

TAKING THE BAIT

BY KATE POTTER

WHO WOULD HAVE THOUGHT THAT AN EXPERIMENT WITH A RAINCOAT AND SOME ROCKS, ROPE, AND BAIT COULD LEAD TO AN INVENTION THAT MIGHT SAVE THOUSANDS OF SEABIRDS?



Dave Kellian is a fisher and an inventor. One day, he and his crew were throwing pilchards (a type of fish) over the side of their boat to attract tuna. But seabirds kept stealing the pilchards from the water. To thwart the birds, the crew wrapped the pilchards in a raincoat, added some rocks for extra weight, and used a rope to lower them under the water. When the pilchards were several metres deep, the crew gave the rope a sharp tug. The movement tore open the fabric fasteners holding the coat bundle together, and the pilchards were released.



After a few experiments, the crew discovered that they needed to release the pilchards at a depth of about 10 metres so that the birds wouldn't dive for them. The crew went home with a good catch of tuna; Dave went home with an idea about how to make life safer for seabirds.

GETTING HOOKED

Longline fishing is a commercial fishing technique. Hundreds, sometimes thousands, of hooks are attached to a fishing line. Lines are set near the surface of the sea or along the seabed and can be up to 130 kilometres long.

Seabirds like albatrosses and petrels know that following fishing vessels is an easy way to get food. They grab bait off the hooks when the lines are being set. But this is dangerous because the birds can get hooked themselves and then drown when the line sinks. A number of seabirds species including the wandering albatross are under threat as a result.

To solve this problem, Dave has spent several years working with others to develop a system that can take a piece of longline bait to a depth of several metres and then release it.

Turning an idea into reality is seldom easy. What could carry the bait to the depth needed? How would the bait be released? Dave, his friend Mike (an engineer), an electronics firm, and a fishing crew worked together to develop a functional model.

Dr. Graham Robertson, a seabird ecologist from Australia, saw a prototype of Dave's device and decided to get involved. The result is the award-winning Underwater Bait Setter.

The device is simple to use. A baited hook is placed in a capsule. When a button is

pressed, a hydraulic motor fires the capsule down a track attached to the boat. After reaching a set depth, the capsule is pulled back to the boat. As it moves, water rushes through it, opening a trap door and flushing out the baited hook. The entire cycle takes about eight seconds.

In 2010, a prototype version of the capsule was trialled in Uruguay. This location was ideal because of the large numbers of black-browed albatrosses and white-chinned petrels found there (these birds are among the most difficult seabirds to deter). The prototype reduced the number of bird deaths by 90 percent without affecting fish catch. An improved version has since been developed.

For the seabirds, missing out on lunch because of Dave's raincoat idea has had a great result!

