

# Biodiversity protection

## Partnering for fish protection in the Oorlogskloof River



*A decisive partnership in the Northern Cape is helping to protect endangered fish in the Oorlogskloof River from extinction.*

Article by Peter Ramollo and Mandy Schumann.

The Oorlogskloof River originates in the Roggeveld Mountains in Calvinia, passes through the Oorlogskloof Nature Reserve and joins the Koebee River. The Koebee River flows into the Doring River, a tributary of the Olifants River.

The Oorlogskloof Nature Reserve section of the Oorlogskloof River is an important area for fish conservation. The Oorlogskloof River is one of the last sanctuaries for the endangered Clanwilliam Sandfish (*Labeo seeberi*), endangered Clanwilliam Sawfin (*Barbus serra*) and the vulnerable Clanwilliam yellowfish (*Labeobarbus capensis*) as well as genetically distinct Chubbyhead minnow (*Barbus anoplus*). The river serves as a biodiversity corridor linking the Oorlogskloof Nature Reserve to conservation areas in the Cederberg.

The upstream activities of the Oorlogskloof River include commercial farming, mostly sheep and goats. The most significant alien tree invading the Oorlogskloof River above the reserve is the mesquite (*Prosopis spp*), followed by blue gum (*Eucalyptus spp*) and black wattle (*Acacia mearnsii*) trees.

To date, the only alien fish species recorded in the Oorlogskloof Nature Reserve section of the river is the banded tilapia (*Tilapia sparmannii*). These fish were introduced to the river via the upstream Nieuwoudtville municipal dam, which overflows into the Groen River, a tributary of the Oorlogskloof River. Downstream of the reserve, a natural barrier, consisting of large boulders, protects the reserve from invasion of bass, blue gill and other alien fish.

In order to promote the conservation of the Fynbos regions freshwater rivers and endangered fish species, The Northern Cape Department of Environment and Nature Conservation has partnered with the Endangered Wildlife Trust and Cape Nature through the Cape Critical Rivers Project. The annual fish survey was conducted as part of the Cape Critical Rivers Project, which is assisting to implement the actions of the endangered Sandfish Biodiversity Species Management Plan.

The fish were sampled by using a seine net and some of the water variables were recorded including pH, total dissolved solids, salinity, temperature and electrical conductivity using a Prc water testing meter. The pool habitats sampled varied in size, depth and substrate. Dominance of the fish species at each site therefore

varied as a result. Further analysis is needed to determine if there is a species preference for the different pool habitats.

Sawfin, Sandfish and banded tilapia were recorded throughout the sampled sites, until the natural barrier. Below the natural barrier, only banded tilapia, blue gill and bass were recorded. Clanwilliam yellowfish were only recorded at two of the 36 sites, however, they are difficult to catch with a seine net, so may be under represented. Although banded tilapia compete with indigenous fish for space and food, they have not been recorded eating indigenous fish. It is unknown at this stage what the competitive effect of the tilapia on the indigenous fish will be. It is feared that during particularly long dry years the reduced pool sizes and increase in the tilapias competitive effect could negatively effect the indigenous fish and make them more susceptible to parasites and diseases.

*"It is feared that during particularly long dry years the reduced pool sizes and increase in the tilapias competitive effect could negatively affect the indigenous fish and make them more susceptible to parasites and diseases."*

The Oorlogskloof River is protected by a steep gorge, so accessing it is a hard work. Participants in the survey need to be physical fit in order to hike in and out daily carrying drinking water, food and sampling equipment. Roughly 8 km is hiked daily along the river banks to locate the monitoring points. The survey takes five days and is conducted in March, so ambient temperatures are quite high.

Fortunately the pools offer cool relief and if one sits still for long enough, you are rewarded by schools of inquisitive indigenous fish which will nibble along exposed legs and feet. It is this lack of fear that has contributed to the indigenous fish being so vulnerable to the voracious predatory alien fish, introduced years ago for angling, and which have now invaded almost all the Fynbos rivers.

Through the annual monitoring of the critically important Oorlogskloof Nature Reserve fish population and improving awareness of the threats of alien fish, including moving any fish species between river systems, the first steps are being taken to reverse the threat of extinction for the indigenous fish species found here. The annual monitoring takes place at first week of March every year.



*Sandfish were among the fish sampled.*



*The Oorlogskloof River offers a challenging working environment.*



*The Oorlogskloof River is protected by a steep gorge.*