

# Seaton Valley Stream Ecological Rehabilitation Opportunities



**Trevor James**, Team Leader -  
Catchment Enhancement,  
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# Outline

1. Why we should enhance/rehabilitate
2. Current state of wetlands, water quality and biodiversity
3. Key stream habitat features
4. Enhancement potential of the Seaton Valley Stream corridor
5. Examples of rehab programmes elsewhere in Tasman
6. Legislation, Policy & Guidelines
7. Challenges
8. Questions

# Why we should rehabilitate

- Small streams flowing into estuaries have the highest biodiversity
- Wetlands provide so much
- Current state of streams
- Legislation and policy -  
NPS-FM Te Mana o te Wai
  - Land Development Manual
- Wetland loss
- Cultural values

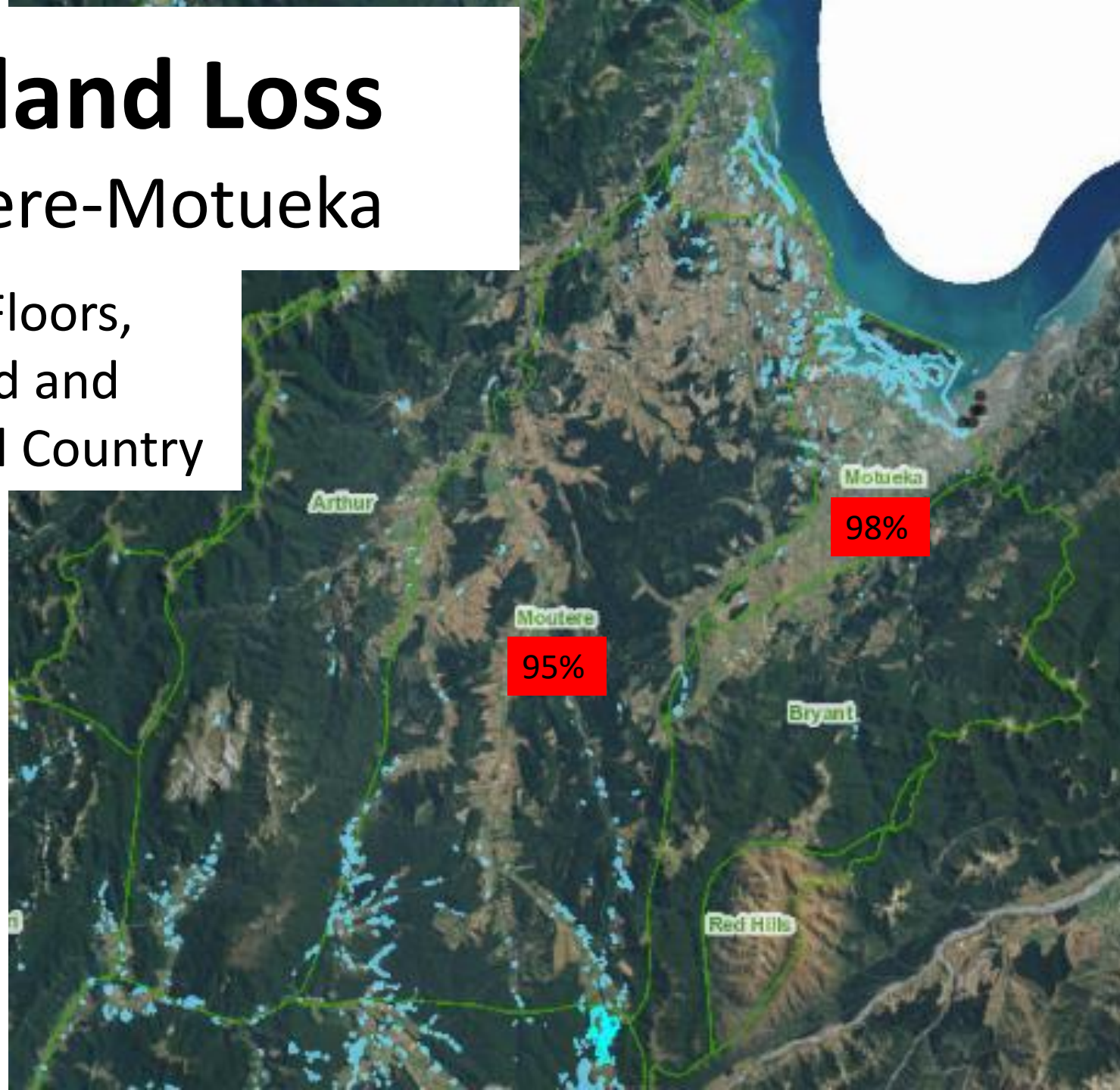




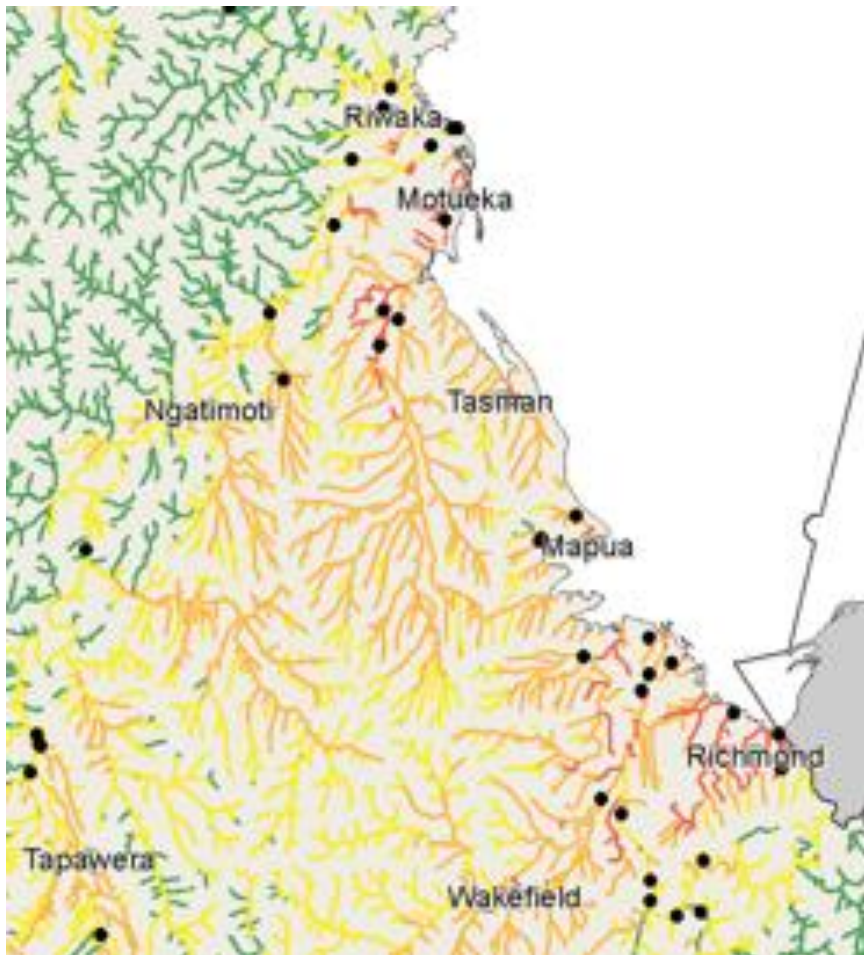
# Wetland Loss

## Moutere-Motueka

Valley-Floors,  
Lowland and  
Low Hill Country



# Health of Creatures in the river bed (MCI)



Streams in the  
Moutere and  
Motueka/Waimea  
areas are in relatively  
poor state

