

Science on the Job

FISHING BOAT CAPTAIN

There's a lot more to catching fish than putting a net or a line into the ocean. More and more these days, finding fish means looking at the big and changing picture of fish populations. Once you start fishing, you need to know when to stop fishing, as well as how to protect the other organisms in the ocean environment.

Density

If there are too few fish of a particular species in one area, it is best to leave them and look for a place with greater population density. Also, by using the most suitable gear, the captain avoids killing or injuring fish and other animals that shouldn't be part of the catch.

Distribution

Some fish live alone, and some live in big groups, called schools. Some, called ground fish, stay on the bottom, while others swim near the surface. One way to see the distribution of fish is with sonar. An image made from sonar shows that a school of hake swims at a depth of about 320 meters (1050) ft.

Partners in Research

Many fishing-boat captains set up partnerships with researchers to study sea life and to help fish thrive. Sonar equipment is a tool shared by scientists and commercial fishers. Images are made by sending sound waves through the water and receiving the patterns of sound waves that bounce, or echo, back.

Explore:

1. INFER Boat captains talk to each other about how many fish they catch and where and when they catch them. What are three reasons why this would be important?

2. CHALLENGE Suppose a fishing boat captain overfishes an organism that is a food source for another organism. Describe what may happen to the predator organism.

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