



Ocean Zones Review

Intertidal zone video and question

Explain why animals need to be tough in order to live in the intertidal zone?



*Intertidal Zone

- The Intertidal Zone is the area closest to the shore
- This is where land and sea meet between high and low tides
- Organisms that live here must survive great changes in temperature, sunlight, wet/dry conditions, and salinity



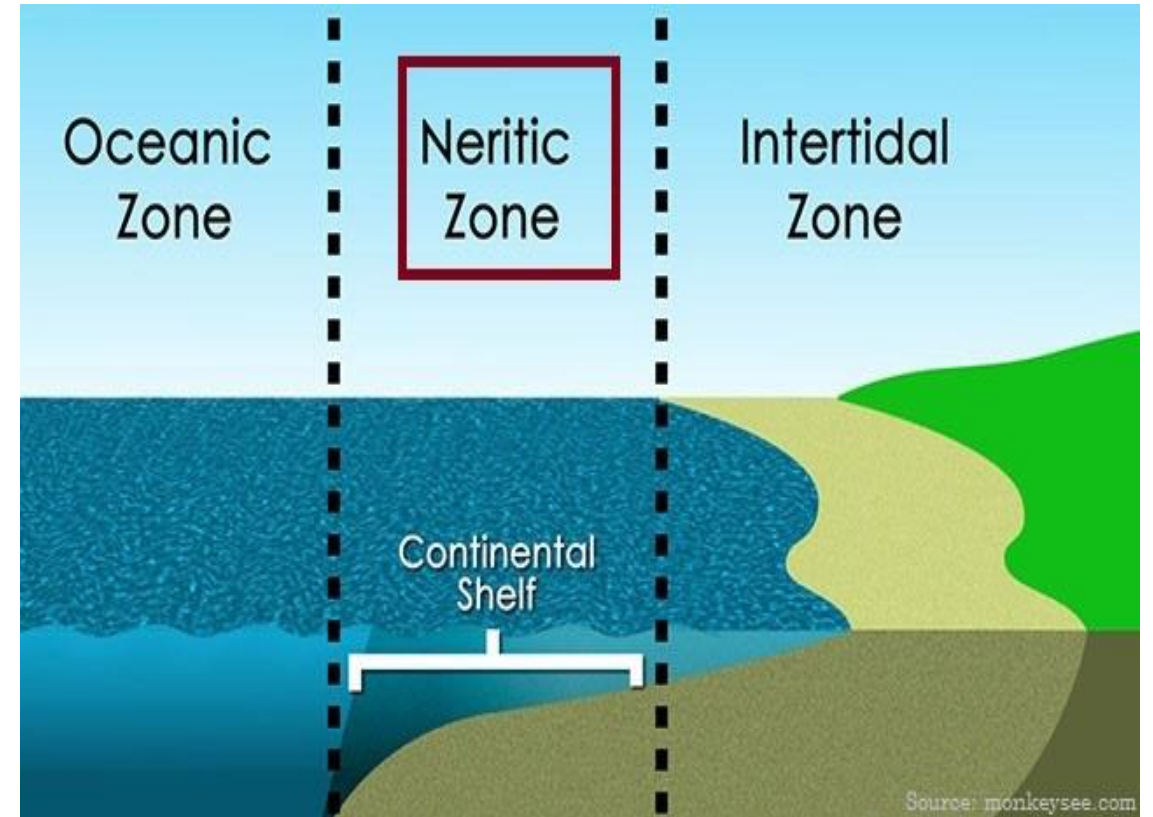
Neritic Zone

The Neritic Zone consists of all waters extending from the low tide mark to the continental shelf.

- The continental shelf is the gradual sinking of continental crust into water

The Neritic Zone has the **GREATEST AMOUNT** (most #) of life because:

- Sunlight reaches throughout this layer (photosynthesis)
- Temperature and salinity are nearly constant throughout the entire layer

