ECOFINDER KENYA YALA WETLAND SURVEY AND MONITORING REPORT FOR YALA WETLAND 2007-2009

Project Title

Community Based Biodiversity Monitoring and Conservation for Yala Wetland, Kenya

Submitted to



The Rufford Small Grants Foundation 5th Floor Babmaes House 2 Babmaes Street London SW1Y 6HD Fax: +44 (0)20 7925 2583 Email: jane@rufford.org.

Compiled and Prepared by

Leonard Omondi Akwany Moses Odhiambo P.O Box 179-40123 Kisumu, Kenya Tel: + 254 726 701042 E-mail: <u>ecofinder@yahoo.com</u>

Grant Recipient Details	
Your name	Leonard Omondi Akwany, Ecofinder Kenya
Project title	Community Based Biodiversity Monitoring and Conservation for Yala Wetland, Kenya
RSG reference	45.12.07
Reporting period	2009
Amount of grant	UK, £ 5000
Your email address	ecofinder@yahoo.com
Date of this report	January, 2009

Yala Wetland Survey and Monitoring TABLE OF CONTENTS

1.0 INTRODUCTION.	
1.2 Project Specific Objectives	
1.3 Survey and Monitoring Outcomes:	
1.4 Project Activities	
2.0 LOCAL PROFESSIONAL DEVELOPMENT	
2.1 On-site training	
2.1.1 GPS Marking	
2.1.2 pH Meter	5
2.1.3 Recording Data	6
3.0 DEMONSTRATION OF DATA COLLECTION METHODS.	7
3.1 Transects	7
3.2 Bird Survey	7
3.2.1 Data Representation on Bird Survey	
3.3 Vegetation Survey.	
3.3.1 Human activity	
3.3.2 Data representation of Vegetation Survey	
3.4 Water quality	14
APPENDIX 1:	15
Birds Census Datasheet: Landward	
APPENDIX 2	
Birds Census Datasheet: Lakeward	
APPENDIX 3	19
Papyrus Vegetation Datasheet: Landward	19
APPENDIX 4	
Papyrus Vegetation Datasheet:Lakeward	
APPENDIX 5	
Checklist of Birds in Yala Swamp	
APPENDIX 6	
Checklist of Plants and Flowers in the wetland	
APPENDIX 7	
BASIC MONITORING DATA SHEET	

1.0 INTRODUCTION.

Yala swamp complex has three main components: the Yala swamp, satellite lakes of Kayaboli, Sare and Namboyo and river Yala. The predominant vegetation is papyrus *Cyperus papyrus*, with *Phragmites mauritianus* in shallower areas and swamp grasses around the periphery. The Yala swamp complex is by far the largest papyrus swamp in the Kenyan sector of Lake Victoria making up for more than 90% of the total area of papyrus (Nasirwa & Njoroge 1997).

Project Aim: To facilitate grass-root based detailed monitoring and conservation of Yala wetland.

1.2 Project Specific Objectives

- a. To undertake basic diagnostic habitat survey for Yala wetland ecosystem status under the prevailing human threats.
- b. To establish sustainable community based detailed monitoring scheme for Yala wetland.
- c. To undertake training, conservation education and public awareness for attitudinal and behaviuor change towards wetland conservation among Yala wetland community.
- d. To showcase sustainable alternative livelihoods for community households adoption to eliminate human pressure on the wetland.

1.3 Survey and Monitoring Outcomes:

- 1. To collect a consistent data that will be used in analyzing the status and trends of Yala Swamp.
- 2. To train Yala community in the monitoring and survey process.
- 3. To set up transects that would be used for monitoring within the swamp.

1.4 Project Activities

- 1. Habitat survey
- 2. Establishment of wetland transects
- 3. Wetland monitoring and surveillance
- 4. On-site training of the community members on the basic skills of monitoring.
- 5. Administration of basic monitoring forms.
- 6. Administration of detailed monitoring forms.

Expectations from Participants

- 1. Training on basic monitoring skills.
- 2. Demonstration of data collection skills.
- 3. Administration of both basic and detailed monitoring.
- 4. Understanding the wetland biodiversity.
- 5. Be able to assess the threats that are facing Yala wetland.

