

# Greenhead tilapia and fisheries management in the Upper Zambezi River in Namibia

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## BACKGROUND AND METHODS



The Zambezi is the fourth largest river system in Africa

- Reports of reduced fish catches, especially of large cichlids, are of major concern



The human population along the river depends on the subsistence fishery. The large cichlid species are also popular among recreational anglers.

- 22 greenhead tilapia (*Oreochromis machrochir*) were radio tagged



Total body length 25-44 cm (mean 31 cm)  
Tracked on average every 3.3 day for > 8 months

## RESULTS

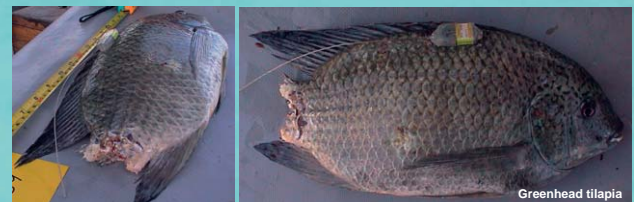
- The fish displayed a variable and flexible habitat utilisation

Greenhead tilapia is not as resident as previously thought. Mean length of the river stretch utilised by individuals was 2.6 km. Mean Kernel home range was 3.1 km<sup>2</sup> (95 % probability). The river forms the border between Namibia and Zambia in the study area, and the fish were frequently crossing the national border.

- High predation rate (22%) after catch-and-release angling (C & R)

C & R angling is popular in this area. Previous studies have showed low mortality rates for cichlids after C & R. However, in this study, a high predation rate (22%) was recorded, by tigerfish, fish eagle and otter. Studies identifying factors important to avoid predation after C & R is needed.

Two of the fish were attacked by a tigerfish (*Hydrocynus vittatus*) immediately after C & R and had their tail bitten off.



## FISH BEHAVIOUR AND FISHERIES MANAGEMENT



In rivers bordering on several countries such as the Upper Zambezi, fish frequently cross national borders, and multilateral management regulations are needed.

Greenhead tilapia may be vulnerable to overfishing due to its relatively restricted movements. Their residency to defined home ranges implies that protected areas may protect adult fish, if the area is large enough. Still, there is limited information on juveniles.