

Integrated Management for Marine Regions

(Integrated Ocean Management Update 1)

Integrated Management is an approach that links (integrates) planning, decision-making and management arrangements across sectors in a unified framework, to enable a more comprehensive view of sustainability and the consideration of cumulative effects and trade-offs. Nine key features and five phases of implementation provide a lens for implementation and evaluation of Integrated Management.

The primary rationale for IM is to overcome four major deficiencies of sector-based management: a) management of diverse activities by different agencies using different approaches, b) management generally focused on a subset of primarily ecological objectives that do not properly articulate or evaluate social, cultural, economic and institutional objectives, c) no mechanisms to evaluate or advise on trade-offs among objectives or among activities in relation to objectives and d) no mechanisms to evaluate the cumulative effects of all managed activities (**Figure 1**).

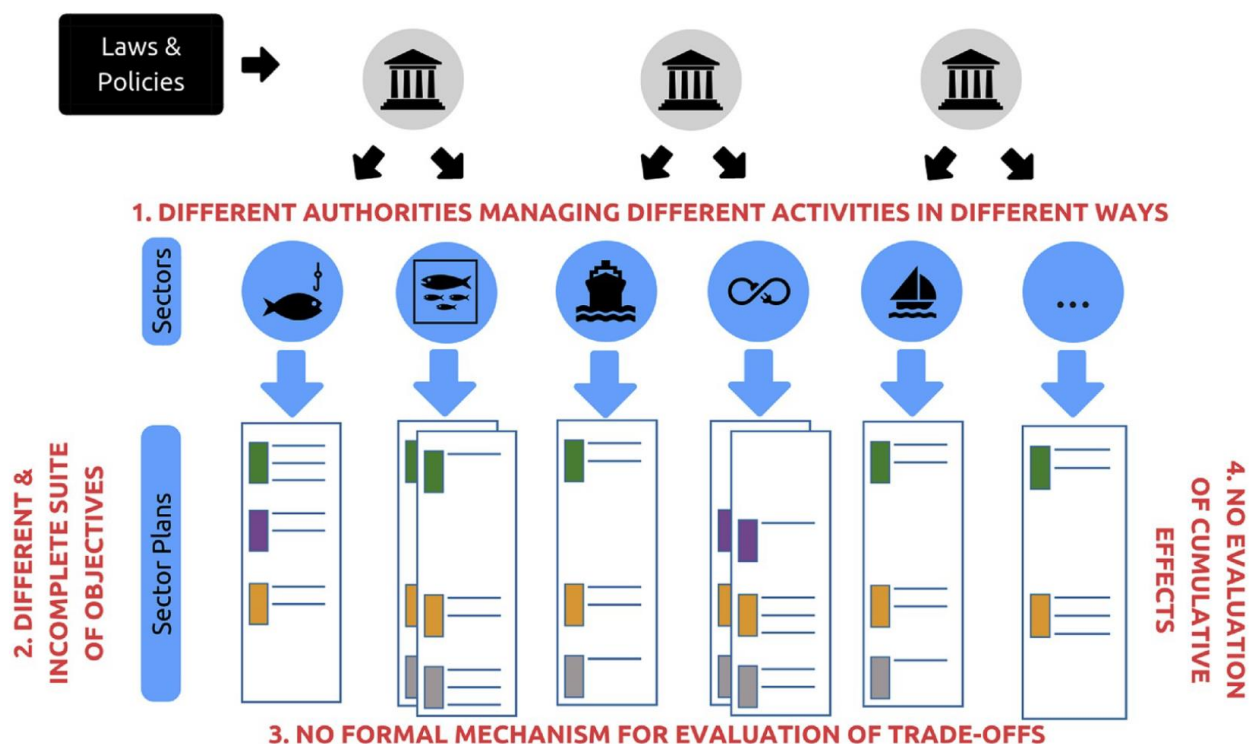


Figure 1. Conceptual representation of the major shortcomings (red) of current sector-based management of coastal and marine activities. Laws and policies shape the managing authorities, which are responsible for different sectors (blue icons, including fisheries, aquaculture, transportation, energy, recreation, and other activities), each of which may have multiple plans (blue boxes) containing diverse objectives (represented by coloured rectangles and lines). Source: Stephenson et al 2019.

Stephenson et al (2019) articulate a framework to help guide the practical implementation and evaluation of IM. They argue that IM will be most easily and effectively achieved by linking and modifying existing sector-based plans in an overarching IM initiative that has nine key features: 1) Recognition of need for IM, 2) A shared vision by stakeholders and decision-makers for IM, 3) Appropriate legal and institutional

frameworks for coordinated decision-making, 4) Sufficient and effective processes for stakeholder engagement and participation, 5) A common and comprehensive set of operational objectives (ecological, economic, social/cultural and institutional), 6) Explicit consideration of trade-offs and cumulative impacts, 7) Flexibility to adapt to changing conditions, 8) Processes for ongoing review and refinement, and 9) Effective resourcing, capacity, leadership and tools.

