

Incorporating Cumulative Environmental Effects of Finfish Mariculture into Canadian Environmental Assessment

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Abstract

A Traffic Light Decision Support System (DSS) used in marine finfish federal environmental assessments was expanded to include regional and cumulative environmental impacts. A retrospective review of 23 existing mariculture farms in southwestern New Brunswick indicated whether cumulative interactions would have justified site approvals. Six new criteria were added to the far-field component and other existing criteria were amended. Scores of A, B+, B-, C and pre-emptive C were based on acceptability criteria. Calculations of cumulative ecosystem indices and potential site indices revealed site acceptability, and the index combinations suggested potential site approvals predicted using Hargrave's (2002) three-colour Traffic Light scheme. Before mitigation was considered, 19 of the 23 sites failed the amended set of criteria and after considering mitigation, 8 sites failed. Combining the site and ecosystem indices yielded varying site acceptability scores. The role of mitigation and other factors in hindering sustainable siting was discussed.