



## IUCN SSC Seahorse, Pipefish and Seadragon Specialist Group

### Strategic Document: Objective 2 - Improve implementation of rules and laws that affect syngnathids in South Africa

Prepared by Dr. Louw Claassens

December 2018

#### South African syngnathid conservation: priority species

The two syngnathid species within South Africa that have been identified as priority species by the IUCN Seahorse, Pipefish and Seadragon Specialist Group. These include the Endangered Knysna seahorse, *Hippocampus capensis*, and the Critically Endangered Estuarine pipefish, *Syngnathus watermeyeri*. Both of these species are exclusively found within estuaries along the southern coast of South Africa within a very small geographic range. *Hippocampus capensis* was the first seahorse to be classified as Endangered by the IUCN Red Data list in the year 2000 owing to its limited distribution (extant populations found in only three estuaries), small population size and habitat vulnerability. Similarly, the Estuarine pipefish is found in only three estuaries and was previously thought to be extinct.

The major threat to the existence of both species is related to habitat changes: Habitat loss via direct destruction or via the impacts/effects of water quality deterioration and/or the increase of eutrophication; and the change in estuarine regimes owing to poor catchment management (abstraction/damming) and/or artificial mouth breaching of estuaries.

One of the first steps to ensure successful species conservation is securing legislative support through laws that protect the species, protect the environment where it is found and control those activities which might have a negative impact on it or its environment.

After a preliminary review of South African legislation, we are confident that the legislative support needed to ensure the future conservation of both the Knysna seahorse and the Estuarine pipefish are already in place. Instead of negotiating for legislation that will ensure effective species conservation, we can now rather focus on the successful/effective implementation and compliance to existing laws and regulations.

We have summarised South African legislation pertinent to the conservation of these two syngnathid species, with a specific focus on habitat protection as habitat loss or alteration is considered the major threat to these species within South Africa.

Both the Knysna seahorse and the Estuarine pipefish are exclusively found within estuaries, and South Africa is in the fortunate position to have world-class environmental legislation in place that specifically focus on the protection of these systems.

Habitat loss/alteration is a major threat to syngnathids in South Africa (as target harvesting and by-catch are not considered major threats) and legislation that manages activities that might lead to estuarine habitat alteration/loss should include both direct habitat impacts from development and indirect impacts from adverse water quality. The National Water Act 36 of 1998, the National Environmental Management Act 107 of 1998 and the newly promulgated National Environmental Management: Integrated Coastal Management Act 36 of 2014 include sections that control development activities within estuaries, as well as the discharge of effluent that might have adverse impacts on these systems. Compliance to these three acts and the regulations that stem from them will essentially ensure successful estuarine habitat projection – and the conservation of syngnathids. These acts also make provision for the conservation of estuarine regimes with required management plans for artificial estuary mouth management and detailed ecological reserve determinations. The NEM: Integrated Coastal Management Act also provides for the development of Estuary Management Plans and the requirement of local management authorities to develop and implement such plans.

In South Africa all syngnathids are classified as Threatened or Protected Species (TOPS) and protected under the National Environmental Management: Biodiversity Act 10 of 2004. This means that all syngnathid species within South Africa cannot be collected, handled or disturbed in any way.

Six estuaries are of specific importance for the conservation of the Knysna seahorse and the Estuarine pipefish. All three estuaries within the Knysna seahorse’s range (Keurbooms, Knysna and Swartvlei) fall under protected areas and are protected under the National Environmental Management: Protected Areas Act 57 of 2003. Both SANParks and CapeNature are the responsible conservation authorities for these systems and all development and other activities are controlled. In addition, both the Keurbooms and the Knysna estuary have undergone preliminary and/or desktop reserve determinations.

The discharge of pollutants into estuaries (which can result in the deterioration of habitat quality owing to sedimentation and/or eutrophication) are controlled via the National Water Act and the NEM: Integrated Coastal Management Act, and all Waste Water Treatment Works (WWTW) that discharges into a river system are bound to an effluent license that dictates the quality of effluent that is allowed to be discharged. Similarly, effluent discharged directly into the ocean or an estuary is controlled through a Discharge Permit issued under the NEM: Integrated Coastal Management Act.

Table 1 Summary of legislation applicable to syngnathid conservation in South Africa

Document	Influence	Controlled activities	Priority species	Applicability to syngnathid conservation
National Environmental Management: Protected areas Act, 2003 (Act no. 57 of 2003) Regulations for the proper administration of the Knysna protected environment	Knysna estuary	Development Resource use Pollution Activities Authorisations	<i>H. capensis</i>	Habitat protection – development Habitat protection - pollution Control of anthropogenic disturbances – boat use/noise/baiting Animal collection
National Environmental Management: Biodiversity Act, 2004 (Act no. 10 of 2004)	National	Collection Harvesting	<i>H. capensis</i> <i>S. watermeyeri</i>	Animal protection - collection

NEMA: Integrated Coastal Management Act no 36 of 2014	National	Development Pollution Management Access	<i>H. capensis</i> <i>S. watermeyeri</i>	Protection of habitat - development Protection of habitat - pollution Protection of animals - protected areas
National Water Act no 36 of 1998	National	Development Discharges Impoundments/resource use	<i>H. capensis</i> <i>S. watermeyeri</i>	Pollution – discharge of effluent/waste Development – proximity to water resource
National Environmental Management Act no. 107 of 1998	National		<i>H. capensis</i> <i>S. watermeyeri</i>	Habitat – development/activities within an estuary Pollution – discharge of effluent/waste
National Environmental Management: Protected Areas Act no 57 of 2003.	National	Protected areas	<i>H. capensis</i>	Habitat – development/activities within a protected area