

**Crocodile Specialist Group Steering Committee Meeting**  
**Universidad Nacional del Litoral, Santa Fe, Argentina**  
(6 May 2018)

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**East and Southern Africa**

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**Angola:** Since the last SC meeting (May 2016), 8 people were reported killed by crocodiles in Huila Province, in Southwest Angola. Local authorities and chiefs are apparently raising awareness of the risks within the community, particularly as the crocodiles are also apparently targeting cattle and dogs at the river's edge. Warning signs are placed at the attack spots.

**Botswana:** The Okavango Crocodile Monitoring Programme (OCMP) continued its work on population monitoring, human-wildlife conflict and environmental education. In August 2016 a spotlight survey was conducted on crocodiles in the Okavango Panhandle, a population that has been monitored since 2003. The extensive spotlight survey carried out in 2008 provided a baseline population estimate of 1793 crocodiles. The 2016 survey provided a population estimate of 1931 crocodiles, representing a 7.7% increase over an 8-year period. The total numbers calculated from pure spotlight surveys do not represent an accurate population estimate but rather provide indices to monitor trends. Notwithstanding that only two years of data are available, the results suggest an average rate of increase of 0.9% per annum since 2008.

The training of local wildlife scouts and resident volunteers on safe capture and relocation of adult crocodiles has benefited communities in the lower Delta (Maun region) who continue to lose domestic animals to crocodiles. Adult crocodiles have been relocated from the Maun region for the past 5 years and to date, none of these crocodiles have returned suggesting that the capture and relocation of "problem crocodiles" remains a viable alternative to killing these animals.

Environmental education activities continue in the Okavango with the OCMP team carrying out presentations to primary schools throughout Ngamiland. In December 2017, Simon Pooley worked with Vince Shacks (OCMP) to develop a poster on crocodile attacks for the Okavango in Botswana - "Don't get eaten by a crocodile". This poster was produced in English and was adapted and translated into Setswana in order to be more locally relevant. The poster was printed and presented to a number of schools in the region (February 2018) to raise awareness about safety around the river for the younger children who continue to be threatened by Nile crocodiles. In addition to distribution of the poster in the Okavango, other NGOs are also using the poster and it has been circulated in the Khumaga area (Boteti River – Makgadikgadi) and the Chobe Enclave (community wildlife area). Technical outreach personnel are making use of the poster during presentations at local schools.

**Egypt:** The value of crocodiles as a sustainable natural resource is widely recognized as being of benefit to the Egyptian Government, in the form of a self-sustaining management program and international recognition, and the Egyptian people, through employment, tourism, and direct harvest. However, national legislation forbids the hunting, killing or capture of wild birds and animals, including the Nile crocodile, as well as the possession, transport and sale (or offer to sell) of wildlife. It is also illegal to damage the nests or eggs of wild birds and animals. Amendments to the legislation would be required in order for sustainable use of the Nile crocodile to go ahead.

- Crocodile Ranching - The Egyptian Government has allocated land and a budget to launch an experimental crocodile farm. The budget will allow for a completion of the wild crocodile population survey in Lake Nasser during 2018. Approximately 50% of Lake Nasser has been surveyed to date (over the past 5 years). A long-term conservation strategy is also planned, although this initiative faces many challenges, such as sustainability, overexploitation, marketing competition and limited community engagement in management/conservation plans.
- Illegal activity - 13 crocodile skins ranging from 2-4 m in length were confiscated recently. Wildlife legislation is being applied to tourism companies and Egyptian Crocodile Management Unit (ECMU) is working to stop people and tourism ventures from doing business on Lake Nasser for one year. The ECMU continues to liaise with the Environment Police of Aswan to enforce this law and is confiscating crocodiles, both live and dead specimens, and reintroducing the live ones to their natural habitat in the Lake.
- Public Awareness – the ECMU has collaborated with a local TV channel to film a documentary on the challenges facing the crocodile program in Egypt and presented important information on the crocodile management program.

**Ethiopia:** Following survey work in Ethiopia in 2014, DNA studies on crocodile specimens taken concluded that the species in Lake Chamo are *Crocodylus suchus*, and not *Crocodylus niloticus*. A report on the study was published in

the CSG Newsletter [36(4): 24-27]. In addition, a survey was carried out in the Tekeze River Dam, Tigray, to ascertain the distribution and habitat suitability for Nile crocodiles. The survey determined that public attitudes to crocodiles were not positive and called for public awareness to be addressed in order to ensure conservation of the species in the area.

**Kenya:** With support from the Rufford Foundation, a research project is being carried out on Nile crocodiles and the status of available habitat in the Kerio Valley, specifically at Lake Kamnarok and community dams, which are under considerable human pressure. This is the first comprehensive study on the status of Nile crocodile and aims to not only conserve suitable habitat, but also to “understand Human Crocodile Conflict, assess knowledge, attitudes and perception towards crocodiles, and educate local people to adopt measures to sustainable use resources.” (Johnson Kiprop project update, March 2018). The project is ongoing, but preliminary results highlight 4 critical habitats with optimal conditions for long-term conservation of *C. niloticus* populations: two in Baringo County and two covering Baringo and Elgeyo Marakwet Counties.

