



## **Integrated Catchment** Management

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# What is "integrated catchment management"?

Integrated Catchment Management is a process that recognises the catchment as the appropriate organising unit for understanding and managing ecosystem processes in a context that includes social, economic and political considerations, and guides communities towards an agreed vision of sustainable natural resource management in their catchment







# Integrated catchment management

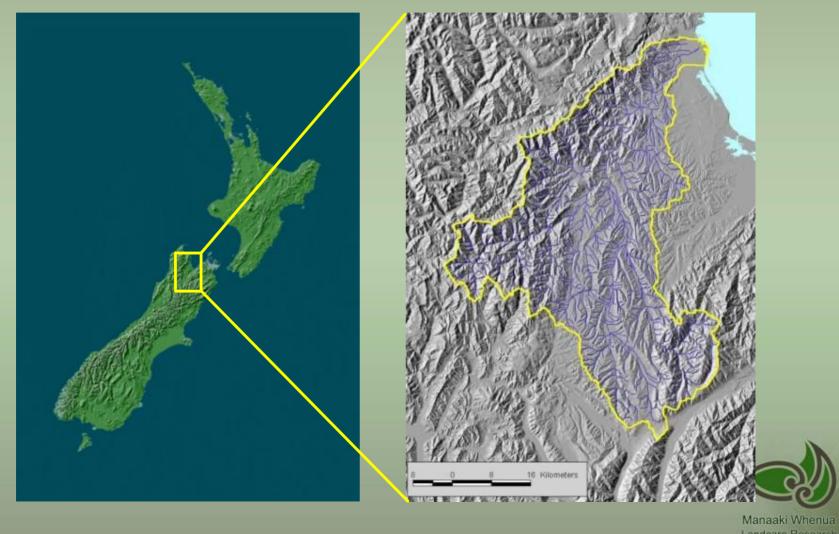
Aim: Integrating biophysical, ecological and social research for catchment-scale management of water resources.

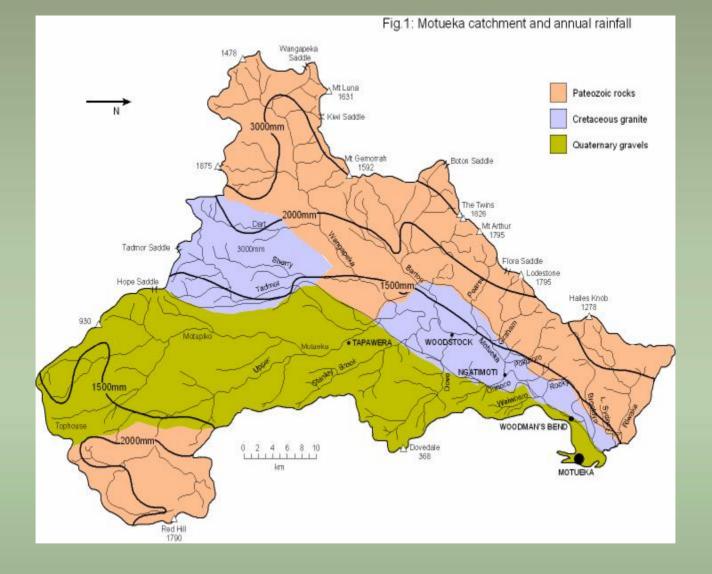


# Integrated catchment management

Outcome: Improved management of, and social learning about, land, freshwater, and near-coastal environments in catchments with multiple, interacting, and potentially conflicting land uses.

