

Atlas for the environmental risk assessment of water quality in marinas

Aina G. Gómez*¹, Bárbara Ondiviela¹, Juan L. Díaz¹, José A. Juanes¹

¹Environmental Hydraulics Institute "IHCantabria", Universidad de Cantabria, Spain,
aina.gomez@unican.es

A standard and unified procedure to assess the environmental risk of water quality at marinas has been developed. Recreational sailing sector has a relevant impact on the water quality and habitat conservation in marinas. The classification tool is particularly powerful for generating a regional or national picture when many marinas are being considered at once. Using this method, regional and national authorities will be able to hierarchically classify marinas and proceed with the most suitable management actions. The developed method is appropriated to prioritize environmental and planning strategies. Based on *ad hoc* DPSIR models (Driving-Pressure-State-Impact-Response), parameters have been rigorously selected to assess consequences and vulnerability. Consequences are estimated considering the integration of developed activities in each study site: navigation, dredging and surrounding activities. While vulnerability is estimated combining the susceptibility, its ecological value and naturalness. The developed method has been applied in 320 marinas along the Spanish coast with different morphological and hydrodynamic characteristics and wide range of activities. The resulting map has provided a multi-scale spatial framework (see Figure). The validation process has confirmed the usefulness, versatility and adaptability of this procedure as a tool for the environmental management of marinas worldwide.

