



Testing Ballast Water Management Systems year round

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Testing the efficacy of ballast water management systems (BWMS), requires high numbers of organisms in different size classes in the inlet water. The IMO guidelines (G8) allow for the addition of cultured organisms, in order to meet the criteria for inlet water.

In the Netherlands, land-based tests are limited to the productive season from April September when the numbers of organisms in natural waters is high. During this period supplementary organism cultures are easy to realize outdoors.

During the winter period, natural production is very low and testing efficacy of BWMS highly depends on cultured organisms. IMARES initiated indoor and outdoor cultures for the production of a variety of organisms in the desired size ranges for the treatment of several hundred cubic meters of water. Using these experiences, year round land-based testing is made possible.



Hamworthy land-based test site in the Netherlands, with additional phytoplankton cultures and BWMS next to the laboratory container. The barge Aquarius has over 400 m³ storage capacity. Additional cultures facilitate year round land-based testing, provided icing does not make working at the test site too dangerous.



Zooplankton is cultured indoors at constant temperature, using aerated basins and specific day-night light regimes. On regular basis, the cultures are fed and water quality is monitored.



Phytoplankton is cultured outdoors in large containers covered with canvas. Continuous illumination and aeration facilitates the growth of phytoplankton. Regularly, the quality of the water is monitored and when necessary specific nutrients are added.

