

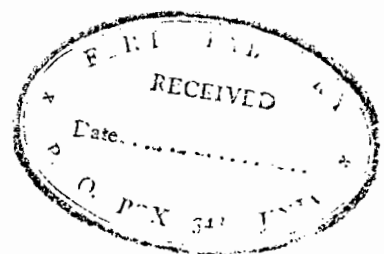
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**Towards Empowering Fisheries Officers to  
Manage the Fish Stocks, Biodiversity and  
Environment of Kyoga Basin Lakes**

**11-16 June 2001, Jinja, Uganda**

**Course: Importance of Protecting Fish habitats**

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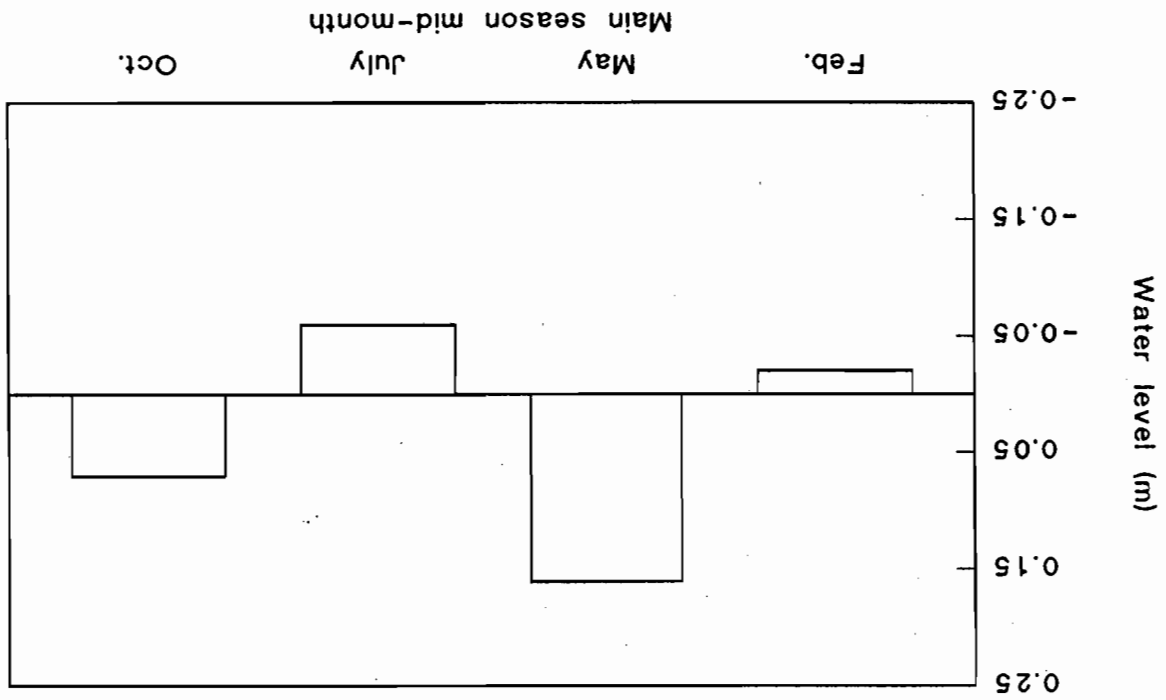
- Overview: Fish distribution patterns
- Definition of habitat
- Spatial dimensions of habitats
- Temporal dimensions of habitats
- Fish Movements and Migrations
- Factors affecting suitability of fish habitats
- Habitat structure
- The influence of watershed characteristics on fish habitats
- Fish habitat conservation issues for Lake Kyoga
- The way ahead for fisheries management for all water bodies
- Comprehensive policy interventions at local-district and national levels for lakes

## **Overview:**

- **Fish distribution in water bodies fishes are not evenly distributed throughout a water body.**
- **Habitat diversity promotes fish diversity (aquatic diversity)**

## **Definition of habitat – “*A place to live in*”**

- **Spatial dimensions of habitats**
  - **Boundaries of fish habitats**
  - **Surroundings of fish habitats**
  - **Factors (components) in fish habitats**
- **Temporal dimensions in fish habitats = dynamics**
  - **Seasonal**
  - **Diurnal and diel**
  - **Lunar**



What do analyses of diurnally varying environmental factors show?

