

OUR LAND
AND WATER

Toitū te Whenua,
Toiora te Wai

Sources & Flows Programme

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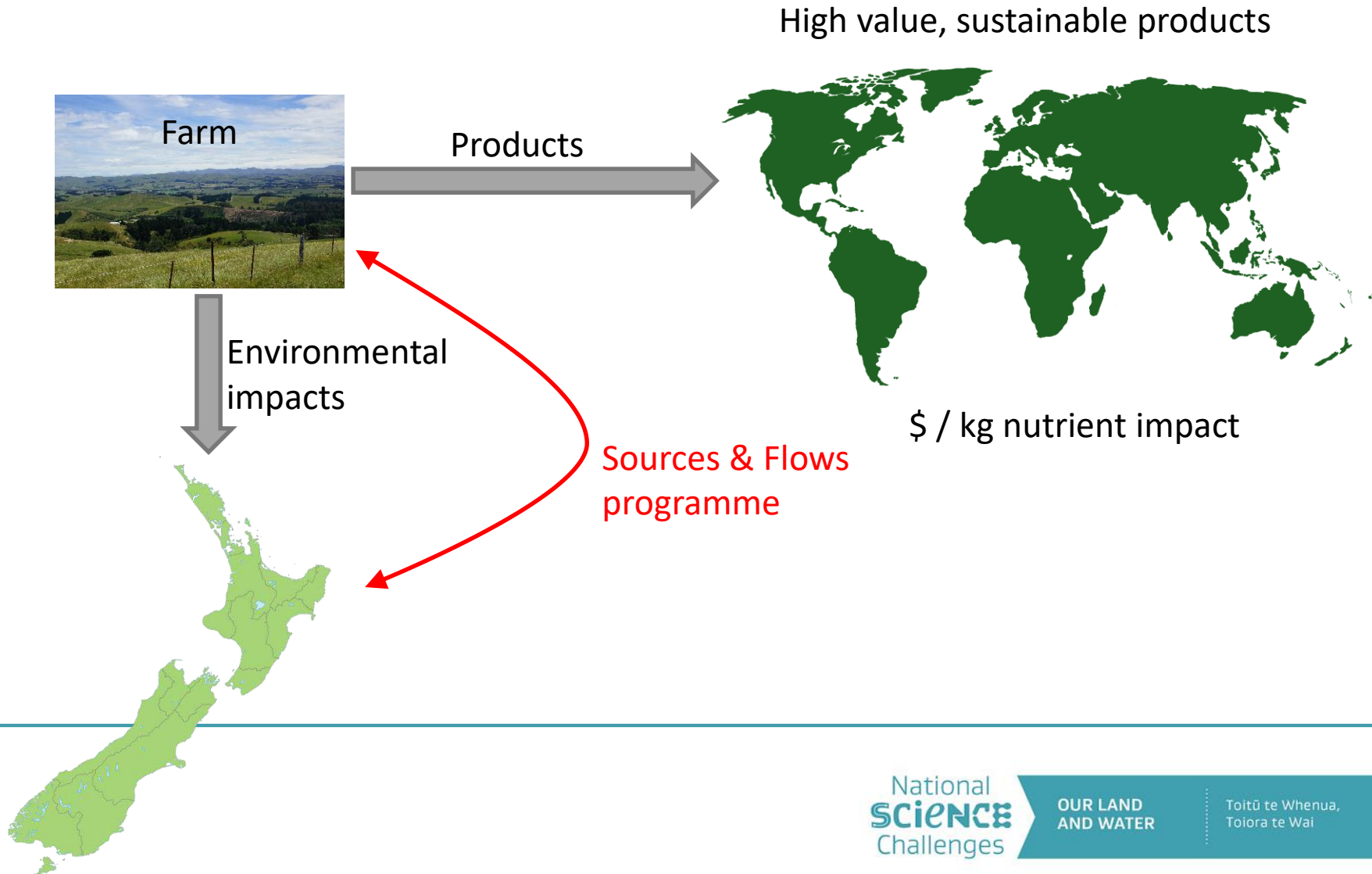
Sources & Flows

