

Release Methods for Rockfish

By Steve Theberge and Steve Parker

Rockfish have a gas-filled organ, called a *swim bladder*, that allows the fish to control its buoyancy (figure 1). When rockfish are brought to the surface quickly, the swim bladder can overexpand and burst. The expanding gas from the swim bladder can push the stomach out of the mouth and the intestine out the anus. These symptoms may get worse with time at the surface. The fish may also float on the surface, unable to dive back to the bottom. Recompressing or venting the fish may increase the fish's chance of survival.



Figure 1. Dissection of a black rockfish showing the location of the swim bladder.

Avoidance

Avoiding rockfish you cannot keep is the best option when fishing in water deep enough (60 feet or more) to cause swim bladder problems. If you start to catch rockfish that have to be released, move to a different location. On rockfish you can target, do not high grade (releasing smaller fish so you can keep larger fish) rockfish caught in water deeper than 60 feet. Instead, use larger hooks and bait to discourage smaller fish. Catch-and-

release fishing is not a good option in deepwater fishing for fish with well-developed swim bladders.

Recompression Methods

New strategies being developed for releasing rockfish suffering from pressure damage need to be tested to determine long-term survival. You should not assume that a fish survives simply because it swims off on its own after being vented or recompressed and does not return to the surface.

Recompression methods involve assisting the fish back down to a depth where it can descend the rest of the way to the bottom on its own. The greatest relative pressure change occurs in the top 33 feet. Recompression, if done quickly, can reverse some of the damage done by the expanding gas. Even rockfish with severely bulging eyes may survive when recompressed quickly. Different methods have been developed to recompress fish and assist their return to the bottom. One method involves using a weight and a large, inverted, barbless hook. Fish should be hooked from outside to inside through the membrane on the upper lip so that the hook releases effectively (figure 2). The weight must lead the fish into the water and be heavy enough to sink the fish to the desired depth (over three pounds for a large yelloweye).

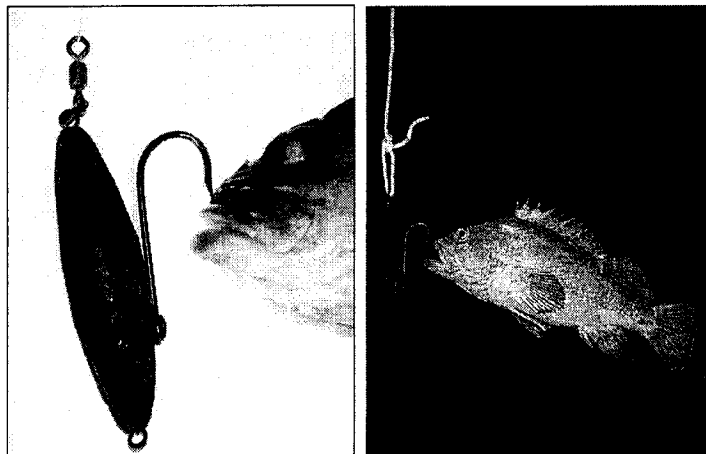


Figure 2. Left: A barbless hook is inserted into the jaw and the fish is dropped to the release depth. Right: The fish is released by pulling up on the line.

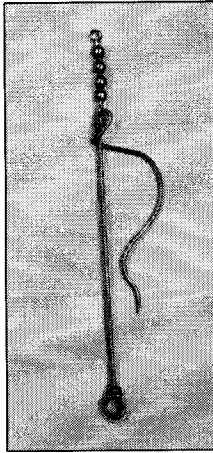


Figure 3. Bill Shelton has developed the Shelton Fish Descender to bring rockfish back down to be released.

Bill Shelton has developed a modified wire hook clip that can be placed above an angler's bait and weight (figure 3). The fish is hooked in the mouth on the clip and then brought down to a safe depth, where the fish can be released by a sharp tug on the line.

Another method involves using a container, such as an upside-down milk crate or an inverted, collapsible crab trap, weighted with lead and attached to a rope (figure 4). The container is dropped over the fish and then, with the buoyant fish trapped inside, lowered to a minimum depth of 40 feet and held to allow the fish to swim out on its own. A deeper depth may be needed if fishing in very deep water.

Venting is another method used to deal with fish suffering from overinflated swim bladders (figures 5a and 5b). It involves releasing the gas by puncturing the swim bladder with a hollow tool or needle. This releases some of the pressure on the internal

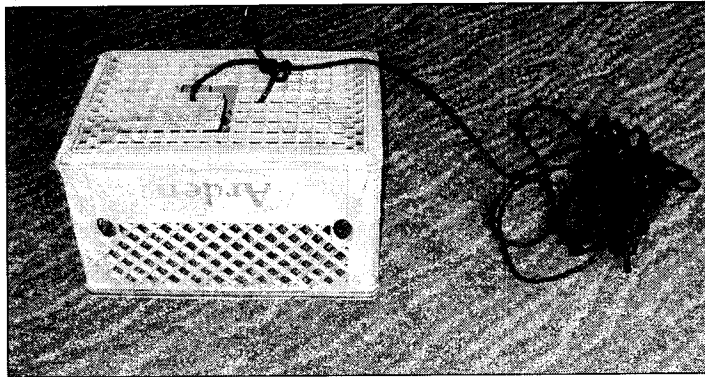


Figure 4. A weighted milk crate can be dropped over a fish and then lowered deep enough to recompress the fish.

organs of the fish. It is hoped that the fish can then overcome buoyancy problems and swim back down to the bottom. (In some cases when fish are brought up from a great enough depth, sufficient gas remains in the eyes to keep the fish from diving back to the bottom, or the fish is too exhausted to swim to the bottom, even when the swim bladder has been vented.)

