The Greater St Lucia Wetland Park – Rare, Threatened & Endemic Species Project

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The Greater St. Lucia Wetland Park was listed in 1999 as South Africa's first World Heritage Site. It is situated in the northeastern corner of South Africa and consists of the last remaining subtropical area containing its original diverse components of wild plants and animals on the south-eastern coast of Africa. The Park contains exceptional wetland, terrestrial and marine ecosystems with their full complement of species that include many rare, threatened and endemic species.

The Greater St. Lucia Wetland Park – Rare, Threatened & Endemic Species Project, a joint initiative of Ezemvelo KwaZulu-Natal Wildlife, the Wildlands Conservation Trust and the Greater St. Lucia Wetland Park Authority, was initiated in 2003 to update information on the presence and distribution of rare, threatened and/or endemic species, with a specific focus on the less charismatic taxonomic groups such as reptiles, amphibians, smaller mammals, fruit chafer beetles, birds and orchids. This was done through a synthesis of existing information as well as standardised field surveys, ranging from two to six weeks at a time. Surveys were carried out with the assistance of project volunteers from international organisations such as Operation Wallacea, Work Experience International, Global Nature Fund, Travellers Worldwide and the British Trust for Conservation Volunteers.

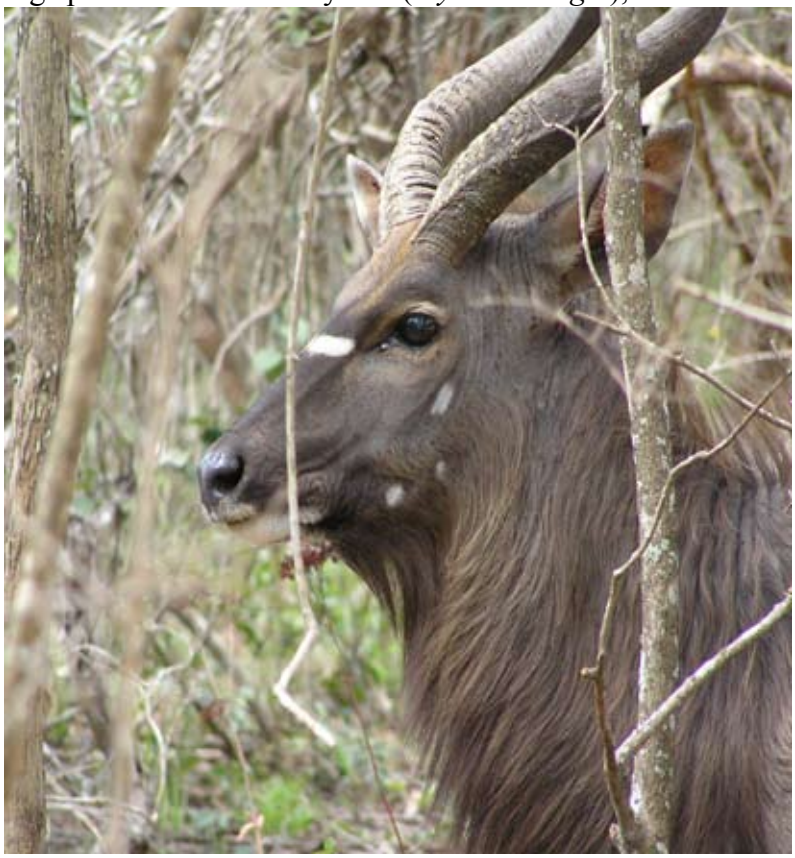
The Greater St. Lucia Wetland Park is South Africa's third largest protected area, with the terrestrial component covering 1883.28 square km's. As a result of the size of the Park, it was decided as a first phase to conduct a baseline survey, targeting 14 sample areas representative of the overall habitat diversity of the Park. After the initial baseline survey which lasted three years, Operation Wallacea was instrumental during 2006 in the development of a more refined methodology whereby the survey effort was targeted more evenly throughout the Park, starting with the uMkhuze section. This was done by selecting a number of 5km squares randomly and focusing the survey effort in eight of the 25 one km squares. This resulted in a 32% coverage which, according to international atlasing standards, is relatively high.

