

Crocodile Specialist Group Steering Committee Meeting

(Singapore; 13 July 1998)

Participants: Prof. Messel, P. Ross, D. Jelden, W. King, J. Hutton, G. Webb, R. Jenkins, P. Stobbs, K. Koh, P. Ratanakorn, C.H. Giam, A. Velasco, R. Elsey, V. Lance, J. Thorbjarnarson, I.L. Brisbin, K. van Jaarsveldt, Y. Takehara, D. Ashley, A. Larriera.

Regional Reports and issues - CSG Vice Chairmen

North America. Live exports from USA. Ruth Elsey advised the meeting that the USA is prohibiting commercial exports of live alligators, except small numbers for research and exhibit purposes.

Caiman trade. Don Ashley reported that following concerns raised by the Scientific American article, that a small group had formed to examine the issue of crocodilian trade in Latin America. Ted Joanen has communicated with Peter Brazaitis and Alejandro Larriera requesting more information on current information. A report from Alejandro outlining the current situation was displayed.

Europe. Dietrich Jelden reported on activities in Europe including review of CITES proposals, review visit to Indonesia and disposal of confiscated skins in Belgium (summary attached). Dietrich briefly described the very successful promotional activity held at the Offenbach leather fair and favorable press coverage for crocodilian sustainable use that resulted. Discussion followed on additional trade promotion activities by other CSG members (Don Ashley- American alligators, CFAZ- Nile crocodile). Don reported his successful discussions with WWF UK leading to the removal of deceptive airport displays in the UK. The possibility of substituting positive pro-use displays was discussed but caution was expressed and the meeting decided to appoint Dietrich, Don and Kevin as a working group to develop a strategy on the issue.

Technical guide for captive crocs. Dietrich reported contacts from the German Herpetological Society exploring the production of a manual of crocodile husbandry for use by amateur keepers and zoos. It is possible that the Herp Soc. might provide funds for this activity. After discussion the Executive Officer was instructed to investigate the current materials available from American Zoo and Aquarium Association and CSG input to a husbandry booklet.

This provided background for Parntep Ratanakorn and Fritz Huchzermeyer to report on discussions held among CSG Veterinary members and a request that CSG create a subgrouping (Vice Chairmanship) for Crocodilian Vets. After discussion it was agreed to constitute this group informally and report back to the next meeting to consider formal establishment. Fritz and Parntep agreed to coordinate with the Executive Officer to identify and communicate with CSG members with veterinary interests.

Latin America. Alejandro presented a short report on activities in Latin America (summary attached). Two items received extensive discussion.

Ecuador. A request was received from the CITES Secretariat for a recommendation on a request from Ecuador to export live *M. niger* for zoological exhibit. Recently, information requested by CSG from Ecuador was received indicating that about 50 hatchlings up to 40 cm length were collected annually between 1995 and 1997 and that the current ranch stock is 109 individuals of which 29 are over 100 cm length. The annotation to the Ecuador App. II listing requiring review of the program by CSG to change the quota was recalled. Reports indicate the ranch is suffering

routine problems of husbandry and care and has not yet achieved stable commercial production. The Ecuadorean CITES Management Authority continues to be barely functional in crocodilian management. There is no indication that the Ecuadorean ranching program has achieved the operational or regulatory standards required for CITES compliance. The Steering Committee was sympathetic to the ranchowners need to generate income, but very reluctant to provide approval which was not based on objective achievements of the program and which could serve as a precedent, undermining CSG credibility and opening us to justified criticism. The meeting agreed that survey data obtained prior to downlisting indicated substantial populations of *M. niger* and that removal of a small number from the wild was of little conservation concern. It was noted that Ecuador could conduct such an export even if the species was on Appendix I by issuing a permit. The ranch owner is strongly advised to improve interactions with local communities to improve egg and hatchling collection. Experiences by the Mamiraua *M. niger* project in Brazil provide valuable experience in Black caiman nesting ecology and the ranch owner is advised to interact with that project and learn from them. After extensive discussion the meeting agreed to recommend 'no objection' to export of up to 30 ranched black caiman for exhibit purposes for 1998-1999 as a one time experimental quota. Ecuador is strongly recommended to export these animals under special permit and to individually mark each animal (the ranch owner has already proposed marking and obtained technical marking advice). The Steering Committee emphasized that this recommendation does NOT constitute the 'CSG review' required under the CITES Appendix annotation. Alejandro, Alvaro and John T. were asked to draft the response with technical details reflecting this decision (see page 14).

