

Distribution and Risk Simulator (DARS)

Computer modeling and its application to right whale conservation

Based upon the biological and oceanographic data collected during the right whale habitat surveys, we've worked with Mike Page of Great Island Software to begin the development of a computer model that we call the Distribution and Risk Simulator or DARS. This model allows us to distribute within the model the plankton food of right whales and then, using an artificial intelligence routine, to develop a simulation of the foraging movements and aggregations of whales throughout the Gulf of Maine. Because the management of human activities that injure and kill right whales depends upon our knowing where the whales are, DARS offers a forecast of right whale distribution patterns based upon the foraging activities that influence right whale movements. Recently programmed parts of the DARS model go one step further by estimating the amount of risk of ship strike in regions along the Atlantic Coast based upon the overlap of the aggregations of whales with the established shipping lanes. As Mr. Page and Charles Mayo continue the model's development the effects of such human activities as fishing, vessel noise production, and pollution on the biology and behavior of right whales will also be predicted.

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