As a result of the cryptic nature and nocturnal habits of many of the priority species, methods such as live trapping and active searches were employed to record their presence and distribution. The number of trap stations per survey depended on the number of volunteers in the field, but usually at least five trap stations were set. Each trap station consisted of the following types of traps; pitfall traps (20 litres buckets) combined with plastic drift fences (.4m x 100m), kept vertical by 1.2m steel poles, six funnel traps, 20 rodent (live) traps and one Fruit Chafer baited funnel trap. Active searches were conducted for herpetofauna usually once all the trap stations were in place. During active searches, survey teams looked under logs, rocks and other suitable habitats, and scratched in the top layer of the soil of fossorial fauna. Search effort was quantified to ensure consistency throughout the different habitats and between trap stations. On most evenings, road cruises were conducted in search of herpetofauna as well as employing mist nets for bats.

All recordings were made with a Geographic Positioning System (GPS) device as well as digital photographs for herpetofauna, orchids and beetles and sound record-

ings for frogs. Although most specimens were positively identified by project staff and subsequently released, specimens that could not be identified through morphology were sent to museums where they were identified by taxonomic experts through scull measurements, dentition, scalation and DNA.

New records for the Greater St. Lucia Wetland Park documented during the fieldwork include the following species: Rufous Hairy Bat (*Myotis bocagei*), Least



Dwarf Shrew (*Suncus infinitesimus*), Namakwa Rock Mouse (*Aethomys namaquensis*), Bald Ibis (*Geronticus calvus*), Floodplain Water Snake (*Lycodonomorphus obscuriventris*) and Two-striped Shovel-snout (*Prosymna bivittata*). The following Fruit Chafers were recorded for the first time in the Park; *Amazula suavis, Anysorrhina flavomaculata, Cheirolasia burkei, Phoxomela umbrosa, Porhyronota maculatissima* and *Tephraea leucomelona*. The following ephytic orchids were recorded for the first time; *Microcoelia obovata, Solenangis aphylla, Aerangis kirkii* and *Oeceoclades lonchophylla*.

During the first Operation Wallacea survey in uMkhuze in 2006, the following two species were recorded for the first time in the Park; Tiny Musk Shrew (*Crocidura fuscomurina*) and Striped Harlequin Snake (*Homoroselaps dorsalis*). The Eastern Thread Snake (*Leptotyphlops conjunctus incognitus*), Wahlberg's Epauletted Fruit Bat (*Epomophorus wahlbergi*) and Pygmy Wolf Snake (*Lycophidion pygmaeum*) were recorded for the first time in the uMkhuze section of the Park and *L. pygmaeum* also represented a size record for the species as well as the most western recording for its range. The Operation Wallacea bird survey in uMkhuze, under guidance of Dr. Robin Brace, was a first for uMkhuze in terms of its duration and intensity, and 223 species were recorded during formal survey work.

Other highlights of the Project so far have been the 130 additions to the World Heritage Schedules, recordings of 22 species which significantly extend the known distributions in the Park as well as numerous recordings of more than 80 rare, threatened and/or endemic species throughout the Park. The Project has recorded and submitted more than 2 000 GPS records of species to the Ezemvelo KwaZulu-Natal Biodiversity database.

During the past two years the Project has facilitated an MSc research study on the Gaboon Adder (*Bitis gabonica*) by Jonathan Warner from the University of the Witwatersrand. The main focus of the study was radiotelemetry, movement patterns, habitat use and thermal strategies. The study sample included nine resident and translocated Gaboon Adders from within the Park. In conjunction with distribution analysis and molecular work, ecological data from this study will provide for practical management and an accurate description of the conservation status of the Gaboon Adder in South Africa.

Various media activities and releases were made, including newspaper and magazine articles, radio and local and international television programmes, all promoting a strong conservation message and emphasising the need to survey and monitor the less charismatic, but equally important taxonomic groups throughout the Greater St. Lucia Wetland Park, World Heritage Site.

Part of the mission of the Greater St. Lucia Wetland Park is managing and protecting the ecosystems and biodiversity according to stringent standards in line with those of the South African government and the UNESCO's World Heritage Commission. During the past four years the Rare, Threatened & Endemic Species Project, in partnership with organisations such as Operation Wallacea and Work Experience International, has played an important part in working towards that goal.