

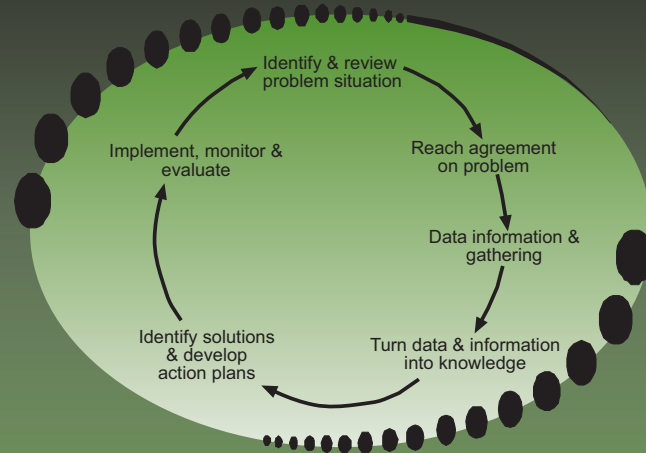
Integrated Biodiversity Management: Bringing research and management together

"Managing our biodiversity in an integrated manner is a continuous and dynamic process that unites government and community, science and management, sectoral and public interests in preparing and implementing an integrated plan for the development of (local) ecosystems and resources... it is one of a family of 'integrated' approaches for progressing towards sustainable development" Olsen et al. 1997.¹

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Integrated Biodiversity Management is a social activity!

Although we often focus on the science of understanding the way ecosystems function, managing the environment is a distinctly human process. It involves decisions made by landowners, planners and policy makers. It also involves information that comes from a wide variety of sources including: science researchers, planning agencies, tangata whenua, environmental interest groups and the wider community. No one stakeholder in a complex environmental system has all the information, or the resources and abilities necessary to address all aspects of a problem.



A social learning process for making biodiversity decisions

The above cycle can be best seen as a process of collaboratively learning about our regions and the environmental issues that need to be dealt with. Understanding and improving this collaborative learning cycle of decision making for environmental management is an important area for research.

Robust and constructive environmental decisions are those that are able to include the range of values of stakeholders, and integrate the data and information from different sources.

However, data and information are only valuable when they have passed into knowledge for decision-making. Knowledge about a situation, and about the possibilities to address it, gives us choices, options and is the basis of behaviour change. This movement of information into knowledge is the process of learning.

The processes of integrated catchment management involves a range of social activities including:

- Negotiating viewpoints
- Interpreting information
- Appreciating different perspectives
- Pooling resources, skills and experiences of all stakeholders

Our research: supporting collaborative learning processes

Social aspects of environmental decision making		
Components	Issues	Tools and approaches developed by the collaborative learning group
Identify & review problem situation	<ul style="list-style-type: none"> • Who defines the problem? • How do we expand our interaction beyond those who 'always' get asked? 	<ul style="list-style-type: none"> • Undertaking stakeholder analysis • Capacity building to enable agencies, groups, and sectors to take part in addressing environmental problems (C)
Reach agreement on problem	<ul style="list-style-type: none"> • Getting beyond polarised viewpoints of protagonists to agreed interpretations • Identifying needs for new knowledge 	<ul style="list-style-type: none"> • Conflict management • Dialogue processes (B) • Goals analysis to determine the different needs and expectations of those involved
Data & information gathering	<ul style="list-style-type: none"> • Utilising both local and scientific information • Gaining trust for the use and sharing of information 	<ul style="list-style-type: none"> • Protocols for information use • Conflict management
Turn data & information into knowledge	<ul style="list-style-type: none"> • Developing shared interpretations of data and information • Developing information 'capturing' processes and tools for the benefit of the wider community • Developing modelling, scenario-building and interpretation tools 	<ul style="list-style-type: none"> • Frameworks for knowledge management (A) • Making sense of science workshops (B) • Internet-based management information systems • Guidelines on social aspects of modelling and decision support tool development (A)
Identify solutions & develop action plans	<ul style="list-style-type: none"> • Getting agreement on who will do what 	<ul style="list-style-type: none"> • Guidelines for multi-stakeholder processes (D)
Implement, monitor & evaluate effectiveness	<ul style="list-style-type: none"> • Understanding what is working and what is not • Ensuring feedback • Making the process of problem solving self-improving and self-learning 	<ul style="list-style-type: none"> • Participatory and formative evaluations encompassing process and the task (D) • Learning across case studies to develop robust guides to good practice. (E) • Adaptive management

(A) Integrated Systems for Knowledge Management (ISKM)

ISKM is a participation framework developed to help communities (land managers, scientists, policy makers, and interest groups) share experiences and observations to develop knowledge for resource-management decision-making. It also supports the development of models and other management information systems. It deals with gaining participation, generating understanding, storing and disseminating information as well as planning actions and monitoring.

(B) Stakeholder Analysis

Getting the right people involved in biodiversity processes is important. The collaborative learning group has developed a tool to help do this.

(C) Biodiversity and tangata whenua

Traditionally tangata whenua have little involvement in science and research projects. Nationwide there are problems with capacity for iwi to engage in resource management planning and policy, and to form effective relationships with local government and other community groups. Research in this area aims to maximise social learning and understanding of cultural processes and interactions. This will contribute to better management of biodiversity, which addresses Māori concerns and issues, identifies Māori research and information needs, and increases iwi participation

(D) Evaluating multi-stakeholder initiatives

The Tasman Areas Natural Enhancement Group (TNAEG) brings many different groups and agencies together to co-ordinate actions to maintain, and restore natural areas. The researchers are working with TNAEG and Action Biocommunity undertaking participatory, formative evaluation that enables the forum to reflect on the success of actions and plan for the future.

(E) Allen, W.J. & Kilvington, M.J. (in prep.) Building capacity for environmental change: An across-case study evaluation framework to improve effectiveness of multi-stakeholder processes

This paper outlines the role of collaborative approaches in environmental management. It identifies key processes that support group-based activities through cross -case study research, and highlights the role of evaluation in improving multi-stakeholder processes.

Getting our research used

An important reason for funding research is to develop lessons that can be applied in other situations. We use our networks and the Internet to support the dissemination and application of lessons learnt through this research. Examples of where our work is being used to support other environmental research and development initiatives include:

- Over 350 people have subscribed to our email research update service (see <http://social.landcareresearch.co.nz>). Almost half of these are from New Zealand, comprising research leaders and environmental management staff from agencies and regional councils.
- The LCR Collaborative Learning website has just been selected as a guide to underpin the preparation and implementation of the initial round of the US\$40 million CGIAR Water and Food Challenge Program (www.waterforfood.org). Our website is highlighted in the research proposal instructions related to participation and end-user impact.
- Our work is provided as a featured link from many national and international environmental research and agency websites. Landcare Research's is featured on the Action Biocommunity's website.

For more information

- Restoring biodiversity in human landscapes: <http://www.landcareresearch.co.nz/research/biodiversity/landscapesprog/>
- Collaborative Learning for Environmental Management <http://social.landcareresearch.co.nz/>

¹ Olsen, S.; Tobey, J.; Kerr, M. 1997: A common framework for learning from ICM experience. *Ocean and Coastal Management* 37: 155-174.