**Madagascar:** Since the last SC meeting (May 2016), the Malagasy Crocodile Management Unit, established under the Madagascar Crocodile Conservation and Sustainable Use Program (MCCSUP), prepared a proposal to maintain the Malagasy population of Nile crocodile in Appendix II pursuant to Resolution Conf. 9.24 (Rev. CoP16). This proposal was submitted and discussed at the 17th Conference of the Parties to CITES (Johannesburg, South Africa, September-October 2016). Following side-discussions with the EU, and further debate in Committee I, Madagascar withdrew the proposal - and *C. niloticus* in Madagascar remains in Appendix II pursuant to Resolution Conf. 11.16 on Ranching. The Parties to CITES expressed their doubts that Madagascar had implemented all aspects of the new management plan. The EU (mainly Hungary, Austria and Slovenia) voiced their opposition and despite several encouraging working group sessions with Madagascar and the CSG, did not assist with providing acceptable wording a re-draft and its annotations. Discussions are taking place as to whether Madagascar will submit a similar proposal to CoP18 (Sri Lanka, May-June 2019).

At the CITES Standing Committee meeting held prior to CoP17, Madagascar successfully petitioned the SC to exclude crocodiles from any potential trade ban on all CITES-listed species as a result of Madagascar’s non-compliance with SC conditions relating to the trade in precious woods. It is important to note that Madagascar’s population of Nile crocodiles was not on the SC agenda, but it was apparent that if a trade ban was applied, this would affect all CITES-listed species, including the Nile crocodile.

During the dry season (June-August) in 2016, surveys were carried out in Madagascar in the Betsiboka, complexe Mahavavy Kinkony, Miandrivazo-Belo, and Soahany. It is not possible to ascertain any trends in the population compared with previous surveys. Unfortunately, Madagascar is experiencing increasing incidences of cattle rustling and banditry (*dahalo*) in the rural areas, which has had an impact on the ability to carry out surveys, as well as the hiring of local assistants. *Dahalo* have been a feature of Madagascan society since pre-colonial times, a result of skirmishes between neighbouring cattle owners. Today, it involves highly organized criminal gangs and is no longer restricted to the traditional southern part of the island. This rural lawlessness impacts on the crocodile value chain as it endangers egg collectors who carry considerable sums of cash to pay local landowners, as well as scientific crocodile researchers, who similarly carry cash for project requirements. During the 2016 population survey, at one site the research team were attacked but not harmed.

The creation of the CMU within the forestry department at the Ministry of Environment, Ecology & Forests, and its nomination as the CITES Scientific Authority for Crocodiles in Madagascar, has been a significant achievement from the MCCSUP. The CMU is responsible for all aspects of crocodile management in Madagascar, with a designated manager who is hired full-time by the DGF. The remaining members of the core team are student researchers, post-graduate scientists, or other resource people, who have been contracted to carry out specific tasks under a national annual work plan, such as the compilation of databases and carrying out population surveys in the wild. In the future, the CMU will remain the key player in crocodile management in Madagascar.

The CMU reports that the crocodile ranches did not carry out a wild egg collection in 2016 or 2017. The crocodile ranches are struggling to secure the necessary finances to expand their businesses. The artisanal crocodile industry continues to function and is monitored by the CMU from tanning to retail.

**South Africa:** The downturn in the global market for crocodilian skins, coupled with an over-production of poor quality skins in South Africa, has had a negative impact on the majority of South Africa’s 87 registered commercial crocodile farmers. Cashflow crises and huge stockpiles of *C. niloticus* skins resulted in many farmers not collecting/incubating eggs during the breeding season of 2017/2018. Grading criteria for the farmers who produce high-grade skins remains rigorous, with only a small number of farmers able to meet the desired high quality. Crocodile farmers in South Africa produced an estimated 280,000 hatchlings during the 2016/2017 breeding season. It is anticipated that this number must be reduced significantly if the industry is to survive.

During the reporting period, there has been an increased demand in South Africa for crocodile meat for human consumption. Also, local tanning and manufacture of finished products has also increased.

- Surveys - A crocodile census was carried out on the Limpopo River and its tributaries by the Limpopo Provincial Government (Department of Economic Development, Environment & Tourism; LEDET) in November 2016. An almost two-fold increase in crocodile numbers was observed in the Limpopo system when compared to data from 2003, in stark contrast to the general decline in southern African populations. A total of 34 crocodile nests were observed. The survey report concludes that crocodile numbers are increasing in the Limpopo system, with crocodile migration into seasonal waters during the rainy season. The survey report recommended that “*a Biodiversity Management Plan for Species (BMP-S) under the National Environmental Biodiversity Act, would help to provide a controlled sustainable use program for Nile crocodiles in the Limpopo region (including crocodile ranching)*”.
- Crocodile surveys were carried out by LEDET on the Letaba and Olifants Rivers in October 2017. The Letaba crocodile population has recovered slightly from the decline noted in 2015 but remains low. The Olifants crocodile population was found to be relatively stable, with minor fluctuations in the upper reaches possibly due to the changes in water level in the Flag Boshielo Dam.

