



# Regional environmental policy SIG strategic issues and research

SIG Research strategy workshop 20 – 21 July 2017 Wellington

Steve Markham Regional Policy SIG



# Regional sector research S & T meta-issues

- Research, science and useful knowledge – confusion or worse over:
  - research content - what knowledge (science content) is needed from responding to what question?
  - research method (what sciences and research competencies are needed and how can they best work together?) and
  - what epistemologies or knowledge cultures (eg. matauranga Maori) are needed for the research?
  - what is the place of the research in an environmental management context - is it to support systemic understanding, management decision-making, management operations or management performance? Is the question ever asked? Does the research inform the answer?



# More research meta-issues

- ▶ Uneven alignment of research effort against environmental risk in the spectrum of identified research priorities
  - ▶ Given the management context to all RS research, environmental risks relevant to research question should inform research priority, design and delivery
- ▶ Working more effectively with practitioners across the science – policy divides for understanding and decision value of effort
  - ▶ Improving “technical” and “planning” reciprocal literacies to support transdisciplinary thinking
- ▶ RS knowledge amnesia may dog progress
  - ▶ Beyond *Envirolink*, and given RS practitioner turnover, how would we or anyone know about useful research results to inform improving environmental management understanding, decisions and operations?



# Current management policy & decision research challenges

- ▶ How to enable sufficient systemic understanding for any management issue, of uncertainties, complexities, social value and environmental risk, using transdisciplinary methods and tools, to support adaptive policy decision-making, over time-spatial dimensions
  - ▶ How to show full environmental and so social value of natural resources and their ecosystemic services over time-spatial dimensions, in evaluating management decisions at the margin of change
- 



# Critical issues for cross-SIG effort

- Considering RS research meta-issues
- Eco-services valuation and marginal evaluation of decisions (policy research challenge no 2)
- Understanding and accounting for ecosystemic and cultural influences of catchment dynamics (flows, contaminants) on coastal environment quality in management decisions
- Mapping and resolving content of land and water resource value (via attributes, indicators and thresholds) between pakeha research and matauranga Maori
- Resolving urban system redesign needs in the face of accelerating hazard risks



# RS & T research priorities

- The issues and challenges raised broadly sit in the priorities 1 and 2 of 2016 RS & T strategy
  - New dimensions raised are:
    - transdisciplinary research and its tool development to support systemic understanding and management decisions at the margin more efficiently
    - Sorting and patterning (gaps, differences, templating across content) from the legacy of research effort to reduce unnecessary re-investment and provide learnings for the future
- 



# Annex: More on catchment and coastal dynamics

- ▶ Understanding the types of coastal environments and vulnerabilities to catchment-sourced ecosystemic and activity risks (risk typology)
- ▶ Scale, form and function of river plume ecosystems in the coastal marine settings
- ▶ Assessing the types of management tools to inform regional water plans and coastal plans to respond to water quality degradation, spatial allocation, up-catchment solutions
- ▶ Developing pattern for policy and monitoring sets to resolve NPSFM – NZCPS directives



# Annex: More on resource services valuation and management decision evaluation

- ▶ Wrangling frameworks and methods for time-spatial social valuation of market and nonmarket, ecosystemic resource stocks and services flows as entities-of-value in the environment *sensu lato*
- ▶ For any set of entities-of-value, iterating identification, functional and other systemic characterisation, sizing and assigning social significance under time-spatial variability,
- ▶ Value capture in an accounting system where accounting units (denominators) may not be capital (dollar) and numeraires are within dynamic time-spatial contexts
- ▶ Deployment of valuation data in the relevant management decision framework and the situational calculus required for evaluating the range of choices (eg. spectrum of value tradeoffs, under the relevant functions for value weights, within any RMA setting)
- ▶ Operating the above in ex ante and ex post evaluations for performance reviews

