

# **The Status and Distribution of Freshwater Biodiversity in Northern Africa**



## Major Threats

All taxonomic groups were evaluated by specialist groups, who took into consideration the past, ongoing and future impacts leading to species extinctions and agreed on the main causes of decline for freshwater dependant species at the regional level.

At the northern African scale, habitat loss and degradation induced by human activities appeared to be the most important threat, together with pollution. In addition, natural disasters (especially drought and strong high flow events) are known to be severely affecting freshwater species and have a direct effect on populations. These threats are expected to worsen in the future due to the increasing effects of climate change. Other threats of relevance are human disturbance, changes in the native species dynamics, harvesting, invasive alien species and intrinsic factors.

In total, 207 threatened freshwater taxa are at risk of extinction due to **habitat loss and degradation** in northern Africa - 114 plants, 49 molluscs, 32 fish and 12 odonata. Threatened odonata, such as the Maghrebian endemic *Calopteryx exul*, are highly endangered due to the alteration of river systems through pollution and dessication of rivers as a result of water over extraction for agricultural and domestic use throughout northern Africa.

**Pollution** was identified as the second most important cause of freshwater species extinction in the region. In total, more than half of the regionally threatened freshwater fauna and flora assessed. This alteration of freshwater quality is a negative result directly related to uncontrolled waste disposal from agricultural, industrial and domestic human activities that, in the majority of the cases, are also linked to soil pollution.

**Droughts** are becoming more frequent and their severity and extent are increasing in the region, already the most affected by water scarcity of the entire African continent (UNEP 2006). On the other hand, important flooding episodes are also becoming more common in the region, carrying enormous amounts of sediment and destroy in the aquatic habitats.

## Conclusions and Recommendations

Freshwater habitats are under great pressure in northern Africa, due to the increasing water demands for agriculture, industrial development and drinking. This is clearly reflected in the high proportion of freshwater species under threat.

Furthermore, northern African freshwater biodiversity displays a high concentration of distinctive species, especially of molluscs and aquatic plants, which cannot be found in any other place of the world. However, this valuable natural patrimony is at high risk, as one fifth (21%) of its freshwater species is facing serious risks of extinction highlighting the responsibility of northern African countries to develop and implement conservation actions for these irreplaceable species.



its integration in short and long term decision-making and planning.

**Data deficiency and research**

Research efforts focusing on species for which there is currently little knowledge must be dramatically increased. A Data Deficient listing does not mean that these 124 species are not threatened. In fact, as knowledge improves, such species are often found to be amongst the most threatened (or suspected as such from available evidence). It is therefore essential to direct research efforts and funding towards these species as well as those in threatened.