Yala Wetland Survey and Monitoring 2.0 LOCAL PROFESSIONAL DEVELOPMENT

Yala wetland monitoring employed a two tier approach;

- a) First Tier-Basic Monitoring
- b) Second Tier-Detailed monitoring

The first tier (basic) approach of monitoring is based on a regular review from the field. It forms an accepted, predictable and sustainable system. The same set of indicators will be measured across Yala swamp. The second tier (detailed) approach of monitoring was aimed at getting the threats that need to be tracked, that is, the papyrus vegetation, papyrus endemic birds and the water quality. These are normally not captured in the basic monitoring.

Empowering of the local community into monitoring through collection and presentation of data is the target and aim of the project. This has been initiated by directly involving the local community through Friends of Yala group in data collection and selection of monitoring site. The community data collection will enable them to understand the scientific approach to conservation; this will also promote community involvement in research that is geared towards natural resource management.

2.1 On-site training

This involved training of the community members on how to do monitoring and also ensuring that they are conversant with all the equipment used in monitoring. The following equipment were used on the training session;

- a. *GPS* this was to be used for marking of transects and the sampling points within each of the two transects.
- b. *Play-Back*-this is used in flushing out of the shy papyrus endemic birds that might otherwise not be cited.
- c. *pH Meter* This was used in measuring the alkalinity or acidity of the water at sampling points along the transects.
- d. Binoculars-this was used in sighting of birds.
- e. *Bird, Vegetation and the Flower Guide*-these were used in identification of birds, vegetation and flowers respectively.
- f. Life jackets-used during the Lake ward monitoring as safety precaution.
- g. Data sheets-used for recording of raw data in the filed.
- h. Digital camera-for photographic evidence and recordings.

2.1.1 GPS Marking

The community were trained on the use of GPS, this involved;

- 1. Reading of the bearing and altitude.
- 2. Marking and saving of the census stations.
- 3. Retrieving of saved census stations and other information.

The participants were able to mark, read and retrieve the stored census station points and data immediately after the training.



Figure 1: Participants being shown how to mark points using GPS.

2.1.2 pH Meter

The alkalinity or acidity of the water was tested using the pH meter. The participants were able to calibrate and ensure sensitivity of the meter was upheld. Only the sampling points that had pools of water were examined.



Figure 2: Participant giving a reading from the pH meter.

2.1.3 Recording Data

The participants were undertaken through the guidelines and norms of filling data sheets, the design and data recording

Advantages of Data sheets.

- 1. Data can be stored safely and copies of the data sheets made.
- 2. Easy to transfer data into the computer.
- 3. Easy to share with others for comments.
- 4. The data sheets also allow for rigorous thinking about how data will be collected.

The two transects were both marked in the GPS and the coordinates recorded in the data sheets.



Figure 3: Participants being shown how to make recordings and fill in data.



Figure 4: Making an observation during the Lakeward Monitoring

3.0 DEMONSTRATION OF DATA COLLECTION METHODS.

3.1 Transects

Two transects were set up; **Lakeward** and **Landward transects**. The transects were set to 1800M each in length, this was to enable a more meaningful and more representative data to be collected from the sample area.

3.2 Bird Survey

Yala swamp holds eight out of Kenya's nine Lake Victoria biome species, including the globally threatened Papyrus Yellow Warbler. The near threatened great snipe (a Paleacrtic migrant), Papyrus Gonolek, Papyrus Yellow Warbler, Carruthers's Cisticola, White-winged warbler and Papyrus canary and occasional sightings of the shoebill.

Why use Birds for Monitoring.

- 1. Birds are widespread even within a particular habitat.
- 2. They are diverse.
- 3. They are easy to survey.
- 4. Birds are/have been better understood compared to other organisms.
- 5. Birds have shown to be effective indicators of biodiversity richness in other animal and plant groups.

The main reasons for doing the bird survey were;

- 1. To assess the populations and distributions of the papyrus endemic birds quantitatively.
- 2. To provide a baseline for future surveys.
- 3. To provide information for prioritization of conservation effort.
- 4. To add conservation credibility to conservation work
- 5. To generate baseline data for more intensive research.

This involved fixed radius counts along the 1800M transect. The 1800M transects was a choice that would enable meaningful data to be collected. The starting point was zero (0) while the end point was 1800M. At each sampling point/census station, the team waited for 5 minutes for the birds to settle before starting the counts/observations which were mainly the papyrus endemic birds which included;

- a. Papyrus Gonolek
- b. Papyrus Yellow warbler.
- c. Carruthers's Cisticola
- d. Papyrus Canary.
- e. White winged warbler

The preceding 10 minutes were used to count birds quietly and the next five minutes were used to count the birds after bird call plays.