Caribbean and Central American Region. Alvaro Velasco reported that he had sent an inquiry to every CSG member in this region (Mexico-Panama) and received only three replies. While each reply favored a regional structure, Alvaro recommended that interest seemed insufficient to justify creation of a new regional division for Caribbean and Central America. He agreed to continue developing contacts, and an approach through official CITES Management Authorities and a site visit by Perran and Alvaro was suggested.

Following the coffee break, the newly published Crocodile Action Plan, Second edition 1998, was presented. Professor Messel formally presented a copy to Uthen Youngprapakorn with his thanks for the extensive financial support for its production from the Youngprapakorn family. Copies will be provided to registrants at the 14th Meeting and sent to every CSG member. The chairman regretted the long delay in production after the original draft was prepared in 1995 and urged members to be timely and focussed when they insisted on additional reviews and changes of such documents.

Africa. John Hutton apologized for misplacing the written report provided by his Deputy Vice Chair Olivier Behra (see page 16). John reported that many of the small ranching programs created during the 1980's and approved under CITES ranching provisions were failing, and in many cases were not operational. This included ranches in Botswana, Mozambique, Malawi, Uganda and Ethiopia. Combinations of economic stress, technical inadequacy and political instability have caused many farms to close. This raises the important question of what are the consequences to conservation programs when the market bases on which they rely are removed. After discussion, the meeting agreed that a formal examination of this problem would be useful. John proposed that CSG prepare a problem outline of this issue and that this be transmitted to academic and university sources to try and interest a Ph.D. project on the topic. John was requested to coordinate with the Executive Officer and several potential academic centers of appropriate interest were identified.

Sudan survey. Dietrich presented correspondence and a draft proposal which has been approved for funding by the CITES Standing Committee for a crocodile survey in Sudan. The background and previous CSG activities in Sudan were outlined. Implementation of this project seems unlikely until

political turmoil in the region settles. However, Dietrich was asked to draft a response to CITES and Sudan offering technical assistance from CSG to implement the project. Rich Ferguson agreed to assist as a consultant. An appeal was also made to collect tissue samples from Sudan, and from other populations of Nile crocodile for DNA analysis as these were needed for resolution of some systematic and evolutionary problems in crocodiles.

John and Kevin van Jaarsveldt reported on recent developments in Zimbabwe. The new management policy approved in June 1997 was being implemented. However, new government personnel in the Wildlife Dept. were examining the philosophical and conceptual basis of crocodile use and a period of continuing examination and policy evolution is anticipated. Farmers are disquieted by the tenuous nature of their access to crocodile eggs on state and community lands and are increasingly generating production from captive breeding, which now constitutes more than 50% of annual production.

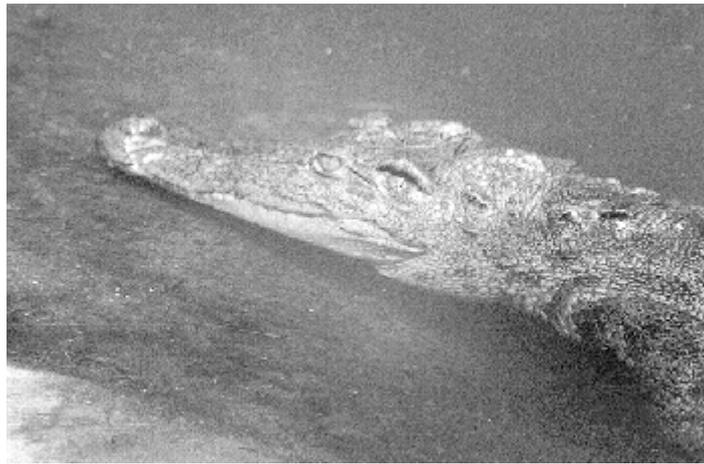
A response was received from the CITES Secretariat concerning allegations brought our attention regarding illegal trade between Tanzania and Kenya. We were advised that Kenya Wildlife Service had found no irregularities.

