated an average of 15 crocodiles per river kilometre. This density may also apply to the Zambian side of the lake although it would probably be even higher. It is therefore, possible to conclude that the population of crocodiles on the lake can adequately support the requirements of Sumbu Crocodile Farm, with an annual requirement of 2,000 eggs since 1987.

Hatching success has ranged between 95 and 96% (refer to Table 1) indicating that the operation is a successful one running on acceptable standards of a ranching operation.

f. Kalimba Crocodile Ranch: The operations of Kalimba Ranch are sustained on egg collection from the lower reaches of the Lwangwa River, the Lukusashi and Lunsenfwa Rivers. However, most of their egg collection has been done along the Lunsenfwa River where they have recorded an average nest size of 45 eggs.

The operations started at very low key in 1985, and has continued to maintain its small profile to the present moment, due to limited space for expansion of

infrastructure. During the first year of operations, the farm was allocated 1,500 eggs, but has been allocated 2,000 thereafter, although they have not been able to utilize this quota due to the size of the operation. 40 nesting sites have been identified by the rancher on the Lunsenfwa and Lukusashi Rivers but the farm has only been able to utilize a maximum of 25 nests. The average nest size for Lunsenfwa and Lukusashi has been estimated at 45 eggs. Therefore, the expected total yield from 40 nests identified on the Lukusashi and Lunsenfwa Rivers only, is 1,800 eggs. This together with collections from the Lower Luangwa River can sustain an even expanded operation.

Although the ranch is small, its operations are up to the required standard of a properly organized crocodiles outfit. Its egg hatching success has ranged between 60 and 88%, except in 1987, when anthrax affected hatching success of ranches located within the Luangwa Valley system and those collecting eggs from the system. (See Annex 5 for more detailed data on the farm.)

g. Siansowa Crocodile Ranch: Siansowa Crocodile Ranch has just been licensed to operate as a crocodile farm. This ranch will depend on crocodile eggs from the southern portion of Lake Kariba. The farm has been authorized to collect 2,000 eggs to start its operations this year.

32. Export Quota: Zambia is one of the African range states allowed an export quota under the Convention. At the sixth meeting of the Conference of the Parties held in Ottawa, Canada, Zambia was allowed to maintain the quota of 2,000 for skins obtained from the wild populations, while quotas of 1,350, 3,600 and 6,200 were approved for 1987, 1988 and 1989 respectively for skins obtained from crocodile farms.

These quotas enabled the country to export 3,500 and 5,600 crocodile skins in 1987 and 1988 respectively earning an estimated US$ 350,000 and US$ 560,000 for the country. The 2,000 skins exported from the wild in 1988 were derived from the backlog from the years 1986 and 1987 before the imposition of the ban.

The major market for Zambia's crocodile skins has been France, either through direct sales or through agents from Botswana and Zimbabwe. At the current average price of US$ 4.50 and US$ 3.75 per cm for grades I and II skins respectively, this industry is seen as an important vehicle towards the economic recovery programme of Zambia, and great importance is now attached to the expansion and development of the crocodile ranching industry in Zambia.

Consequently the export of skins is closely and strictly controlled. These controls include the physical tagging of skins by a member of the Department and the centralization of export documentation at the departmental headquarters. In addition, exporters are required to declare their earnings, by furnishing the Ministry of Tourism with a copy of Form P, a form given by the exporter's Bank detailing foreign exchange earnings.

33. Illegal Trade:

34. Potential Trade Threats: Presently no potential trade threats exist. With the banning of hunting by special licence holders, no possibility exists of a population decline due to harvest of wild breeding populations. In addition, all exports are monitored and centralized, and little evidence exists of poaching of Nile crocodile for illegal export. No industry uses crocodile skins locally.

It is, therefore, expected that trade in crocodile skins and products will continue to flourish and grow, as farmers acquire more expertize.

4. Protection Status

41. National: The Nile crocodile is a game animal under the National Parks and Wildlife Act Cap. 316 of the Laws of Zambia. This means that the crocodile can only be hunted under a licence issued by the Department or on a special licence issued by the Minister.

