



Catching and caring for...

Samson Fish (*Seriola hippos*)

Introduction

Samson fish (*Seriola hippos*) are abundant along the lower west coast of Western Australia. They are known for their strong fighting abilities. Growing numbers of recreational anglers participate in a catch-and-release fishery for this species, particularly off the Perth coastline where Samson fish aggregate in large numbers to spawn during summer.

In response to community concern about the sustainability of Samson fish stocks in the fishery, the Department of Fisheries commenced a three-year research study in 2004 to learn about the species and the impacts of the catch-and-release study on stocks. The study is known as 'Samson Science' and is notable for the way in which the community has made an active contribution to data collection.

From this program and associated research a number of protocols aimed at maximising the survival of fish released by anglers have been developed. These protocols are practical and easy to adopt. They can also be used on other species. Please give them a serious go and look after this precious marine resource!

PROTOCOL 1:

Use the right gear!

- Barbless hooks for easy removal.
- Jigs reduce the risk of injuries due to gut hooking – if bait fishing, use circle hooks to increase the chances of hooking the fish in the mouth.
- Heavy line class to minimise fight time (e.g. 80 pound/37 kg).
- Long and heavy terminal leader to control and lift fish when landing.
- Do not use gaffs. Preferably no landing net either to avoid wiping protective slime off. Samson fish are best caught off a boat with a low gunwale or marlin board so that they can be lifted and released properly. Take care at every stage of handling the fish.



Samson Science

is a collaboration between scientists and anglers that has provided important information about the fish and associated sports fishery. All participating anglers underwent training to ensure that the fish were tagged and handled correctly and the data properly recorded. The collaboration will continue into the future with anglers recording their fishing activities



in logbooks (a simplified logsheet has been attached for you to use if you would like to assist). This information is used to monitor the fishery and provide feedback to anglers via the Recreational Angler Program newsletter. Your help is appreciated.



PROTOCOL 2:

Catching the fish...

- Keep fight times as short as possible to minimise stress and exhaustion of the fish.
- Slow the retrieval rate when the fish is in sight to give it time to vent the expanded swim bladder and decrease barotrauma injuries.
- Make sure you are prepared so that the fish is released as quickly as possible.



PROTOCOL 3:

Landing the fish...

- Ideally keep the fish in the water - barbless hooks should be easily removed with a dehooker or long-nosed pliers. Hooks lodged near the eyes or gills will require extra care in removal. Cut the hook off if necessary.
- If it is necessary to land the fish, make sure the weight is supported at the head and tail, as shown on the right (use two people if necessary).
- Make sure everything the fish touches is cool and wet – and don't land it onto a rough deck.
- Avoid direct sunshine, particularly in the eyes.
- Most Samson fish will be fairly docile when landed, although keep a clean, wet rag handy to place over the head of an active fish to calm it (but note that an abrasive rag can damage its eyes).

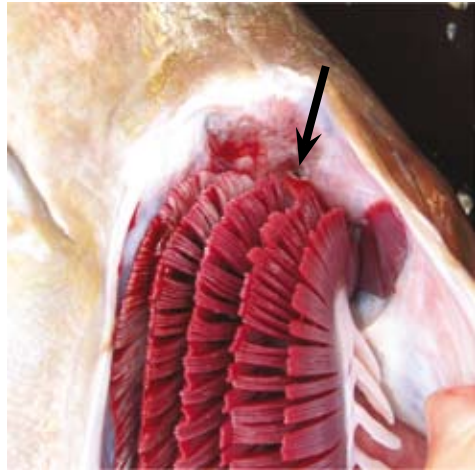


- Support the fish as shown below. Avoid pressure to the stomach area where sensitive organs are, and try not to wipe off the protective slime.
- Never put hands inside the gill area and never lift the fish up by just the head or tail – this can damage the backbone and gill structures of these large fish.