John announced that he has been assigned to a position in the UK for the next two years and felt that he should step down as African Regional Vice Chairman. A number of potential replacements were suggested and the Chairman took under advisement appointing a replacement after asking John to continue to serve CSG as a Deputy Vice Chairman for Europe to assist Dietrich Jelden.

West Asia. The Executive Officer reported on the development of a Regional Action Plan following the regional meeting in Gwalior in June 1997. Then Mr. Mukerjee, Director of the Wildlife Institute of India (WII) and CSG member, B. C. Chaudhury, were introduced and gave a short account of the current developments in India. Colleagues in India have initiated contact with government personnel in Bangladesh, Bhutan, Myanmar and Sri Lanka, some of whom have received training at WII. The Government of India has responded to some of the recommendations of the Regional Action Plan by providing funds for continued monitoring of wild and introduced populations and the application of non-consumptive use (ecotourism) to crocodile conservation, particularly in the Chambal River. Cooperative monitoring of dispersal and survival of released gharials in conjunction with Nepal was underway. Overall, this is the most encouraging news from the region for some years, and the regional CSG members and WII were congratulated for their efforts.

East Asia, Oceania and Australia. Grahame Webb reported that crocodile management in Australia was stable and in good shape. In the Northern Territory the crocodile monitoring program will be conducted directly by the Conservation Commission. A trial program of harvesting wild croc skins in aboriginal communities is underway and currently resolving complex cultural issues involving totemic constraints on crocodile use in traditional communities. In Queensland, there is an increasing level of activity concerning wild crocodiles and a number of initiatives concerning problem crocodile management in eastern Queensland. Grahame expressed concern that he was contacted by a student in genetics at the University of Queensland working on a project supported by the CSG through the Executive Officer without advice being obtained from the Regional Vice Chairman. The Exec. Officer agreed that full consultation with regional vice chairs was always necessary when CSG endorsement of a project was involved.

In Papua New Guinea, the annual nest surveys have been conducted and preliminary results suggest nesting indices are depressed, probably by aberrant weather due to 'El Nino'. Similar effects are reported from crocodile populations around the world. The financial crisis in Asia has caused a temporary reduction in logging in the Sepik, delaying habitat loss in this area.



C. siamensis, St. Augustine Alligator Farm, USA. R. Sommerlad photo.

In Indonesia, the recent financial and political turmoil has completely obscured any crocodile management efforts. Paul Stobbs reported that a PNG government delegation visited Irian Jaya and received a distorted account of crocodile management there and incorrectly concluded that the PNG program was not adequate. The need for constant communication to government is obvious.

Grahame summarized the status of crocodile farming and activities in Sarawak, Malaysia (including last years survey of Tasek Bera Reserve), Thailand and Myanmar. Development of crocodile farming continues, with current stocks high and trade sluggish due to poor demand and prices. John Thorbjarnarson advised that his organization, Wildlife Conservation Society, was initiating a large program in Myanmar and surveys of freshwater turtles and crocodiles would be included in general wildlife survey efforts.