The Problem

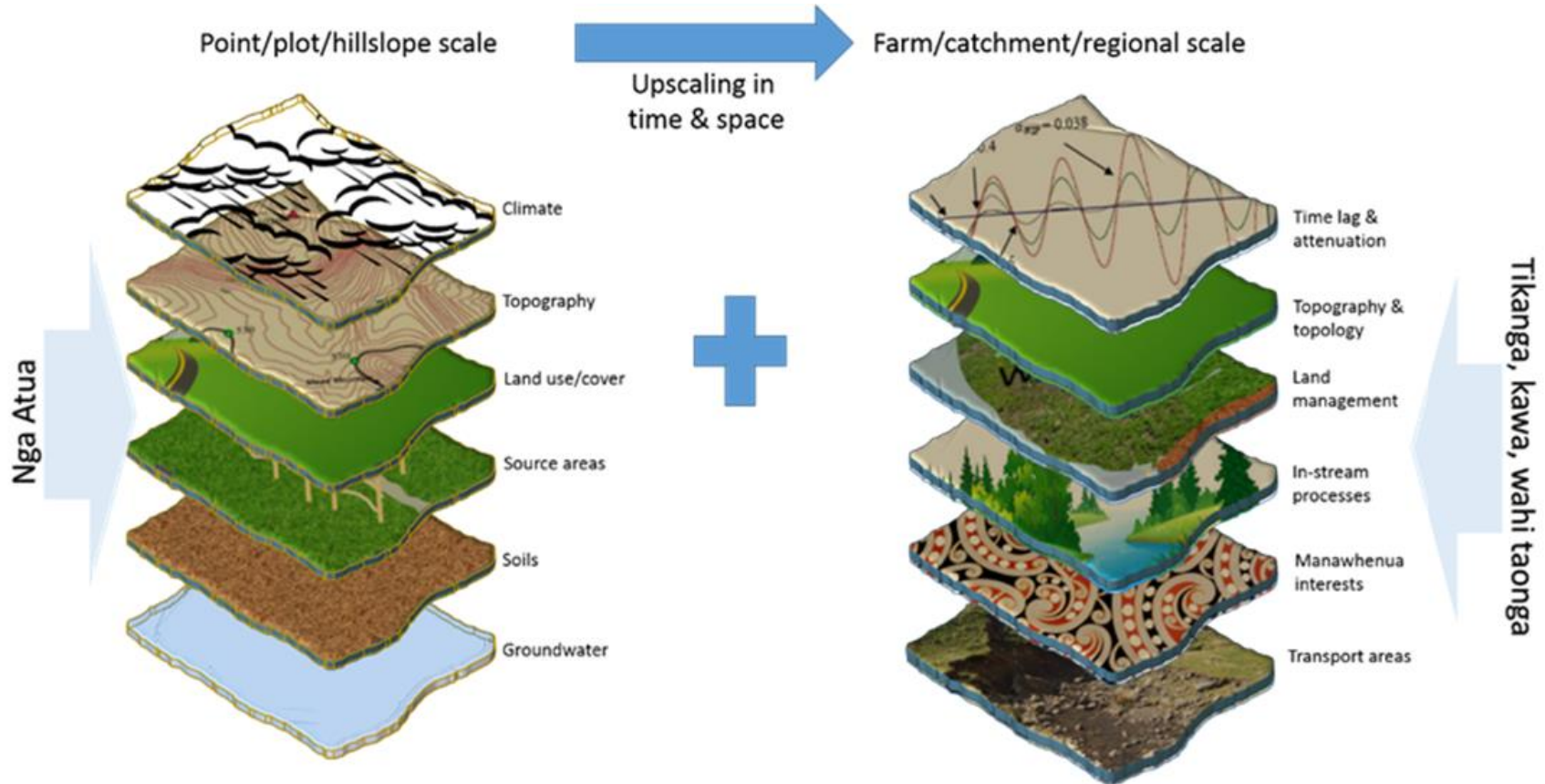
- We know Water Quality needs to improve
- We know the contaminants are coming from the land
- So **what** do we need to do on the land and **where**?
 - Within a catchment
 - Sources = what to target
 - Flows = where to target



