

WATER QUALITY REQUIREMENTS OF FISHES

TEMPERATURE

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Temperature directly influences aquatic life. Elevated temperature increases the metabolism, respiration and oxygen demand of fish. Higher temperature regimes results in death. The maximum temperatures that an adult fish can tolerate vary with the species to species of fish, prior acclimatization, oxygen availability and the synergistic effects of other pollutants.

Some of the important attributes of temperature as an ecological factor for fish life are as follows:

- Massive tree plantation along the banks of pond reduces thermal stratification in the pond. However, this will reduce wind mixing and photosynthesis, thus Dissolved oxygen, by restricting the penetration of sunlight in pond water.
- Operation of aspirator aerators and paddle wheel in pond water reduces the temperature.
- The optimum temperature regimes vary for different fish species and habitats.
- The recommended temperature range for 'cold water fishes' is 14-18 °C.
- The recommended temperature range for 'warm water fishes' is 24-30 °C.
- The temperature influences molecular dynamics.
- The temperature influences bio-chemical mechanisms pertaining to fish-metabolism.
- The temperature affects solubility of gases in pond water.
- The temperature aggravates the state of aquatic pollution.

A summary sheet, displaying the role of temperature in fish life, follows-