Cambodia. The situation in Cambodia received detailed discussion with information from Hank Jenkins and Nao Thuok of the Cambodia Fisheries Department. Cambodia has over 400 crocodile farms holding *C. siamensis* but only about 18 of these have more than 100 stock, the majority being very small household operations. Following its accession to CITES last year, Cambodia is now requesting registration of 6 larger farms to allow legal export of crocodiles. Current stocks of small animals are inflated with annual production around 15,000 hatchlings as the previous illegal trade in hatchlings to Thailand has been inactive. The recent designation of a Management and Scientific Authority for Cambodia opens the way for submission of the registration request, which should be routinely passed to CSG for comment. Discussion centered around the desirability of associating a component of conservation of wild crocodiles to the commercial farming activities. Nao Thuok reported that Cambodian Crocodile Farmers Association was willing to underwrite field studies and conservation. The meeting recommended to Nao that his registration proposal be accompanied by whatever information is available on distribution of wild crocodiles. Nao confirmed that additional large scale removal from the wild was not anticipated. Uthen Youngprapakorn then offered to provide financial support to the Cambodian surveys, and Uthen, Mr. Thuok and Grahame Webb were asked to coordinate this support.

Vietnam. Hank Jenkins displayed a report on crocodile farming in Vietnam. The situation is similar to Cambodia, while less developed. Crocodiles have been held in captivity for decades and there is current interest in farming. Wildlife based industries are an integral part of current Vietnamese economic development. The Sustainable Use Specialist Group has received funds from NORAD to undertake wildlife surveys and develop SU wildlife use. There is also a survey of Vietnamese vertebrates underway by the Royal Ontario Museum. Hank indicated that the reported export of Cuban crocodiles to Vietnam in 1997 could not be verified in Vietnam, raising the interesting question of where these animals have ended up? Uthen Youngprapakorn reported that he had been

approached by Vietnamese farmers to purchase their stock as they were concerned that current Vietnam government efforts to establish controls might lead to their confiscation.

China. Professor Messel expressed the CSG's deep concern over the Chinese alligator. John Thorbjarnarson recounted results of his visit in 1997, which indicated continuing alarming decline of the wild population. The Wildlife Conservation Society has initiated coordinated conservation activities with the Chinese government, Anhui Forestry Bureau and East China Normal University. Mr. Wan Ziming of the Chinese CITES Management Authority confirmed that the wild population was thought to number no more than 400 and appealed for the CSG to support China's conservation efforts. After discussion it was agreed that a comprehensive conservation program addressing broad landscape issues similar to the Panda conservation program was needed. Further discussion deferred until after presentations to be given at the 14th CSG Working Meeting. Howard Kelly of South Africa briefly explained his ongoing program to export live Nile crocodiles to China and proposed that some linkage to Chinese alligator conservation might be associated with commercial crocodile farming in China.



Chinese alligator at St. Augustine Alligator Farm, USA. R. Sommerlad photo.

Science. Val Lance briefly summarized results from the Crocodile Biology and Evolution Conference held in Brisbane, Australia, July 7-10. A focus of concern was that studies of crocodylian systematics based on DNA analysis were based on a very narrow set of zoo specimens of uncertain origin and artifacts may be generated as a result. The anomaly between availability of hundreds of thousands of specimens of most species and the difficult availability of those specimens to scientists was noted. It has been proposed that CSG might serve a role by facilitating the exchange of specimens between those who have them and those who want them. A proposal was accepted to list in the Newsletter current genetic studies underway on crocodylians. Lehr Brisbin urged that genetic results on crocodylians (gene sequences) be made freely available by listing in standard genetic resource data bases.

Bris announced the impending completion of the SSAR Catalog of American Amphibians and Reptile accounts of new world crocodylians and appealed for authors to tackle the remaining accounts for *Caiman crocodilus* and *C. caiman latirostris*.

Trade. Kevin van Jaarsveldt presented CSG with a donation of \$1,100 Singapore dollars on behalf of the victorious French World Cup soccer team. Kevin briefly reported on the very low level of the crocodilian trade world wide and Don Ashley demonstrated the most recent International Alligator and Crocodile Trade Study report (IACTS). Detailed discussion was deferred to the 14th Working Meeting Session. The meeting then adjourned for lunch and reconvened at 2.15 pm.

