

S-122 Portrayal and integration concepts and services

Contarinis Stilianos¹, Kastrisios Christos², Byron Nakos¹

¹ National Technical University of Athens, School of Geoinformatics Engineering, Cartography Laboratory, Greece

² University of New Hampshire, Center for Coastal & Ocean Mapping, United States
contarinis@central.ntua.gr

The present edition of the IHO S-122 Marine Protected Areas Product Specification does not specify portrayal. Users are allowed to select the technique and style of representation most suited to their requirements, but, as stated in the current edition, “future versions of S-122 may contain a portrayal catalogue, thus any implementer should plan for this and make adequate preparations in any system that supports S-122”. This work aims to address this gap in the current IHO S-122 version that lacks portrayal. It presents a set of intuitive pictorial symbols for the MPA categories (*categoryOfRestrictedArea* enumeration) (Figure 1) representative of the endangered species, historical or cultural submerged sites, and for depicting Vessel Traffic Service (VTS) Areas within the MPA zones. This work also presents symbols for charting MPAs regulations (Figure 2), such as slow zones with specified speed limits, and permitted and restricted marine activities, such as anchoring, small- and large-scale fishing, passage for various types of vessels, and vessel traffic services. The presented symbols have been designed with primary criterion the ease of understanding by the end user and may serve as the basis for discussions among IHO relevant bodies toward the future MPAs symbology on Electronic Chart Display and Information System (ECDIS) screens.



Figure 1. Sample ENC symbols for MPAs types.

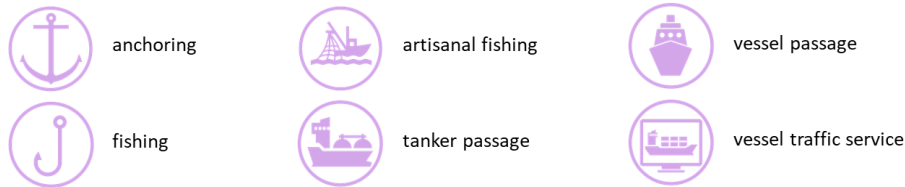


Figure 2. Sample ENC symbols for MPAs permitted activities.

In addition, this work discusses the concepts of Ecosystem Protection Zones (EPZs) and Environmental Risk Contours (ERCs), both of which are simple to comprehend and easy to use for designing MPA regulations. They can be utilized to depict MPAs restrictions on nautical charts, to facilitate route planning for avoiding restricted areas, as well as to initiate automated alarm services, through ECDIS and VTS systems.