

would be required, and the possibility of standardising on a limited number of types. Above all, it should first analyse the markets, to find the best type of product suitable for each, while bearing in mind the need for acceptance of hitherto unfamiliar types.

There are other problems, such as relative financial contributions, manning and training, which cannot be discussed in a short space. Nevertheless, it would appear that here is an opportunity for planned and co-ordinated action which might pay off in both humanitarian and economic terms.

(World Fishing

London

March 1966)

### THE DOLPHIN

What is a dolphin?

The dolphin and porpoise belong to a group of animals known as cetaceans, which include the whales. They constitute the largest and most important group of mammals that has turned, or returned, (there are schools of thought on both) to an aquatic life and that best adapted to an existence in the water. They have become so completely divorced from their former land life that they are helpless if stranded on a beach. Only in their need to breathe air do they show any marked reminiscence to their previous terrestrial existence.

Porpoise and dolphin brains appear to be of an advance type. Psychological study of cetaceans is difficult, but there is evidence that the dolphin, at least, rates very high among non-human mammals in mental ability.

The term "poipose" is generally applied to the smaller members of the family which are short-snouted. The Atlantic porpoise never exceeds six feet in length and there are a number of other species of similar size. The term "dolphin" (not to be confused with the dolphin or dorado which is a true fish) properly belongs to the larger forms, with pronounced noses. Along the Atlantic and Gulf coasts of North America, the animal called a "porpoise" is actually the common bottle-nosed dolphin, a larger animal (up to twelve feet in length). The dolphin of the ancients is a type with world-wide distribution, but is especially abundant in the Mediterranean. Its length averages eight feet or so as an adult and it has a pronounced nose or beak. Included in the dolphin family are the "white whale" or beluga, the black

fish or pilot whale, and the white spotted terror - the killer whale. These members are referred to as whales, but are not true whales.

In the past several years the popularity of the porpoise or dolphin as a study object or plaything has been greatly intensified. Through the media of popular magazines and televised programs, facts about these curious animals are being publicized. The possession of a dolphin in the swimming pool has become a status symbol to those who can afford to buy and maintain them. Accordingly, a lucrative market for the dolphin hunter and trainer has developed.

The dolphin has long been the subject of intensive study by many fields of science. The Naval Electronics Laboratory has been carrying out extensive studies on the sounds produced by the dolphin. It is thought that the animal possesses a vocabulary of some 60 or more sounds. Researches are studying their physiology and means of locomotion. Experiments have been carried out by placing a coating like the dolphin skin on submarines to reduce friction and increase underwater speed. There have even been suggestions that dolphins be trained as underwater military scouts, so that they would report to the surface sightings of objects or men. They also might be used as underwater guides through mine fields or other dangerous areas.

Recently the Bureau of Commercial Fisheries of the United States Fish and Wildlife Service published the following about the porpoise and dolphin.

"The porpoise and his larger cousin the dolphin, are often thought of as man's best friend in the sea. Fond of humans, remarkably intelligent, incurable show-offs, both of these mammals are popularly painted as playful princes of the deep. This view is not shared by the fishermen of the Mediterranean. From Barcelona to Beirut, from Trieste to Tripoli, porpoise and dolphin alike are detested as pests, robbers and natural enemies of all who make their living from the sea."

A study of the General Fisheries Council of the Mediterranean (GFCM) written by C. Ravel of France and published recently through the Food and Agriculture Organization, give the reasons for the fishermen's hostility.

Porpoise and dolphin annually destroy or seriously damage thousands upon thousands of fishing nets - not only nets used near shore, but trawls working over the continental shelf

at depths up to 70 fathoms. Year after year these animals chase away schools of tuna the fishermen have sometime tracked for days. Porpoise and dolphins feed on diminishing stocks of sardine, anchovy, sole and other fish that make up the bulk of the Mediterranean catch.

Italian fishermen report that porpoise alone cost them about \$500,000 a year in destroyed or damaged nets. The French estimate damage to gear at \$400 per boat for the Mediterranean fishing fleet. The Spaniards say the porpoise damage or destroy up to 20,000 items of gear a year. Dolphin are a major threat to the prize bluefin tuna fisheries off Morocco's north coast. Yugoslavia with an average of 3,000 nets ruined and 6,000 damages, reckons its yearly losses due to those animals is about \$270,000.

What is doubly galling to the fishermen is that the porpoise and dolphin have public sympathy on their side. Any Mediterranean-wide campaign against them would probably set off a chain of protests. Admiration for the porpoise and dolphin goes back to ancient times. Greeks and Romans saw them as a noble, even divine creature. Homer called the dolphin "King of Fishes and Lord of the Sea". He also said that to hunt a dolphin was sinful and displeasing to the Gods. Pliny cited the dolphin as a saviour of drowning men and a fierce fighter of crocodiles in the Nile.

Despite the porpoise-dolphin's established public image, the fishermen do what they can in their own defense. They use a variety of attacks.

Porpoise and dolphin are shot with rifles - without much real effect on their numbers. Underwater detonations and grenades scare them away but seldom kill them. Poisons are poured in the sea where they are thought to collect - usually without impressive results. Ultrasonic wave emitters frighten them away from the fishing boats - temporarily. Once the echo sounders are turned off, the "divine creatures" come swarming back. Other devices are tried - with indifferent success.

The GFMC study offers one solution: eat them. Ravel's study says that "porpoise hunting might perhaps be intensified if porpoise meat could be marketed in an ordinary way."

He points out that although little porpoise meat is eaten in his country (its bright red color is considered shocking), there is no reason why the meat could not achieve popularity.

"It tastes very good, rather like venison. Certain cuts - fillets, tongue, brains, liver and kidney - are special delicacies. In other countries, such as Italy and England, porpoise meat is highly esteemed and eaten quite normally".

"In Canada", the study continues, "canned dolphin meat is an enormous success, so that its poor reputation elsewhere is quite undeserved and ought to be changed. Porpoise meat should find the place it used to enjoy on the market and this would be the best way of keeping down the numbers of those animals".

A good way of combatting the Tursiops species of dolphin, (bottle nosed, etc.) Ravel recommends, is to "harpoon them on sight". Thus Mediterranean fishing boats, especially those engaged in tuna and sardine fishing, would do well to keep harpoons aboard "so as to deal with the Tursiops when they start prowling around the boat".

In Turkey the animals are specifically hunted with high powered rifles from high speed boats. The meat is desirable to the Turks and is marketed.

Ravel's final recommendation is the use of underwater acoustic signals. As porpoise and dolphin are known to communicate with one another by such signals, he thinks that it may soon be possible to keep them at bay by transmitting their alarm or distress signals.

"In other circumstances", his study concludes, "different signals may be used to attract those creatures to specific points, so that they might be caught and killed by appropriate means".

Many of the troubles of the Mediterranean fishermen, concerning dolphin, are experienced by our Louisiana fishermen. Dolphin are known to tear into shrimp trawls to get at fish and shrimp caught inside. This action results in loss of part or all of the catch and costly, time consuming repairs.

This article is not meant to be anti-dolphin: so "Flipper" fans, "At Ease!" Several methods mentioned in the study are highly argumentative and could not be more detrimental than beneficial i.e., pouring poison into the water. However, it was felt that both sides of the story of these unique animals should be presented giving some international attituded about it. Friend or foe - what about the dolphin?