3.2.1 Data Representation on Bird Survey

LANEWAND INABLE (WUIDE)									
Papyrus Endemic species	Number Seen	Number Heard							
Papyrus Gonolek	0	6							
Carruthers's Cisticola	0	8							
Papyrus canary	0	0							
Papyrus yellow warbler	0	0							
White winged warbler	1	6							

LAKEWARD TRANSECT (Warhler)

Table1:



Graph 1: Comparison between papyrus endemic birds seen /heard in the Lakeward Transect

LANDWARD TRANSECT (Gonolek)

Papyrus Endemic species	Number Seen	Number Heard
Papyrus Gonolek	0	12
Carruthers's Cisticola	1	11
Papyrus canary	0	0
Papyrus yellow warbler	0	1
White winged warbler	0	4

Table 2:



Graph 2: Comparison between birds seen and heard within the Landward transect.

Comparison between Papyrus Endemic Bird species in the two transects.

Papyrus Endemic species	Lakeward	Land Ward
Papyrus Gonolek	6	12
Carruthers's Cisticola	8	12
Papyrus canary	0	0
Papyrus yellow warbler	0	1
White winged warbler	7	4

Table 3



Graph 3: Papyrus Endemic birds within the two transects.

3.3 Vegetation Survey.

At every permanent sampling plot, the parameters used for vegetation survey were;

- 1) Average height of the papyrus.
- 2) Site openness.
- 3) Number of regenerating shoots.
- 4) Level of disturbance(Cutting, Burning, Grazing, Trampling)

3.3.1 Human activity.

Within the Landward Transect (Gonolek) there were numerous human activities that were seen and these included:

- 1. Burning
- 2. Cutting
- 3. Farming
- 4. Grazing.
- 5. Hunting

Burning.

Burning was evident from census 3 to 10. The following reasons were given by locals for causes of burning.

- i. Clearing to open up new farmlands.
- Scaring or driving snakes and other animals away. ii.
- Opening up new pathways. iii.
- iv. Accidents.



Cutting.

This was evident in census stations 2 and 3 within which new sprouting shoots were also seen. The

Figure 5: a section of the wetland burnt down.

method used for cutting was a sustainable one as it allowed for germination of other papyrus reeds. Unlike the mostly discouraged method which involved removal of the rhizomes and therefore no regrowth.

Farming

This was the commonest activity among individuals living around the wetland. Mixed farming was practiced with individuals taking advantage of the conditions (Water and nutrients) to farm directly near the swamp. Farming in the wetland resulted into the other impacting activities i.e. cutting and burning. Crops planted included;

- i. Bananas
- ii. Cassava
- iii. Kales
- iv. Cereals(maize, Millet)
- v. Legumes (Cow peas, Beans).

Grazing:

The presence of grazing was shown by cow dung and footpaths around the transects and within the census stations. Footpaths were created to enable the cattle to reach new pasture sites and the watering points that were deep in the swamp. From figure 4a below, grazing accounts for 28% of the activities that are more prevalent in the wetland. From the survey the effects of grazing are not as manifest as cutting and burning on the papyrus.

Hunting

Direct persecution of mammals especially the rare Sitatunga was very common and evident during the monitoring period. Methods that were used by the hunters included;

- 1) Using dogs
- 2) Spears
- 3) Burning of the papyrus to scare the animals to an open place.

3.3.2 Data representation of Vegetation Survey

LANDWARD TRANSECT

CENSUS										
STATION	HUMAN ACTIVITY									
	Cutting	Cutting Grazing Burning Tramplir								
1	0	0	0	1						
2	3	1	0	2						
3	1	0	1	1						
4	0	1	3	0						
5	0	1	3	1						
6	0	1	3	0						
7	0	1	2	0						
8	0	0	2	0						
9	0	0	3	0						
10	0	0	3	0						

 Table 4: Showing levels of disturbance in the Landward transect

 Level of Disturbance.

- 3. High 4. Severe



Graph 4b: Level of Human activity in each census station. Level of Disturbance. I. Low 2. Moderate

- High
- 2. 3. 4. Severe

Low
 Moderate

LAKEWARD TRANSECT

Census station	Disturbance									
	Cutting	Grazing	Burning	Trampling						
1	2	0	0	0						
2	2	0	0	0						
3	0	0	0	0						
4	2	0	0	0						
5	1	0	0	0						
6	1	0	0	0						
7	1	0	0	0						
8	2	0	0	0						
9	0	0	0	0						
10	0	0	2	0						

Table 5: showing levels of Disturbance in the Lakeward transect.



