



Barotrauma

Barotrauma is a potentially fatal condition. It occurs when a fish is hauled to the surface and the air within the fish's swim bladder expands as pressure decreases. It mainly affects fish caught in water depths greater than 20 metres. Barotrauma causes internal damage and may prevent the fish from swimming down from the water surface, leaving it prone to sun damage and predators.



FRDC

FISHERIES RESEARCH &
DEVELOPMENT CORPORATION



How can I tell if a fish has barotrauma?

A fish that has been affected by barotrauma may have:

- a hard or bloated gut area
- parts of its gut extending into its mouth or out of its rear
- bulging eyes and bleeding (more severe symptoms).

A fish that has a burst swim bladder may not display any symptoms, as the air would have been expelled from its mouth or rear as it was brought to the surface.

What should I do if I catch a fish showing signs of barotrauma?

Do as much as you can to ensure that any released fish survive. Follow the tips on page 7 to reduce stress during capture, handling and release.

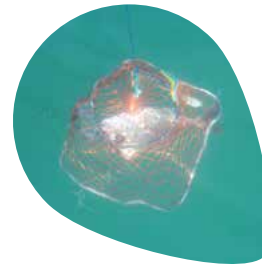
There are three methods you can use to help a fish with barotrauma return to deeper water:

- using a release capsule
- using a release weight
- venting with a hollow needle.

Using a release capsule

A release capsule (or release cage) is basically a weighted inverted landing net.

- 1 Gently remove the hook from the fish or cut the line if the fish is gut-hooked. (See the handling and release tips on page 7.)
- 2 With the release capsule ready, gently release the fish into the water.
- 3 If the fish floats and cannot swim below the surface, quickly place the release capsule over the fish and allow it to drag the fish down.
- 4 Allow the fish to be dragged down to the depth at which it was caught (if possible) or to at least 10 metres below the surface.
- 5 Pull up the release capsule and the fish will swim away.



Using a release weight

- 1 Gently remove the hook from the fish or cut the line if the fish is gut-hooked. (See the handling and release tips on page 7.)
- 2 Insert a weighted barbless hook (which is attached to a fishing line) through the fish's top lip from the outside.
- 3 Gently place the fish in the water and release the line, allowing the weight to drag the fish down.
- 4 Allow the fish to be dragged down to the depth at which it was caught (if possible) or to at least 10 metres below the surface.
- 5 Hold the line to stop it running out further and the fish will swim away.

Venting with a hollow needle

- 1 Gently remove the hook from the fish or cut the line if the fish is gut-hooked. (See the handling and release tips on page 7.)
- 2 Using a hollow needle or syringe, gently pierce a hole in the side of the fish to allow the gases to escape. Insert the needle under a scale, at 45 degrees to the body, in line with the top of the pectoral fin and directly below the fourth dorsal spine.
- 3 Avoid inserting the needle too deeply, as this could damage an internal organ. If this technique is performed correctly, you should hear the sound of air escaping as you insert the needle. Applying gentle pressure to the abdomen may force additional trapped air from the fish.
- 4 Gently release the fish back into the water.



Species-specific information and recommendations

Techniques that improve post-release survival rates for one species of fish suffering barotrauma will not necessarily help another species. Follow these guidelines for snapper, teraglin and pearl perch.

A snapper with a swollen abdomen



Snapper

Snapper are quite resilient to catch-and-release, with nearly 90 per cent surviving (providing they are handled gently). Usually barotrauma affects snapper taken from depths greater than 20 metres. Symptoms include a swollen abdomen, the stomach being forced out of the mouth or rear or a combination of these, and they can become worse the longer the fish is at surface level. However, some snapper will not display any symptoms of barotrauma, as the swim bladder has ruptured on the way up and the bladder gases have escaped.

A snapper with its stomach protruding from its mouth



These fish will usually swim back to capture depth with no problems upon release. The swim bladders of line-caught snapper have been found to heal in 2–3 days.

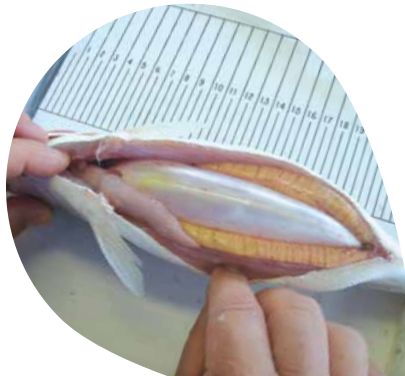
- If a snapper displays symptoms of barotrauma, use one of the barotrauma relief methods described.
- If you are not sure whether a snapper is suffering barotrauma, assume that it is and treat it prior to release.
- Return the fish to the water as quickly and gently as possible.

Teraglin

Teraglin are not resilient to catch-and-release, with less than 50 per cent surviving when caught from depths less than 50 metres. Virtually none survive catch-and-release if caught from depths greater than 80 metres. For this species in particular it is essential to release fish quickly once they are caught.

- If a teraglin displays symptoms of barotrauma, use one of the barotrauma relief methods described.
- If you are venting with a hollow needle, apply gentle pressure to the abdomen to force out the air.
- If you are not sure whether a teraglin is suffering barotrauma, assume that it is and treat it prior to release.
- Return the fish to the water as quickly and gently as possible.

The highly expanded swim bladder of a small teraglin caught from a depth of 35 metres



A teraglin showing the bloated abdomen caused by barotrauma



Pearl perch

Pearl perch are resilient to catch-and-release, with more than 90 per cent surviving. In most cases, pearl perch suffer from barotrauma even though they rarely display any symptoms. This is because pearl perch swim bladders rupture during ascent from depth, with swim bladder gases escaping into the gut cavity.

A lip-hooked pearl perch caught using a 6/0 circle hook—the location of the hook allows its easy removal from this undersize fish



As the fish approaches the surface, the alimentary tract ruptures near the rear, allowing swim bladder gases to escape before the fish reaches the surface. The swim bladders of line-caught pearl perch have been found to heal in 2–3 days.

- Release pearl perch quickly into the water.
- Do not treat pearl perch for barotrauma but always follow the handling and release tips (page 7).

A pearl perch caught off Double Island Point



A pearl perch swim bladder, which had ruptured during capture, showing signs of healing (clear tissue forming a seal over the rupture) after only a few days



Handling and release tips

- Use circle hooks, as these are less likely to cause gut-hooking, and many studies have shown low survival rates for gut-hooked fish.
- If you catch a gut-hooked fish, cut the line and leave the hook in. Do not try to remove the hook.
- Use barbless hooks where possible.
- Use larger hooks and techniques that reduce the catch of small fish.
- Use long-nose pliers to remove hooks.
- Always wet your hands or use a wet cloth when handling fish to avoid damaging the fish's scales and removing the protective mucous layer.
- Use a knotless landing net.
- Shield the fish's eyes from direct sunlight.
- If possible, remove hooks without lifting fish from the water.
- Avoid placing fish on hot, dry surfaces.
- If you can't remove the hook without damaging the fish, cut the line.
- Do not take photographs of fish that need to be put back in the water straight away—the longer a fish is out of water, the less likely it is to survive.

Stay up to date with recreational fishing rules and regulation and industry information:



fisheries.qld.gov.au



13 25 23



@FisheriesQueensland



@FisheriesQld



@FisheriesQld



Supported by the **Queensland Government** and the
Fisheries Research and Development Corporation

© State of Queensland, 2020.



For more information on this licence, visit <https://creativecommons.org/licenses/by/4.0/>.