

Demersal resources and biodiversity of the Western Indian Ocean, as determined by the RV Dr Fridtjof Nansen

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The RV Dr Fridtjof Nansen has accumulated large amounts of information on seafloor conditions, demersal resources and biodiversity in the Western Indian Ocean over the past 40 years. In some regions, these data are the only information that exists. Over 1 500 trawls have been completed, mostly (68 percent) on the shelf (<200 m depth). Despite the unbalanced distribution of surveys over time and space, broad patterns in fish distribution and densities are apparent. Fish densities were relatively higher in the Somali Coastal subregion than elsewhere, and also higher on the shelf than on the slope, between 200 and 800 m depth. Densities of snappers (Lutjanidae) were consistent across shelf subregions, particularly after 2007, whereas seabreams (Sparidae) exhibited a subequatorial distribution, occurring in Somalia in the north, and in southern Mozambique / eastern Madagascar, but not in-between. Crustaceans predominated on the Mozambique shelf, consistent with the information from prawn trawl fisheries. Estimates produced from Nansen surveys are not dissimilar to those produced by other surveys in the Western Indian Ocean. The consistency of the Nansen's sampling approach over the years means that valid spatio-temporal comparisons of catch composition, catch rates and size frequencies can be undertaken, to build on the broad overview presented here. Overall, Nansen surveys reflect a high diversity of demersal fauna, but apart from prawns and deep-water crustaceans, found only limited fisheries potential on the generally narrow shelf and upper continental slope.