Do not vent a fish by piercing the stomach, which is often what you see sticking out of the mouth of the fish. To properly vent a fish, use a hollow venting tool. This can be an 18-gauge needle or a hollow, sharpened, steel cannula mounted on a wooden dowel. Cannulas (16-gauge recommended) can be obtained from farm supply and feed stores.

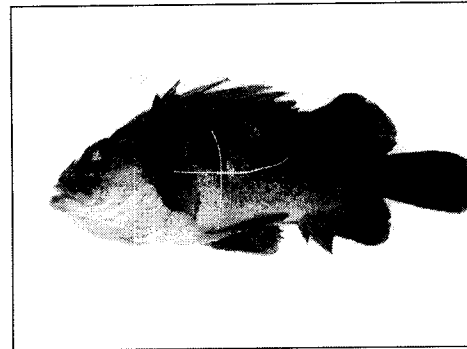


Figure 5a. Where to vent a canary rockfish (demonstrated on a quillback rockfish). (Caution: The location of the swim bladder can be different in other species of rockfish.)

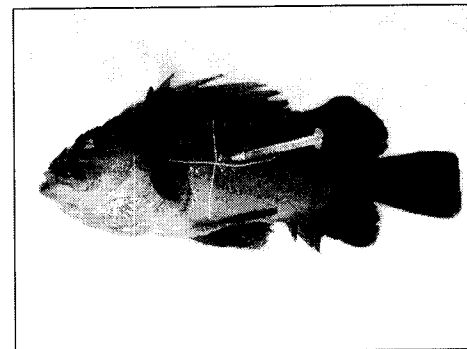


Figure 5b. A hypodermic needle is inserted at a 45° angle beneath a scale of a quillback rockfish.

To avoid getting pricked by the fin spines of the fish, grasp the fish firmly by the head or by the lower lip in a "bass hold," using a clean, wet hand, glove, or cloth. Insert a venting tool into the body wall at a 45° angle halfway along the length and above the pectoral fin (see figures 5a and 5b). Slip the point of the tool underneath a scale and insert it only deep enough to release the gas. Do not skewer the fish. You should hear or see evidence of gas escaping through the needle or venting tool. Firmly hold the fish but do not squeeze it. Aquarium studies have shown that squeezing can increase the chance of infection.

The needle should be cleaned with alcohol or chlorine bleach between each fish to reduce the chance of infection.

Infection can be a serious problem

with vented fish, so it is preferable to use recompression methods if it is at all feasible. Venting can also puncture internal organs. Also, be careful not to puncture yourself with the needle or the spines of the fish. It is very easy for fishers to develop a bacterial infection from puncture wounds caused by fish spines.

Does Slowly Bringing up a Fish Help Reduce Decompression Damage?

Bringing up a rockfish slowly does not decrease the decompression problem significantly. It takes most rockfish a long time (hours at least) to naturally adjust to pressure changes. When using any of the above release methods, it is very important to bring the fish up at a steady rate and then get it back into the water as fast as possible.

Determining Whether the Fish Needs to Be Recompressed or Vented

A fish needs to be recompressed or vented if one or more of the following conditions exist (figures 6 and 7):

1. The fish is seriously bloated.
2. The stomach is visible, sticking out of the fish's mouth.
3. The fish floats on the surface when released.

The greater the depth at which the fish was caught, the more likely it will need to be recompressed or vented, especially if the depth is greater than 100 feet. Some fish have reduced or no swim bladders or have swim bladders that can adjust to changes in depth. Such fish do not have trouble swimming back down on their own. Lingcod, cabezon, and greenling (sea trout) do not need to be recompressed or vented.

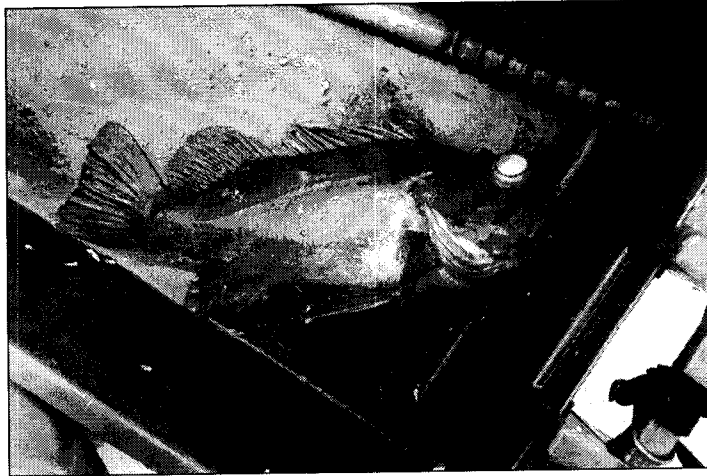


Figure 6. A vermilion rockfish that is bloated and has bulging eyes.

