

Darwin Initiative for the Survival of Species

Half Year Report (due 31 October each year)

Project Ref. No: 162/12/003

Project Title: Flamingo conservation and Ramsar Site Management at Lake Bogoria , Kenya

Country(ies): Kenya

UK Organisation: Earthwatch Institute (Europe) and University of Leicester

Collaborator(s): Lake Bogoria National Reserve, University of Nairobi, National Museums of Kenya, Kenya Wildlife Service, WWF

Report date: November 2005

Report No. (HYR 1/2/3/4): 3

Project website:- www.kenya-rift-lakes.org

1. Outline progress over the last 6 months (April – September) against the agreed baseline timetable for the project (if your project has started less than 6 months ago, please report on the period since start up).

Research and research infrastructure

The censuses of lesser flamingos, black necked grebes and cape teal (with samples collected for spirulina and invertebrate density) has continued every 6 weeks at the three Kenyan lakes that normally carry the bulk of the population of *P. minor* – Bogoria, Nakuru and Elmenteita. The frequency of spirulina monitoring only was increased to weekly from July by our partners at the lakes (LBNR, KWS, and Delamere Estates) and the counting undertaken by NAWASSCO staff at Nakuru, in order to capture any repeat crash of spirulina as had been recorded in mid-2004 in greater detail. On a longer perspective, spirulina density remained lower than any time since 2000 (other than the 2004 crash months), although without replacement by other cyanobacterial species.

P. minor health has been good throughout the past 12 months with no outbreak of mortality. Morphometric measurements as part of intensive post-mortems of the few dead birds found at the lake in July 2005 appeared to confirm that a number of microbial diseases are endemic in the population and that birds injured by physical skeletal damage and unable to feed effectively succumb to one of these. Blood samples taken from carcasses in 2003 and 2004 by Professor John Cooper have been analysed in Kenya and the results are expected shortly. Further samples were taken by Dr Lindsay Oakes in July 2005 for more detailed microbial analysis. Earlier analyses of cyanobacterial toxins had revealed only low levels in lake water, spring water or tissue samples; further analyses will be made from these 2005 samples. Overall, the most likely cause of *P. minor* mortality outbreaks still seems to be that a disease outbreak, from one of the endemic microbial contaminants, occurs as a consequence of a widespread environmental stressor. The exact stressor(s) has(ve) not yet been identified conclusively.

The continued low density of spirulina has resulted in low numbers of *P. minor* through 2005 at Bogoria. The densities of the detritivorous chironomid, whose larvae live in the oxygenated mud of the lake above about 2m depth (and ingest sedimented spirulina) has now recovered from its 2004 crash however, supporting an increase in teal, grebe, greater flamingos and hirundines, all feeding on the adults.

All the satellite-tagged *P. minor* spent the last 6 months in Lake Nakuru, which maintained the highest spirulina populations. Short excursions were made to Lake Elmenteita, which held adequate populations of benthic diatoms but no spirulina for most of that time.

Knowledge of LBNR biodiversity was considerably increased by work on the lepidoptera & coleoptera of riparian zone and woodland, odonata of the freshwater springs/wetlands and flowering plants of the reserve during Earthwatch teams and the workshop (see below). Full species lists will be published in a

final draft of the LBNR Ramsar Management Plan (Workshop output, see below).

The mobile laboratory donated by Shell had reached Kenya and was cleared by customs in early 2005, delivered for storage to a secure site at Lake Naivasha. In August David Harper inventoried the entire shipment to ensure no theft at Mombasa had occurred. Customs had damaged the container and some equipment items in their search (for drugs) but no major losses were detected. Some items were then offloaded for schools (see below) prior to major sorting of contents and transportation of the lab to its final destination in care of Baringo County Council by the end of the project. Two newly-constructed laboratories for environmental monitoring at Lakes Elmenteita and Naivasha, together with the NAWASSCO lab at Nakuru, were visited in August to discuss equipment donation from the lab-container before it is moved.

Formal Education of Kenyans

William Kimosop, (Darwin Scholar and partner), Senior Warden for the Koibatek & Baringo County Councils (both partners) has been promoted to manage the new 'Mid Rift Wildlife Forum', developing conservation strategy and sustainable livelihoods for 4 counties. Laban Njoroge, the NMK Entomology Department partner, enters the second year of his M.Sc. in Medical Entomology. He has now identified over 35 Odonata species from LBNR and surrounding wetlands. Nicodemus Nalianya, NMK Ornithology Department partner, who is part-supported by a US citizen, enters the second year of his Diploma in Wildlife Management at Mweka College, Tanzania after successfully completing the first year. Timothy Mwinami, NMK Ornithology partner, has been accepted to study for a B.Sc. in Wildlife Management at KWS/Nairobi University and the project will part-support him together with a US Earthwatch volunteer. Five of the seven Kenyans who are now undertaking the Distance Learning Certificate in 'Global Ecology' of the University of Leicester, completed their residential field study requirements by attending the Darwin Workshop in July and submitting assignments based upon it.

Capacity Building

New ground was broken in April 2005, when the Earthwatch Research team, made up of 12 African Fellows all from Ramsar sites or wetlands in need of Ramsar status, 7 from Kenya, was based at Lake Elmenteita for the first time. It addressed the question "Does Elmenteita have the qualifications necessary for a Ramsar status?" and the Fellows presented the research results on the final day to the Head of Wetlands at Kenya Wildlife Service (a Darwin partner). The research encouraged KWS to make the case and Elmenteita was declared Kenya's 5th Ramsar site in September. All 12 Fellows were given intensive training in research skills, cooperative working and presentation skills over 12 days by David Harper, David Agassiz (British Museum) and Chris Tuite (University of Bristol) plus 2 members of NMK. Four Kenyan Fellows, from existing or new partners and associated with *P. minor* or soda lake biodiversity conservation, were funded by this Darwin project.