Graph 5: Showing levels of disturbance in the Lakeward transect.

3.4 Water quality

Because of the shallow depths of the water points the turbidity of the water could not be measured using the Secchi disc. Therefore only the pH of the different water points were measured using pH meter. There were also certain census points that didn't have water.

Census Station	pH Landward transect	pH Lakeward transect
1	-	8.3
2	-	8.7
3	-	8.9
4	-	8.9
5	7.6	9.1
6	-	9.2
7	-	9.2
8	7.1	9.1
9	-	9.1
10	-	9.1

Table 6: pH values at different census station within the two transects

APPENDIX 1:

Birds Census Datasheet: Landward											
Date:	31/06	6/2008	GPS (Start):	034 ⁰ 08	034 ⁰ 08' 46.1"			00 ⁰ 03' 39.2"			
Transect Length 1800M eters			GPS (End):	034 ⁰ 07' 57.8"			00 [°] 04' 05.9"				
Transec	t Name	/No:	YALA LAKEW	ARD (WARE	3LER)						
Time start:		8:30 AM			Time End: 10:30 AM						
Weather	r: a)	Wind	Very Me Windy r	ode- ate	alm	b) Temperature:	Hot	Mild	Cold		
c) % Clouds: < 25			< 25% 25-50%	5-50% > 50% d) Rain		None	Light	Heavy			
Observe	ers:	Tom, Da	vid, Julius, Ri	sper, Ric	hard, l	Lucy, Moses, N	Aartha, I	Betty, Mike	, Isaac.		

NB: Record if you SEE or HEAR any of the five papyrus endemics; specify no. of adults or non-adults Other observations (notable changes, Species Name Sighting Се Dist Indicate Number distance whether (m) (m) n. <25 Stn seen or Ads Non->25 behaviour, perching То heard height) ads tal 1 0 Papyrus н 2 Gonolek Н 1 Carruthers's н 1 Perching \checkmark Cisticola. Papyrus Yellow Warbler 2 200 Carruthers's Н 2 Cisticola Н 1 Papyrus Н 1 Gonolek Carruthers's Cisticola 3 400 Papyrus Н 1 Gonolek Н 1 Carruthers's Cisticola 4 600 Carruthers's S Perching 1 Cisticola Н 1 Papyrus Gonolek

NB:	Record if	you SEE or HEAR a	any of the fi	ve papy	rus end	emics;	speci	fy no.	of adults of	or non-adults	5
Ce	Dist	Species Name	Indicate		Number		Sight	ing	distance	Other obs	servations
n.	(m)		whether				(m)			(notable	changes,
Stn			seen or	Ads	Non-	То	<25	>25		behaviour,	perching
			heard		ads	tal				height)	
			Н			1					
-	1000				-	-					
5	1000	Carruthers's	н			2					
		Cisticola									
			Н			1					
		Papyrus									
		Gonolek									
6	1200	Papyrus	Н			2					
		Gonolek				-					
		OUTIOEK	U			1					
			п			1					
		Carruthers's									
		Cisticola									
7	1400	Carruthers's	Н			1					
		Cisticola	Н			1					
		Papyrus									
		Gonolek									
8	1600	Carruthers's	н			2					
0	1000	Ciaticala	11			2					
		Cisticola									
			н			1					
		White winged									
		warbler	Н			1					
		Papyrus									
		Gonolek									
9	1800	White winged	н			1					
•		warblor				1					
						1					
		Carrumers's				1					
		Cisticola									
		Papyrus									
		Gonolek									
10	2000	Carruthers's	Н			1					
		Cisticola	Н			1					
		White winged									
		warbler									
	1		1	1	1	1	1	1		1	

APPENDIX 2

Birds Census Datasheet: Lakeward

Date: 01/0	6/2008	GPS (Start):	034 ⁰ 08'	48.6"	00 ⁰ 03' 34.7"			
Transect Length 1800 Meters GPS (End):			034 ⁰ 08	52.1"	00 ⁰ 03' 18.8"			
Transect Name/No: YALA LAKEWARD (WARBLER)								
Time start:		8:20 AM		Time Enc	l: 10:0)7 AM		
Weather: a) Wind	Very Mo Windy ra	ode- ate	b) Temperature:	Hot	Mild	Cold	
c) % Clouds: < 25% 25-50%			> 50%	d) Rain	None	Light	Heavy	
Observers: Tom, David, Zachary, Julius, Ibrahim, Richard, Lucy, Moses, Martha, Peter.								

