

Endeavour Hydrothermal Vents: Canada's First MPA

Glossary of Terms

1. abyssal zone - The deep ocean is the *abyssal zone*. The water in this region is very cold (around 3° C), highly pressured, high in oxygen content, but low in nutritional content. The abyssal zone supports many species of invertebrates and fishes. Mid-ocean ridges (spreading zones between tectonic plates), often with hydrothermal vents, are found in the abyssal zones along the ocean floors.
2. bacterivores – microscopic organisms which obtain energy and nutrients primarily or entirely from the consumption of bacteria.
3. biome – Biomes are defined as the world's major communities, classified according to the predominant vegetation and characterized by adaptations of organisms to that particular environment. World biomes are freshwater, marine, tundra, desert, forest, and grassland.
4. chemosynthesis - is the use of energy released by inorganic chemical reactions to produce food. Chemosynthesis is at the heart of deep-sea communities, sustaining life in absolute darkness, where sunlight does not penetrate.
5. chemoautotrophic – literally means chemical self nourishment. Chemoautotrophs use inorganic energy sources, such as hydrogen sulphide or elemental iron to obtain energy from chemical reactions. Most are bacteria or archaea that live in hostile environments such as deep sea vents and are the primary producers in such ecosystems.
6. community – a group of organisms or a social group interacting in a specific region under similar environmental conditions.
7. conservation – preserving and carefully managing natural resources so that they can be used by present and future generations.
8. ecosystem – a community and the interactions of living and nonliving things in an area. Different areas of the ocean can be classified as different types of marine ecosystems.
9. ecozones - To understand the diversity of life it is helpful to consider how natural boundaries, which exist now and in the geological past, have restricted movement and how different climates have lead to different environmental pressures. Both geographical isolation and differing environmental pressures have resulted in diversification through natural selection. Different groups of species, and different types of solutions have

evolved in different parts of the world, and these areas are called ecozones. British Columbia has the Pacific Marine ecozone which begins at the BC Coast and is defined by cold Arctic waters to the north.

10. endemic – found nowhere else on earth. Unique or limited to one place or habitat type on earth.
11. environmental impact – the effect, usually negative, of human activity or presence on an area.
12. extraction – removing rock or minerals from the earth.
13. extremophile – an organism that lives in extreme environments such as superheated water or toxic-laden environments.
14. habitat - A place where something lives is its habitat. It is a place where it can find food, shelter, space, and protection.
15. hydrothermal – of or related to hot water.
16. hydrothermal vents- Hydrothermal vents are the areas where ocean water is heated up by the molten magma under the earth's crust, and vent-like structures are formed. "Deep sea geysers".
17. local environment – all the influences and conditions in which organisms live. (weather, temperature, etc.)
18. natural resources - *Natural resources* occur within environments that exist relatively undisturbed by humanity, in a *natural* form. A natural resource is often characterized by the amount of biodiversity that exists in various ecosystems. Natural resources are derived from the environment.
19. non-renewable - Something that cannot be replaced once it is used or that may take many hundreds of years to be replaced.
20. photosynthesis - occurs in plants and some bacteria, wherever there is sufficient sunlight – on land, in shallow water, even inside and below clear ice. All photosynthetic organisms use solar energy to turn carbon dioxide and water into sugar and oxygen.
21. renewable resources - Natural resources that can be renewed or replaced by nature within 100 years.
22. species - a group of living organisms consisting of similar individuals capable of exchanging genes or interbreeding.

23. symbiosis (or symbiotic relationship) is a close and often long-term interaction between two different biological species, usually to the benefit of both.

24. tectonic plates – Earth's outside layer (lithosphere) is made up of what is called the crust and the uppermost mantle, which is the hard, rigid layer on the outside of the earth. A good example to use for the layers of the earth is a soft-boiled egg, cut in half with the shell on. The shell is the crust and the white of the egg the mantle, and the yolk, which is runny, is the core of the earth.

The crust of the Earth is divided into tectonic plates. The movement of the plates toward each other forms mountains, and away from each other, (divergent) allows for hot magma to lie close to the Earth's surface, enabling ocean water to be superheated - the creation of hydrothermal vents.

25. unique – specific to a certain place.

Sources

Earth and Space Science: Renewable and Non-renewable Resources
(p. 100, Science K to 7)

Salmonids in the Classroom, Intermediate, Fisheries and Oceans Canada,
Appendix 3, Glossary.

<http://www.ucmp.berkeley.edu/exhibits/biomes/marine.php>

<http://oceanexplorer.noaa.gov/facts/photochemo.html>

Wikipedia