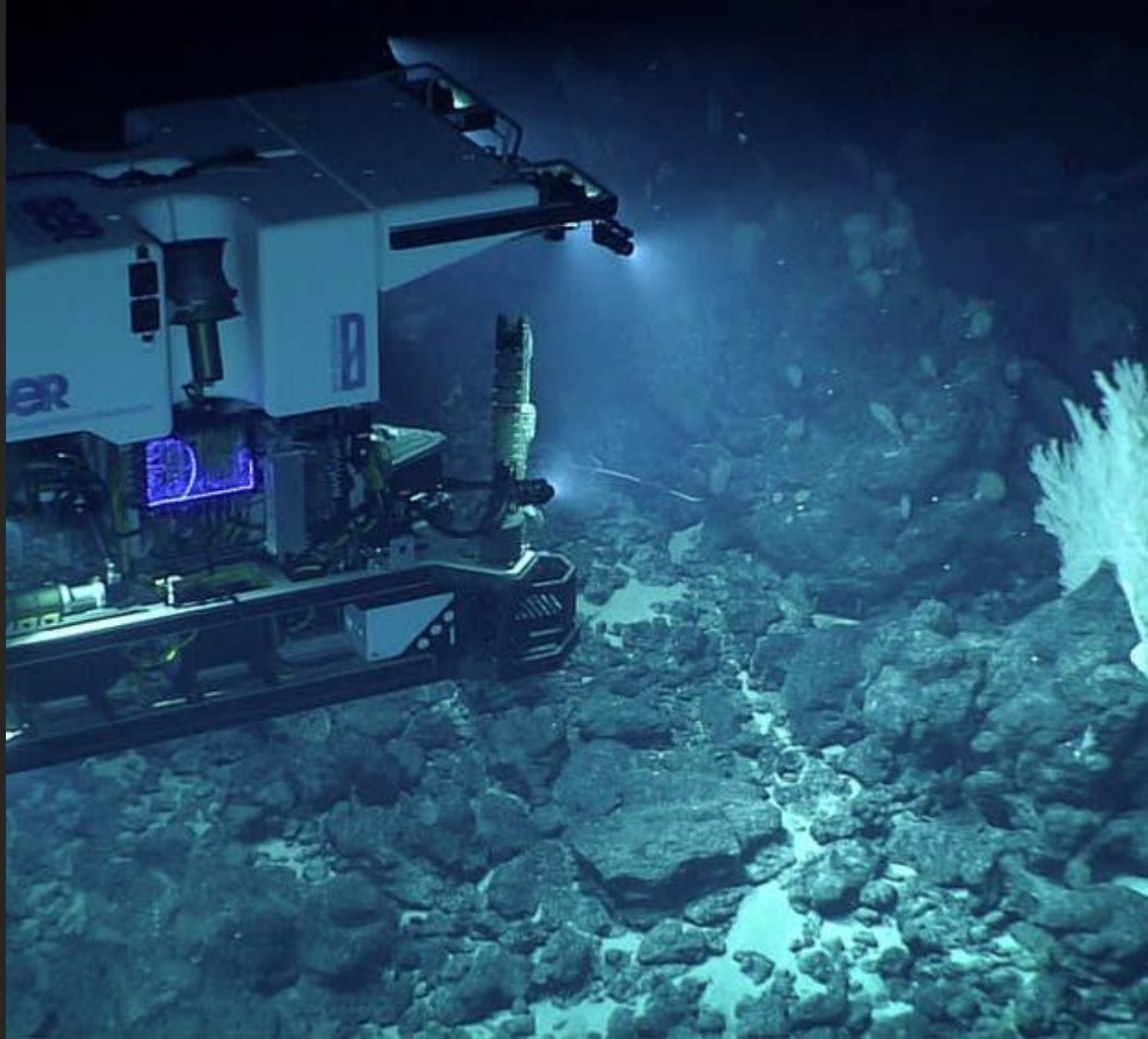


Benthic Deep Ocean

The Deep Ocean begins at the continental slope and extends all the way to the sea floor.

The Benthic zone is the deepest, darkest, and coldest part of the ocean.

Pressure greatly increases as you travel from the neritic to the benthic zone.





The Deep Zone makes up 65% of all ocean water.

COOL FACT! Most of the Benthic Zone is unexplored...because humans can't survive the crushing **pressure** and vastness of the ocean





