

Overview of Canterbury Region and Issues

Dr Bryan Jenkins

Chief Executive, Environment Canterbury

NZ Association of Resource Management

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Water is the Critical Resource in Canterbury

Sustainability of Water Availability

- run-of-river takes on restriction
- many groundwater zones at sustainability limits

Cumulative Effects of Water Use

- water quality impacts of land use intensification
- ecological health of lowland streams

Sustainability Framework

- **Exploitation:** harvesting of resources
 - abstraction of water at sustainability limits
- **Accumulation:** build up of material in the system
 - cumulative effects of land use intensification
- **Release:** disturbance of the system (resilience)
 - groundwater quality, lowland stream ecology
- **Reorganisation:** restructuring of the system
 - deterioration to a different system
 - proactive intervention to retain system

Resource Management as the interaction of two systems: bio-physical and socio-economic

- **Effects Management:** traditional RMA role of impact of development on the environment (2)
- **Biodiversity Management:** maintenance of ecosystems (bio-physical environment) (1)
- **Natural Hazards Management:** impact of biophysical changes on development (3)
- **Economic and Social Management:** maintenance of economy and social well being (4)

Air Quality in Christchurch

- **Spectrum of Approaches**
 - incentive scheme for home heating conversions
 - regulatory scheme for emissions
- **After 7 Years**
 - two thirds of conversion target achieved
 - Air plan operative from 1 April 2010
- **Marked improvement in Air quality**
 - second highest peak from 180 to 80 ug/m³

Biodiversity

- Regional Strategy developed in partnership with stakeholders
- Priority sites identified
- Immediate steps biodiversity programme in CWMS

Pest Management

- Rabbit numbers increasing
- RCD immunity increasing
- High non-compliance
- Added coordination role to regulatory role
- Global consent for use of poison

Hazards: CDEM Group Plan

- Hazard analysis: identify hazards to community
- Reduction: reduce impact and likelihood of events
- Readiness: encourage community preparedness
- Response: respond to emergency events
- Recovery: enable communities to rebuild
- Public Information: educate for preparation; inform during events

Halswell Catchment Changes

- Groundwater rise
- Land subsidence
- Lateral spreading narrowing stream width
- Sand “boils”
- Siltation of river bed
- Revised drainage plan required

Waimakariri Flood Protection

- Risk of stopbank failure below design flow
- No protection above design flow
- Climate change projections of more extreme events
- Secondary stopbank to achieve 1:10,000 year flow capacity
- Contain and return breakout flow

Urban Development Strategy

- Definition of future development
- Identification of urban limits
- Location of key activity centres
- Facilitation of infrastructure planning
- Integration of land use and transport
- Protection of strategic infrastructure

Change in Resource Management approach

- **More Strategic** (less reactive)
 - water, biodiversity, urban development
- **More Collaborative** (less regulatory)
 - zone/region committees, rabbit co-ordination
- **Sustainability emphasis** (not just effects management)
 - resource limits, cumulative effects, system resilience
- **Spectrum of approaches** (not just regulation)
 - incentives, voluntary compliance, regulation
- **More modeling and measurement**
 - prediction and adaptation