However, in November 1987, His Excellency the President of the Republic of Zambia issued a decree banning commercial hunting of crocodile throughout the Republic of Zambia, except for egg collection and collection of breeding stock for the farms (see Annex 4). This ban is seen as a milestone in the history of crocodile conservation in the country, since it would not only ensure stability and continued survival of the crocodile population in Zambia, but it would result in a general upward trend of the population since the wild breeding stock will be safeguarded against exploitation and will enable expansion of the crocodile ranching industry in the country.

Other measures under the Act include the control of ownership of a crocodile or products therefrom. The law requires that any person or organization in possession of a crocodile or its derivatives be in possession of a valid certificate of ownership issued by the Department of National Parks and Wildlife Service. Not to do so constitutes an offence punishable under the Act. Other protection measures are that all populations of crocodiles occuring within the boundaries of Zambia's 19 National Parks are totally protected from exploitation. These populations account for almost 30% of Zambia's crocodile population. Indeed, the largest concentration of the crocodile populations is found within the confines of national parks, bird and wildlife sanctuaries.

42. International:

Since becoming Party to the Convention, Zambia adheres strictly to the provisions of the Convention. Any trade and export is strictly done under CITES procedures, i.e., skins are tagged and a standard CITES export permit is issued before export is allowed.

43. Additional Protection Needs: With the ban on commercial exploitation of the wild crocodile in force complemented by hatchling release programme from the farms, the Nile crocodile is considered secure in Zambia, and indications are that the

population is on the increase. Consequently, there seems to be no need for additional protection measures, other than continued monitoring of population trends.

5. Information on Similar Species

The African slender snouted crocodile (Crocodylus cataphractus) only occurs on Lake Tanganyika. However, it is infrequently seen and only one specimen has been captured alive by Lake Tropicals Limited during their egg collection exercise.

Therefore, egg collection activities for the Nile crocodile (Crocodylus niloticus) does and will not affect the population of African slender snouted crocodile (Crocodylus cataphractus). In addition, since no commercial cropping of crocodile from the wild is allowed, the population is deemed secure.

6. Comments from Countries of Origin

Neighbouring African range states, i.e., the United Republic of Tanzania, Malawi, Zimbabwe and Mozambique, support the proposal for ranching of the Nile crocodile in Zambia. Malawi and Mozambique have also submitted ranching proposals for their population of the Nile crocodile, while Zimbabwe's population was downgraded to Appendix II in 1983.

This is an indication that regionally the population of the Nile crocodile is secure and warrants a listing in Appendix II.

7. Additional Remarks

Ranching or farming of crocodiles, as it is called in Zambia started in 1979 with the establishment of Lake Tropicals Limited, on the shores of Lake Tanganyika. This was followed by the establishment of Kariba Crocodile and Fish Farm at Siavonga on Lake Kariba in 1980. This status quo was maintained and remained at low key until 1984 when another farm called Luangwa Crocodile and Fish Farm was established in Mfuwe on Luangwa River. Since then, crocodile ranching has become very popular and with encouragement from the Government has resulted in the establishment of four more ranches up to this year, raising the total number of ranches to seven (Annex 5 shows complete details of all crocodile ranches in Zambia).

8. Government Policy on Crocodile Ranching: Since the establishment of the first crocodile ranch the Government has been carefully monitoring the operations of the ranches in order to assess their impact on the crocodile population of Zambia and their economic viability.

Biologically, crocodile ranching shows great promise for the perpetuation of the wild population. In the wild, hatching survival is very low and is estimated at between 3 and 5% only, while on ranches survival rate is very high estimated at at least 80%, egg hatching success is even higher. Consequently, ranching ensures that a higher number of hatchlings which would otherwise go to waste in the wild survives and contributes significantly to the potentially exploitable population.

In addition, the programme of releasing between 5 to 10% 50 cm long hatchlings back to the wild is another step towards maintaining stability of the wild population. The survival of these hatchlings is still however being researched, to ascertain what percentage of hatchlings released to the wild actually survive the conditions obtain in a new and harsh environment. However, the spirit behind this programme is to promote crocodile ranching in the country, not only to ensure the survival of the crocodiles in the wild, but also to be assured of a continued economic return on a sustained yield basis. Crocodile ranching also creates rural industry vital in the creation of jobs and a better life for the rural masses.

