

# Managing Oil Spill Risk

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## Abstract

Is it safer for New Orleans river gambling boats to be underway than to be dock- side? Is oil transportation risk reduced by lowering wind restrictions from 45 to 35 knots at Hinchinbrook Entrance for laden oil tankers departing Valdez, Alaska? Should the International Safety Management (ISM) code be implemented fleet-wide for the Washington State Ferries in Seattle, or does it make more sense to invest in additional life craft? Can ferry service in San Francisco Bay be expanded in a safe manner to relieve high way congestion? These risk management questions were raised in a series of projects spanning a time frame of more than 10 years. They were addressed using a risk management analysis methodology developed over these years by a consortium of universities. This talk will review this methodology that integrates simulation of the Maritime Transportation Systems (MTS) with incident/accident data collection, expert judgment elicitation and a consequence model. Recent advances in uncertainty analysis and expert judgment aggregation with Bayesian methodologies will also be discussed.

## Bio

Jason R. W. Merrick is a professor in the Department of Statistical Sciences and Operations Research at Virginia Commonwealth University. He has a M.A. (Oxon) from Oxford University in mathematics and computation and a D.Sc. in operations research from George Washington University. He is the program director for the PhD in Systems Modeling and Analysis and teaches courses in decision analysis, risk analysis, and simulation. His research is primarily in the area of decision analysis and Bayesian statistics. He has worked on projects ranging from assessing maritime oil transportation and ferry system safety, the environmental health of watersheds and optimal replacement policies for rail tracks and machine tools and received grants from the National Science Foundation, the Federal Aviation Administration, the United States Coast Guard, the American Bureau of Shipping, British Petroleum, and Booz Allen Hamilton, amongst others. He has also performed training for Infineon Technologies, Wyeth Pharmaceuticals, and Capital One Services. He is an associate editor for Decision Analysis and the information officer for the Decision Analysis Society.