A New CSG Policy on Movement of Live Crocodilians to Establish Commercial Production of 'exotics' (Doc. CSG policy statement 1990) Professor Messel summarized the extensive detailed consideration of this complex topic 1990 - 1997. Hank Jenkins noted that the topic was partially covered by CITES Conference Decision 10.76 on Alien Invasive Species, which established a process within CITES to address the biological consequences of exotic transfers. The whole matter was being considered further by the Animals Committee and might eventually have to be resolved at the next CITES COP. Howard Kelly expanded on his justification of his proposed export of live Nile crocodiles to China. He noted the extremely large investments of funds (over 6 million US dollars) in this project and suggested again that the conservation consequences were not negative and might be turned to positive effect on Chinese alligator conservation.

The meeting noted that concern on this issue appears to derive primarily from producers in exporting countries. The Chairman then terminated the debate citing the great difficulty of resolving the matter within the CSG and recommending that CSG continue to monitor and support the activities of CITES and other entities following our existing policy which does not recommend the transfer of exotic species into the range of other crocodilian species for commercial purposes.

CITES Animals Committee, Modifications to Universal Tagging, Doc. Revised CITES Resolution 9.22. Hank Jenkins summarized the small modifications made at the Animals Committee meeting in Caracas which further clarify and simplify tagging requirements.

Consolidated Ranching Resolution Doc. AC 14.3. Hank summarized the continuing process of consolidation and simplification of the ranching resolutions which are underway in the CITES Animals Committee. The intention is to combine and generalize existing ranching provisions, retaining where possible the sense of the crocodilian specific resolutions, but making them generic and applicable to all species..

Bred in Captivity Doc. Res. Conf 10.16. Hank described the extensive modifications made to the captive breeding definitions and registration process at the Caracas Animals Committee meeting. A small anomaly of wording in section b) C) 2 a & b has made the application of F2 requirements and the alternative use of a less stringent requirement ambiguous. As this might be detrimental to the registration of crocodilian captive breeding, CSG recommended that the chairman of Animals Committee take this under advisement for correction as the document continues to be modified in Animals Committee.

Madagascar. No additional information was available on Madagascar and the subject was tabled to a future meeting.

Tanzania. Recent correspondence and a request for technical assistance from Tanzania were presented. After discussion, the Executive Officer was requested to continue dialogue with Tanzania and to remind them of the need for a correctly prepared Appendix II downlisting under Conf. Res 9.24 as the solution to their need for wild harvests. John Hutton noted that this might be achieved under the current activities of the SADAC wildlife technical coordination office in Malawi which should be copied on this correspondence by the Executive Officer.

New proposals for CITES Listings

Mexico. A draft proposal in Spanish to downlist Mexico's population of *C. moreletii* under Conf. Res 9.24 to allow ranching of four specified subpopulations has been received for review. Alejandro, Alvaro and Perran each reported that the proposal still lacks quantitative information about crocodile populations, survey results, nesting densities, etc., although data are thought to be available for the four areas proposed. After discussion, Alejandro and Alvaro agreed to respond directly to the Mexican CITES authority to advise them of revisions required.

Cuba, *C. acutus* ranching. Information was reported that Cuba has expressed the intention of preparing this proposal, but no document is yet available for review.

Cambodia farm registration. Mr. Nao Thuok of the Cambodia Fisheries Department provided details of Cambodia's crocodile farming industry and desire to register 6 farms with CITES. While a preliminary framework for regulatory activities was in place with a new decree, there were no data on current wild populations. Professor Messel expressed sympathy for the Cambodian program, but noted the CSG's concern about conservation of wild crocodiles. In response Hank Jenkins announced that funds were already committed for a survey of wild crocodiles and Nao Thuok announced that the Cambodian Crocodile Farmers Association was willing to create a trust fund for crocodile conservation and to provide up 3% of ranched stock for release to the wild. Uthen Youngprapakorn noted the long history of crocodile trade between Cambodia and Thailand and offered additional funding to ensure that conservation efforts could be developed. After confirming that no large scale removal of additional animals from the wild was needed, the CSG encouraged Cambodia to submit their request to the CITES Secretariat along with preliminary wild status information which CSG would review when requested to do so by the Secretariat. The regional Vice Chairman was asked to coordinate with Uthen and Mr. Thuok to advise on the needs in this direction.