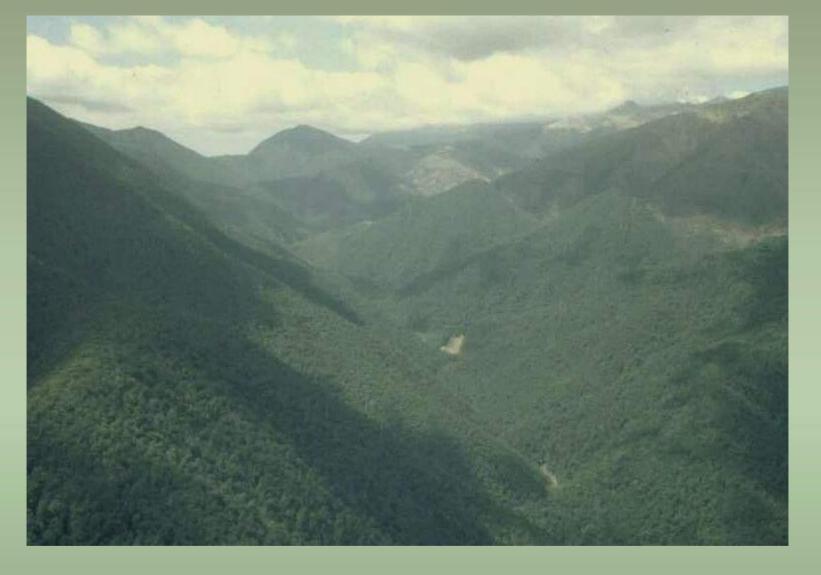
## Context





2200 km<sup>2</sup>; complex geology; and strong rainfall gradient.





Indigenous forest in high-rainfall upper catchment.
Used for biodiversity conservation, tourism,
recreation.





Plantation forests on Moutere gravel hill country, mid-upper catchment





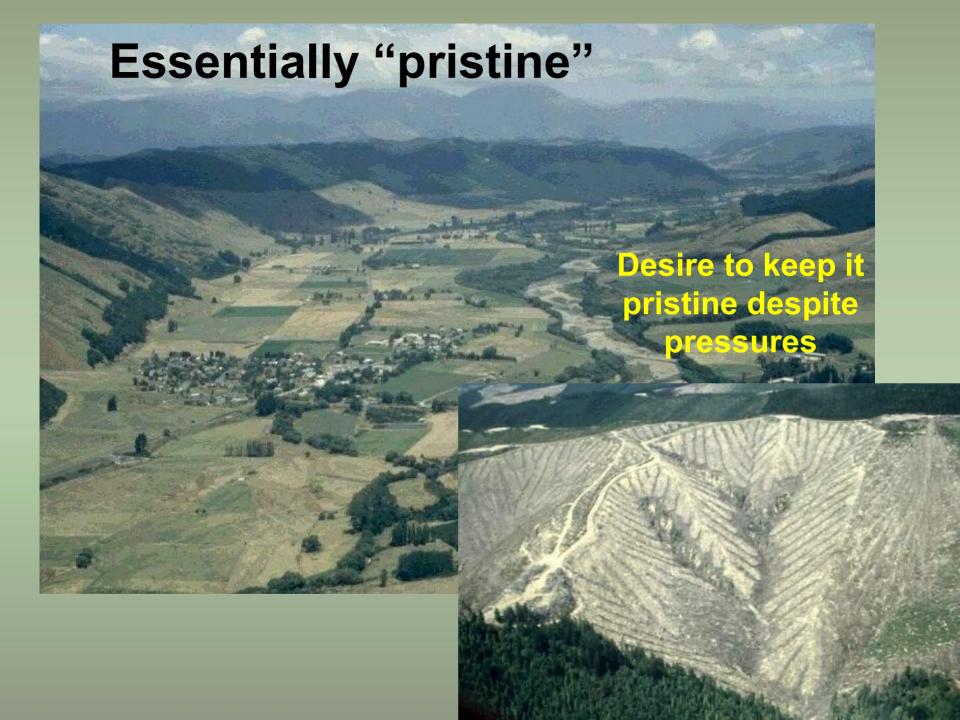
Sheep and beef farming on extensive areas in midcatchment

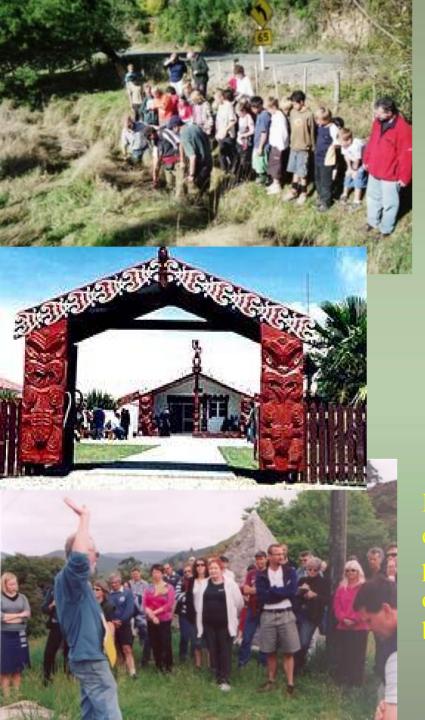




Intensive horticulture at lower end of catchment







# Social learning and community participation

Community reference group and community engagement lwi partnership Social learning