NB: Record if you SEE or HEAR any of the five papyrus endemics; specify no. of adults or non-adults										
Cen. Stn.	Dist (m)	Species Name	Indicate whether	e r		Numbe	r	Sighting Other distance (m) observa		Other observatio
			seen heard	or	Ads	Non- ads	Total	<25	>25	ns (notable changes, behaviour, perching height)
1	0	Papyrus Gonolek Carruthers's Cisticola	H H				1			
2	200	White Winged Warbler	S				1	J		Northern Masked weaver
3	400	White Winged warbler Carruthers's Cisticola	H				3			

Yala Wetland Survey and	l Monitoring
-------------------------	--------------

NB: R	NB: Record if you SEE or HEAR any of the five papyrus endemics; specify no. of adults or non-adults								
Cen.	Dist	Species Name	Indicate		Numbe	r	Sighting	g	Other
Stn.	(m)		whether		1		distanc	e (m)	observatio
			seen or	Ads	Non-	Total	<25	>25	ns (notable
			heard		ads				changes,
									behaviour,
									perching
Δ	600	White Wingod Worklor				1			neight)
-	000	white whiged warbler				1			
		Operative and a Obstitution							
		Carruthers's Cisticola	н			1			
		Papyrus Gonolek							
			Н			1			
5	800	Papyrus Gonolek	Н			1			
		White Winged Warbler	Н			1			
		Carruthers's Cisticola	Н			1			
6	1000	Carruthers's Cisticola	Н			1			
		Papyrus Gonolek	н			1			
						•			
7	1200	Denvirue Conclek				4			
1	1200	Papyrus Gonolek	п						
		Carruthers's Cisticola	н			1			
8	1400	Carruthers's Cisticola	Н			1			
9	1600	Papyrus Gonolek	Н			1			
		Carruthers's Cisticola	н			1			
						•			
10	1800	Carruthers's Cisticola	Н			1			
		White winged warbler	Н			1			
		Papyrus Gonolek	Н			1			

Papyrus Vegetation Datasheet: Landward

Date:	31/5/2008	GPS (Start)	E/W 034 ⁰	08 [°] 46.1 [°]	N/S 00 ⁰ 03	3 [°] 39.2 [°]	
Transect	Length 180	00 GPS (End)	E/W 034 ⁰	07 57.8	N/S 00 ⁰ 04	4 05.9	
Transect	Name/No:	GONOLEK(L	andward)				
Time star	rt:	8:28AM		Time End	10:30	AM	
Weather:	a) Wind	Very Windy	Mode- rate	b) Temperature:	Hot	Mild	Cold
c) %	Clouds:	< 25% 25-50	9% > 50%	d) Rain	None	Light	Heavy
Observer	s: Richard	d, Lucy, Risper, David	d, Tom, Michae	el, Moses, Martha, Beatrice	e, Isaac, Mike	e, Zachary.	

Census Station	Distance (m)	Distance Average Openness M (m) height Openness M		No. of arowina	Disturbance					
		(m)		shoots (%)	Cutting	Grazing	Burning	Trampling		
1	0	3M	3	10%	0	0	0	1		
2	200	2M	3	25%	3	1	0	2		
3	400	2.5M	3	5%	1	0	1	1		
4	600	1.5M	4	85%	0	1	3	0		
5	800	1.5m	4	60%	0	1	3	1		
6	1000	1.5M	3	20%	0	1	3	0		
7	1200	1.5M	3	25%	0	1	2	0		
8	1400	2.5M	2	50%	0	0	2	0		
9	1600	2M	4	40%	0	0	3	0		
10	1800	3M	4	70%	0	0	3	0		

Note:

Scoring for Openness

- 1: 0%-No Papyrus
- 2: <25 %- Open
- 3: 25-50%- Sparse
- 4: 51-75%- Dense

5: 75-100%- Thick Scoring for Disturbance

- 1: Low
- 2: Moderate
- 3: High
- 4: Severe

ADDITIONAL NOTES/ REMARKS

Station 1- there was presence of phragmites(40%)

Station 2- 45%Phragmites.

Station 3-10% Hippo grass and 5% phragmites.

Station 4-40% phragmites.

Station 8-10% knotweed.

