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We are pleased to announce that the **Okavango Freshwater Biodiversity Experts Meeting** will be held at the Harry Oppenheimer Okavango Research Centre (HOORC) in Maun, Botswana from Wednesday, 24 October to Saturday, 27 October, 2007.

The meeting will bring together invited experts from the region and the world to interact with local natural resource managers. Through this event, we will gain targeted advice for the development of a long-term biomonitoring programme of key species in the Okavango Delta. Of particular concern at this meeting are the potential for using fish, molluscs (including snails), crabs, odonates (dragonflies), and some aquatic plants in the monitoring programme design. The IUCN Species Survival Commission has designated these groups of interest for southern Africa.

All of our efforts here at HOORC directly support the Government of Botswana to implement the Okavango Delta Management Plan (ODMP). The overall goal for the Okavango delta is "to integrate resource management for the Okavango Delta that will ensure its long-term conservation and that will provide benefits for the present and future well being of people, through sustainable use of its natural resources." The Plan works towards this goal hand-in-hand with the objectives of the United Nations Convention on Biological Diversity and the Ramsar Protocol, as well as national development frameworks like Vision 2016. The Biokavango Project hosted at HOORC is dedicated to implement critical components of the ODMP in the water, fisheries and tourism sectors. Many other projects work from and with HOORC to realize the ODMP's many sub-goals.

You are cordially invited to attend this meeting, and HOORC looks forward to our fruitful interactions during the course of this event.

Sincerely,

Dr Lars Ramberg

L Rauly

HOORC Director

Many partners have come together in the organization of this meeting:

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University of Botswana's Harry Oppenheimer Okavango Research Centre



IUCN - The World Conservation Union

Species Survival Commission





The Biokavango Project



University College London, Department of Geography

Financial support has been provided by:



European Union through the Program on Environment in Developing Countries



Global Environment Facility



United Nations Development Programme



UK Department for Environment, Food and Rural Affairs (Defra) Darwin Initiative

Meeting Background

Three projects concerned with freshwater biodiversity monitoring are currently operating in the Okavango Delta and hosted within HOORC.

1. BIOKAVANGO

The Biokavango project aims to build local capacity for sustainable management of the Okavango Delta. It will employ two bio-monitoring efforts to ensure that local resources users in the water sector utilize biodiversity-friendly management practices. Indicators will be developed for macro invertebrates and fish at pilot sites. The emphasis here is on building local capacity and pilot demonstrations that can be up-scaled as appropriate throughout the delta.

2. UCL/DARWIN

The University College London-led Darwin Initiative Project "monitoring and simulating threats to aquatic biodiversity in the Okavango Delta" will enable for simulation of aquatic biological diversity responses to scenarios of future changes to basin climate and hydrology. This information will be crucial to informing policy decisions for biodiversity protection/conservation within the ODMP. The project's emphasis is on field collection and modeling.

3. IUCN FRESHWATER

The IUCN case study is a component of the "Integration of freshwater biodiversity in the development process throughout Africa: mobilising information and site demonstrations" project. It will demonstrate how the biodiversity information collated through components of the EU Project Southern Africa Freshwater Biodiversity Assessment can be effectively integrated within a long-term programme for monitoring water quality as part of the ODMP. The emphasis here is on collected dispersed biodiversity information and seeing it effectively used in development planning.

Common outputs to all three HOORC freshwater biodiversity projects are:

- (1) a strong overview of baseline information on freshwater biodiversity in the
- (2) development of indices of biological integrity,
- (3) piloting of a long-term water quality monitoring programme towards better decision-making for implementation of the ODMP, and
- (4) Capacity building and training for bio-monitoring.

Furthermore, HOORC's role within the ODMP is to develop, store and manage a quality assured database on the Delta to be used by all the planning and implementing agencies involved in the ODMP. This database, the Okavango Delta Information System, is to cover all aspects of the Delta and its surrounding area and act as a repository for any and all information that is already thought to be, or might be in the future, relevant to current or future development plans, monitoring of global climate change effects etc.

HOORC's environmental monitoring theme aims to establish a set of data, measurements and parameters that will give indications about changes in the physical and man-made environment, in particular, those potentially harmful to humans or the environment. As such, the Centre will report on water quality changes from monitoring sites in selected parts of the Okavango.