Financial report

The year to date financial report was presented by the Executive Officer. Revenues of \$38,071 and expenses of \$40,904 were reported leaving a current balance of \$23,278.52. This is the third consecutive quarter in which expenses exceeded revenues and the CSG cash balance is steadily eroding. The current balance would support minimal activities to years end, but continued operation in 1999 will require additional funds. The Executive Officer explained that this situation had been achieved despite subsidizing his salary with a separate contract for \$9,000 to do other work in the second quarter. Prospects for raising funds from current patrons who have not made donations this year are estimated to be potentially around \$26,000 but the recent financial collapse in Asia and global depressed crocodile skin markets make fund raising for the immediate future uncertain. Vigorous and creative discussion followed with several options for restructuring CSG and obtaining stable funding proposed. Among these were restructuring the Executive Officer's duties and time commitment and tendering out for independent contract some activities such as Newsletter production. It is clear that under present circumstances the CSG will need to be nimble and flexible to maintain operations. The Steering Committee undertook to continue discussions and seek funds.

Other business

Next Meeting of the CSG. It was proposed to approach the Cuban crocodile management authorities and inquire if they would consider hosting the next Working Meeting. There was widespread support for this proposal. Gainesville Florida, USA, and South Africa were proposed as fall back alternatives should Cuba decline. A date in early 2000 to precede the next CITES meeting

in sufficient time to allow review of CITES proposals was suggested and this will be clarified once the CITES meeting dates are known.

Universal tagging. Hank Jenkins reopened this issue with an inquiry about whether CSG should assist the Secretariat and CITES Parties by developing simple software for tracking crocodylian exports. The meeting decided this could only be done if it were adequately funded from outside sources.

A letter received from CSG member, Bruce Shwedick, proposing activities in west Africa and advising of a proposal to hold a regional meeting in Cote de Ivoire in 1999 was discussed. Noting the sparse contact CSG has in west Africa, this initiative was applauded and a recommendation was made to coordinate this idea with the IUCN Sustainable Use Specialist Group which is active in the region. The Executive Officer was instructed to advance this idea and provide Bruce with written support for his fundraising activities on this project.

There being no further business, the Chairman thanked participants and closed the meeting at 4.56 pm setting a new record for timely CSG meetings!

Following the meeting, the Chairman invited Dr. Richard Ferguson, currently advisor to the Crocodile Farmers Association of Zimbabwe, to take on the position of CSG Vice Chairman for Africa to replace John Hutton. Richard completed his Ph.D. studying the ecology of Nile crocodiles released from farms in Lake Kariba and has experience in several other African countries. John Hutton was invited to become Deputy Vice Chairman for Europe to assist Dietrich Jelden and ensure we do not lose his valuable advice during his sojourn at Cambridge UK. — P. Ross, *Executive Officer*.

Letters from the Steering Committee Meeting

Mr. Kamil Ibrahim Abdel Rahim,

Director of Wildlife,

Ministry of Interior, Khartoum,

Sudan

Ref: Sudan Crocodile Survey

Dear Mr. Abdel Rahim:

Referring to the letters of 9 June 1998 that you received from my Deputy Chairman, Dr. D. Jelden, I would like to inform you of the discussions held at the Steering Committee of the Crocodile Specialist Group at their meeting 13 July 1998 in Singapore.

We considered your request for the CSG to assist Sudan in the proposed crocodile survey. In general, the CSG is still very positive about your project, which we understand has been approved by the 29th meeting of the CITES Standing Committee in 1993. However, we seek some clarification of several questions about the proposal.

The proposal mentions a stockpile of skins kept in Sudan since 1991. I am wondering if this is a different stockpile than the one which was inventoried by Dr. Jelden in 1992 and subsequently

exported to Egypt? If your proposal refers to the exported stockpile, I am curious about what has happened to the funds which your department acquired from this sale and suggest that these funds could be used to partially support your survey. Any additional funds necessary can be sought through the CITES Secretariat.