The survey noted crocodile nesting activity (19 excavations), mostly upstream of the Letaba Ranch area, where historic populations occurred. Eleven excavations were noted in the lower Olifants, and 2 in the Blyde River. No signs of nesting in the middle Olifants, but 18 excavations were noted in the Upper Olifants, possibly due to low water levels in the Flag Boshielo dam. The survey report recommended that “*the breeding population at Flag Boshielo Dam should be monitored and become a task under the Schuinsdraai Nature Reserve’s Management Plan (the Nature reserve flanks the western side of Flag Boshielo Dam). In addition, a national BMP-S for crocodiles would assist with crocodile conservation in the Letaba and Olifants Rivers. The survey report advises that crocodiles in the Letaba River should be considered as ‘threatened’ and no applications to hunt crocodiles there should be considered. In cases of HCC, crocodiles should be relocated rather than be destroyed. Further, crocodiles that cause conflict in the Olifants River should be translocated to the Letaba River*”.

- HCC and public awareness - In January 2018, the Community Conservation Officer at Ezemvelo KZN Wildlife liaised with Simon Pooley to use the posters he had produced [“Don’t get eaten by a crocodile”] for community work in the Enseleni area, the Muzi Pan near Mkhuze Game Reserve, the Nibela area in the northern region of St. Lucia Lake, and at Kosi Bay near the Mozambique border.
- Research and Publications - Simon Pooley published an article on “A Cultural Herpetology of Nile Crocodiles in Africa” (2016) as well as “The Entangled Relations of Humans and Nile Crocodiles in Africa, c. 1840-1992”. This article focuses on the impact that the Nile crocodile had on European travellers during the height of colonial exploration and adventuring in Africa and how an exploration of the long history of human-crocodile interactions could assist with their modern-day conservation.

Research was carried out to analyse crocodile eggs and eggshells collected from nests in the Kruger National Park (KNP) and at a crocodile farm, to ascertain the level of metallic elements. This research responds to the recent mass mortalities of Nile crocodiles in the KNP that raise concerns about possible pollutant influences. The study found that eggshells had very high concentrations of iron, which possibly causes thicker eggshells and could act as a barrier to gas and water exchange. Mercury, selenium and copper also were found at levels causing concern. The research concluded that source mitigation is an important issue to be addressed.

A study on the impact of organochlorine pesticides (OCPs), used in South Africa, on Nile crocodiles in the iSimangaliso Wetland Park was carried out. Little exotoxicological data exist and further studies on the impact of the OCPs is needed as concentrations in Nile crocodile fatty tissue warrants concern.

A Masters research student, Albert Myburgh, is studying stable isotopes of wild Nile crocodiles as a trace for pollutants in the upper Olifants River. The Upper Olifants is an important research site as it links to two major reservoirs, the Lake Loskop and the Flag Boshielo; the former lake is unable to sustain viable Nile crocodile population, whilst the latter is oligotrophic and supports a large Nile crocodile population. The research aims to identify the location and processes responsible for the change in pollutants between the two reservoirs.

**Zambia:** Very little conservation work is taking place on Nile crocodiles in Zambia. The Zambian Crocodile Farmers’ Association (ZCFA) is considering carrying out population survey of selected sections of the Zambezi system over the next two years. Although no crocodile surveys have taken place in Zambia since 2005, Nile Crocodiles are still found in large numbers in most of the major rivers (Zambezi, Kafue, Luangwa, Kabompo, Lunsemfwa, Chambeshi, Lunga, Lufupa and Lufubu Rivers), lakes (Tanganyika, Bangweulu, Mweru, Mweru-wa-Ntipa, Kariba and Lusiwasi), and in Itezhi-Tezhi Dam (Sally Isberg, Red List assessment, in prep. 2017). Eggs are harvested from the wild for ranching programs carried out by the 9 crocodile farms in Zambia that hold over 5000 breeding females (ZCFA, pers. comm.).

**Zimbabwe:** Since concerns were expressed at the last SC meeting (May 2016) regarding the status of wild *C. niloticus* populations in Zimbabwe, the Crocodile Farmers' Association of Zimbabwe (CFAZ) began surveys in collaboration with the Zimbabwe Parks and Wildlife Management Authority (ZPWMA) in two key areas: the Savé-Runde drainage system (including areas outside Gonarezhou National Park - GNP, ie Runde, Tokwe, Chiredzi, Mutirikwe, Mwenezi Rivers) and the Zambezi River and Lake Kariba. The results of the survey appear to substantiate observations made by egg collectors that *C. niloticus* populations are being negatively impacted as a result of increasing human populations and activities along the rivers of the Savé-Runde drainage system. There was a clear increase (on the 2008-2011 mean count results) in crocodile numbers within the GNP; 68% increase for Mwenezi, 136% increase for Savé and 211% increase for Runde River. No crocodiles were observed along sections of the Mwenezi and Savé Rivers outside of GNP. CFAZ reports that the GNP's value as a refuge and nesting source for re-populating upstream rivers is increasingly important.

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