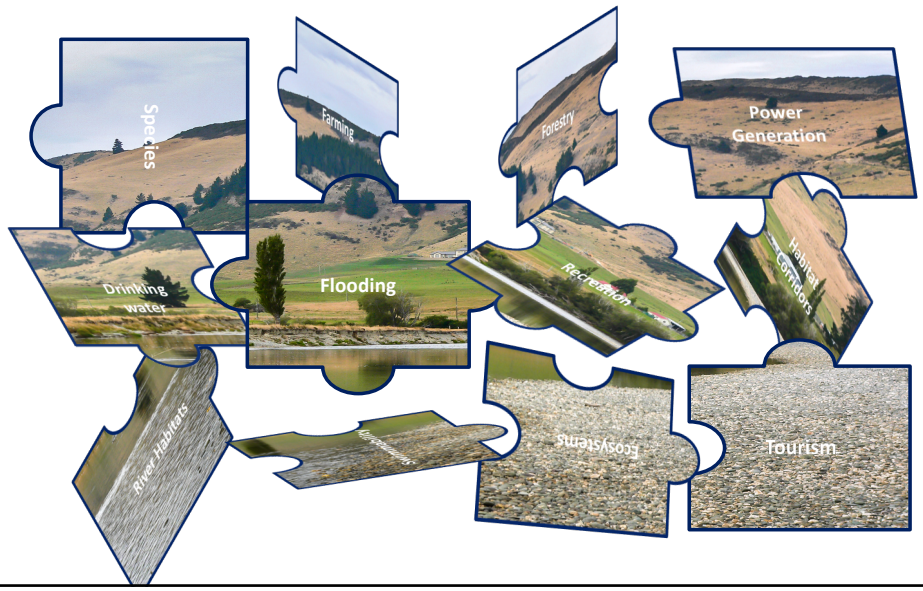

# The Catchment Jigsaw

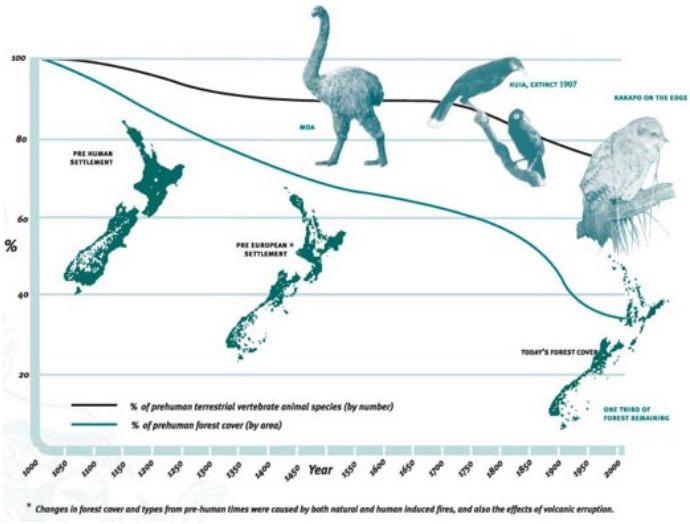
*fitting the pieces together to support water quality and biodiversity*

environment SOUTHLAND
REGIONAL COUNCIL
Te Taiao Tonga

# Our pieces



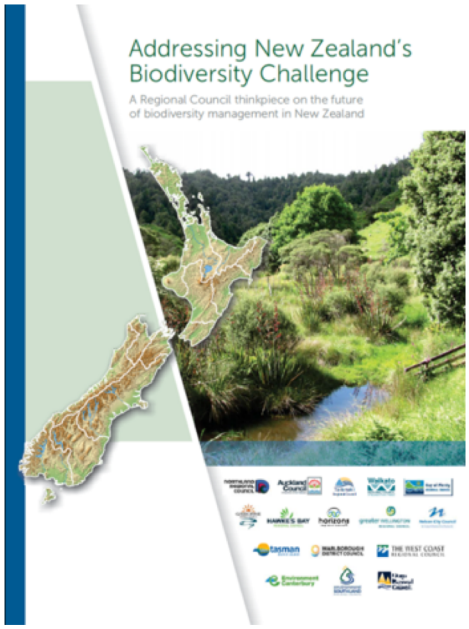
# A piece by piece approach is not working!