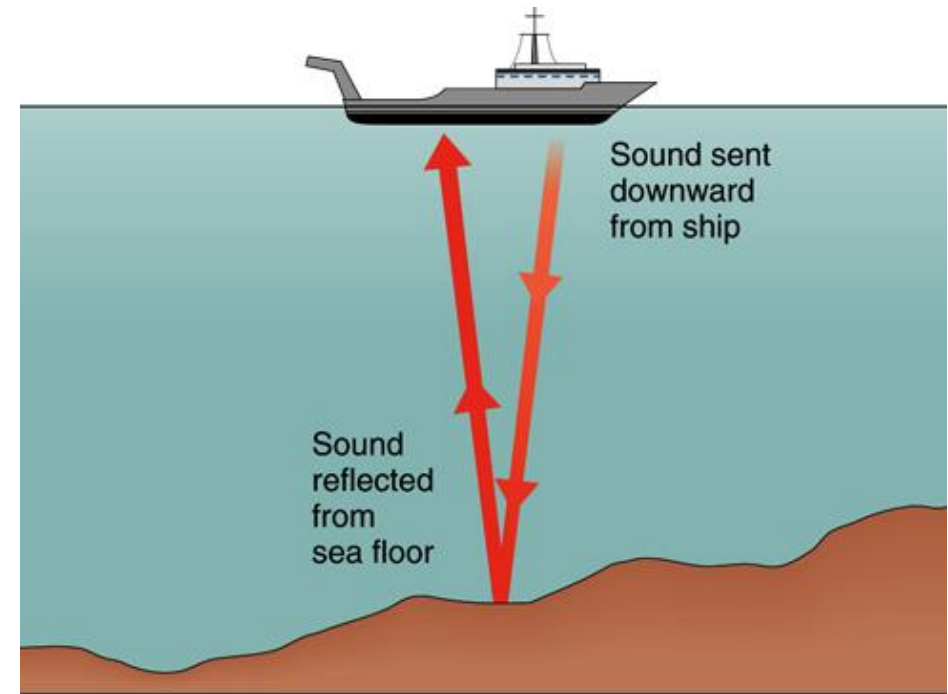
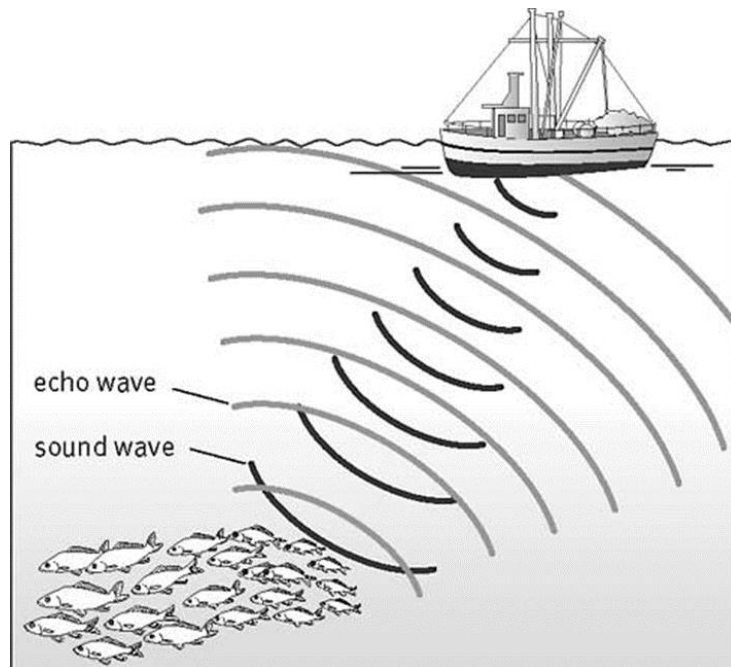
Marine Life Video

<https://www.youtube.com/watch?v=SdNqFVsyoms>

How can we tell the depth of ocean?

