

CHAPTER- 7.0 CONCLUSION

- Geographical distribution, substratum, physical and chemical conditions of river, planktonic forms, benthic invertebrates and longitudinal zonation of upland rivers/streams need be investigated for proper understanding of ecology of river and its impact on fish life.
- The present investigation has given a general picture of the conditions existing in the river Beas. The river can be utilized for a better fish cultivation. Physico-chemical features, plankton and benthic organisms of the river are on the positive side for the development of fisheries in river Beas.
- The plankton concentration in general was moderate in the selective stretches of the river Beas. The plankton population was represented by 26 genera represented by Chlorophyceae, Bacillariophyceae, Cyanophyceae and

Rodophyceae. Phytoplankton dominated over zooplankton in the river irrespective of seasons.

- The aquatic insects and other benthic organisms concentrations were high in the river.
- Vegetation ranging from trees and shrubs to emergent reeds is highly effective in stabilizing banks prone to erosion. Plantation of suitable trees on the river bank in patches devoid of trees is imperative.
- Vegetation contributes the autotrophic production in that it decays and forms rich detritus, which is utilized as food by the aquatic organisms including fishes.
- From the present study it is apparent that *Schizothorax richardsonii* is widely distributed and had good numbers in the river as well as in its tributaries. Due to its wide distribution, it can be said that this fish is well adapted to the riverine habitat in the region.
- Exotic *salmonids* namely, **Brown trout** and **Rainbow trout** chief “sport cum food fishes” were mainly restricted to the upper reaches of the river Beas.
- Both, *trout*- Mahseer and *Schizothorax* prefer shady and safe resting and feeding pockets in the river.
- The **Mahseer** a famous “sport cum food fish” which usually prefers pools and feels at home in riffles and cascades, has perished from the upper reaches of the river Beas due to Hydro Power Projects establishment.

- The population of most of the species was low. This seems to be related to the anthropogenic pressures as most of the streams and the river Beas itself as well as various low lying lakes of the valley are getting gradually polluted.
- The water abstraction in upper streams river system, construction of various river-valley projects, faulty land use patterns, and destructive methods of fishing etc. have been to a large extent regarded as main reasons for depletion of cold water fishery especially the trout fishery.
- Habitat restoration programme is highly important for revival of fisheries in river Beas and a compact programme combining both investigational and conservational needs to initiate.
- Further, the water flow pattern in the Beas and several of its of its tributaries has got obstructed due to the construction of hydro-electric projects, which have affected the breeding and feeding ground of the fish, especially *Schizothorax spp.*
- Further, to save the fishes from more extinction and decline in the region, the only way to save them is **Conservation**.
- To conserve the Himalayan fishery, following efforts are required-
 - i) Legal enforcement against destructive fishing and habitat destruction.
 - ii) Prevent illegal fishing

- iii) Protect breeding grounds
- iv) Improvement of catchment area
- v) Conservation of natural fish seed
- vi) Conservation of mass scale seed production of endangered species through artificial propagation
- vii) Phased and regular ranching programme of endangered species.

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