

Since high-pressure steel tanks are gaining popularity, what else can dive operators do to make sure that their tanks remain rust free? *Undercurrent* spoke with Paul Caputo of Quiescence Diving Services in Key Largo, who handles high-pressure steel tanks in large volume. According to Caputo, frequent inspection is important, but, because even a little water can be the start of a serious rust problem and corrosion can occur very quickly in tropical temperatures, Caputo emphasizes the importance of keeping water out of tanks in the first place. Since air pressure inside the tank tends to keep water out, tanks are most likely to take on water either when the tanks are filled or if they've been emptied completely during the course of a dive, allowing water to be drawn in.

Tanks are vulnerable to taking on water during filling because some tank valves tend to catch water from boat spray or other sources. If the valve isn't cracked open briefly and blown out before installing the fill whip, the water sitting in the valve will be pushed into the tank when it's filled. If a

The Simple Hammer Test

Want a simple test to find out if a steel tank is rust-free? The Compressed Gas Association still recommends an old-time method, the hammer test. It's as simple as it sounds: hit the sidewall of an empty, unpressurized tank "with a light blow using a half-pound ball-peen hammer or equivalent," and if the sound you hear is a clear bell tone, the tank is clean and free of corrosion. If the sound is dull or dead, however, suspect contamination with fluid, corrosion, or other foreign material and have the tank inspected. Also, bear in mind that the test is not effective on aluminum tanks.

large percentage of tanks at an operation had rust problems, Caputo said he would suspect that water was being introduced during filling. Since Aldora found contamination in only a few of its tanks, however, it's more likely that contamination occurred when these tanks were emptied during dives (which was also Dillehay's assessment of the problem). Quiescence's own tank maintenance program calls for visual inspection of all tanks three or four times a year and immediate inspection of any tank that comes back empty. Additionally, tank valves are always opened briefly to blow out any water sitting in the valve before the tanks are filled.

Obviously, the thousand-dollar question is, "Are the tank maintenance efforts in place at Aldora and other operations adequate to prevent other divers from experiencing the problems that Daniels did?" Dave Dillehay obviously thinks so. In fact, Dillehay's so confident that they have a handle on the problem that he gave *Undercurrent* a thousand-dollar answer: "Pay \$10 to open any Aldora tank, and I will pay \$1000 for every flake of rust found. For those truly convinced of our lingering 'serious tank problem,' that could be an easy way to pay for their next dive vacation."

— John Q. Trigger

The Politically Correct Guide to Eating Fish

Jacques Cousteau, Rachel Carson, and ... Carl Safina? Yes, this is a list of authors of classics of marine ecology, and reviewers really are bandying Safina's name around with such august company. Elliott A. Norse, president of the Marine Conservation Biology Institute, says it straight out: "the best writer about the sea

since Rachel Carson." Stephen Colwell, executive director of the dive organization CORAL, says Safina's book, *Song for a Blue Ocean*, "captures the good, the bad and the ugly of what is going on in the world's oceans." Bert Jones and Maurine Shimlock, authors of *Secret Sea*, had the strongest reaction of all: by the

time they'd reached the end, they'd decided to give up eating fish — even sushi!

For those of us who aren't ready to make a commitment of that magnitude, a sliding scale to let us know just how much damage we're doing appeared in a past issue of *Audubon*. The scale, which Safina himself prepared, ranks marine species from populations in abundant supply to species in serious trouble. It considers such issues as the species' current status, its management history, and ancillary

bycatch or habitat concerns to arrive at a recommendation of which fish to order for dinner and which to shun.

Sharks, swordfish, and shrimp top the list of fish in trouble, followed closely by orange roughy, grouper, and Atlantic groundfishes such as cod and haddock. All suffer from scant populations, histories of poor fisheries management, and substantial bycatch concerns. Sharks top the list of at-risk species for many “dull” reasons — including overfishing, slow species recovery from overfishing, and turtle bycatch in gillnets — and a few memorable ones, including exploitation of shark cartilage for “miracle drugs,” \$90-a-bowl shark-fin soup, and the fact that all too many of the sharks caught for soup are killed for their fins and discarded. Swordfish are popular for pricey steaks, which has depleted the species, and shrimp have the highest bycatch of any of the world’s fishes: for every pound of shrimp sold, an average of seven pounds of other sea creatures was killed and thrown overboard. Even farmed shrimp are a problem, with farms being such serious polluters that the Indian government recently ordered more than 100 of them closed. Orange roughy, a “trendy” fish unheard of until a few years ago, doesn’t spawn until after age twenty and may live to reach 100, so depleted populations take many years to recover. Similarly, grouper change sex as they age. While this may well give the term “my old man” new meaning, it also means that heavy fishing, which claims mostly older fish, could wipe out nearly an entire gender.

Species that fall into the middle-of-the-road or gray area are often fish that have been depleted in some subgroups or regions but not in others. Bluefin

tuna, for example, is so severely overfished to supply Japan’s sushi bars that a single fish often sells for \$10,000 to \$20,000. Conversely, most tuna sold in the U.S. as “chunk light” is either skipjack tuna, which is still in substantial supply, or yellowfin, a declining, but not depleted, species. “White” or albacore tuna, long the “politically correct” variety because its harvest did not involve substantial dolphin bycatch, is also a declining species. Likewise, red snapper is depleted, while other snapper populations are in fair shape. And many salmon populations are deemed at substantial risk, although nearly 50 percent of all salmon sold is farmed and Alaskan salmon populations are still considered healthy.

While ordering dolphin (mahi mahi) might make you feel

as if you’re eating Flipper, populations are still in ample supply, although fishing is intensifying. And species such as squid, crabs, and striped bass are abundant, adequately managed in general, and have low to moderate bycatch concerns, putting them at the top of Safina’s list of fish to be eaten with a clear conscience.

Of course, if you’d like to know why some populations flourish while others decline, you should consider reading *Song for a Blue Ocean* itself. Although Colwell insists that it’s “not a doom and gloom story,” Jones seems to have his doubts. “If you ever want to eat fish again,” he cautions, “don’t read this book.”

— John Q. Trigger

Report on the Dive Industry

the bulldog's sharp bite hurts

The people who make their bucks from diving are loosely associated in the Diving Equipment and Marketing Association, a nonprofit organization with a board of directors. Its primary goal is to help the industry grow, but it's been rife with conflict, criticism, and competition. Last August, DEMA's Board appointed the consulting firm Bulldog Drummond to create a plan to increase awareness of and participation in diving. While the report is long on generalities about the industry and short on evidence, it contains many gems of interest to us sport divers. We condensed and reorganized scores of pages representing the most salient points from the Bulldog....

We can trace most problems in the diving industry to one simple, yet pervasive problem: poor to nonexistent communication. Efforts to analyze and fix the problems have had no effect. The diving industry is a mess.

As an industry, scuba diving is more focused on the enemy within than on reinvigorating itself and attacking the real issues. It is incestuous and self-focused. It fears change, it fears new ideas, and it fears newcomers. It is so caught up in its own exclusivity, mystique, and turmoil that it has forgotten the consumer.