Decision support system development for adaptive management of desalination plant outfalls in marine ecosystems

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Received 5 May 2009; Accepted in revised form 1 May 2010

ABSTRACT

ASDECO is a R&D project whose main objective is to design a system that allows for the implementation of Adaptive Management for brine discharges from desalination plants into the sea. The project has two phases: to design and to adapt the instrumental system to the characteristics of the brine plume, achieving the required reliability and precision. An information and forecast system has also been constructed to compile and validate the data, as well as to activate the alarm protocols required for the Environmental Impact Declarations. The application of forecast systems will provide the outfall management with the necessary flexibility to adapt to the favourable conditions of the marine environment, maximizing dilution and minimizing brine impact. The system is currently being implemented and tested in the Alicante Channel desalination plant (Alicante, Spain).

Keywords: ASDECO; Brine; Discharge; Plume; Dispersion; Forecast; Management; Desalination

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