

MAPPING ENVIRONMENTAL RISK OF MARINAS IN PORTUGAL-MAINLAND

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This study applies the Pressure-State-Response (PSR) model to assess the environmental risk of marinas along the coast of mainland Portugal. The goal is to provide decision-makers, such as government agencies and harbour managers, with scientifically-based information that helps to manage marinas and neighbouring waterfronts. The PSR model integrates the evaluation of environmental pressures, state conditions, and societal responses. The steps of the work comprised: (a) build a database with information necessary to determine the environmental impacts of identified pressure activities, such as navigation, port operations, dredging, oil pollution, coastal litter, and nearby industrial activities; (b) identify specific environmental conditions at each marina by mapping and evaluating susceptibility, ecological value, and naturalness using Geographic Information Systems (GIS) tools; (c) consider locally implemented management strategies to mitigate or prevent negative environmental effects from human pressures; and (d) establish risk thresholds, categorize pressures, states, and responses, and map spatial variations of risk factors. The classification and hierarquization of the risk is applied to 27 marinas along the west and south Portuguese coast. The resulting maps can help establish priorities for intervention plans aimed at enhancing water quality.

Keywords Environment, marinas, risk, management, GIS, Coast, Portugal