



A diverse and  
sustainable world



IUCN  
World  
Conservation  
Congress  
Barcelona 2008

## **Presentation**

**Presentation from the Water Pavilion  
at the IUCN World Conservation Congress, Barcelona 2008  
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*Chlorochypha cancellata* © Jens Kipping



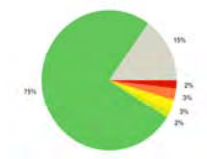
3 spot tilapia © Will Darwall

# Environmental flows & freshwater biodiversity

What species information is needed?



*Nymphaea* sp. © Denis Tweddle





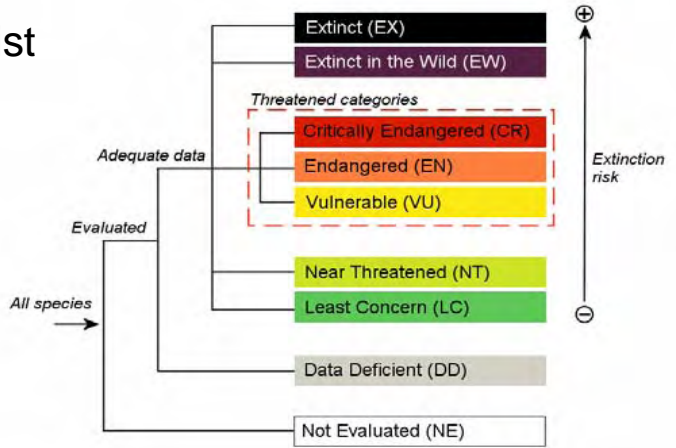
# Agenda

- 1. Freshwater biodiversity data available from IUCN**
- 2. Discuss what biodiversity data are currently being used in Environmental Flows**
- 3. Identify what is the ideal 'package' of biodiversity data for the Environmental Flow process (format, content etc)**



# Species Assessments

- Culminates in Red List
- Peer reviewed
- Added to IUCN Red List & made freely available





# What has been assessed?

- 44,838 species – 2008 Red List
  - Comprehensive (all species)
    - Mammals
    - Birds
      - +++ many other species
    - Amphibians
    - Freshwater Crabs
    - Cycads
    - Conifers



# What has been assessed?

- New assessments currently underway include....
  - **Freshwater biodiversity**
  - Reptiles
  - Marine species (GMSA)
  - Many invertebrate groups (incl. SRLI)
  - Plants

# FW biodiversity data

## □ Priority groups

- Fishes
  - Molluscs
  - Crabs
  - Odonata (dragonflies and damselflies)
  - Aquatic plants (selected families)
- Best known groups in fw
  - Represent different trophic levels
  - Cosmopolitan distributions



# FW biodiversity data

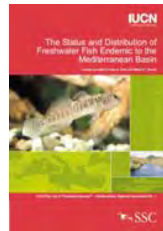
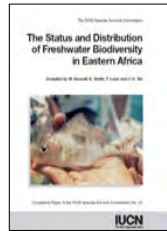
## □ Regional scale

- Identify region (based on watersheds)
- Assess ALL species from priority groups
- Produce a regionally focused report
- Make data freely available

# FW biodiversity data

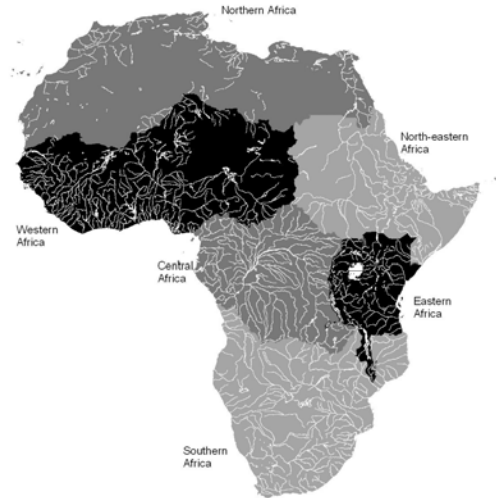
## □ Regional assessments completed:

- Eastern Africa priority groups (-plants)
- Southern Africa priority groups
- European fishes
- Mediterranean endemic fishes
- Madagascar endemic fishes



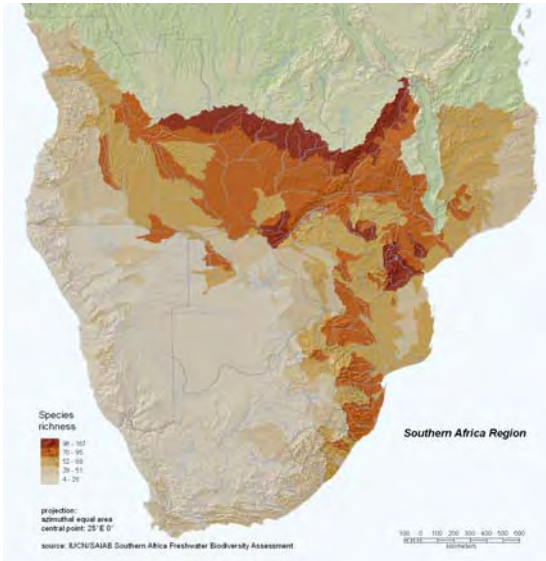
# FW biodiversity data

- Regional assessments ongoing:
  - Pan-Africa (2009)  
EC Funded 5 year project
  - North American fishes  
(Natureserve)



