

Small mouth, big threat

A killer lurks in the rivers of the Fynbos region of the Western Cape. Many of the province's key rivers, stretching from the Olifants-Doring on the West Coast to the Gamtoos River near Port Elizabeth, are infested with invasive alien fishes.

These invaders are the main reason why 15 of the 19 indigenous fish species found in the region are listed as threatened.

Their numbers are being decimated by alien predators and by the destruction of their natural habitat by factors such as water extraction, pollution and bulldozing of river beds.

The alien fishes which threaten the indigenous species are bluegill sunfish, carp, largemouth bass, Mozambique tilapia, rainbow trout, smallmouth bass and sharptooth catfish. But piscatorial enemy number one is the North American smallmouth bass (*Micropterus dolomieu*) which is the single most destructive of these alien predators.

A project funded by the Table Mountain Fund,

(an associated trust of WWF), has helped shed light on the scale of the problem. University of Cape Town students Darragh Woodford and Steven Lowe were able to quantify for the first time the predatory impacts of smallmouth bass on indigenous aquatic life in two fynbos rivers. Woodford assessed the predatory impact of smallmouth bass on indigenous fishes in the Rondegat River, a Cederberg tributary of the Olifants-Doring River System. Bass have invaded the river up to a small waterfall, about halfway down the length of the river. Above the waterfall, where bass are absent, there is still a rich community of indigenous fishes, several of which are endemic to the Olifants-Doring System. Below the waterfall, the fish community is very different; smallmouth bass are voracious predators of small fishes, and two endangered redfin species, the fiery and Clanwilliam redfin are absent in the bass invaded area. The only indigenous fish found with bass were adult Clanwilliam yellowfish, too large for the bass to eat.



Smallmouth bass is a voracious predator of indigenous fishes.



Clanwilliam redfin are absent where bass occur.

Clearly the bass have wiped out large numbers of indigenous fishes, an important and natural component of the food web of the river. What impact does this have on the aquatic invertebrates that co-exist with, and are an important source of food to indigenous fishes? Steven Lowe investigated this question and found that the predatory effect of the bass caused community shifts in the aquatic invertebrates. Some species benefitted from the presence of bass while others suffered because of the lack of indigenous fishes. He continued this work on the Witte River in Bainskloof where a similar bass predation picture exists, and found similar but more pronounced results.

Project leader, Dean Impson of CapeNature said the results had been very beneficial. Several scientific and popular articles have been written to inform important stakeholder groups of the findings, including the angling community, which for a long time had refused to accept the negative impact of smallmouth bass in the Western Cape.

A further important component of the project was the identification of priority rivers in the Cape Floristic Region (CFR) for alien fish control purposes. This required the assistance of fish experts from CapeNature, South African Institute of Aquatic Biodiversity, Albany Museum and private consultancies. Thanks to this project, the Cape Action for People and the Environment (CAPE) has a dedicated project that will hopefully see smallmouth, spotted bass and rainbow trout removed from three highly sensitive streams in the CFR. Excitingly, key angling organisations in this area such as the Cape Piscatorial Society and the Western Cape Bass Anglers Association back these interventions, as the rivers identified are not valuable angling waters.

One man's legacy for all

The world has lost a champion for conservation, but has been bequeathed an unsurpassed legacy.

Dr Anton Rupert, who died in January at the age of 89, was the Founder and Patron of WWF South Africa. He took his role in conserving the environment and the future of the planet very seriously and dedicated his life to conservation. In 1997 Dr Rupert founded the Peace Parks Foundation (PPF), in an extraordinary partnership with Dr Nelson Mandela and WWF International's Founder President, Prince Bernhard of the Netherlands. He also influenced global conservation by helping to establish WWF national organisations in Canada, Malaysia and Australia.

Tony Frost, Chief Executive of WWF South Africa, "Many of us have lost a dear friend and mentor, but one who will continue to inspire us with memories of his zeal, wisdom and kindness."

Dr Rupert's contribution to nature conservation earned him many accolades, including the prestigious Duke of Edinburgh Conservation Award in 2003. But while heartfelt tributes to the man abound, his greatest monument lies in the wilderness areas whose future he helped secure. His passion for conservation and biodiversity was infectious and inspiring, and outlives him. It may just outlive us all.



The late Dr Anton Rupert

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