Chilika is the largest brackish water lake in India. Despite having vast expanse of water, the lake was getting degraded due to the choking of the lake entrance by the river borne sediment and formation of long sand spit due to littoral drift prevailing in the region. Due to reduced exchange of water between the sea and the lake, the lake was gradually tending to become a fresh water lake affecting the fish yield and biodiversity of the area. Detailed mathematical model studies were carried out at CWPRS for Chilika Development Authority to examine various proposals of improvement like providing a straight cut between the lake and the sea. With these studies, the impact of the straight cut on the improvement of tidal prism as well as salinity flux to the lake were examined.

**Location Map and Position of Straight Cut Operated in Sep.2000**

**Studies Conducted**
- Physical modelling for improvement of flow in the lake.
- Mathematical modelling to identify the location for straight cut and assess its effect.
- Hydrodynamics and salinity flux computation before and after proposed straight cut.
- Impact of Naraj barrage on Chilika Lake.

**Benefits and Outcome**
Implementation of CWPRS recommendations resulted in:
- Salinity increase due to improved tidal exchange.
- Ten times increase in fish catch.
- Retarding shrinkage of lake area.
- Increase in number and varieties of migratory birds.
- Extinction of aquatic weeds.
Migratory Birds in Chilika Lake