Regarding technical assistance, Mr. Richard Fergusson, a CSG member who already agreed to help your department in the past, has again expressed his willingness to come to Sudan as soon as you are prepared to begin the survey. You should contact Mr. Fergusson directly at the following address:

14 Lisburn Rd, Workington
P.O. Box HG 11, Highlands
Harare, Zimbabwe
Tel. 263 4 755341, fax 263 4 754818
E-mail cfaz@pci.co.zw

Concerning the results of the survey when they become available, I am seeking your clarification whether the Sudan intends to submit a proposal to downlist its population of the Nile crocodile from Appendix I to Appendix II of CITES at the next Conference of the Parties. If this is your intention, I would greatly appreciate that you liaise with the CSG, providing a copy of your draft downlisting proposal as soon as possible in order that we might provide our advice and guidance. I look forward to your reply.

Yours sincerely,

Professor H. Messel

Chairman Crocodile Specialist Group

cc. J. Kundaeli, CITES Secretariat

17 July 1998

Mr. John Kundaeli,

CITES Secretariat, Geneva, Switzerland

Re: Ecuador- request to export live *Melanosuchus niger* for exhibit and educational display.

Dear John:

Your request for our input on the proposed export of live *Melanosuchus* from the Ecuadorean ranching program received extensive discussion at our Steering Committee on 13 July 1998 in Singapore. I attach for your information, the draft minutes of the meeting concerning this discussion and we offer the following response:

1. This letter and our discussion do not constitute a "review" of the Ecuadorean ranching program as required under the annotation to the Appendix II listing of *M. niger* in Ecuador. We have not received sufficient information to evaluate the program or Ecuador's CITES

regulatory capacity and so this response is in the nature of special advice to Ecuador and the Secretariat regarding their developing program.

2. We note that if *M. niger* in Ecuador was listed on Appendix I, it would be quite valid for Ecuador to issue an Appendix I export permit for wild specimens for non-commercial exhibit purposes and that there are numerous examples of Appendix I specimens being exported for display in this way.

3. We recall the field survey information provided in Ecuador's downlisting proposal indicating *M. niger* occurred in moderate densities in many locations in Ecuador and that a substantial wild population is thought to exist. We have been informed by the ranch that a very small number of individuals were removed from the wild to the ranch since 1995 (approximately 150), which is of little impact or concern from a conservation perspective.

4. It is evident from the information on current stocks at the ranch provided to us by the owners that the ranch has not yet achieved commercial levels of production.

5. We are acutely aware that any ill considered or poorly supported actions regarding the *Melanosuchus niger* ranching program could generate criticism of CSG, the CITES Secretariat and the Ecuadorean program, and could endanger the orderly development of sustainable use of this species in Ecuador and elsewhere. It is therefore imperative that any decision that Ecuador and the Secretariat makes be conservative, demonstrate precautionary principles and be biologically justified.

Based on these factors we recommend that the Secretariat advise Ecuador to allow the export of a limited number of live *Melanosuchus niger* from the ranch under the following conditions:

- No more than 30 individuals total from current ranch stock.
- This special live export quota should be valid for one year (e.g. July 1998- June 1999) after which it should be re-evaluated and adjusted as necessary.
- Each live animal exported should be marked in a manner consistent with normal zoological exhibit practice to ensure that it can be readily identified as from the Ecuadorean program (we understand that the ranch owner is already preparing for this need).

Additionally, we would urge the ranch operators to improve their capacity to obtain young hatchlings for ranch stock. To achieve this, we recommend that the Ecuadoreans visit the program in Mamiraua, Brazil, which has extensive experience and is successfully locating many *Melanosuchus* nests. We also encourage increased use of the skills of local communities and indigenous inhabitants of Ecuador's Amazon region to locate nests and hatchlings. Involving local communities is an integral part of sustainable use and conservation and will be a key element in the ultimate success of this ranching program.

We believe this advice is consistent with CITES resolutions and practice and a sensible and cautious approach to the programs needs. Best wishes.