Barotrauma

This is a type of injury caused by the expansion of internal gases as fish are brought to the surface. This is a major issue with catch-and-release fishing. Fortunately, most Samson fish avoid serious injury by releasing expanding gases through a hole that develops beneath their gill plate (see arrow). This ‘self-venting’ mechanism may be an adaptation to a lifestyle involving rapid changes in depth.



More than 9,000 Samson fish have been tagged and the recaptures are providing exceptional information about movement patterns. For instance, most fish tagged off Rottnest Island head south after spawning – with some travelling over 2,500 km to Kangaroo Island in South



Australia. Fish also return to Rottnest where they aggregate to spawn. These aggregations occur from about November through to February, although individual fish do not appear to remain for the whole period.

PROTOCOL 4:

Minimise deck time!

After capture, Samson fish are exhausted and urgently need to uptake oxygen through their gills. It is therefore essential to get the fish back in the water as soon as possible or they will quickly succumb. If you want to take a photo, have the camera ready and consider an in-water shot. But be quick – research shows that every minute is vital.



Release weights

Every tackle box should include a release weight, since data shows these increase the survival rate of released fish (note that Samson fish will require a heavier weight). The weight is hooked into the jaw and free-spooled to the bottom with fish attached. The fish comes free when the line is retrieved – back on the bottom where its internal gases have recompressed and where it can recover from the stress of capture.



PROTOCOL 5:

Releasing the fish...

- The best way to release a Samson fish is to spear it back into the water. This is done by holding the fish by the tail with the other hand supporting the head area. The fish is then released head first with a firm push of the tail – but don't try to 'slam dunk' it.
- If the fish re-surfaces, have another go. If it is too exhausted, try reviving it with water through the gills (either by towing it or with a low pressure, high volume deckhose in the mouth).
- A release weight may be needed for larger fish and is preferred over venting to minimise injury and surface time.
- If the fish won't revive, don't let it float away – if bled properly and kept chilled, it will taste fine (although some suffer from 'mushy flesh').



Samson fish,

and related amberjack and yellowtail kingfish - all members of the genus *Seriola* - are classed as Category One species (at high risk from overfishing). The minimum legal length for these fish is 600 mm (from nose to tip of tail), and the bag limit for all three species (combined) is 2.



Samson fish are suitable for tagging studies because they survive catch and release well if care is taken. Tagged fish provide information about movement patterns and growth rates – but only if recaptures are properly reported. Therefore, if you do catch a tagged fish, please call the West Tag hotline (1800 682 002) with the following information: tag number, date, depth and location of capture, fork length (nose to fork in tail) and total length (max length). Don't forget to include your name and address so a certificate can be sent out. Remember, incomplete or inaccurate data detracts from the quality of the research data and hence the resulting management advice.

Samson Fish Length

Fish to be released should not be weighed. Use the table below as a guide:

| Samson Fish Length Weight Table | |
|---------------------------------|-------------|
| Fork Length (mm) | Weight (kg) |
| 900 | 9.3 |
| 950 | 10.9 |
| 1,000 | 12.6 |
| 1,050 | 14.6 |
| 1,100 | 16.7 |
| 1,150 | 18.9 |
| 1,200 | 21.4 |
| 1,250 | 24.1 |
| 1,300 | 27.1 |
| 1,350 | 30.2 |
| 1,400 | 33.5 |
| 1,450 | 37.1 |
| 1,500 | 40.9 |

The really technically-minded can use this formula:

$$\text{Weight (kg)} = 0.000000252 \times (\text{Forklength (mm)})^{2.9}$$

Final words

If you are interested in playing a part in looking after our fish resources, why not keep a research angler log book? It's a good personal record of your fishing experience and you'll also receive research updates! Contact 9203 0111 for further information.



Photo: Al Bevan

This brochure has been compiled by Michael Mackie, Andrew Rowland and Paul Lewis and is based on information gained from the Samson Science project and advice from recreational anglers. For more information about the Samson Science project call the Department of Fisheries on 9203 0111 or Murdoch University on 9360 2282 / 0418 326 747.

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