Present status of *Halophila beccarii* seagrass bed in Kadalundi Community Reserve

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Halophila beccarii (Beccarii's seagrass/ ocean turf grass/ estuarine spoon grass) is a seagrass variety belonging to Family Hydrocharitaceae. They inhabit the lagoon and estuarine areas with wide salinity variation. *H.beccarii* is listed as vulnerable by CITES and IUCN Red List as their habitat, mostly estuaries, are facing damages due to natural calamities as well as anthropogenic interventions. It is reported that the seagrasses helps in stabilizing the bottom sediment, provides refuge for fishes and other organisms from predators, act as nurseries for the fry and

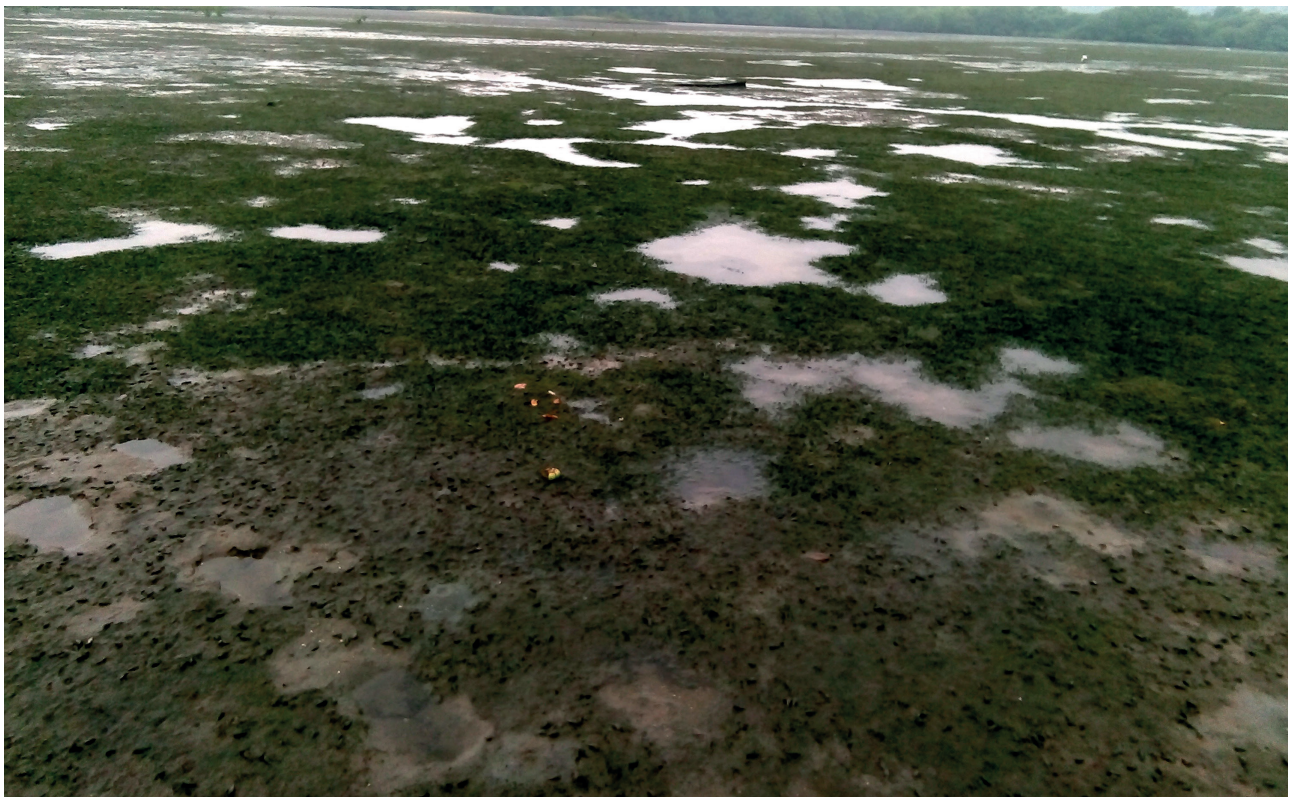

Fig.1. A small dense bed of *H. beccarii*

fingerlings of fishes and shellfishes and provides means of food sources for a complex and diverse community. The seagrasses are considered keystone species and can be indicators of healthy coastal ecosystems. In Kadalundi, Kozhikode the species is seen adjacent to mangrove dominated mudflat area and grows as a monospecific meadow. Its fast growth rate, seasonal appearance and a seasonal flowering pattern is indicating the colonizing nature of the species.

The occurrence of *Halophila beccarii* seagrass bed in the Kadalundi community reserve area was estimated to be covering an area of more than 2 hectares with a clayey substratum. The seagrass was growing predominantly with seaweed *Enteromorpha linza* and found exposed during the low tide period. The density of the seagrass *H. beccarii* ranged from almost nil during July 2012 to 420 g wet weight/m^2 (260 plants/ m^2) during December 2012. During April 2013 the distribution of *Halophila* plants was represented only by sparse occurrence of underground parts comprising rhizomes and roots (80 g/ m^2). Shoots could not be seen above the sediment substratum. The associated macro algae were red seaweed *Gracilariopsis lemaneiformis* (dominant during September to December), *Enteromorpha linza* and *Ulva reticulata.* The observations recorded in 2018 showed that the seagrasses were in dense and fast growth phase during October to December. In December 2018, the distribution was 320g wet wt/m^2 (178 plants/ m^2). The density of seagrasses faded with February and later during July, leaves are not visible and distribution was 13 g wet wt/m^2 (11 plants/ m^2) only. One of the threats or constraints observed in Kadalundi estuarine area is the sand bar formation near to the bar mouth as strict enforcement against sand mining in the river prevails. Due to this, the sand from the sea is depositing in the river barmouth and and gradually this is extending towards the mangrove area and seagrass meadows. Seagrass associated fauna and fishery resources were recorded. Polychaetes and isopods were observed in considerable numbers throughout. Gastropods such as *Tibia* sp, *Murex* sp, *Trochus* sp, *Babylonia spirata* also occur. Several finfishes, shellfishes and coastal birds including seasonal migratory birds were documented. Though there are no specific conservational measures prevailing for sea grasses, in Kadalundi, *H.beccarii* is protected as it is present within the mangrove ecosystem where conservation measures are enforced by the community reserve officials.