Links to Value Chain



The Framework



Stakeholders Views = Complex

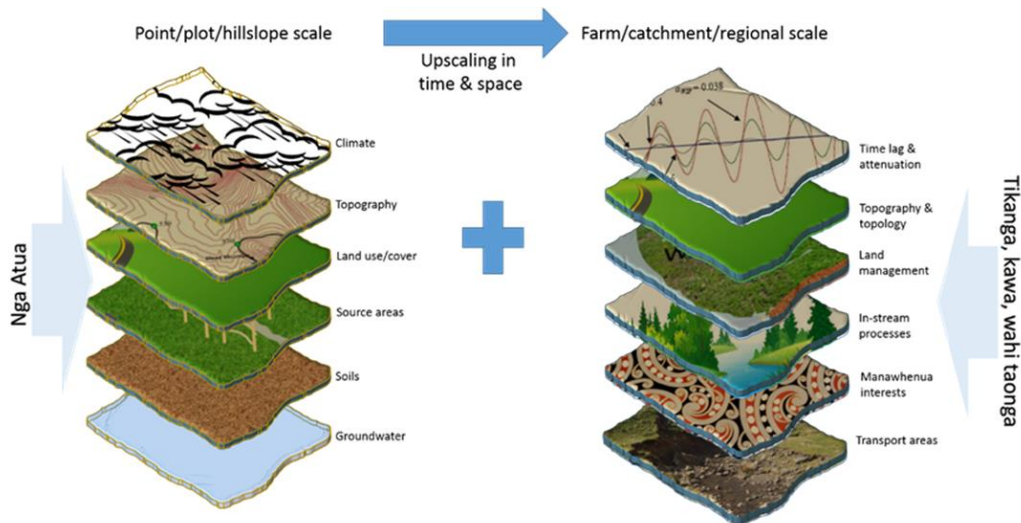
Can we use parts?

Can it fit with our existing “frameworks”?

- Flexibility

Aligns with Māori views of connectivity

Can it help protect the mauri of an ecosystem



At the National Scale – WQ data

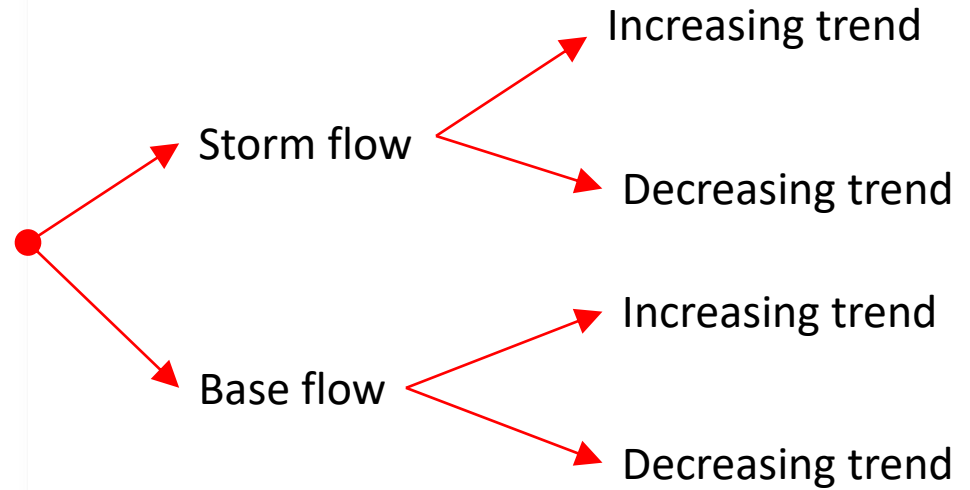


Where is the load coming from?

Small vs larger streams

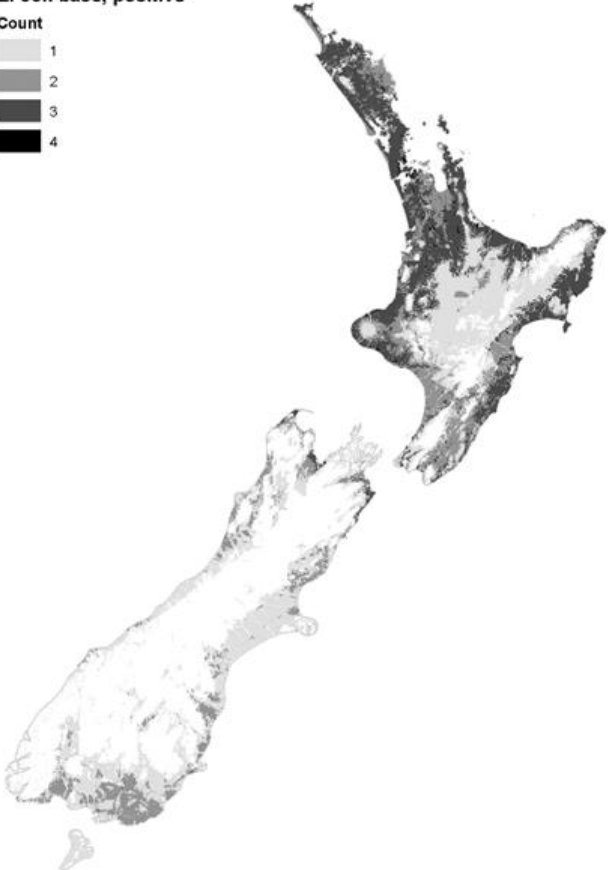
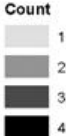
77% of the load comes from 1st order streams