- Light and dark periods

- Temperature

- Dissolved oxygen

- pH

From a fishery view point, the main interest is:

To what extent do seasonal and diurnal patterns affect the abundance of fish?

Can one time fishing at a particular time and realise maximum/sustainable economic yield?

Does a management plan exist that also considers the biology, ecology and sustainability of fish stocks?

## **Movements/Migrations**

- **Breeding**
- **Feeding**
- **Nursery**
- **Refugia**

## **Factors affecting suitability of fish habitats**

- **Physical chemical (abiotic) factors**
- **Water (water quality)**
- **Depth**
- **Light**
- **Temperature**
- **e.t.c**

## **Biotic factors**

- **Food organisms/prey**
- **Predator**
- **Shelter**
- **Macrophytes**
- **Wetlands**

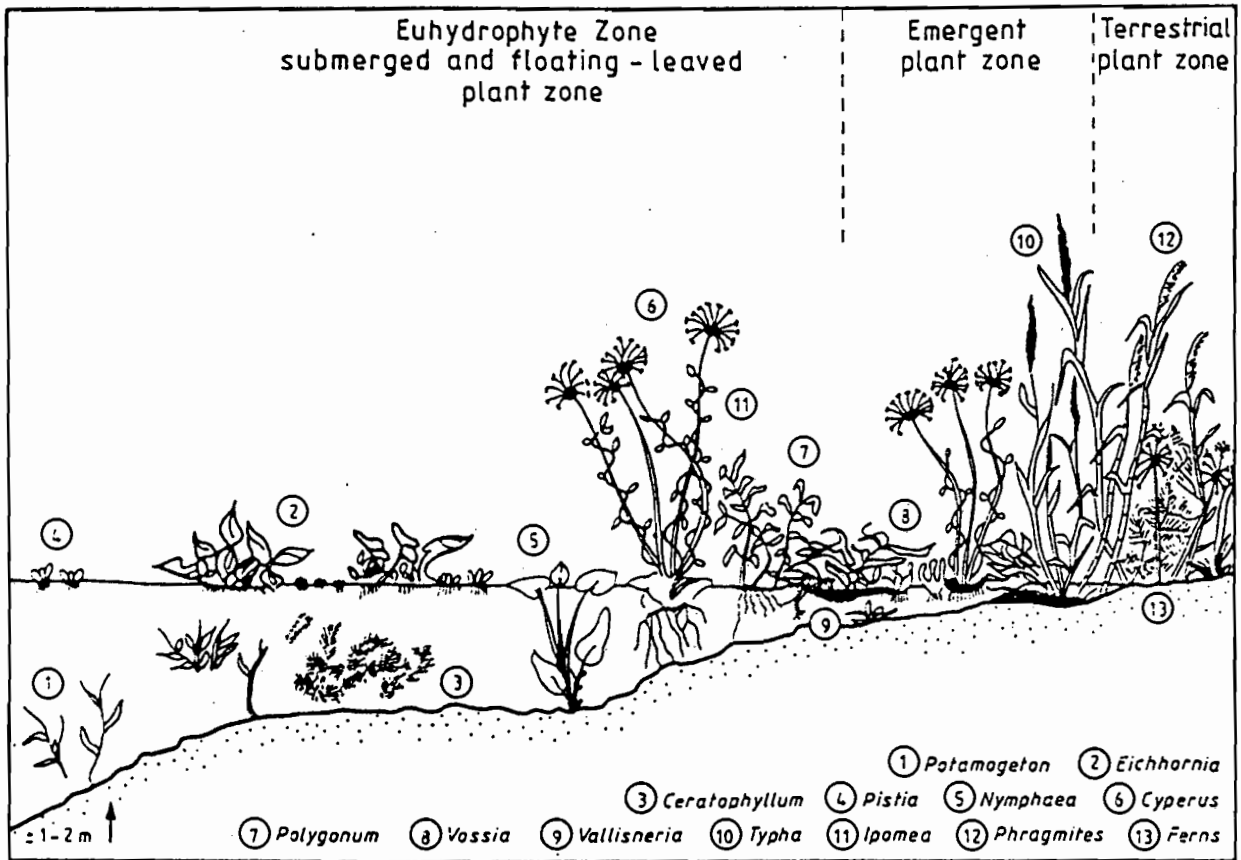
### **• Habitat structure**

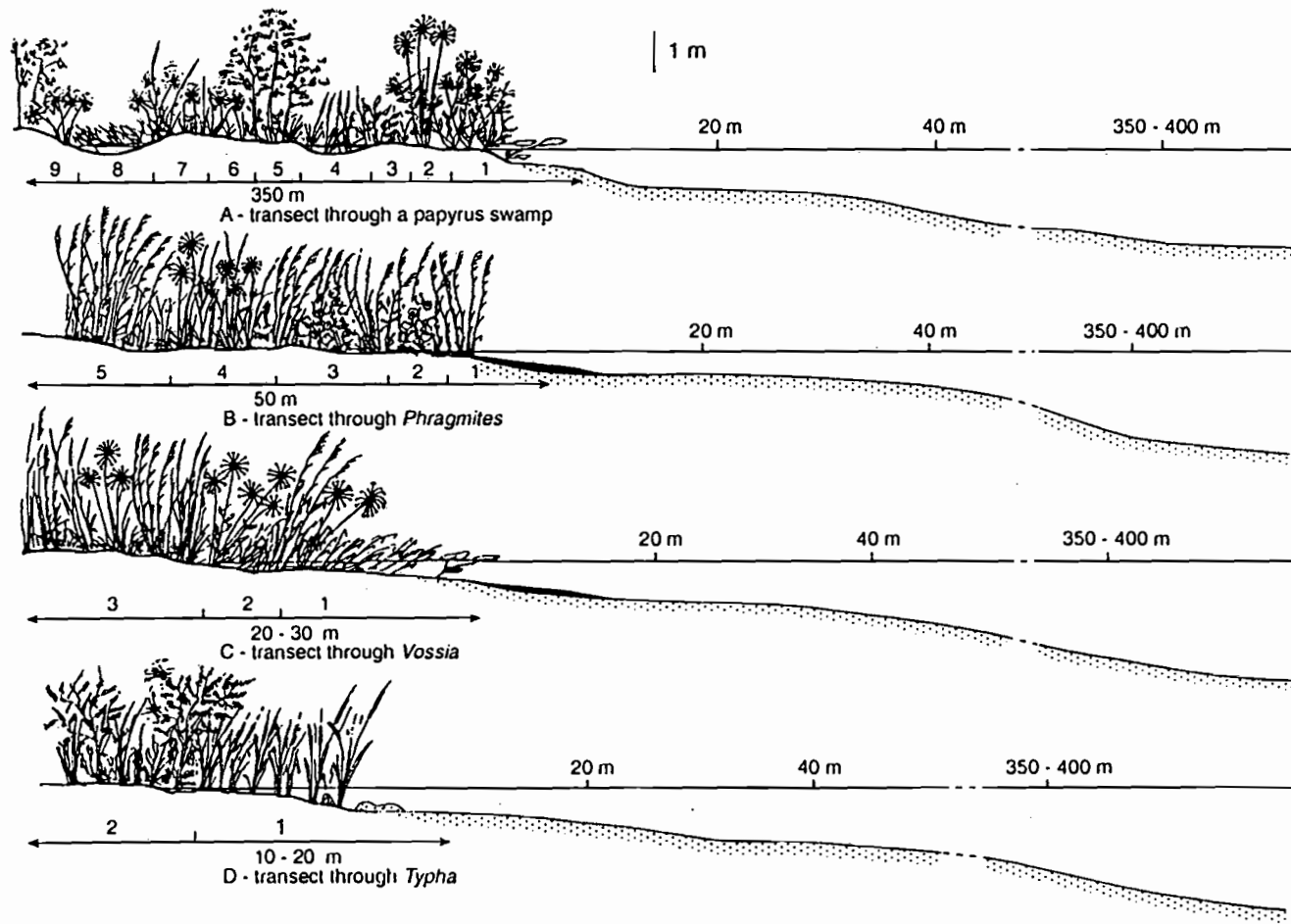
**Defines ecological niche = the functional position of an organism (fish)**