Learning that occurs only when people engage one another, sharing diverse perspectives and experiences to develop a common framework of understanding and basis for joint action

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## Influence matrix to help define research agenda and understand catchment interactions

		16	Ecological	Factors			5271					Economic	Factors		110-25	25	inat	Yin	dust	Social S	ruccora	140	1000		0.90		i d	Caner Factors	
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3	Ecological	2	2	2	4	3	2	3	3	3	3	2	2	2	2	3	3	2	2	2	2	2	2	2	1	3	2	3	2
	Factors	3	2	3	3	4	3	2	4	3	3	2	2	1	1	3	2	2	2	3	3	2	2	2	1	3	2	3	2
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	Other	1	1	1	1	1	1	1	1	1	1	1	2	2	3	3	2	2	3	3	3	3	3	3	3	3	3	3	1
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### **Influence Matrix**

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Groups	Factors	Forestry	Farming	Sediment	Nitrate	Profit	Cashflow	Qual of life	Com health	Col sums
Ecological	Forestry		0	1	1	5	4	2	1	14
	Farming	2		4	5	6	5	3	3	28
	Sediment	0	4	-	2	3	3	4	3	19
	Nitrate	0	2	0	1	1	1	2	5	11
Economic	Profit	6	6	0	0		5	5	1	23
	Cashflow	5	5	0	0	5		5	1	21
Social	Qual of life	2	4	2	2	4	4		4	22
	Com health	0	0	2	2	2	2	5		13
	Row sums	15	21	9	12	26	24	26	18	

How these factors affect other factors.

How these factors are affected by other factors.

Scoring: 0 = none 1 = trace 2 = weak 3 = modest 4 = strong 5 = substantial 6 = dominant



- Comm setting
- How a manage





## Social learning in ICM

- Community participation in research agenda setting
- How are science results used by resource managers?
  - Designing appropriate disseminations toold (translations)
  - CD-ROM tool



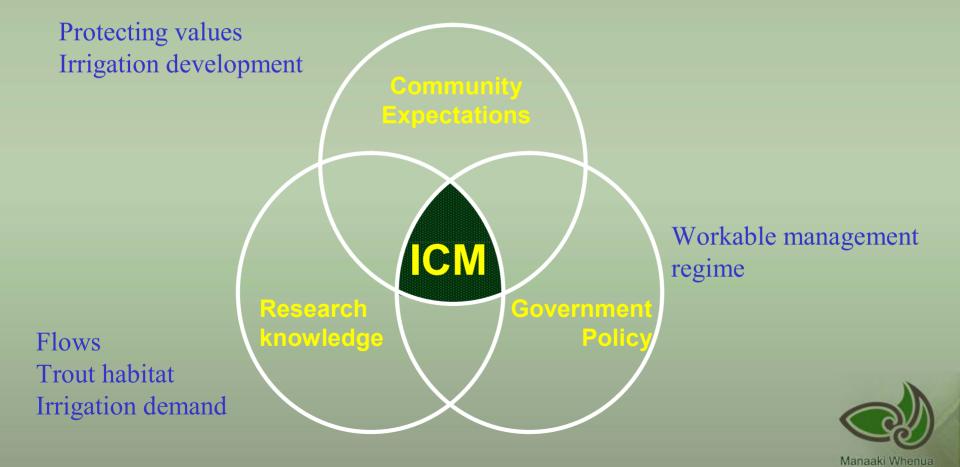
## Social learning in ICM

- Community participation in research agenda setting
- How are science results used by resource managers?
- Developing tools for stakeholder involvement
  - Models for working with iwi
  - Team evaluation guide
  - Stakeholder analysis



## **Motueka Conservation Order**

Successful negotiation between parties



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## ICM - social learning

