Challenges for Sustainable Development in the Motueka Catchment

Participatory Modelling with an Influence Matrix

Thinking about the Future

- what will the Motueka Catchment look like 20 years from now?
- how many people will live here?
- what social services will they need?
- which businesses will lead the way?
- will our natural resources support our economic and social development?

What Are Our Future Goals for the Motueka?

The group agreed these goals for the Motueka:

- a safe place to play and live
- economic & ecological balance
- pristine character & beauty
- economic viability for business development
- maintain biodiversity
- community diversity
- landscape diversity
- coastal integrity
- identity

Which Factors Influence Progress Towards Our Goals?

The group identified 171 factors, which could help or hinder achievement of these goals. To make these manageable, they were grouped into 28 key factors.

Group Factor Influence on …

We also looked to see which groups of factors have the strongest influence on other groups of factors. We were surprised to learn that according to our scores economic factors were least influential.

Looking at Different Types of Factors

We were able to use the influence matrix to identify critical, active, buffer and passive factors.

Critical Factors – have a strong influence on all other factors and are strongly influenced by them. One example we found was water quality & supply. The achievement of long-term goals identified by the CRG members was dependent on critical factors: ecosystem services, human demographics (population change), policy / regulatory interventions / governance and the extractive and conversion activities of primary industries. The active factors driving change and development in this catchment are perceived by the CRG to relate to policy / regulatory interventions and commodity markets.

Participatory Modelling

During 5 evening meetings with the ICM Community Reference Group (CRG) we worked together to build a number matrix for the Motueka that shows how we think the 28 key factors influence each other.

Factor Influence on…

We calculated the total influence of each factor on all other factors and ranked the scores.

What Next?

Now we understand better which factors help us make progress towards our vision of a sustainable future.

Next we will build a simulation model to help us test different ideas about how we should use our resources and develop our businesses and community.

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