

Fish Migration



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INTRODUCTION- :

- ❖ Few species travel long distance moving from place to place in search of food or for breeding . This movement of a large number of fishes for the purpose of feeding or spawning is known as **Migration**.
- ❖ According to baker (1998) it is ' the act of moving from one spatial unit to another'.
- ❖ According to nikolsky (1963) - ' migration is an adaptation toward increasing the abundance of a species.'
- ❖ Migration behaviour is of course one of the phenomena in the life histories of the fish directed toward reproductive success.

MIGRATORY SPECIES-

- ❑ Several species are migrated of mature adults for spawning and feeding. These are example of migratory fishes-
- 1. The cod (*Gadus morhua*)
- 2. Herring (*Clupea harengus*)
- 3. Salmon (*salmo sp.*)
- 4. Eel (*Anguilla anguilla, A. Rostrata and A. japonica*)
- 5. Hilsa (*Hilsa ilisa*)
- 6. Three- spined stickle back (*Gasterosteus aculeatus*)
- 7. The lampreys (*Petromyzon marinus*)
- 8. The tunnas (*Thunnus thynnus*)

TYPES OF MIGRATION-

Migration may be the following types:

- a. ALIMENTARY MIGRATION** - This is in search of food and water.
- B. GAMETIC MIGRATION** - For reproduction .
- C. CLIMATIC MIGRATION** - to secure more suitable climatic conditions.
- d. OSMOREGULATORY MIGRATION.**

PATTERNS OF MIGRATION-:

✓ The form or pattern of migration differs between species ,as well as within a species , myers (1949) has used the following terms to describe fish migration :

1. DIADROMOUS FISHES

A. Anadromous (salmon and hilsa)

B. Catadromous (anguilla)

C. Amphidromous

2. POTAMODROMOUS FISHES

3. OCEANODROMOUS FISHES

1- DIADROMOUS FISHES-:

- ❑ these are truly migratory fishes which migrate between the sea and fresh water and are three types:



A. ANADROMOUS FISHES :-

- ❖ diadromous fishes which spend a major part of their lives in the sea but migrate to fresh water during breeding period for spawning.
- ❖ Thus , many marine fishes like *the Salmon shad Lampray and Hilsa* ,travel long distances in the sea and run up the river to spawn in fresh water .
- ❖ *Salmon and Hilsa* have been found to travel several thousand km in the sea, then several hundred km inland to **reach the spawning ground , after egg laying , the spend fishes return to feeding places in the sea.**

2. CATADROMOUS:

- **This group including diadromous fishes which spend a major of their lives in fresh water but migrate to the sea for breeding purpose.**
- **Thus the fresh, water eel *Anguilla* travels several thousand km starting from the rivers and reaching the spawning grounds in the sea.**
- **After egg laying , the river die and the young larvae drift and swim back towards the fresh water , taking three years in reaching the rivers.**
- **Here ,they become adult , and on reaching maturity start their seaward migration again.**

C. AMPHIDROMOUS:

- ❑ These are diadromous fishes in which migration from fresh water to the sea or *vice versa* is not for the purpose of breeding.
- ❑ But occurs regularly at some other definite stage of the life cycle.
- ❑ **Myer suggests** that the migration of some gobies might fall into this category.

2. POTAMODROMOUS FISHES:-

- ❖ Truly migratory fishes whose migration remain confined to fresh water , *e.g. the carps and the trout* travels long distance in large rivers in search of spawning grounds.
- ❖ After egg laying at suitable places they return to the feeding area.

3. OCEANODROMOUS FISHES:-

- ❖ Truly migratory fishes which live and migrate in the sea.
- ❖ Many marine fishes like the cod , the *herrings (Clupea)* , *mackerels (Scomber)* and the *tunnas (Thunnas)* travel long distance in the sea to deposit their eggs , and later return to the feeding grounds.

CAUSE OF MIGRATION-:

- ❑ Several authors have given various reasons as to why fish migrate ,according to **Northcote (1978)** this is:
 - 1) To optimize feeding
 - 2) To avoid unfavourable condition,
 - 3) To enhance reproductive success , and
 - 4) Possibly to promote colonization.
- ❑ the strategy of fish is to exploit rich food source , to enhance food intake which is necessary for increased growth rate , fecundity and survival.

ADVANTAGES OF MIGRATION-:

- Migration is an adaptation towards abundance.
- it would be an advantage to have **separate spawning , nursery and feeding grounds.**
- A species whose adults return to spawn in an area where the environmental condition were similar to those under which they themselves survived when young.
- Thus a better egg and larvae survival would lead to a greater number of spawners on a particular ground.

**THANK
YOU**

