



BIODIVERSITY AND FARM PLANNING

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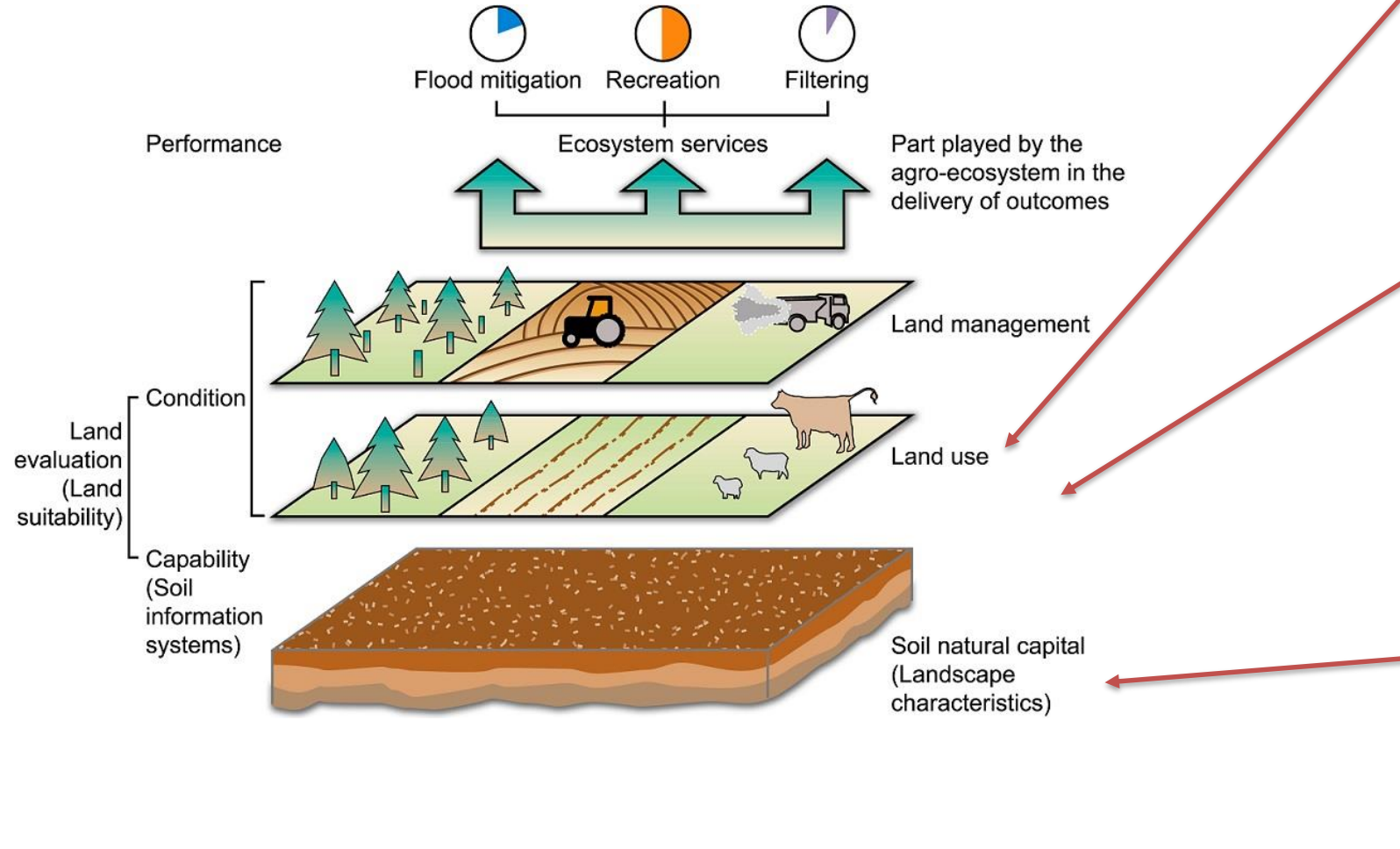
BEST Symposium 1st May 2019

Current status of indigenous biodiversity

Total native vegetation (forest, shrubland, grassland and wetland)

Region	% region in native vegetation (area ha*1000)	Percentage of total native vegetation in different land uses					
		PCL	Sheep & beef	Dairy	Plantation	Urban	Other
New Zealand	43.0 (1,490)	61.5	24.5	1.4	2.8	0.0	9.8
Northland	57.0 (925)	88.0	7.0	2.0	2.0	0.0	1.7
West Coast	80.0 (1,868)	93.5	1.6	1.2	1.1	0.0	2.6
Canterbury	33.2 (1,500)	47.9	48.0	0.6	0.5	0.0	3.1
Otago	37.9 (1,207)	40.5	56.1	0.2	0.8	0.0	2.5
Southland	58.3 (1,856)	87.4	8.9	0.3	0.4	0.0	3.1

These differing statistics reflect the distinctly different landscapes that different sectors occupy.