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Data availability

Two major field surveys have been conducted on the delta:

1. The recent Water Foundation of Southern Africa (WARFSA)-funded **Aquatic Biodiversity** and Water Quality of the Okavango Delta field study. The key objective of this study was to assess the aquatic biodiversity and water quality of the Okavango Delta by examining zooplankton, macroinvertebrates and fish.

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2. Conservation International's **Botswana Aquatic Rapid Assessment Program (AquaRAP)**. The large AquaRAP team conducted well-coordinated rapid surveys of aquatic organisms, including fishes, invertebrates, and plants, as well as evaluating water quality and geomorphology. They also studied a few terrestrial groups, including plants and insects, to determine connections between aquatic and terrestrial ecosystems.

Focused field work on particular taxonomic groups have been conducted, and some - including HOORC surveys mentioned - are ongoing. While a good deal of additional information on freshwater biodiversity is available, but much of it is inaccessible due to its disorganised and dispersed state.

Objectives of the meeting

- Establish data availability for species which have potential value in monitoring the Delta's water quality over a long-term horizon.
- Collate and review the available species data in a few key taxonomic groups - fish, molluscs, crabs, odonates, and some aquatic plants.
- Provide technical recommendations on baseline field surveys necessary for the eventual development of indices of biological integrity.

Invited Expert Participants (in alphabetical order):

Dr Chris Appleton

School of Biological and Conservation Sciences

University of Stellenbosch

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Dr Helen Dallas

Freshwater Research Unit / The Freshwater Consulting Group University of Cape Town

Dr Savel Daniels

Evolutionary Genomics / Molecular Systematics

University of Stellenbosch

Dr William Darwall

Freshwater Biodiversity Unit

IUCN Species Survival Commission

Dr Jenny Day

Freshwater Research Unit

Zoology Dept, University of Cape Town

Birgitta Farrington

Millennium Seed Bank Project

Royal Botanical Gardens Kew

Dr Phillipa Hunstman-Mapila

HOORC

Dr Jens Kipping

BioCart Environmental Assessments

Germany

This is a DRAFT programme. All items are subject to confirmation and modification. You will receive the final programme upon registration at HOORC.

Invited Expert Participants (continued):

Dr K.C. Naidu
Department of Water Affairs
Dr Wellington Masamba
HOORC
Dr Kelebogile Mfundisi
HOORC
Dr Nkobi Moleele
Biokavango
Mrs Belda Mosepele
Biokavango
Dr Erwin Sieben
Plant Ecology and Taxonomy
University of the Free State
John P. Simaika
Faculty of Agricultural & Forestry Sciences
University of Stellenbosch
Dr Denis Tweedle
South African Institute for Aquatic Biodiversity
Dr Cornelis van der Post

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HOORC

Meeting Programme

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DAY 1: WELCOME AND INTRODUCTIONS

12:00 and 15:00	Flights arriving to Maun Airport
	Greet traveling participants and bring them to their accommodation
	Registration
13:00 and 15:00	Tours of HOORC labs and library

17:30 – 20:00 **Opening Sundowner and Dinner**

Venue: Bon Arrivée rooftop (weather permitting)

Short welcoming remarks provided by Dr Nkobi Moleele, Biokavango

Dinner

DAY 2: DATA SHARING

Morning Session: HOORC Seminar Room

Chair: Dr Nkobi Moleele

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8:00 – 8:30 Welcome from HOORC

Provided by Dr Lars Ramberg, HOORC Director

8:30 – 9:00 Welcome from Government

Provided by the Department of Environmental Affairs

9:00 – 9:30 Introduction to the IUCN Freshwater Biodiversity Project

Dr William Darwall, IUCN Species Survival Commission

Present the Okavango Delta case study objectives in the context of the Pan-African "Integration of freshwater biodiversity in the development process throughout Africa: mobilising information and site demonstrations"

9:30 – 10:00 Meeting Programme Overview

Jessica Jones will present the programme and explain the format and objectives of the meeting.

Tea break

10:30 – 1:00 Taxonomic Group Overviews

All of the invited experts to give a 10 minute overview of the information available in their taxonomic groups for the delta.

40 minute moderated forum to follow.

Lunch break

Afternoon Session: HOORC GIS Lab

Chair: Dr William Darwall

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14:00 – 14:30 Okavango Delta Information System

Presentation by Dr Cornelis van der Post

What is ODIS? What can it do? How will it be updated? How can freshwater biodiversity be utilized for ODMP implementation: interpretation, meaning and implication for decision-making. What are HOORC's policies and procedures for data collection and usage.