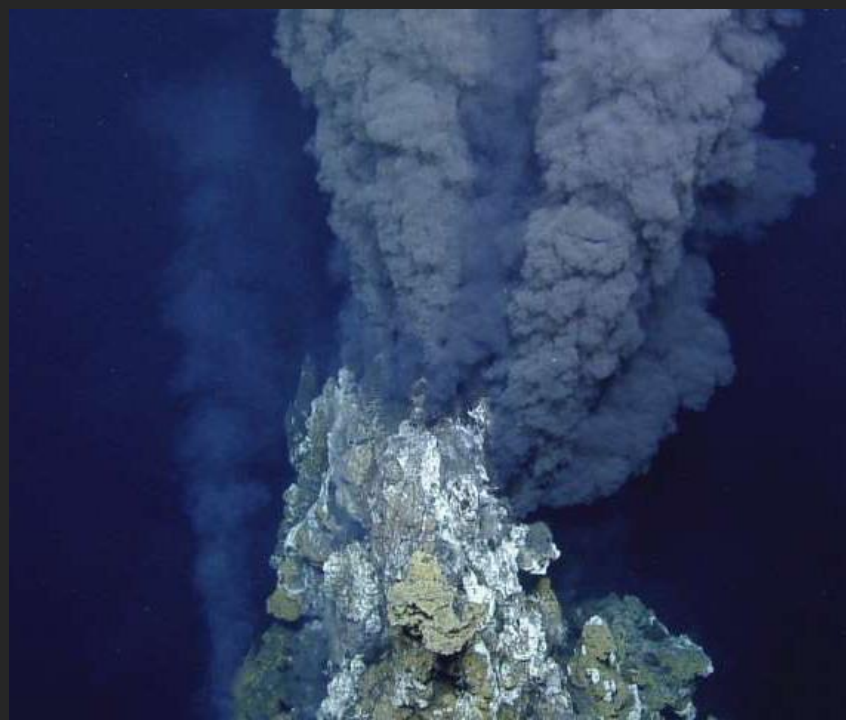
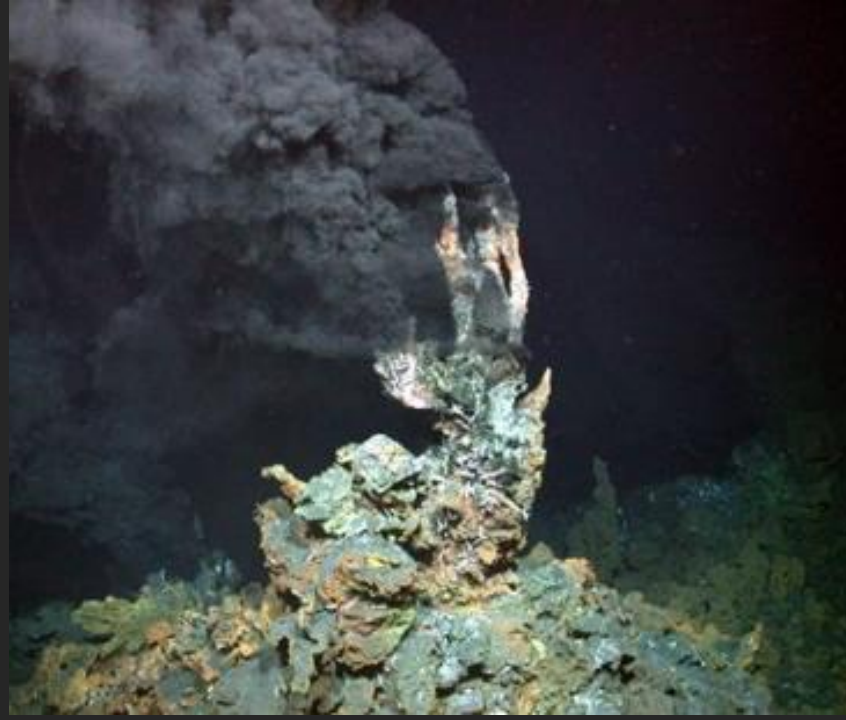
Sonar Waves are sound waves that map sea floor.

Sonar sound vibrations are sent down into the ocean and timed to see how long it will take them to reflect (bounce back) from the sea floor or animals. This helped scientists with the depth (how far down) of the sea floor and helped prove that the sea floor wasn't flat.



How does life exist in the deep ocean without the presence of the sun?

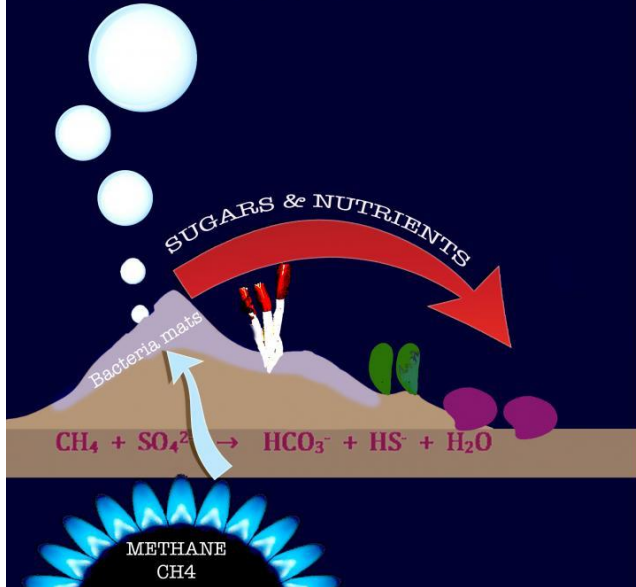
hydrothermal vents are underwater volcanoes that seep methane gas and *other nutrients from the earth's interior into the water. Hydrothermal vents provide food and heat that plants need/use to stay alive.*



How does life exist in the deep ocean without the presence of the sun?

