Session 02

Ichthyoplankton Biodiversity and Exchange Processes in an Inverse Estuary, the Sine-Saloum Delta (Senegal)

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Abstract

There is a widely-held paradigm that tropical estuaries are critical for sustaining production in coastal fisheries through their role as essential nursery areas for important exploited species (Manson *et al.*, 2005). Since early life stages are a particularly vulnerable phase, it is hypothesized that in order to maximize survival, marine fish larvae are transported and juveniles migrate into estuaries to make use of the high food abundance, refuge against predators, and shelter from physical disturbances (Blaber&Blaber, 1980). Located in Senegal, the Sine Saloum Delta is a mangrove estuarine system impacted by climate change and bad management practices. The combined effects of reduced freshwater inputs, intense evaporation and a low gradient in the lower estuary, have resulted in a high overall salinity and an inversion of the salinity gradient. This results in a so-called inverse estuary (Pritchard, 1967) with salinity usually greater than that of seawater in the upper part of the system. Giving the hypersalinity and the mangrove degradation that is taking place, the potential roles of the Sine Saloum as a nursery area for fish larvae are far to be clear and a sound understanding of nursery habitats within the system will help to set more effective targets for conservation and management of critical coastal ecosystems. As part of the trilateral (Germany-France-West African Coastal States) cooperation project AWA, the potential of the Sine Saloum system as a recruitment and nursery area for locally exploited coastal fishes is being investigated by looking at the relationships between the environmental conditions, fish larvae distribution, larval transport, and food sources fuelling mangrove larval fishes.

Keywords: fish larvae, larvae distribution Parc national du delta du Saloum, réserve de biosphère, Senegal.

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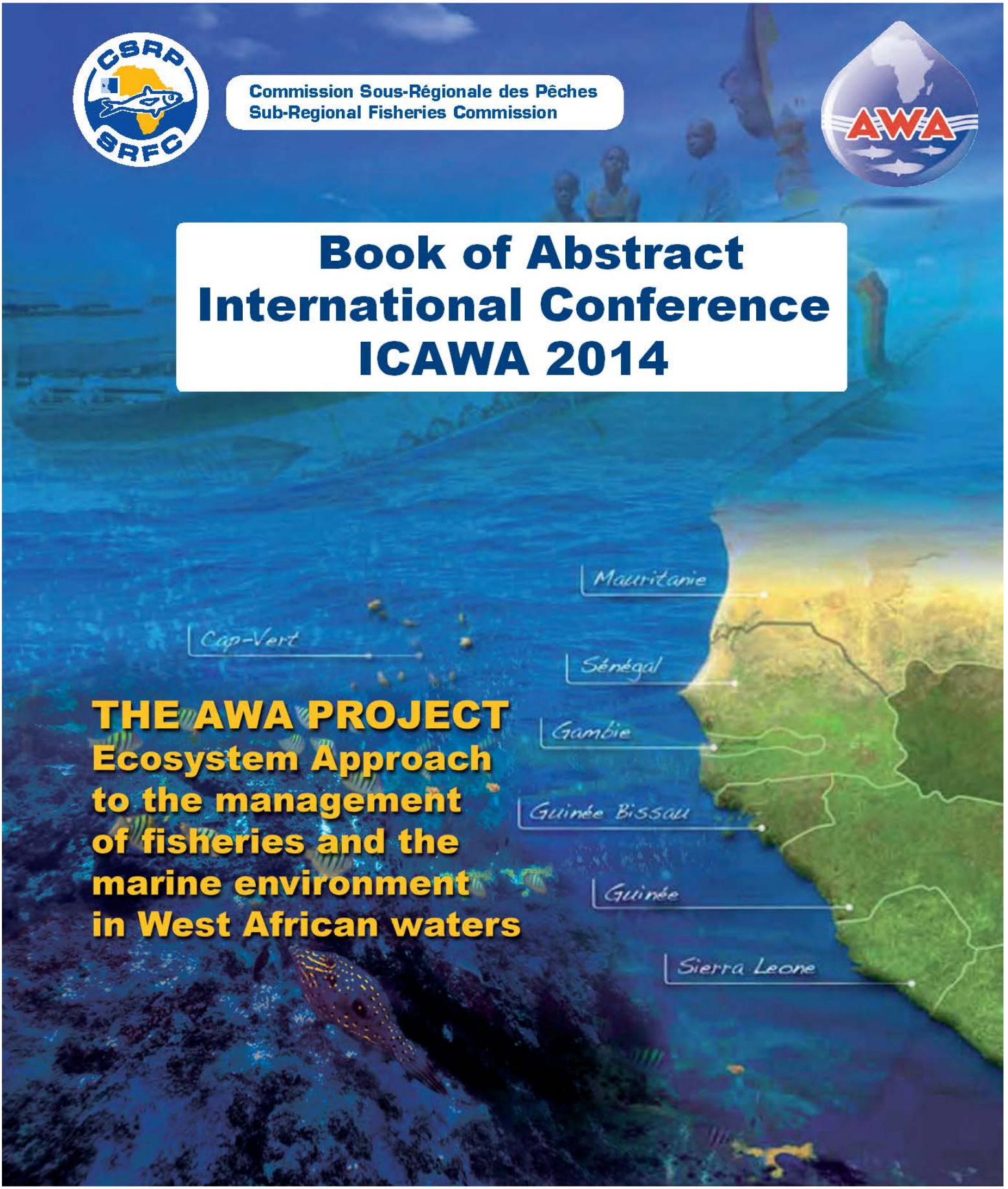

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Ecosystem Approach to the management of fisheries and the marine environment in West African waters

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