Papyrus Vegetation Datasheet:Lakeward

Date: (01/06/2008	GPS (Start):	E/W 034 ⁰ 08	3 [°] 48.6 [°]	N/S 00 ⁰ 03	3 [°] 34.7 [°]	
Transect	Length 1800M	GPS (End):	E/W 034 ⁰ 08	3 52.1	N/S 00 ⁰ 03	3 [°] 18.8 [°]	
Transect	Name/No:	WARBLER(La	keward Transed	ot)			
Time star	t:	8:20AM		Time End	10:07	AM	
Weather:	a) Wind	Very M Windy r	ode- cate	b) Temperature:	Hot	Mild	Cold
c) %	Clouds:	< 25% 25-50%	6 > 50%	d) Rain	None	Light	Heavy
Observers: Tom, Zachary, David, Julius, Ibrahim, Lucy, Martha, Moses, Richard, Peter.							

Census Station	Distance	Average	Openness	No. of	Disturba	nce		
otation	(,	(m)		shoots (%)	Cutting	Grazing	Burning	Trampling
1	0	3	4	40%	2	0	0	0
2	200	3	4	20%	2	0	0	0
3	400	3	3	35%	0	0	0	0
4	600	3	5	30%	2	0	0	0
5	800	3	4	25%	1	0	0	0
6	1000	2	2	30%	1	0	0	0
7	1200	3	4	15%	1	0	0	0
8	1400	3	2	25%	2	0	0	0
9	1600	2	5	70%	0	0	0	0
10	1800	1.5	4	80%	0	0	2	0

Note:

Scoring for Openness

1: 0%-No Papyrus 2: <25 %- Open 3: 25-50%- Sparse 4: 51-75%- Dense

5: 75-100%- Thick

Scoring for Disturbance 1: Low 2: Moderate 3: High 4: Severe

ADDITIONAL NOTES/ REMARKS

Stations 5 and 7- Presence of numerous Hippo grass

Checklist of Birds in Yala Swamp

- 1) Gull billed Tern.
- 2) Abdims stork
- 3) Whiskered Tern.
- 4) Yellow billed stork.
- 5) Hadada Ibis.
- 6) Purple Heron.
- 7) African open billed stork
- 8) Little bittern
- 9) Hammerkop
- 10) Cattle egret
- 11) Squacco Heron
- 12) Grey Heron
- 13) Pink Backed Heron
- 14) Long tailed cormorant.
- 15) Egyptian goose.
- 16) Common moorhen.
- 17) Purple Swamp hen
- 18) Black shouldered Kite
- 19) Black kite
- 20) Laughing dove
- 21) Ring-necked dove
- 22) Red-eyed dove
- 23) Emerald spotted wood dove
- 24) African green pigeon.
- 25) Eastern grey plantain eater.
- 26) Red chested cuckoo
- 27) White browed coucal
- 28) Malachite Kingfisher
- 29) Pied Kingfisher
- 30) Woodland kingfisher
- 31) Double toothed barbet.
- 32) Barn swallow.
- 33) White headed saw wing
- 34) Marsh Tchagra.
- 35) Grey backed fiscal.
- 36) African paradise fly-catcher.
- 37) White winged warbler.
- 38) Winding cisticola
- 39) Red-chested sunbird
- 40) Fan-tailed widow bird.
- 41) Hartlaub's Marsh widow bird.
- 42) Northern brown throated weaver.
- 43) Red-checked cordon bleu.
- 44) Caruthers's cisticola.

Checklist of Plants and Flowers in the wetland

- 1) Nympaea nouchali
- 2) Ammocharis bineana
- 3) Mimosa pigra
- 4) *Craterostigma pumilum*
- 5) Sesamum angolense
- 6) Pambeya burgessiae
- 7) Glorisa superba
- 8) *Aloe*
- 9) Leonotis nepetifolia
- 10) Tylosema fassoglense
- 11) Pterolobium stellatum
- 12) Oncoba spinosa
- 13) Patura stuamonium

BASIC MONITORING DATA SHEET

Monitoring Important Bird Areas in Kenya

Help to monitor Yala Swamp — key site for biodiversity conservation!

Please answer the questions below;

- Give details wherever possible
- Return a completed form once a year if you are resident at a site or a regular visitor
- Please fill in relevant information any time.
- Consider making use of sketch maps as an additional means of recording key results. For example, use sketch maps to show the precise location & extent of threat, sighting of key species, extent of particular habitats, routes taken and area surveyed, etc.

PART 1. ESSENTIAL INFORMATION

Your name Friends of Yala Swamp Date 1/06/2008

Postal address 46 Hawinga

Telephone/fax-

-email-friendsyala@yahoo.com

What area does this form cover? (tick one box)

(a) The whole area or $\sqrt{(b)}$ Just part of the wetland?