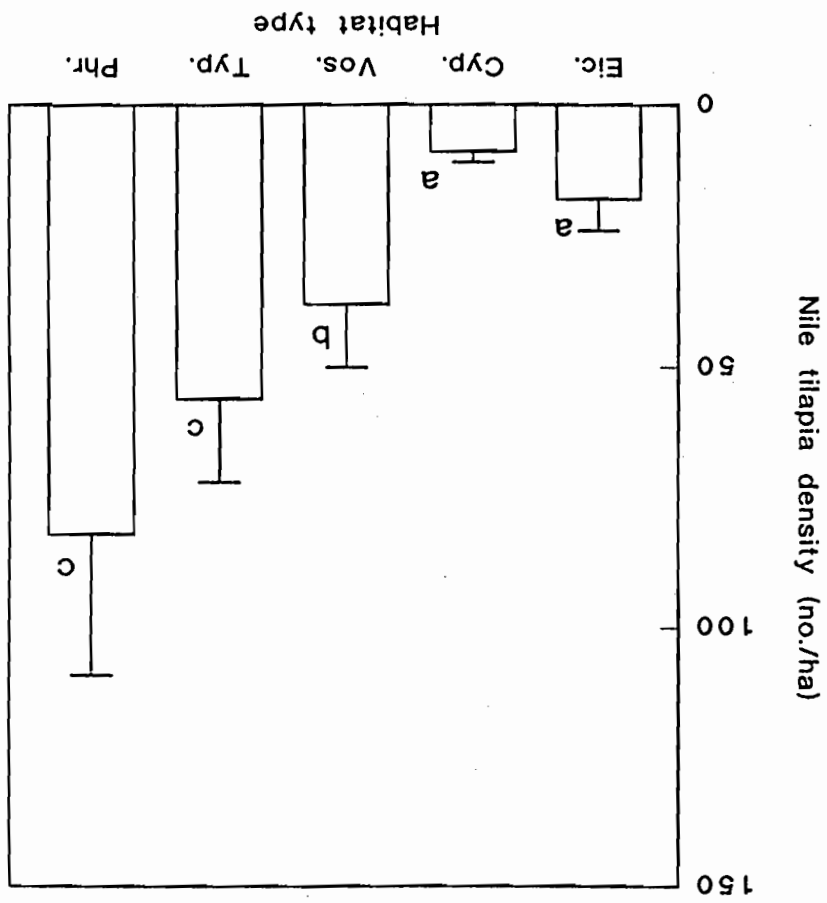
**The basis of fish life and behaviour**

- **The influence of watershed characteristics on fish habitats**
  - **Human activities**
  - **Aquatic weeds**





