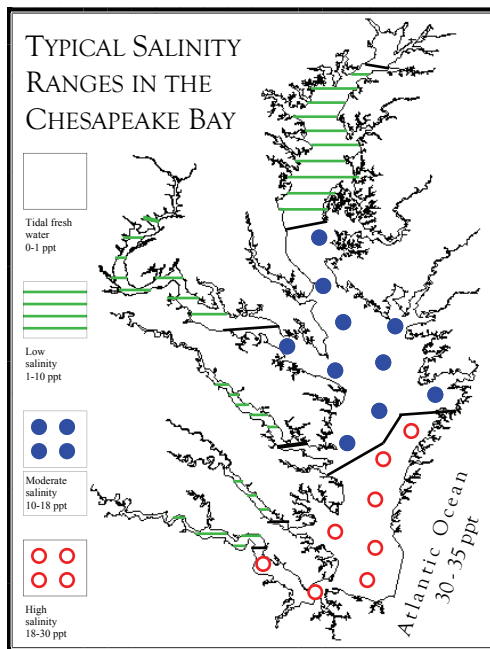




Salinity and the Chesapeake Bay

Salinity refers to the amount of salt found in a sample of water. Salinity is measured in parts per thousand, or ppt. Fresh water found in non-tidal rivers and streams contains less than one ppt. Salt water found in the Atlantic Ocean contains 30 to 35 ppt. When salt and fresh water mix in the Chesapeake Bay, it creates brackish water. The salinity of brackish water can range from 1 to 29 ppt.



The salinity of water found in the Bay depends on many factors, including location, time of year, and depth. The Bay is saltiest at its mouth, closest to the salt water of the Atlantic Ocean. The Bay contains its lowest salinity levels in the Upper Bay, just below the inflow of fresh water from the Susquehanna River. In between exist a wide range of salinities, with the level of salt decreasing as one travels from the mouth of the Chesapeake near the ocean to the head of the Bay.

Salinity in the Bay also depends upon the time of year. In the Spring, when freshwater inflow from rivers are at their highest levels due to rainfall, the Bay tends to be less salty. In the Fall, which tends to be the driest time of year, the salinity levels of the Bay increase.

The depth of the water plays a role in determining salinity as well. Salt water is heavier than fresh water and flows into the Bay along the bottom, so water at the bottom of the Bay is saltier than water near the surface.

The salinity level of the water helps determine what types of species are found there. For example, fish that prefer high salinity levels such as sharks and red drum can be found near the Bay's mouth. Species that live in fresh water such as largemouth bass and catfish are found in the Upper Bay. Some animals, such as striped bass and blue crabs, can live in a wide range of salinity levels and can be found throughout the Chesapeake. Salinity also affects what type of plant life is found in an area. Eelgrass, for example, is found in the high-salinity waters near Smith and Tangier Islands, while coontail, pondweed, and wild celery are common to the fresh tidal waters of the Upper Bay. Knowing the salinity level of the water is important to help people understand what types of plants and animals live in different parts of the Chesapeake Bay.



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NAME: _____ DATE: _____

COMPREHENSION QUESTIONS

DIRECTIONS: Read the text on the previous page, then answer the following questions in complete sentences. Write your answers on the lines provided.

1. What is ppt?

2. What is the salinity range of brackish water?

3. Why is the Bay saltiest near its mouth?

4. What are three factors that affect salinity levels in the Bay?

5. How does the salinity affect what plants and animals are found in the Bay?
