



WATER QUALITY IN AQUACULTURE

QUALITY OF THE AQUATIC ENVIRONMENT

- Set of concentrations, speciations, and physical partitions of inorganic or organic substances.
- Composition and state of aquatic biota in the water body.
- Description of temporal and spatial variations due to internal and external factors.

POLLUTION OF THE AQUATIC ENVIRONMENT

- Introduction by man (antropogenic effects), directly or indirectly, have deleterious effects as:
 - harm to living resources,
 - hazards to human health,
 - limits the aquatic activities including fishing,
 - impairment of water quality with respect to its use in agricultural, industrial and often economic activities.

THE TERMS MONITORING AND ASSESSMENT ARE FREQUENTLY CONFUSED AND USED SYNONYMOUSLY:

Water quality **ASSESSMENT**:

The overall process of evaluation of the physical, chemical and biological nature of water in relation to natural quality, human effects and intended uses, particularly uses which may affect human health and the health of the aquatic life.

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Water quality **MONITORING:**

The actual collection of information at set locations and at regular intervals in order to provide the data which may be used to define current conditions.

POLLUTANT SOURCES IN AQUATIC ENVIRONMENT:

In general, **pollutants can be released into the environment** as gases, dissolved substances or in the particulate form.

Ultimately pollutants reach the aquatic environment through a variety of pathways, including the atmosphere and the soil layers.

POLLUTANT SOURCES IN AQUATIC ENVIRONMENT:

- **A point and a diffuse pollutant sources are:**
- An important difference between a point and a diffuse source is that **a point source may be collected, treated or controlled easily.**
- **The major point sources of pollution** to freshwaters originate from the collection and discharge of domestic waste waters, industrial wastes or certain agricultural activities.

POLLUTANT SOURCES IN AQUATIC ENVIRONMENT:

- Most other agricultural activities, such as pesticide spraying or fertiliser application, are considered as **diffuse sources**.
- The atmospheric fall-out of pollutants is the source of diffuse pollution.

ATMOSPHERIC SOURCES

- Sources of anthropogenic materials to the atmosphere include:
 - combustion of fossil fuels for energy generation,
 - combustion of fossil fuels in automobiles, other forms of transport, heating in cold climates and industrial needs (e.g. steel making),
 - wind blown soils from arid and agricultural regions,
 - volatilisation from agriculture, from waste disposal and from previously polluted regions.