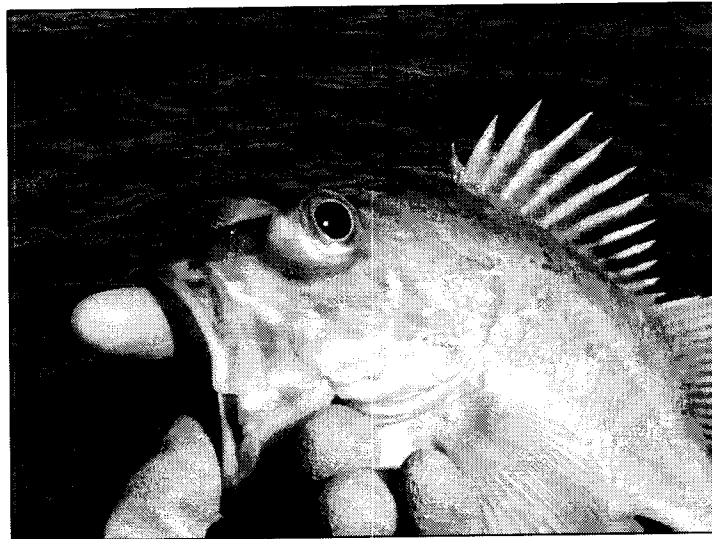


Figure 7. A canary rockfish is suffering from damage from expanding gases. Its stomach is sticking out of its mouth and it has bulging eyes.

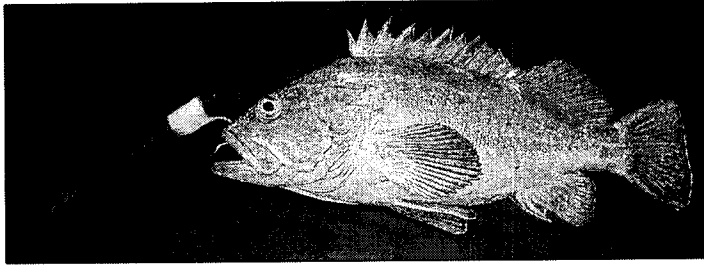
Other Recompression Devices

New devices are being developed to increase the survival of fish suffering from changes in pressure. The photos in figure 8 show some recompression devices that have worked for other fishers.

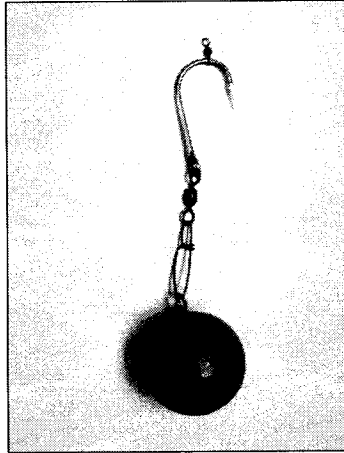
Conclusion

The best policy is to try to avoid catching rockfish you can't keep when you are fishing in water deep enough to cause pressure problems. Do not high grade rockfish.

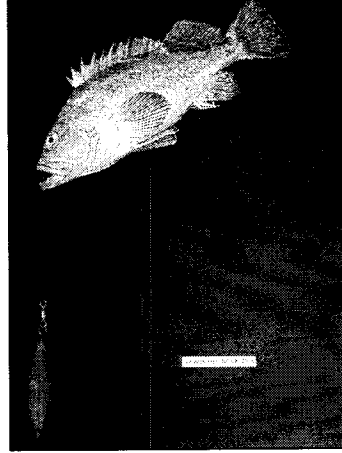
Recompression is preferred to venting because of venting complications caused by infections, handling, and puncturing of internal organs. Getting the fish quickly back down to



A



B



C

Figure 8. Some devices designed by fishers for bringing pressure-damaged fish back to the bottom: A—disposable gaff; B and C—hook and drop.

depth seems to be the most important factor in decreasing symptoms and damage.

Fish-Handling Tips

Avoid the following:

- ◆ Using gaffs and landing nets (if possible)
- ◆ Touching the gills or eyes
- ◆ Dropping the fish

Use the following precautions:

- ◆ Handle the fish as little as possible and then, gently. You can hold a rockfish by the lower lip.
- ◆ Handle the fish with wet hands, wet gloves, or a wet towel to avoid removing protective slime.
- ◆ Back out hooks or cut leader as close to the hook as possible on throat-hooked fish.
- ◆ Return the fish to the water as quickly as possible.

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Credits

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