

Abstract

Improper siting of aquaculture developments has led to environmental degradation in many regions where it has been practiced. Though aquaculture has the potential to offset the diminishing quantities of wild-caught fisheries, there are risks inherently associated with this type of production. Some of these risks include pollution of nearby environments by improperly handled wastes, destruction of local-ecosystems from poorly planned facilities, chemical contamination from feed additives, spread of disease, and genetic contamination of wild stock from escaped cultured individuals, among others. Through the use of decision support systems, various frameworks to assist in identifying site suitability have been developed. There have been few published studies that have incorporated environmental, economic, and social concerns when planning for an aquaculture operation. Using publicly available data to ensure cost-effectiveness, a holistic regional-scale site suitability framework for offshore aquaculture using cage technologies has been developed as a first round tool for planners and regional managers. After identification, these locations can be analyzed further to determine precise site selection, thus saving time and costs. A simplified framework allows for multiple stakeholders to participate in, and understand open discussions regarding aquaculture development in their community. It is the purpose of this minimal dataset model, to identify those areas that are compatible with aquaculture at a fundamental level, and thus are appropriate for the more detailed data collection and analysis which would allow further refinement of the selected areas.