

Title: **The Role of Recreational Fisher Modelling in the Assessment of Management Options for Australia's West Coast Demersal Fishery**

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Abstract: The paper develops a model of recreational fisher behaviour in which fishers maximize their individual utility by adjusting fishing time, trips, catch and size of fish caught. It investigates the optimal behaviour of an individual fisher with and without constraints such as bag limits. The model is used to assess how constraints such as bag limits affect the optimal number of trips and fishing time. It investigates how an improvement in abundance, as reflected in expected catch rates, will impact upon trips and fishing time. This has implications for the likely success of management options designed to enhance abundance. The model is used to indicate what adjustments (e.g. fees, closed seasons) are potentially needed in situations where there is a positive response to an improvement in catch rates. . The theoretical model is general. The empirical analysis is for the West Coast Demersal fishery using previously collected survey data on individual fishers. This data is used to estimate a trip function in which annual trips are variously a function of catch rate, trip cost, income, species targets and satisfaction to derive an estimate of the responsiveness fishing trips/time to catch rates.