**Introduction**

East African wetlands are hotspots for biodiversity. Anthropogenic disturbances (drainage, grazing, cropping) differentially affect the provision of ecosystem services, in general, and of biodiversity, in particular. Key organisms may serve as indicators to assess the health of wetland ecosystems and guide future land use decisions. Along hydrological & disturbance gradients in major wetlands, we assess abundance and dynamics of vascular plants, insects, fish, amphibians, reptiles, birds, mammals and benthic invertebrates.

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**Plant species inventory**

**Environment effects**

Abundance of perennials in different wetland use types and study sites.

**Indicator values**

Species respond differentially to environmental attributes (hydrology, hemeroby, trophic level).

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**Biodiversity at Namulonge**

<table>
<thead>
<tr>
<th>Species group</th>
<th>Number</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mammals</td>
<td>11</td>
<td>1 primate (Vervet monkey)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1 carnivore (marsh mongoose)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>4 rodents species</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2 shrew species</td>
</tr>
<tr>
<td></td>
<td></td>
<td>3 bat species</td>
</tr>
<tr>
<td>Birds</td>
<td>38</td>
<td>7 species wetland specialists</td>
</tr>
<tr>
<td>Reptiles</td>
<td>5+</td>
<td>Speckle-lipped skink and Blue-headed Tree Agama + Snakes</td>
</tr>
<tr>
<td>Amphibians</td>
<td>12</td>
<td>5 genera from 4 families. all order of Anura</td>
</tr>
<tr>
<td>Fish</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Insects</td>
<td>63</td>
<td>43 butterfly species</td>
</tr>
<tr>
<td></td>
<td></td>
<td>11 dragonfly species</td>
</tr>
<tr>
<td></td>
<td></td>
<td>6 bee and 3 wasp species</td>
</tr>
</tbody>
</table>

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**Key findings**

- Some 130 animal (Uganda) and over 400 plant species (all sited) were identified.
- Both plant and animal species respond to wetland disturbances.
- Plant species composition differs by land use type and intensity.
- Hydrology and crop cultivation affect the numbers of diverse pollinators and insect pests.
- After wetland reclamation, natural vegetation recovers faster in the wet center than in the drier fringe.

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**Vegetation based assessment**

Properties of vegetation indicate the health or degradation state of wetlands.

Vascular plants and possibly some animals can be used as bio-indicators for wetland health / disturbance.

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**Classification of wetland vegetation**

Natural conditions (flooding regime, soil, climate etc.)

Land Use (irrigated, cropped, fallow etc.)

Vegetation type Classification based on species composition

Natural vegetation types: Papyrus swamp (A), Panicum fluvicola grassland (B), Typha swamp (C), gallery forest (D)

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**Regeneration dynamics**

Vegetation recovery after abandonment of cropland at different hydrological sections

Biomass accumulation by natural vegetation at different positions in the wetland

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