

Estimating technical efficiency and the impact of a viral disease outbreak in the Victorian Abalone Fishery, Australia

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Abstract

There has been little empirical analysis of technical efficiency for commercial fisheries in Victoria. This study examines technical efficiency in the Victorian Abalone Fishery with an input-oriented data envelopment analysis (DEA) using panel data for the period from 1978/79 to 2009/2010. The influence of factors affecting technical efficiency is analysed using a Tobit regression model of DEA-derived scores. Such factors include inputs (such as number of fishers, time spent fishing), dummy variables for fishing zones, and a time trend. The results show an increase in technical efficiency, with a decline in capacity utilisation across the three fishing zones. We discuss these results and their management implications.

Key words: Technical efficiency, data envelopment analysis, fisheries, Abalone

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