Mangalavanam 8.0 0.5
23-9-2002,
Feeder canal 0.04 Nil
Mangalavanam 0.1 0.005

As a result of the diesel leak into Mangalavanam Acanthus ilicifolius population up to the high tide level showed wilting on the third day and subsequently the leaves showed chlorosis and finally the entire plants dried. These plants remained green and healthy with full foliage just before the diesel spill indicating that the death and drying up of Acanthus population at the mud flats of Mangalavanam is due to the impact of diesel spill. No mortality of fish, crab, shrimps or birds was noticed. Further change in the biota and the regeneration of Acanthus ilicifolius are monitored.

Reported by: P. Kaladharan and A. Nandakumar, Central Marine Fisheries Research Institute, Kochi.

1022 Algal bloom and mass mortality of fishes and mussels along Kozhikode coast

Colouration of water was noticed during September 2002 from Kozhikode south beach towards Kannur for a stretch of 25 km along the coastal area. Analysis of water and plankton samples revealed that this was due to algal bloom. Three algal blooms were found during this month. Mass mortality of fishes and mussels occurred due to the algal bloom.

The first algal bloom was noticed off Kozhikode on 3rd and 4th September 2002 and mass mortality of fishes was reported from Kozhikode to Kannur from

Mass mortality of green mussel (Perna viridis) along Kozhikode coast during algal bloom.

Dead fish washed ashore along Kozhikode coast due to algal bloom.
5th of September. Several species of fishes were washed along the coast, while eels were found floating in the Puthiappa Fishing Harbour at Kozhikode. The water in the region was red coloured, slimy in nature with foul smell. Fishes came to the surface gasping for oxygen. This colouration of sea water was due to the presence of large concentration of Noctiluca spp. The oxygen deficiency which results during the swarming of Noctiluca spp. led to the mortality of marine fauna. Water became slimy by decaying Noctiluca spp. causing mechanical obstruction to the movement of fish. Due to water currents these algal blooms moved towards the shore and away from the coast.

The second algal bloom occurred on 14th and 15th of September along south Kozhikode coast upto Puthiappa Harbour, 8 km along the coast. Mass mortality of small fishes to fish weighing upto 10 kg was noticed along the coast. It was found that water turned green due to the presence of micro algae Hornella marina. Mortality of fishes like Epinephelis malabaricus, Otolithes argenteus, Kowala coval, Anchovita heterobus, Nemipterus japonicus and Mugil speilleri were observed.

The third bloom occurred on 21st and 22nd of September and subsequently massive death of green mussel (Perna viridis) was found from Kozhikode beach upto Puthiappa Harbour for two days. This bloom was also due to Hornella marina.

Though algal blooms of low intensity were common in this region, after south-west monsoon, heavy bloom and mass mortality of large quantity of fishes and mussels were not noticed. The successive three blooms reported during Sep. 2002 may be attributed to the delayed south-west monsoon and intermittent showers followed by bright sunshine. Additional factors which assist the bloom are upwelling which continues till November and enrichment of coastal waters by nutrients due to flushing of monsoonal rain. Massive blooming results in sudden depletion of oxygen which caused the death of fishes and mussels.

The dissolved oxygen content of water during the month ranged between 0.96 to 1.67 ml/L which was much below the normal level of 4 to 5 ml/L. Water temperature was 22.4 to 26°C which is much below the normal level (28 to 30°C). This low temperature of water was the indication of upwelling water reaching surface during the algal bloom period. pH ranged from 7.21 to 7.57. Salinity did not show any apparent change. Nutrient values of nitrate, nitrite and phosphate also recorded high during this period.

Reported by: Gulshad Mohammed, Calicut Research Centre of CMFRI, Calicut

1023 Recent trends in mechanisation of Malabar fishery sector - An overview

Since 1980 kerosene was the fuel used in outboard engines (OBE) fitted in various types of country crafts. Gradually, the size of the crafts as well as the gear were altered. On par with these changes, the capacity of the outboard engine was also enhanced to 8, 9.9, 15, 25 and 40 HP. Various innovations took place in developing the materials used in the construction of craft also. Introduction of carrier craft for mother boat (Ring netters or Ring seiners), Mini Trawlnet and Mini pair trawlnet (double net or pothen vala) were some of the additional innovations.

In the initial stage, kerosene quota provided to concerned units was almost sufficient to meet their needs. Depending upon the season and availability of the catches, extra fuel required for the purpose was compensated from other sources. Year after year with the introduction of outboard engines of various capacities the supply of kerosene became insufficient. Along the zone K-8B, (Kozhikode district) particularly around Quilandy large number of vanchies (Mother unit of ringnet or ringseine) are installed with 3 numbers of OBE having a capacity of 40 HP each. The plank built mother units with an average length of 16 metres have undergone vast development transforming into marine plywood coated with fibre glass and finally to fibre glass body.

The operational cost of the mother unit increased following the hike in the kerosene price supplied