At the National Scale – WQ data



Effect of flow for *E. coli* – base flow

E. coli base, positive



E. coli base, negative



Effect of flow for *E. coli* – Storm Flow

E. coli storm, positive

Count



E. coli storm, negative

Count



Sources & Flows

Current work has 4 components:

(1) Framework

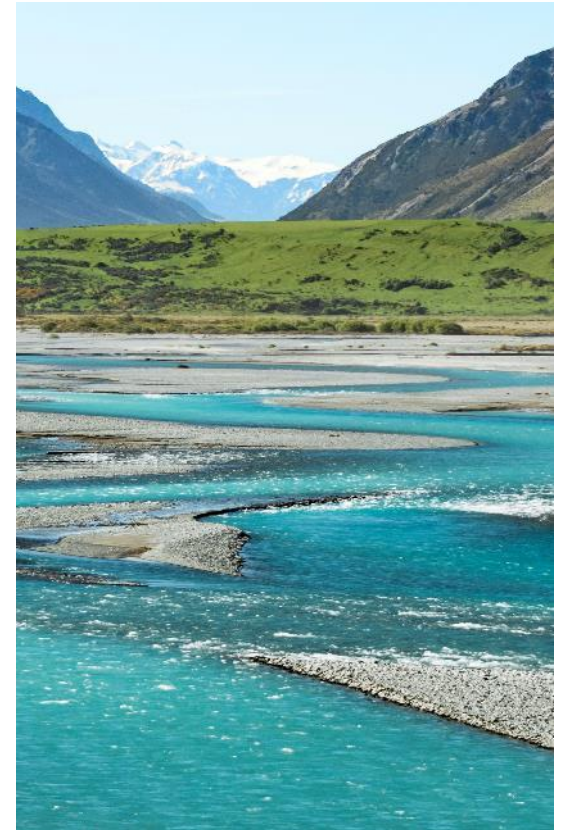
- To drill down to smaller scales

(2) Source, Delivery, Attenuation analysis

- Compliment the WQ data analysis
- Identify key data layers needed in the framework

(3) Indirect methods

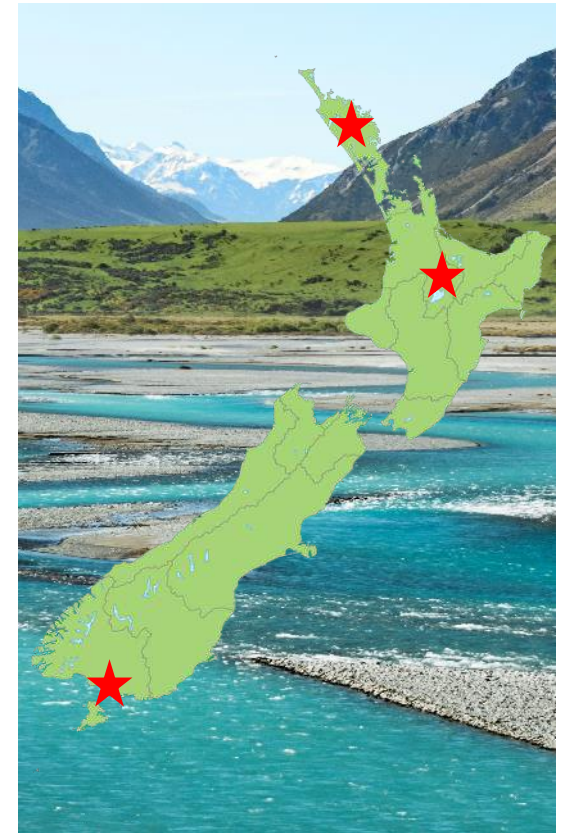
- Ability to confirm the sources and/or flow pathways



Sources & Flows

(4) Case Studies

- Test the framework
- Working with stakeholders





Thank you