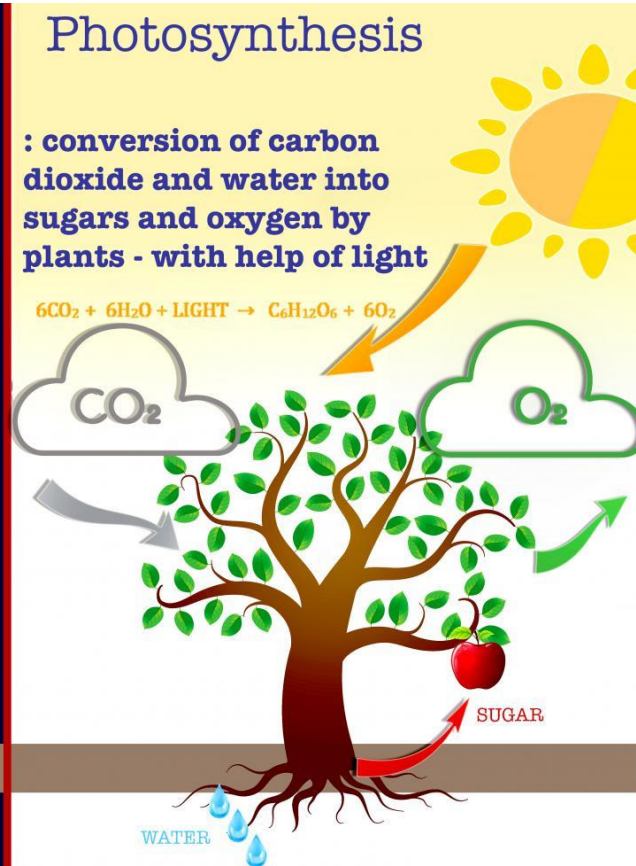
Chemosynthesis

: conversion of carbon into sugars and nutrients by bacteria in dark places. They use hydrogen gas, hydrogen sulfide and methane as sources of energy, rather than light.



Photosynthesis

: conversion of carbon dioxide and water into sugars and oxygen by plants - with help of light

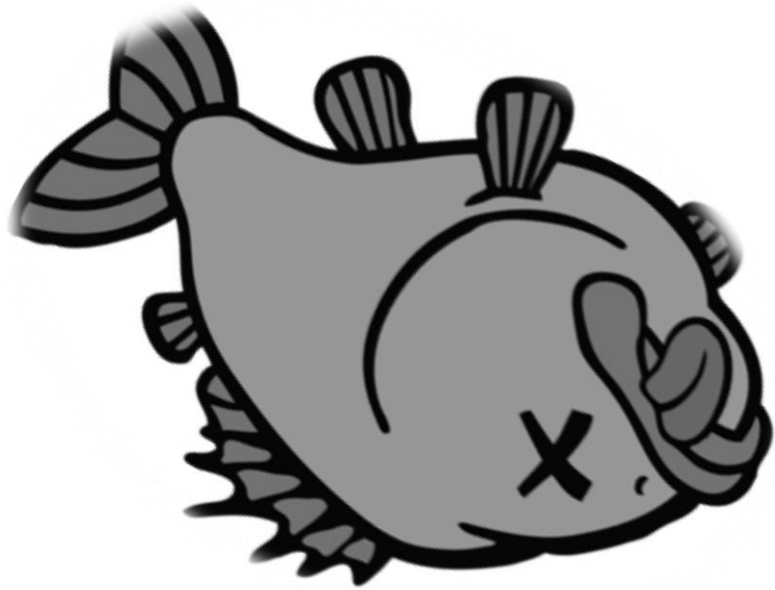


-The process of converting chemicals to energy is called chemosynthesis

Chemosynthesis vs. photosynthesis

<https://oceanexplorer.noaa.gov/edu/learning/player/lesson05/l5ex1.htm>

What happens when ocean organisms die?



When marine organisms die, they will sink to the sea floor where they will be consumed by another organism

or

they decay on the sea floor until....

AN UPWELLING OCCURS

- An **upwelling** is the process in which water from the deeper parts of the ocean moves up to the surface (coast) by the wind, bringing nutrients from the ocean floor to the surface
- This brings nutrients to the surface of the water and makes great fishing spots for fishermen

