

Western blue groper – threats and management

(NB this document aims to highlight some of the issues for discussion at the CCSA meeting on 12th November 2008 and is not a government policy document. It does not represent the views of DEH or PIRSA Fisheries)

Is the groper listed or protected?

- Not listed as threatened by IUCN, EPBC Act 1999, ASFB, or NP&W Act 1972.
- Afforded some protection under *Fisheries Management Act 2007*.

Why do people think the groper is threatened?

- Emotive reasons: Large, charismatic, diver friendly.
- Life history characteristics make it intrinsically vulnerable to fishing (e.g. long-lived, slow-growing, sex-changing with social structure, site-attached)
- Easily speared
- Captured by line fishers for sport and eating (and this is publicised in fishing magazines)
- Captured incidentally in Marine Scalefish (MSF) and Rock Lobster fisheries, and in demersal shark gillnet fishery.
- Highly susceptible to barotrauma from fishing
- Evidence that numbers of large males have been reduced in parts of central SA (lower Yorke Peninsula, Fleurieu Peninsula) and have not recovered since protection zone was introduced.
- Charter boat fishery is increasingly accessing remote offshore areas.
- Perception that charter boat fishers are targeting blue groper.

Why the groper may not be threatened

- Adult numbers appear to be relatively high in western SA and offshore reefs (to at least 100 m depth), and numbers in the SE are much higher than previously thought; localised depletion of adults in central SA does not mean the species is declining State-wide.
- Adult numbers are naturally low because of their life history characteristics, social structure and adult male territoriality. Populations may therefore experience strong density dependence.
- Abundances of juvenile and sub-adult groper are high, even in central SA where adult numbers are lower. Thus the supply of larvae appears to be strong across the State.
- Spearfishers generally do not target groper anymore.
- Most charter fishers do not target groper as they realise that released fish survival rates are poor.

Issues for groper management

- Adult numbers are potentially declining and we don't know it.
- Released fish survival in closed area is low and the current closure may have limited positive effect. With the spatial closure in place since the 1980s, why haven't adult numbers recovered in central SA?
- Released fish survival of oversize/undersize fish is low and the current size limits may have limited positive effect.

The attached table outlines some potential management options that should be discussed in relation to:

- What is the aim of current management? - ??To reduce total take and protect spawning stock.
- What will be the aim of future management? - ??To reduce total fishing mortality and protect spawning stock.

Potential management options	Details	Positive outcomes	Negative outcomes	Issues
Maintain current arrangements	Slot limit of 60-100cm in open area.	Only adult fish are taken. Reduces total take.	Incidental capture of undersize/oversize fish will still occur and this adds to total fishing mortality.	Released fish survival is low.
	Bag limit (2), boat limit (6) in open area (Charter limits are slightly different).	Take limits are relatively low. Reduces total take.	Incidental capture of excess fish will still occur and this adds to total fishing mortality.	Released fish survival is low.
	Protection zone in gulfs and Investigator Strait.	Fish cannot be taken in closed area. Reduces total take.	Incidental capture will still occur and this adds to total fishing mortality.	Released fish survival is low.
	50kg trip limit for Commonwealth – managed fishers in the Southern and Eastern Scalefish Shark Fishery (SESSF).	Provides some limit on total take. Reduces total take.	Incidental capture of excess fish will still occur and this adds to total fishing mortality. Take is substantial.	Released fish survival is low.
	No take allowed by Marine Scalefish and Rock Lobster sectors.	Provides some limit on total take. Reduces total take.	Incidental capture will still occur and this adds to total fishing mortality.	Released fish survival is low.
Introduce code of conduct for release of undersize/oversize fish and fish taken in closed area.	Protocols for handling of fish for photos, dealing with barotrauma, etc.	Released fish survival may improve.		
Reduce bag & boat limits in open area	e.g. Bag limit (1), boat limit (2) in open area.	Reduces total take.	Incidental capture of excess fish will still occur and this adds to total fishing mortality. Fishers lose access to resource.	Released fish survival is low.
Remove upper size limit	One size limit of 60cm in open area.	Oversize fish (>100 cm) that are released and die are not wasted against the bag and boat limits.	May contribute to loss of reproductive output. Larger fish are very old.	Released fish survival is low. Don't know if all released oversize fish would die anyway.
Ban all commercial take	Stop take in SESSF.	Reduces total take in Commonwealth waters.	Incidental capture will still occur and this adds to total fishing mortality. Fishers lose access to resource.	Released fish survival is low.
Ban spearing of groper across whole State.		Reduces total take and total mortality.	Fishers lose access to resource.	Spearfishing take is possibly low compared with line and net fishing.
Introduce a protection zone across whole State		Reduces total take.	Incidental capture will still occur and this adds to total fishing mortality. Fishers lose access to resource.	Released fish survival is low. While incidental mortality will still occur, a total ban may decrease targeted effort.
No-fishing areas	Aquatic reserves, Spatial closures (FM Act 2007). Sanctuary zones, Restricted access zones, Habitat protection zones (MPA Act 2007).	Reduces total take and total mortality. Incidental capture cannot occur in areas where fishing is not allowed.	Protection will be limited to size of no fishing area and home range of adults. Fishers lose access to resource.	How many and what size are needed?

NB. PIRSA Fisheries are responsible for the fisheries management of blue groper