The third, 6-day, Darwin Workshop was held in July at Lake Bogoria. Thirty seven participants attended, out of 39 offered (two sick). The topic, "Management Plans for Protected Wetlands" was based upon the Ramsar Guidelines and the practical work helped to build up scientific data on the LBNR. Each participant is producing a report on their project, using the Guidelines. These reports will be used when all have been received, to write a final draft of the Ramsar Management Plan for LBNR to be presented to the County Councils at the end of the project.

Topics taught and studied were:

- 1) Plant diversity;
- 2) Avian diversity within the savannah/woodlands of LBNR;
- 3) Odonata of the wetlands of LBNR; and
- 4) Opinions and knowledge of local stakeholders and expectations of foreign tourists about LBNR.

Training was provided by David Harper, Ekkehard Vareschi (Germany & Tanzania), Kenneth Mavuti (University of Nairobi partner) and Oliver Nasirwa, Laban Njoroge, Peris Kamau & Maina Macharia (NMK partners). Some participants came, for the first time, from Tanzanian soda lakes – from Arusha and Manyara National parks (TANAPA) and from Momella lakes (University of Dar-es-Salaam postgraduate).

The delivery of these two workshops, the school education and the awareness-raising of the community local to LBNR was considerably enhanced by an additional grant of £5,000 from the Vodafone Foundation which purchased a laptop, data projector and support materials (see below).

Education at Bogoria

Twelve copies of the first of three story booklets about lesser flamingos for primary schools were given to 11 schools in the reserve vicinity, to Wildlife Clubs of Kenya (a new partner) and to the KWS Lake Nakuru Education officer. Opinions (all very favourable) are now coming in and will be used to modify, where necessary, before the final print run (to be done through Nature Kenya, another new partner).

All 13 schools close to LBNR were visited in July and all now have been given:

- a) 1 ream of their own headed notepaper using each school's self-designed logo incorporating a local animal;
- b) interactive wall charts of animals;
- c) ecological teaching books; and
- d) large wall maps of The World, Africa and Kenya.

The 2 Secondary Schools have been given 2 compound microscopes each from the Shell container.

Approximately 2500 schoolchildren were shown videos in July by Maureen Harper, using a battery-powered TV/video. These films had been made by the Brock Initiative at Lake Naivasha (details <http://www.brockinitiative.org/bogoria.htm>). Debra Bardowicks made footage during July & August that will be made into several new films as part of a Lake Bogoria Darwin series (akin to those on Lake Naivasha, also made in collaboration with David Harper's project (see http://www.earthwatch.org/europe/news/Naivasha_films_complete.html).

Film shows were also given in local villages, using DVD and the Vodafone data projector, which were well attended and highly appreciated. Debra's 'Bogoria Darwin series' will include several short films on sustainable livelihoods, for the rural populace, using footage of bee-keeping, grassland regeneration, wetland wise uses and acacia sustainable uses, made with a new partner, the Rehabilitation of Arid Environments (RAE) Trust, based at Baringo.

The LBNR reserve booklet for tourists has been completed and a copy delivered to the 2 County Councils for their opinion before final print run. The series of 12 posters about the reserve by habitat, which were produced by M.Sc. dissertation last year, were delivered as laminated posters and secured to the outside wall of the Reserve entrance gate.

Logistical and Managerial aspects

It became clear at the end of September that the project was running over budget, for two reasons. The first was that the world security situation in 2003 caused Earthwatch teams to be cancelled, moving the costs of the first workshop wholly onto this project. Subsequent Earthwatch teams have been run on low volunteer numbers, making the Earthwatch project unable to support this project as had been projected. The recruitment to Earthwatch teams is only slowly now recovering. The second is that the horrendous state of Kenya's main roads – most particularly the section Naivasha-Nakuru – has caused higher than anticipated vehicle maintenance costs of project vehicles. The road is now undergoing a rebuild under an aid scheme from the EU! Nevertheless, the final 3 months of the project in 2006 will see a lowering of new activity (e.g. above), to ensure that the outcomes are all fully delivered.

2. Give details of any notable problems or unexpected developments that the project has encountered over the last 6 months. Explain what impact these could have on the project and whether the changes will affect the budget and timetable of project activities.

There were no additional problems or unexpected developments.

3. Are there any other issues you wish to raise relating to the project or to Darwin's management, monitoring, or financial procedures?

The second Annual Report showed a proposed different way of presenting the logical framework for the project for the final reporting process. The reviewers suggested that we had not explained clearly enough why this revised logical framework was presented or how it had been formulated. We did not actually intend to explain this in detail, but rather presented it as a suggested means of expressing the project outcomes and activities more clearly, particularly the ways in which they have evolved as the project has

developed. We felt that this would make evaluation of the project's worth in the final review clearer and easier than if the initial framework was used. We would welcome comment on the revised logical framework from the Darwin Initiative so that final reporting can be made against the updated outputs and objectives it suggests in light of the progress made on the project to date.

If you were asked to provide a response to this year's annual report review with your next half year report, please attach your response to this document.

Please note: Any planned modifications to your project schedule/workplan or budget should not be discussed in this report but raised with the Darwin Secretariat directly.

Please send your **completed form by 31 October each year per email** to Stefanie Halfmann, Darwin Initiative M&E Programme, stefanie.halfmann@ed.ac.uk . The report should be between 1-2 pages maximum. **Please state your project reference number in the header of your email message.**