

21st International Conference of The Coastal Society

The Biological Aspects of the Biofouling of Maritime Vessels and its Management as an Alien Species Transport Mechanism

Scott Godwin, Hawaii Institute of Marine Biology

Ship hull fouling is amongst the most important vectors for the introduction and spread of non-indigenous marine species. To minimize the effects of sessile organisms transported on vessel hulls, it is important to understand the factors that determine their settlement and recruitment to these surfaces. This presentation will outline how factors associated with (i) characteristics of ships, (ii) characteristics of source ports, and (iii) the biology and physiology of fouling organisms influence the abundance of marine fouling on the hulls of ocean-going vessels. In the Main Hawaiian Islands (MHI), 343 non-indigenous marine species have been documented and inventoried. Invertebrate species dominate with 287 species, followed by algae (24), fishes (20), and flowering plants (12). Populations of nonindigenous marine species that have already colonized areas of the MHI represent the most likely source of invasive species to the remote marine protected areas of the Northwestern Hawaiian Islands (NWHI) Marine National Monument based on the proximity and pattern of ship movements associated with the MHI. Some of the non-indigenous species that have become established in the MHI have dispersed more rapidly to other islands because of anthropogenic interisland transport. The potential of these species to threaten the NWHI Marine National Monument through anthropogenic mechanisms of transport also exists. The management steps being taken to minimize marine alien species transport to the NWHI will be presented in the final section of this presentation.

Scott Godwin
Hawaii Institute of Marine Biology
PO Box 1346
Kaneohe, Hawaii 96744
lgodwin@hawaii.edu