0710218985

If (b), which part / how much of the whole area?

Do you live at or around the Wetland?

 $\sqrt{(a)}$ Yes

(b) No

If (b) when did you visit the IBA and for how long?

N/A

What was the reason for your visit(s)?

N/A

Part II. MONITORING YALA SWAMP

You don't need to answer all the questions or fill in all the tables – please just put down the information that you have available.

THREATS TO THE SWAMP ('PRESSURE')

General comments on threats to the site and any changes since your last assessment (if relevant): The major threat facing the swamp includes Human encroachment, Animal persecution and Rehabilitation. Because of population increase there has been fragmentation of land and opening up of new areas within the swamp to farming.

In the table opposite and overleaf, please score each threat that is relevant to the important birds and habitats at the Swamp. Threats should be based on your observations and information, and scored for Timing, Scope and Severity. In the 'details' column, please explain your scoring and make any other comments. Please note any changes in individual threats since the last assessment. If threats apply only to particular bird species, please say so.

Use the following guidelines to assign scores for Timing, Scope and Severity. The numbers are there to help you score, but are intended as guidance only. You don't need exact measurements to assign a score. For scoring combined threats, Timing, Scope & Severity scores should either be equal to or more than the highest scores for individual threats; scores cannot be less than those allocated to individual threats.

Timing of selected threat	Timing score
Happening now	3
Likely in short term (within 4 years)	2
Likely in long term (beyond 4 years)	1
Past (and unlikely to return) and no longer limiting,	0
Scope of selected threat	Scope score
Whole area or bird population (>90%)	3
Most of area or bird population (50-90%)	2
Some of area or bird population (10-50%)	1
Small area or few individual birds (<10%)	0
Severity of selected threat	Severity score
Rapid deterioration	3
(>30% over 10 years or 3 generations whichever is the longer	
Moderate deterioration	2
(10–30% over 10 years or 3 generations)	
Slow deterioration	1
(1–10% over 10 years or 3 generations)	
No or imperceptible deterioration (<1% over 10 years)	0

1. Agricultural expansion & intensification Threats from farming and ranching as a result of agricultural expansion and intensification, including silviculture, mariculture and aquaculture. Note that wood and pulp plantations include afforestation, and livestock farming and ranching includes forest grazing. Agricultural pest control and agricultural pollution-specific problems apply to '5. Overexploitation, persecution & control' and'9. Pollution' respectively.

2. **Residential & commercial development** Threats from human settlements or other non-agricultural land uses with a substantial footprint; resulting in habitat destruction and degradation, also causing mortality through collision. Note that domestic or industrial pollution-specific problems apply to '9. Pollution'.

3. Energy production & mining Threats from production of non-biological resources; resulting in habitat destruction and degradation, also causing mortality through collision. Note that renewable energy includes windfarms.

4. **Transportation & service corridors** Threats from long narrow transport corridors and the vehicles that use them, including shipping lanes and flight paths; resulting in habitat destruction and degradation, erosion, disturbance and collision.

5. **Over-exploitation, persecution & control** Threats from consumptive use of wild biological resources including both deliberate and unintentional harvesting effects; also persecution or control of specific species. Note that hunting includes egg-collecting, gathering includes firewood collection, and logging includes clear cutting, selective logging and charcoal production.

6. Human intrusions & disturbance Threats from human activities that alter, destroy and disturb habitats and species associated with nonconsumptive uses of biological resources.

7. **Natural system modifications** Threats from actions that convert or degrade habitat in service of managing natural or semi-natural systems, often to improve human welfare. Note that 'other ecosystem modifications' includes intensification of forest management, abandonment of managed lands, reduction of land management, and over grazing. 'Dams & water management/use' includes construction and impact of dykes/dams/barrages, filling in of wetlands, groundwater abstraction, drainage, dredging and canalisation.

8. **Invasive & other problematic species & genes** Threats from non-native and native plants, animals, pathogens and other microbes, or genetic materials that have or are predicted to have harmful effects on biodiversity (through mortality of species or alteration of habitats) following their introduction, spread and/or increase in abundance.

9. **Pollution** Threats from introduction of exotic and/or excess materials from point and non-point sources causing mortality of species and/or alteration of habitats. Note that domestic and urban waste water includes sewage and run-off; industrial and military effluents includes oils spills and seepage from mining; agricultural and forestry effluents and practices includes nutrient loads, soil erosion, sedimentation, high fertiliser input, excessive use of chemicals and salinisation; and air-borne pollutants includes acid rain.