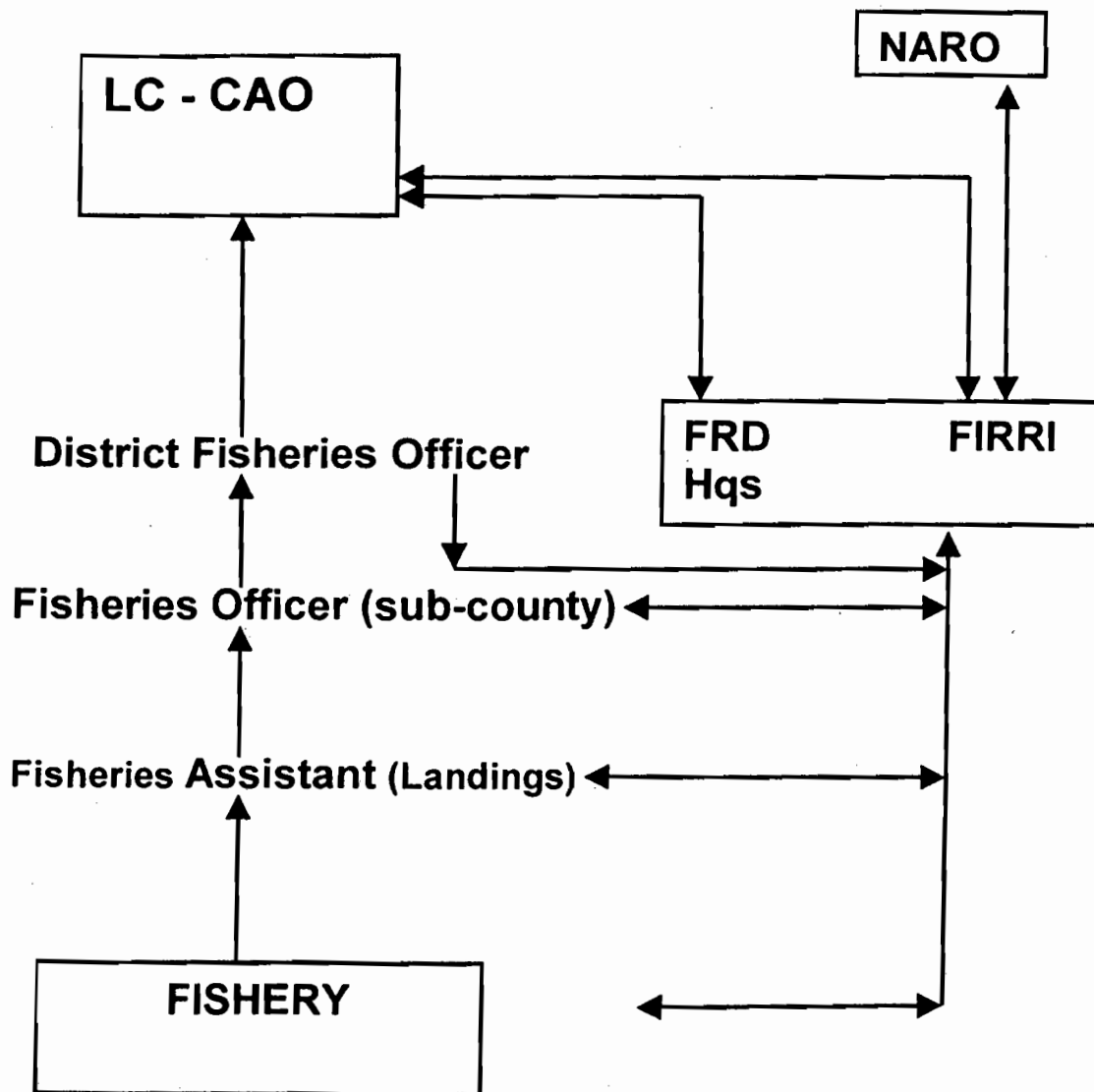




- **Fish habitat conservation issues for Lake Kyoga**

- **Catchment influences – wetlands, feeder streams, River Nile**
- **Aquatic macrophytes**
- **Water weeds**
- **Fishing methods and gears vs fish habitats**
- **Rice farming**
- **Hydro-power projects**
- **Irrigation projects**

## Relational Diagram flow of fisheries management information



### Exercise No.2:

- a) Fill in between the arrows on the diagram the type of information (e.g. no. of boats, frequency of recording , etc) that is required at each level.
- b) Identify information gaps that should be filled in order to address management needs from an ecosystem perspective.