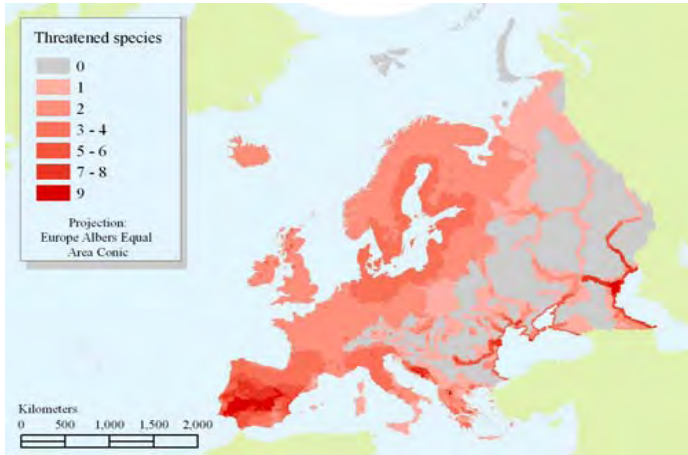
# Data analysis

- Species mapped to sub-basins
- Analyse any species attributes (threats, use, habitat....)
- E.g. Species richness



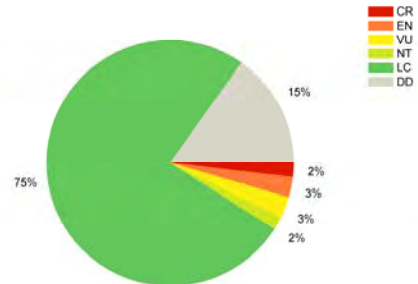
Odonata species richness

# Data analysis



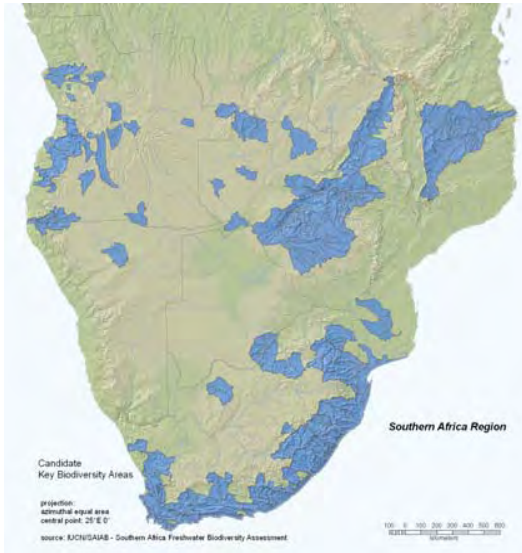
Threatened freshwater fishes of Europe

- Threatened species richness
- Level of threat



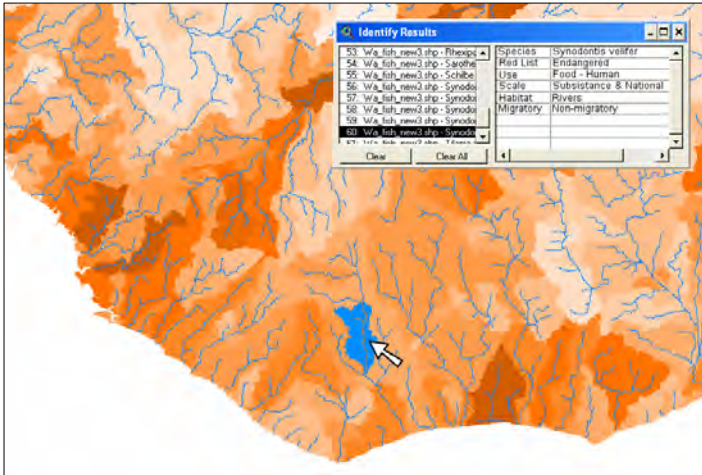
# Data analysis

- Identify Important Areas of freshwater biodiversity (Key Biodiversity Areas)



Southern Africa candidate freshwater Key Biodiversity Areas

# Basin scale



- Used to identify which species are found in sub-basins
- Along with attributes of threat & use (value) etc.
- ‘1<sup>st</sup> cut’ or ‘base data’ – to be edited and improved for site/basin scale information



**10 min**

# What biodiversity data are currently being used in Environmental Flows?



**10 min**

**Ideal 'package' of biodiversity data for the Environmental Flow process (format, content etc)**