A process for the implementation and evaluation of IM recognises five phases: i) Preconditions and drivers of change, ii) Intentional design and institutional rearrangement, iii) Enablers and disablers iv) An implemented IM process, and v) Review of IM performance and modification. Combination of the nine features of IM with the five phases in IM development provides a framework for implementation and a lens for evaluation of IM processes (**Figure 2**). This framework provides a guide to the appropriate design of practical IM, which will assist in overcoming the current management deficiencies and improve the sustainability of marine resources in the face of change.

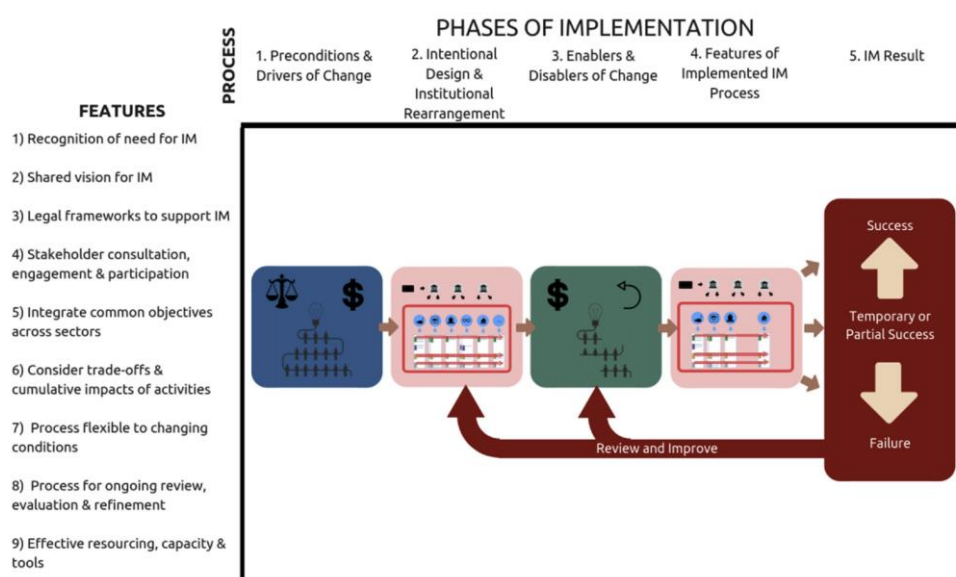


Figure 2. Lens for evaluation of Integrated Management: The nine key features of Integrated Management (IM) and five phases that make up the likely process of implementation form both a template for implementation, and a lens for examination of the effectiveness, of IM. Source: Stephenson et al 2019.

The importance of these features and phases was evaluated in seven Australian case studies (Stephenson et al. 2023). These case studies were the Gladstone Harbour Project, the Great Barrier Reef, the Northern Prawn fishery and regional development, the South-East Queensland Healthy Waterways Partnership, the Australian Oceans Policy, the New South Wales Marine Estate reforms, and progress toward Integrated Management in the Spencer Gulf.

References

- Stephenson, R., A. J. Hobday, C. Cvitanovic, K. Alexander, G. Begg, R. Bustamante, P. Dunstan, S. Frusher, M. Fudge, B. Fulton, M. Haward, C. Macleod, J. McDonald, K. Nash, E. Ogier, G. Pecl, E. Plaganyi, I. v. Putten, T. Smith and T. Ward (2019). A practical framework for implementing and evaluating integrated management of marine activities. *Ocean and Coastal Management* **177**: 127–138.
- Stephenson, R. L., A. J. Hobday, I. Butler, T. Cannard, M. Cowlishaw, I. Cresswell, C. Cvitanovic, J. Day, K. Dobbs, L. X. C. Dutra, S. Frusher, M. Fudge, B. Fulton, B. Gillanders, N. Gollan, M. Haward, T. Hutton, A. Jordan, J. McDonald, C. Macleod, G. Pecl, E. Plaganyi, I. v. Putten, J. Vince and T. Ward (2023). Integrating management of marine activities in Australia. *Ocean & Coastal Management*. <https://doi.org/10.1016/j.ocecoaman.2022.106465>
- Stephenson, R.L., Hobday, A., Cvitanovic, C., Fudge, M., Ward, T., Butler, I., Cannard, T., Cowlishaw, M., Cresswell, I., Day, J., Dobbs, K., Dutra, L.X.C., Frusher, S., Fulton, B., Gibson, J., Gillanders, B., Gollan, N., Haward, M., Hutton, T., Jordan, A., McDonald, J., Macleod, C., Pecl, G., Plaganyi, E., van Putten, I., Smith, T., Poiner, I., and Vince, J. CSIRO, 2019., Report of Workshops on integrated management (IM) of marine activities. FRDC Project No 2017-214. CSIRO O&A. Hobart, May 2019.

Work on this topic has progressed via a working group beginning 2017, funded by CSIRO.

Contacts:

Alistair Hobday, CSIRO Oceans and Atmosphere – alistair.hobday@csiro.au

Robert Stephenson, Department of Fisheries and Oceans, Canada - Robert.Stephenson@dfo-mpo.gc.ca