Presentation Series Abstracts

PRESENTATION SERIES 2

Brett Favaro (Memorial University of Newfoundland & Labrador)

Fighting back: New trap designs and bait types can increase catch rates of invasive European green crab (*Carcinus maenas*)

The invasive European green crab (Carcinus maenas) poses a serious threat to the nearshore habitats around southern and western Newfoundland. One response to an invasion is to remove the invader, but in the marine environment eradication is nearly impossible. Rather, our focus must be on reducing its density so as to limit its environmental impact. I will describe our three-pronged research program focused on improving our ability to efficiently remove green crabs from ecosystems, while mitigating their impact on the fishery that targets American lobster (Homarus americanus). Firstly, we used underwater cameras to assess the performance of Fukui traps – the predominant fishing gear used to target green crab – and found that the openings were inefficient relative to other trapping gear. We designed and tested new trap openings that substantially increased catch rates. Second, we compared the effectiveness of four types of bait at catching green crab, and found substantial effects of bait on catch rate. Third, we examined the extent to which green crabs interact with lobster traps, to investigate whether interactions within the gear may be depressing lobster catch rates. Taken together, this research program is designed to improve our ability to respond to the invasion of green crab in Newfoundland ecosystems.

Jinyu Sheng (Dalhousie University)

Development and Applications of Numerical Ocean models for Coastal Water and Shelf Seas

Numerical ocean models are very useful tools not only for constructing historical oceanographic conditions based on sparse observations, but also providing predictions of future conditions and possible climate changes over coastal waters and in deep oceans. Several types of ocean circulation and wave models with different levels of complicity have been developed by the regional ocean modelling group at Dalhousie University. This talk will provide a brief summary of research progress made by this group, which has been funded by MEOPAR and Lloyd's Register (one of industrial sponsors for MEOPAR). A special emphasis will be given to the recent research work made by the MEOPeers in the group.

Hadi Dowlatabadi (University of British Columbia)

Improving Resilience of Communities Served Through Marine Transport: case of fuel supply to Powell River

We studied the fuel supply and distribution system in coastal BC and developed quantitive simulation models of fuel supply logistics. The survival probability of different elements of this supply chain and fuel stock and access in the case study region were also modelled. The findings were shared with Powell River's Emergency Management Committee who are implementing the proposed strategy for increasing their resilience to possible fuel supply disruptions.

Remaining abstracts for this presentation series are pending.