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## The Carrot, not the Stick; co-design, testing and buy-in of stakeholders for Real-time Incentive fisheries management.

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Increasing awareness of the need to manage fisheries within an ecosystem approach has led to a growing push for alternative management strategies. Fishing activity often operates on mixed-stock populations, can be spatially variable on km scales, and frequently changes over relatively short time-periods. Current management strategies are unable to account for these fine spatial and temporal characteristics, generally operating at large scales and annual assessments. Real-time Incentives (RTI) offer a viable alternative to current management systems, one that can operate on finer spatial and temporal scales, incorporate management for important ecosystem components, and serve to simplify rules for both management and fisheries, whilst providing choice to fishers. Using fishery and ecological data to calculate maps for real-time incentives leaves fishers free to determine their best spatial distribution of effort to maximise profit sustainably.

In order to ensure its success, legitimacy, and eventual uptake, a comprehensive Management Strategy Evaluation must first be carried out on RTI management. This process involves the development of potential scenarios with which to test the system, not just for comparison with current management strategies, but also to simulate the range of potential fisher behaviour, reactions and responses. The project partners are working alongside fishery stakeholders, together developing methods and management scenarios, and trialling ideas, in a two-way process of development that aims to enable successful implementation through stakeholder engagement and acceptance. The process is open and collaborative, requires methods and knowledge from the social sciences, and even in its infancy, has already produced some innovative and unexpected results.

**Keywords:** Real-time incentives, fisheries management, stakeholder engagement, management strategy evaluation

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