

Title: **Measuring Productivity Change in the Mid-Atlantic Surfclam Fishery**

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Abstract: The United States has embarked on a policy path of promoting catch share programs to manage fisheries. These can include a range of programs, from community based management arrangements to individual transferable quota programs (ITQ's). The Mid-Atlantic Surfclam and Ocean Quahog Fishery has the longest running U.S. ITQ program, which was initiated in 1990. Prior to the implementation of the fishery's ITQ program, the fishery was managed primarily through limits on time fished. Early studies of this ITQ program noted initial productivity gains for vessels once the ITQ program was implemented. However, there have been no recent studies which have examined productivity changes. We estimate productivity change through construction of a Malmquist index for the years 1980 through 2008 to capture productivity change before and after implementation of the ITQ regime. We then decompose the Malmquist index to separately examine changes in technical efficiency, capacity utilization and technical change. We find that the early gains of productivity and technical efficiency of the ITQ program have not been sustained. This may be due to the vertical industry structure which has developed under the ITQ regime since 1990. Results suggest that we should be careful about using initial changes in vessel productivity and efficiency to predict the ultimate outcome of implementing a catch share system.