Ref: DOC *New Zealand Biodiversity Strategy 2000-2020*

# Un-intended consequences

Issue: Flooding → Solution: Flood Banks → Creates Weed Habitat → Solution: Weed Control → Ongoing expense and herbicides may reach water → Solution: Plant fast growing trees or graze down weeds → Loss of open river bed habitats and species; Loss of water quality





## Shift 4: Greater collaboration at strategic and operational levels

# Biodiversity Strategy

When we started we thought the problem was about:



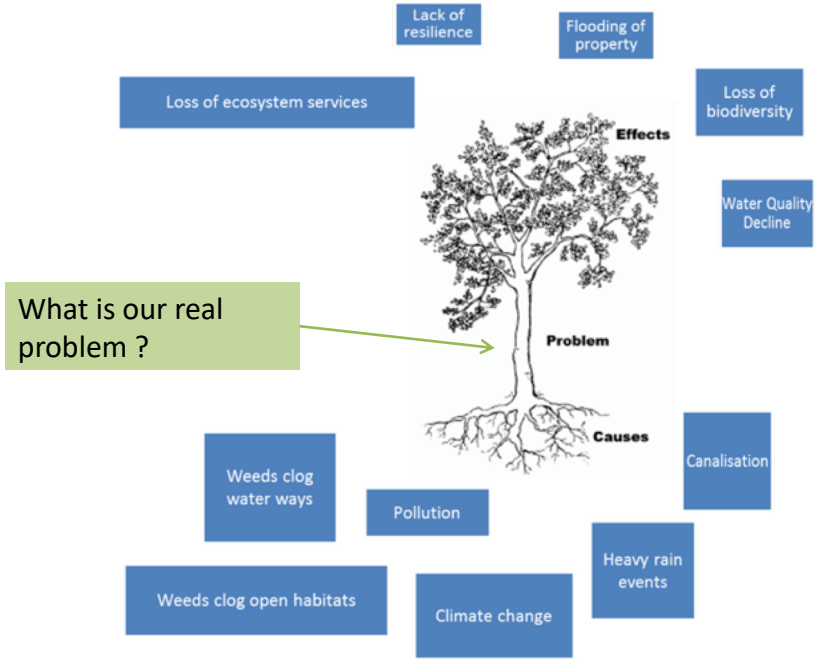
The problem became about:

# Catchment management

If we pool our knowledge on catchment management would the problem and the approach change?

# Could we apply this to a catchment?

- First we need to understand our local jigsaw and our problem tree
- We can then identify the key pieces and intervention points



# Working collaboratively on intervention points

- Will reduce the risk of un-intended consequences
- Bring together a range of ideas, experience and innovative solutions

# Can this actually work?

**Slowing the flow – North Yorkshire UK**

- Couldn't afford conventional flood control works
- Formed a collaboration between locals, universities and agencies
- Flood alleviation by working with natural processes
- Reduced the risk of flooding from a 25% chance in any year to a less than 4% chance.
- Reduced peat erosion and improves water quality

# Catchments Otago could help with?

- Technical solutions
- Economics
  - Willingness to pay
  - Searchers Vs Planners
- Ecology
  - Could the key stone species concept work for the wider environment to find a the key interactions?
- Behavioural science
  - How do we help people understand the value of our biodiversity and ecosystem services?
- Modelling interventions and predict outcomes
- Could flooding actually be a solution?
- Facilitating and helping to define the problems

# Our Catchments

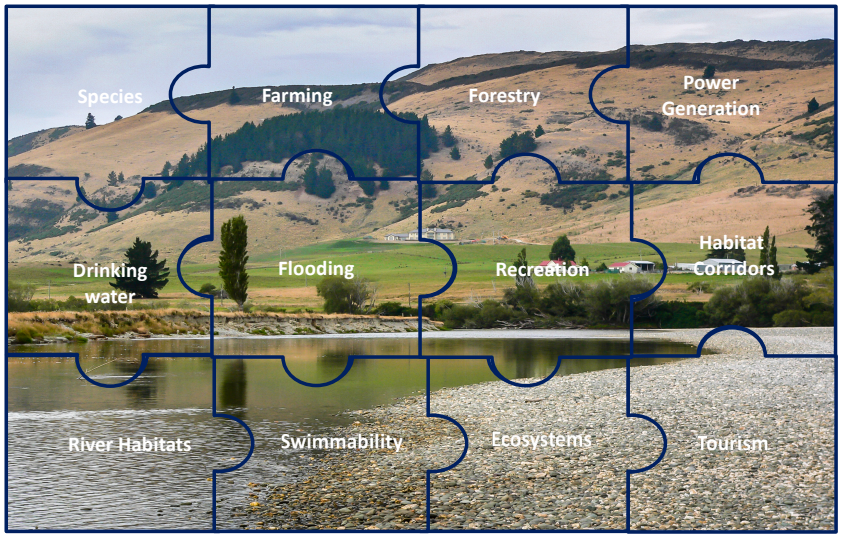



Photo Credit Les Ladbrook