14:30 – as needed

Data Sharing and Analysis

Experts come prepared to share additional available data from the Okavango Delta. Experts give a small overview of what data they have available, providing keys, explanatory notes, etc. Interactive session led by facilitators Dr van der Post and Masego Dhliwayo.

(ODIS and all new data made compatible for ODIS will be shared in a CDROM format.)

Free time

DAY 3: MONITORING PLANS AND USAGE

Morning Session: HOORC Seminar room

Chair: Dr William Darwall

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8:00 – 8:15 Overview of Day 2 outcomes and day 3 programme

Jessica Jones to review the programme and any conclusions or outstanding issues from the previous day.

8:15 – 9:00 Bio-indicators and their usage

Drs Jenny Day and Helen Dallas, University of Cape Town

Description of the design and usage of bio-indicators from UCT's experience in South Africa and the region. 30 minute presentation followed by 15 minute Q&A.

9:00 – 9:30 (cont'd)

Choosing bio-indicators

What criteria are used to select bio-indicators? How can the design be streamlined? 20 minute presentation followed by 10 minute Q&A.

9:30 – 11:00 Government and Private sector initiatives

Presentations by our partners in government and the tourism sector who are undertaking initiative to monitor species and water quality. 20 minute Q&A.

Dr KC Naidu, Department of Water Affairs

Kai Collins, Okavango Wilderness Safaris (OWS)

Tea break

11:30 – 12:15 Emerging issues panel

10 minute special presentations on frogs, beetles, and butterflies as water quality indicators.

12:15 – 13:00 **Long-term bio-monitoring efforts**

Presenter: Nkobi Moleele, Biokavango

Moderator: Belda Mosepele, Biokavango

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20 minute presentation on Biokavango's proposed long-term monitoring programme. 25 minute moderated discussion on pertinent issues for making the monitoring programme successful.

Lunch break

Afternoon Session: HOORC Seminar Room

14:30 – 15:00 The Okavango Delta Management Plan

Sekgowa Motsumi, ODMP

Presentation of the ODMP and how monitoring could assist the government in decision-making and policy formulation.

15:00 – 17:00 Roundatable Recommendations

Expert participants have 7 minutes each to provide key recommendations to fill information gaps through field surveys and provide technical advice to the bio-monitoring programme.

Evening Session: Island Safari Lodge

17:30 - Sunset boat cruise down the Thamalakane river whilst viewing game in the Maun wildlife sanctuary is a nice way to end the day. Dinner provided at the lodge for invited guests.

DAY 4: DEPARTURE

Traveling participants can take the morning to pack and relax

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10:30 – 13:30 Closing Brunch Meeting

Venue: Bon Arrivée rooftop (weather permitting)

Results from the data entry into ODIS plus any preliminary analysis/maps shared by Dr Cornelis van der Post.

Dr Lars Ramberg to provide closing remarks on behalf of HOORC's environmental monitoring efforts and emphasize the importance of collaboration.

15:00 Departure from Maun Airport

Entry Requirements

All visitors entering Botswana must hold a passport that is valid for at least six months. Nationals of most countries do not require a visa to enter Botswana. Please consult the Department of Tourism's website (www.botswana-tourism.gov.bw) for more detail. HOORC can prepare an individual letters of invitation for your participation if one is required. If you wish to extend your visit to Botswana (at your own expense), kindly notify the meeting organizers of your preferred travel dates.

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Travel and Accommodation

HOORC will notify you of travel arrangements in a timely manner before your date of departure. Traveling participants will be housed in the HOORC Tented-Camp Hostel for visiting researchers. The camp includes ablution tents, a kitchen tent, a large tent for meetings, and electricity and water are available. The weather is expected to be hot and humid with average daily temperatures of 35°C, so please pack accordingly. An



updated weather forecast is available online at sites including [www.wunderground.com]. Malaria is present throughout local region, and all visitors are advised to take relevant precautionary measures.

Thank you for your upcoming participation in the Okavango Freshwater Biodiversity Experts meeting!

Inquiries:

Please direct any questions on the programme or logistics to Ms Jessica Jones, HOORC Email: jjones@orc.ub.bw Tel: +267-681-7240 Cell: +267-72664854 Fax: +267-686-1835