9. Tagging System

Should Zambia receive support for its ranching proposal from the Conference of the Parties, it will continue to use the tagging system currently in use, as this has proved to be very effective. All exports of crocodile will bear proper CITES export permits with proper tags.

10. Rationale behind the Request

The Management of the Nile crocodile (Crocodylus niloticus) population in Zambia has reached a stage where its economic value has now focused a level of attention on the proper management of this species.

It is at this critical stage the Zambia CITES Management Authority needs assistance and is appealing for this assistance from the Conference of the Parties in supporting her ranching proposal in order to facilitate smooth trade for ranching operations, so that management can continue to enjoy support from the political leadership as well as the much needed support from the general public to ensure continue survival of the species in the wild, because it is only with this support that the crocodile can be assured of a place in the ever-growing population of the human species. The Government of Zambia has now adopted a new management policy for Zambia's crocodile population as contained in Annex 6.

11. References

Beukes, C.J., 1985. Luangwa Crocodile Safaris collection and hatching report to the Director of National Parks and Wildlife Service.

Bill, I.D., 1985. Circuit Safaris collection and nest data report to the Director of National Parks and Wildlife Service.

----, ----, 1987. Circuit Safaris collection of crocodiles on the Kafue and Zambezi Rivers.

Bower, E.D. & C.F. Boddy, 1981. Survey of crocodiles on the Kafue and Zambezi Rivers.

Cott, H.B., 1961. Scientific results of an inquiry into the ecology and economic status of the Nile crocodile (Crocodylus niloticus) in Uganda and Northern Rhodesia.

----.---, 1971. Parental care in crocodile with special reference to Crocodylus niloticus, proc. of the 1st working meeting of crocodile.

Grigg, G.C. & G.W. Howard, 1985. Aerial survey of crocodiles, South Luangwa National Park, Zambia, October, 1985. 9pp. Mimeo.

Howard, G.W., 1988. Crocodile counts, middle Luangwa River, Zambia, August 1988 (submitted manuscript).

Munyenyembe, F., 1986. National Parks and Wildlife Service Chinzombo Research Station Annual Report, 1986.

Naylor, J.N., G.J. Caughley, N.D.J. Abel & O. Lieberg, 1973. Luangwa Valley Conservation and Management Area and Habitat Manipulation. FAO/ZAM/68/510 FAO, Rome, 259 pp.

Parker, G. 1984. Summary of egg collection and hatching data report to the Director of National Parks and Wildlife Service.

Taylor, R.D., D.K. Black & J.P. Loveridge, 1987. Estimating Crocodiles on Lake Kariba. Submitted manuscript.

Tello, J. 1985. CITES Nile crocodile status survey. CITES consultancy report.

(include annexes)

ANNEXURE 2a

All correspondence should be addressed to the Director

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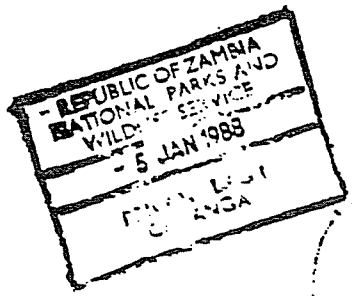

30th December, 1987

The Acting Director,
Private Bag 1,
CHILANGA.

Att: Mr. G. Mubanga: SWRO

RE: CITES CROCODILE PROJECT

Thank you for your circular NPWS/LAW.7 of 10th December, 1987. The following are general answers to your questions:

1. My station is Kasama, Headquarters for Northern Command. Areas covered include Isangano, Mweru-Wantipa and Nsumbu National Parks, Tondwa and Kaputa GMAs and open area north of Chambeshi River.

2. The main rivers and lakes in this area are:

(i) Chambeshi (354 kilometres)

(ii) Lufubu (209 kilometres)

(iii) Lubansenshi (140 kilometres)

(iv) Chomba (180 kilometres)

(v) Lake Mweru-Wantipa (772 km^2)

(vi) Lake Tanganyika (2,040km^2)

(vii) Tondwa Marsh (20km^2)

2/cont...