8

Lessons from integrated bio-economic modelling in the George catchment, Tasmania

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SUMMARY

Catchment-scale natural resource management (NRM) involves complex decisions that affect a wide variety of values, issues and stakeholders. Designing efficient NRM policies requires assessment of the environmental impacts as well as the costs and benefits of management interventions in an integrated manner. An integrated assessment approach provides useful guidance on bringing together issues and knowledge from multiple disciplines and stakeholders. Despite the need for integrated assessment, there are few comprehensive studies that integrate biophysical models with rigorous economic cost–benefit analyses. Cost–benefit analysis is an economic framework to assess and compare the total social costs and benefits of management interventions. However, the environmental modelling that has underpinned cost–benefit analysis has typically been poor, reducing its credibility and usefulness when evaluating the efficiency of alternative policy outcomes.

This study aims to demonstrate an approach to better integrate scientific data about environmental changes with economic information in a cost–benefit framework. We used a variety of tools to inform the integrated assessment process, such as the CatchMODS hydrological