

# **Characteristics of mixed stock**

# Mixed stock

- ◆ A mixed stock fishery is a fishery whose stock consists of fish that are of a variety of ages, sizes, species, geographic or genetic origins or any combination of these variables.
- ◆ Mixed stock fisheries offer a challenge to fisheries managers due to the difficulty in targeting fish of a specific type using many commercial fishing methods.
- ◆ Mixed stock of a species has significant differences in morphological and biological characteristics. The mixed stock population may unite into a unit stock by gene flow.

# Mixed stock conted....

- ◆ The morphometric characters and meristic characters are to be taken for different stocks/ populations of a species. Using PCA statistical test, the population are to be segregated.
- ◆ Mixed stock of a species is common in tropical waters. Assessment of such tropical stocks becomes difficult by using conventional models.
- ◆ Refinements are needed for proper assessment. The aging becomes difficult in a mixed stock of tropical species.

# Mixed stock contd....

- ◆ Usually many cohorts are released from a tropical stock; hence the assessment becomes more problematical on tropical stocks of a mixed species.
- ◆ Mixed stock of a species has varied spawning seasons and the calculation of length at minimum maturity and growth gets varied.

# Limitations in the assessment of tropical fish stocks

- ◆ For calculation of stock assessment of mixed stock of a species, the conventional models framed for temperate species should be used in caution.
- ◆ The mortality parameters such as  $Z$ ,  $F$  and  $M$ , fishing effort and growth parameters are to be calculated separately, as these parameters form input data for estimation of stock in conventional models.