Yours sincerely,

James Perran Ross, Executive Officer CSG

cc. H. Messel, A. Larriera, A. Velasco, B. Ortiz van Halle, P. Evans

David Brackett, Chairman SSC

Dear David:

The Crocodile Specialist Group held its 14th Working Meeting in Singapore, July 14-17, and once again the IUCN listing criteria, which we understand are currently under review, were on our agenda. In an organized working session involving about 60 CSG members we looked again at the criteria and attempted to revise our listings of Asian crocodylians. We drew the following conclusions that we hope will be of some utility to SSC in the criteria review process:

- 1) There is utility to the criteria despite the difficulties in using them to derive the categories that realistically express the probability of a species going extinct on a global scale.
- 2) Crocodylians are a group in which both the decline and recovery of many populations has been well documented, as well as the decline to local extinction of a few species in some countries. This gives us an objective basis to judge current trends based on concrete experience. Crocodylians are long lived, slow maturing organisms for which we have a reasonable understanding of the links between population indices, threatening processes and the real risk of extinction. From this perspective it was clear to us that:
 - a) Current trends in populations, whether distribution and abundance are increasing, decreasing or stable, are the single most important index of risk of extinction, particularly when information on absolute population size is also available.
 - b) Regardless of generation time, a shorter period of a decade is a realistic time frame for assessing current trends. The CSG uses a variety of different population indices to make determinations with reasonable confidence in this time frame.
 - c) The use of a time period of three generations, which can exceed 100 years in crocodylians, is so distant from the current trend that it has little utility in assessing current extinction risk. Such a long time period confounds analyses because it can obscure distant declines and more recent recoveries. It also fails to allow the significance of changes in habitat availability to be assessed from the viewpoint of global extinction. For example, there are many examples where habitats have been greatly reduced in 100 years, but where the remainder continues to be more than adequate to sustain the species indefinitely. The use of three generations is also not a realistic time frame to assess the results of conservation actions implemented today. It is too long and uncertain to be the basis of effective interpretation of past trends or implementation of current actions.
 - d) We found that it is important that the determinations (Endangered, Vulnerable etc.) reached by methodically applying the criteria be checked against a narrative description of 'risk of extinction' and the real situation for the species concerned. Where the known status of the species is not consistent with the category derived, it indicates: 1. The key was misinterpreted or used wrongly; or, 2. The structure of the key is such that it does not adequately reflect risk of extinction for that group. We discussed the analogy of using a dichotomous key to identify an organism to species. If after following the key you conclude that you are holding a green tree frog, but the organism in hand is brown, warty, and has the definitive characteristics of a toad, it is obviously it is not the organism (category) reached via the key (criteria). This is

important information and it happens commonly when developing keys. Either the key is wrong or it has ambiguities in it that need correcting. In any final analysis, you do need a description or illustration of the frog to make sure you reach the right answer, and to ensure the key is steadily improved. We found that thoughtless application of the IUCN criteria, without any consideration of whether the final "risk of extinction" is consistent with some narrative description, can lead to evaluations of extinction risk that are simply not justifiable. The real goal is to evaluate the risk of extinction, not just to apply the key wherever it may lead.

e) We find that the risk of global extinction needs to be separated from global population decline. For example, the saltwater crocodile (*Crocodylus porosus*) has no measurable risk of extinction on the global level due to extensive habitat and secure status in Australia, PNG and Irian Jaya. However, populations throughout the remainder of the range are greatly depleted and fragmented. Our interpretation of the criteria and our subjective views agree that this species is in the 'Low Risk' category - others could argue it meets the criteria of 'Critically Endangered'.

f) We recommend that all determinations of 'Endangered' and 'Critically Endangered' be accompanied by a descriptive paragraph that identifies the factors likely to cause extinction within a specified time frame. Such an identification moves the evaluation from a retroactive and depressing evaluation of past trends to a proactive identification of conservation actions needed.

We hope these comments will assist the SSC as you evaluate and revise the criteria to be more effective in evaluating global risk of extinction.

With best regards:

Professor H. Messel Chairman CSG