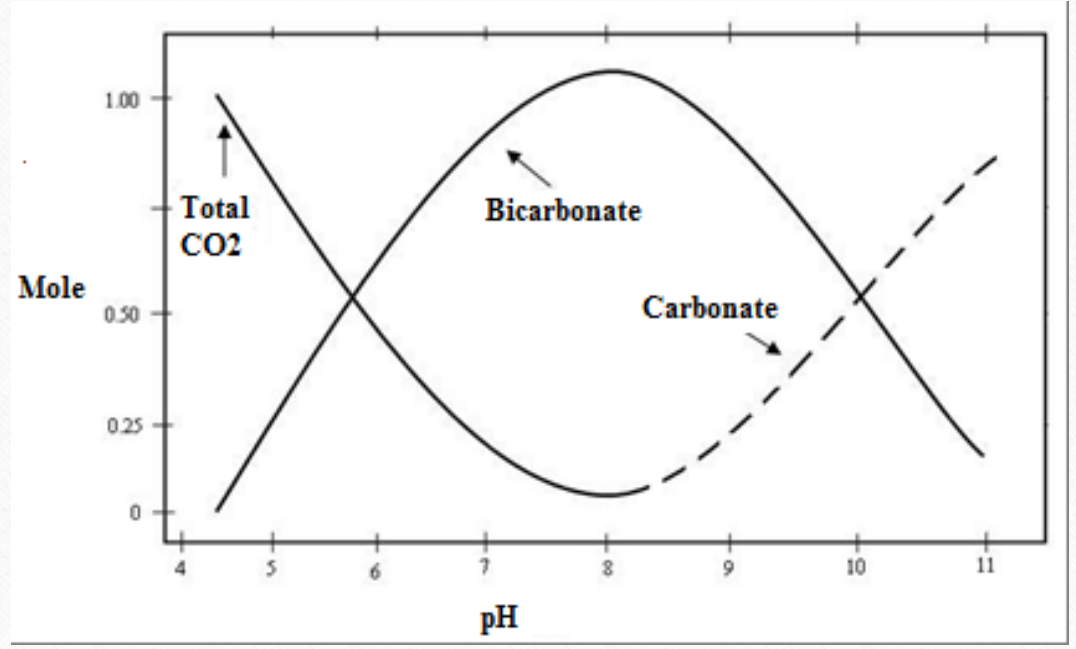


WATER POLLUTION and CONTROL

Carbondioxide

- * Carbon dioxide (CO_2) is highly soluble in water and atmospheric CO_2 is absorbed at the air-water interface.
- * CO_2 is produced within water bodies by the respiration of aquatic biota, during aerobic and anaerobic heterotrophic decomposition of suspended and sedimented organic matter.



Hardness

- * The hardness of natural waters depends mainly on the presence of dissolved calcium and magnesium salts.
- * The total content of these salts is known as general hardness, which can be further divided into carbonate hardness and non-carbonate hardness.

Chlorophyll

- * The green pigment chlorophyll is present in most photosynthetic organisms and provides an indirect measure of algal biomass and an indication of the trophic status of a water body which is related to the phosphorous concentration.

Nitrogen compounds

- * Nitrogen is essential for living organisms as an important constituent of proteins, including genetic material. Plants and micro-organisms convert inorganic nitrogen to organic forms.
- * In the environment, inorganic nitrogen occurs in a range of oxidation states as **nitrate** (NO_3^-) and **nitrite** (NO_2^-), the **ammonium ion** (NH_4^+) and molecular nitrogen (N_2).

Phosphorous

Phosphorus is an essential nutrient for living organisms and exists in water bodies as both dissolved and particulate species.

It is generally the limiting nutrient for algal growth and, therefore, controls the primary productivity of a water body.

Natural sources of phosphorus are mainly the weathering of phosphorus-bearing rocks and the decomposition of organic matter.

Phosphorus associated with organic and mineral constituents of sediments in water bodies can also be mobilised by bacteria and released to the water column.

References

Anonymous 1996. Water Quality Assessments - A Guide to Use of Biota, Sediments and Water in Environmental Monitoring - Second Edition Ed. by Deborah Chapman 651 pages published on behalf of WHO by F & FN Spon 11 New Fetter Lane London EC4) 4EE.

Taken from <http://www.nios.ac.in/media/documents/313courseE/L34.pdf>