10. Geological events Threats from catastophic geological events that have the potential to cause severe damage to habitats and species.

11. Climate change & severe weather Threats from long-term climatic changes which may be linked to global warming and other severe climatic/weather events.

		ore							
THREAT TYPES	Timing Scope Severity		Severity	Details					
1. Agricultural expansion & intensification		Give details of specific crops, e.g. oil palm, or animals, e.g. cattle							
Annual crops - shifting agriculture									
Small-holder farming	3	2	1	Many farmers have cleared the wetland for small-scale farming.					
Agro-industry farming	3	1	3	Reclamation of the swamp by Dominion Farms for production of Rice, flowers and maize in large scale.					
Perennial non-timber crops- small holder plantations									
Agro-industry plantations									
Wood & pulp plantations – Small-holder plantations									
Agro-industry plantations									
Livestock farming & ranching – Nomadic grazing									
Small-holder grazing, ranching or farming	3	2	1	Most farmers practice mixed farming with livestock farmingas a major activity too. The cattle graze in the wetland because of the availability of pasture and water.					
Agro-industry grazing, ranching or farming									
Marine & freshwater aquaculture,									
Subsistence/ or artisanal aquaculture									
Industrial aquaculture									
2. Residential & commercial development	r –	r –	Give	details of type of development & issue					
Housing & urban areas									
Commercial & industrial areas									
Tourism & recreation areas									
3. Energy production & mining	r	1	Give	details of specific resource & issue					
Oil & gas drilling									
Mining & quarrying									
Renewable energy									
4. Transportation & service corridors			Give	details of specific type of transport & issue					
Roads & Railroads	2	1	0						
Flight paths	3	0	0						
Shipping lanes									
5. Over-exploitation, persecution & control of species			Give	details of issue					
Direct mortality of 'trigger' species (those species for which	3	3	3	The most hunted mammals are the rare Sitatunga and the					
the site is recognized with) – hunting & trapping				spotted-necked otter. Persecutions of the otter occurs					
				withing the fishing nets that are set by fishermen					
				indiscriminately. The Sitatunga is hunted for meat.					
Persecution or control									
Indirect mortality (by-catch) of 'trigger' species-hunting									
Fishing.									
Habitat effects – gathering plants.									
logging									
Fishing & harvesting aquatic resources	3	2	1	Being a 'fish Museum' that remains in the Lake Victoria					

				region, the locally endangered species face further stress
				because of poor fishing methods
6. Human intrusions & disturbance			Giv	e details of specific activity & issue
Recreational activities				
War, civil unrest & military exercises				
Work & other activities				
7. Natural system modifications		(dive of	letails of the alteration & issue
Fire & fire suppression	3	2	2	Wild fires stated by some community members to trap the
				Sitatunga has been constantly affecting the wetland and this
				poses a real threat unless sensitization is done.
Dams & water management and/or use				
Other ecosystem modifications				
8. Invasive & other problematic species & genes		Gi	ve de	tails of the invasive or problematic species & issue
Invasive alien species	2	1	0	The threat of water hyacinth has not been so common like in
				the other Lake Victoria wetlands, but the weed has
				occasionally posed a threat to the swamp.
Problematic native species				
Introduced genetic material				
9. Pollution Give	detai	ls of _l	ollu	tant, source if known (e.g. agricultural, domestic, industrial) & issue
Domestic & urban waste water				
Industrial ,Agricultural & forestry effluents & practices	3	2	1	Effluents from Dominion Farm and Panpaper milling company that flows through Yala Swamp would possibly cause problems if let to continue. More research needs to be done on the possible effects of these industries.
Garbage & solid waste				
Air-borne pollutants				
Noise pollution				
10. Geological events		Giv	e det	ails of specific event and issue
Volcanic eruptions				
Earthquakes				
Landslides				
11. Climate change & severe weather		0	live o	letails of specific event and issue
Habitat shifting & alteration				
Drought				
Floods				
12. Other If the threat does not appear to fit in the scheme above	e, giv	e deta	ils he	re of the threat, its source if known and how it's affecting the IBA
1				
2				
3				

BIRD POPULATIONS AND HABITATS ('STATE')

General comments on condition of the site and any changes since your last assessment (if relevant): There has been a change on the extent of pressure from the Human activities for example farming is now done much deeper into the wetland.

Thank you for taking the time to fill in this form!