Dominati, E.J., Mackay, A.D., Maseyk, F.J., Rendel, J.M. 2019. Farming in a changing environment: Increasing biodiversity on farm for the supply of multiple services. *Science of the Total Environment*. 662 703-713.

Main focus – protecting waterways and water quality



Researchers from AgResearch and The University of Queensland, with help from Taranaki Regional Council, recently undertook a research project to improve understanding of farmer's experiences and perceptions of the costs, benefits, and liabilities of planted riparian margins. Taranaki ring plain dairy farmers were invited to participate in the project.

A total of 22 farmers and one rural professional attended one of two interactive meetings held in Stratford in May 2015. Participants were divided into Group A who are currently implementing riparian planting, Group B who have fenced but are not currently planting the margins, and Group C who have not fenced. The two meetings involved presentation and group discussion, and voting exercises.



How do riparian margins impact on the farm system?

How do riparian margins contribute to wider benefits?

Meeting participants reviewing the issues raised by group discussion and asking the question: Which of these are most important to me?



Newly planted riparian margin



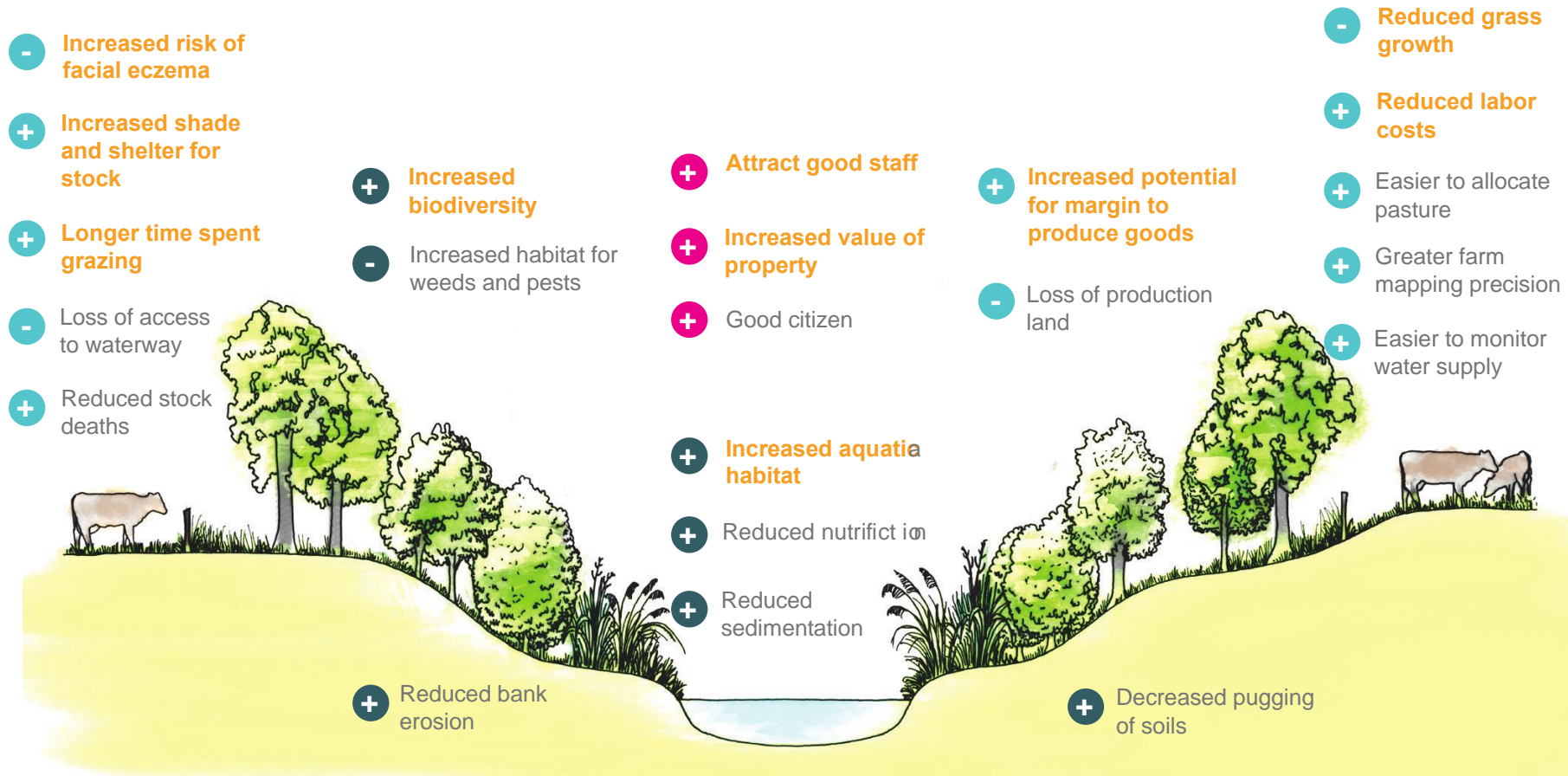
Older riparian margin planting



Riparian plants at the TRC depot ready for distribution to farmers

What additional benefits does planting bring?

B



KEY

Type of impact:



Positive



Negative

Values:



Production

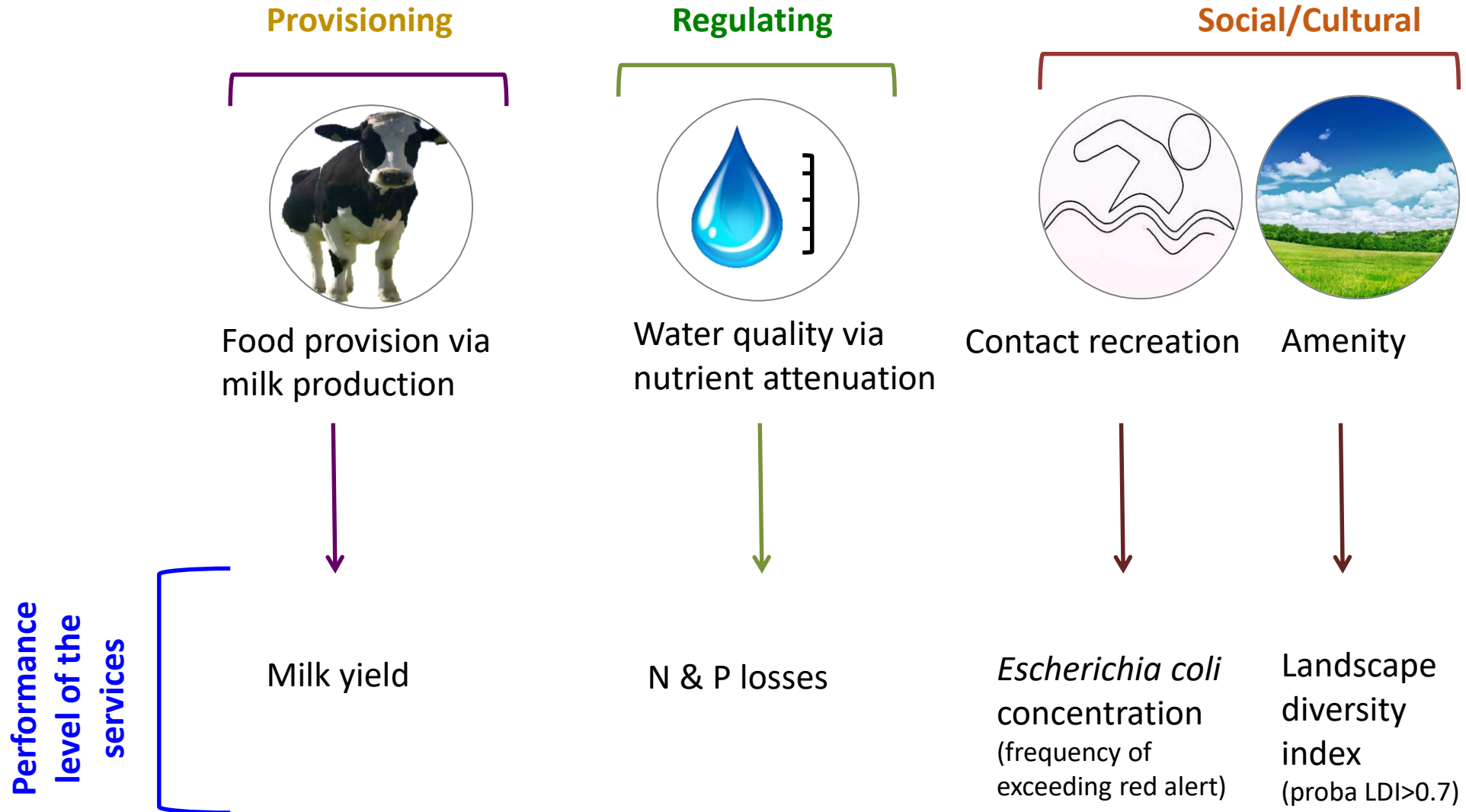


Environmental

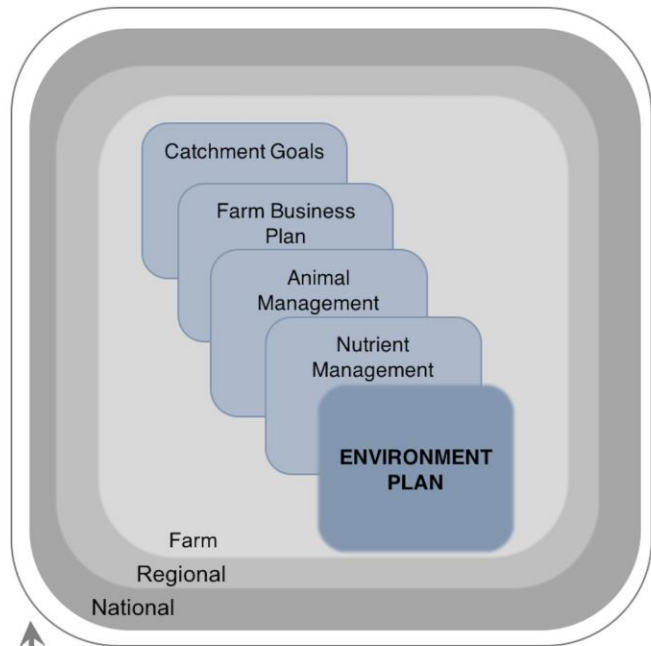


Social

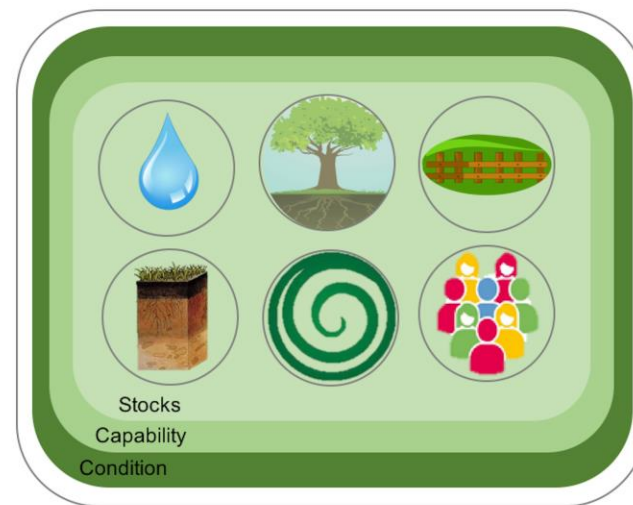
Quantification of wider benefits



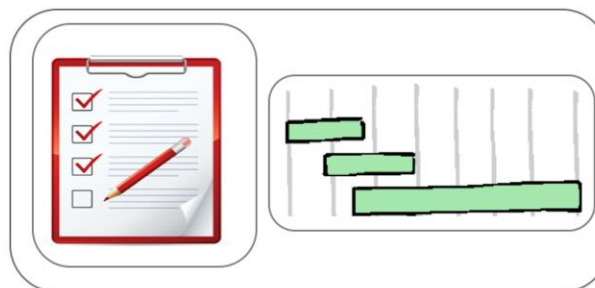
A: Goals



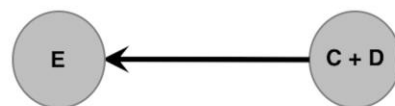
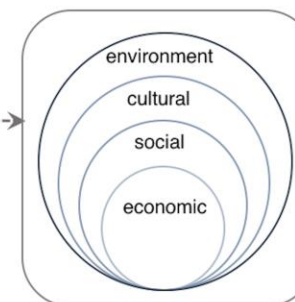
B: Stocktake



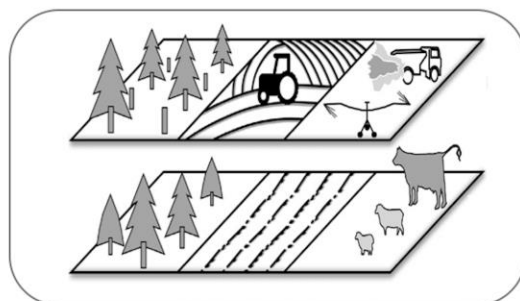
D: Assessment



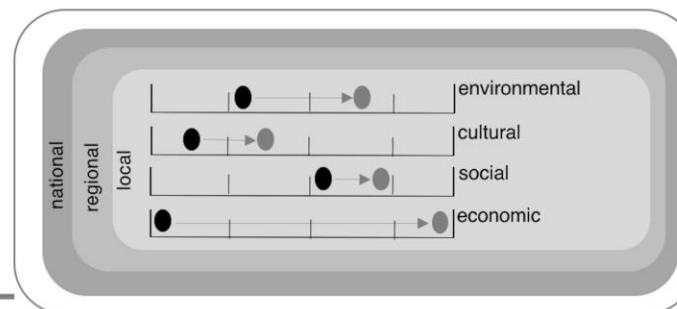
C: Determine boundaries



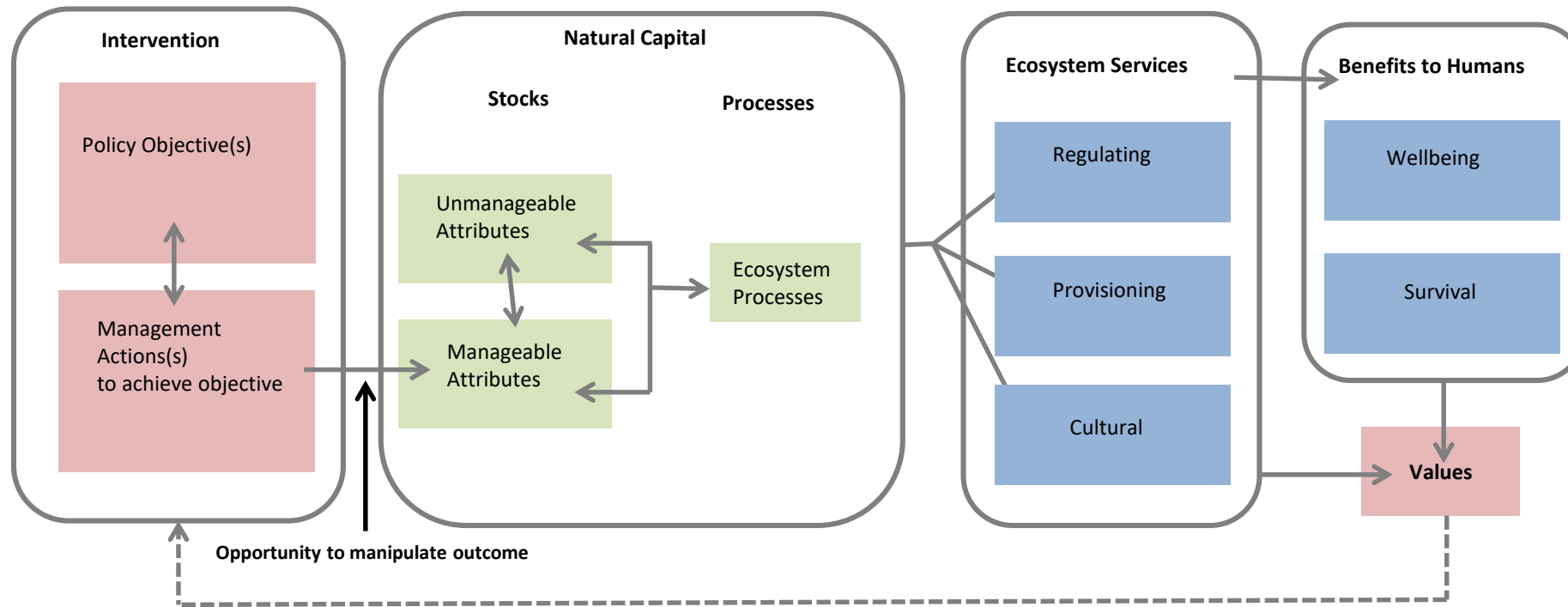
E: Work planning



F: Reporting



How we connect ecosystem services to farm business and resource management?



Challenges

- Sourcing data on the extent, condition and function of indigenous biodiversity at farm scale
- Poorly defined set of measures for monitoring the condition and function of indigenous ecosystems.
- Limited quantitative data on the provision of services from indigenous biodiversity and potential value to the farm business
- Understanding more about how services change as the ecosystem degrades or improves
- Understanding how service provision is changed if exotic species are providing the services rather than predominantly native
- The interactions between adjoining exotic and indigenous ecosystems and how current practices impact on those interactions are poorly understood
- Limited recognition and use of traditional knowledge (i.e. Mātauranga Māori)
- Biodiversity strategies are of limited value in informing farm scale decisions on biodiversity..