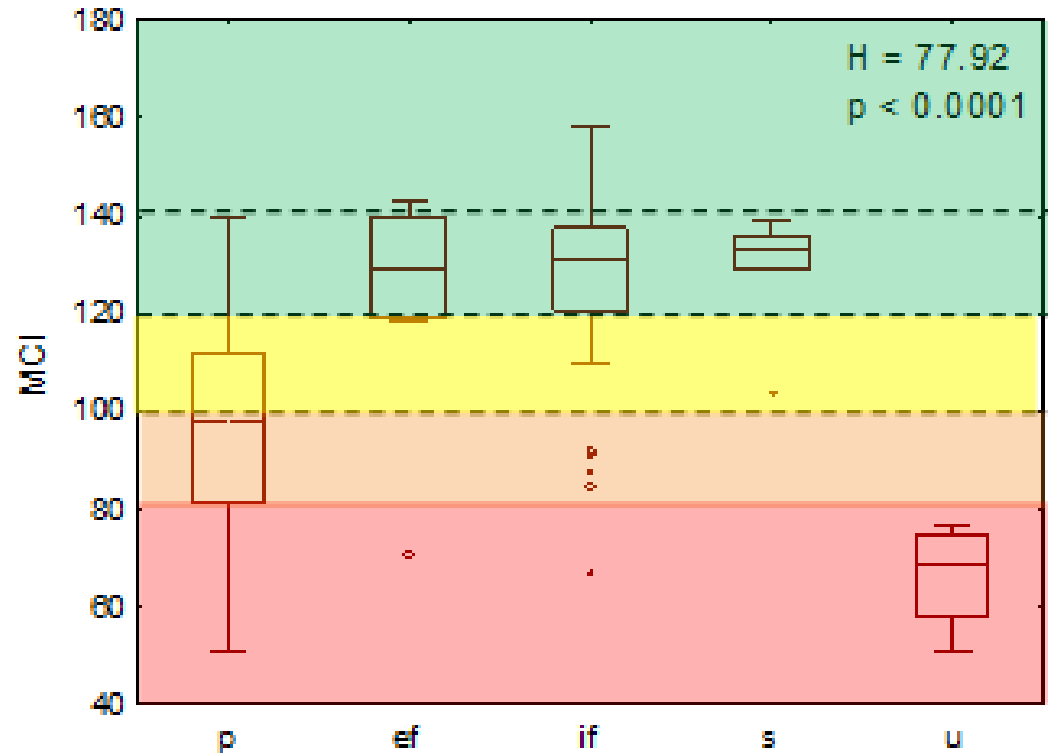


# Macro-Invertebrate Community Index (MCI) vs Land Cover in Tasman

Band	MCI	MCI	Water Clarity
	(% of stream segments)	(% of pastoral stream segments)	(% of stream segments)
A	78	23	52
B	15	38	33
C	6	36	14
D	1	3	1



150km



# Water quality

- Water quality sampled quarterly at a site just downstream of Stafford Drive over the period 2006-2016.
- Water quality was in a poor state with very low dissolved oxygen, high water temperatures, high levels of fine sediment, low water clarity, poor invertebrate condition (all samples below 80 MCI units).
- Much of this is likely to do with stock access, over-deepening and regular stream excavation in the 1200m upstream of the sampling site.

# Native Fish of Dominion & Seaton Vly Creeks



- No giant kokopu
- Rare: Redfin bully





# Fish Communities

- Marked difference in fish and macro-invertebrate diversity and abundance fish upstream vs downstream Senior upstream boundary.
  - Just upstream of the Senior land there was high abundance of fish and reasonable diversity i.e. 5 fish species including giant kokopu, common bully, inanga, long fin eel and banded kokopu, as well as koura and Paratya shrimp.
  - Downstream on the Senior land and all the way to the estuary surveys found only a few short fin eel and a few inanga.
- The low fish diversity and abundance in the lower reaches is most certainly to do with the quality of habitat and degree of disturbance (channel is dug out every 2-3 years).
- Fish recovered during channel drying and stream diversion (culvert project near Mapua School) showed moderate abundances of long-fin eel and inanga.

# Fish Passage



- Fish passage assessments will be repeated in 2023-24
- Inanga spawning site marked by red arrow





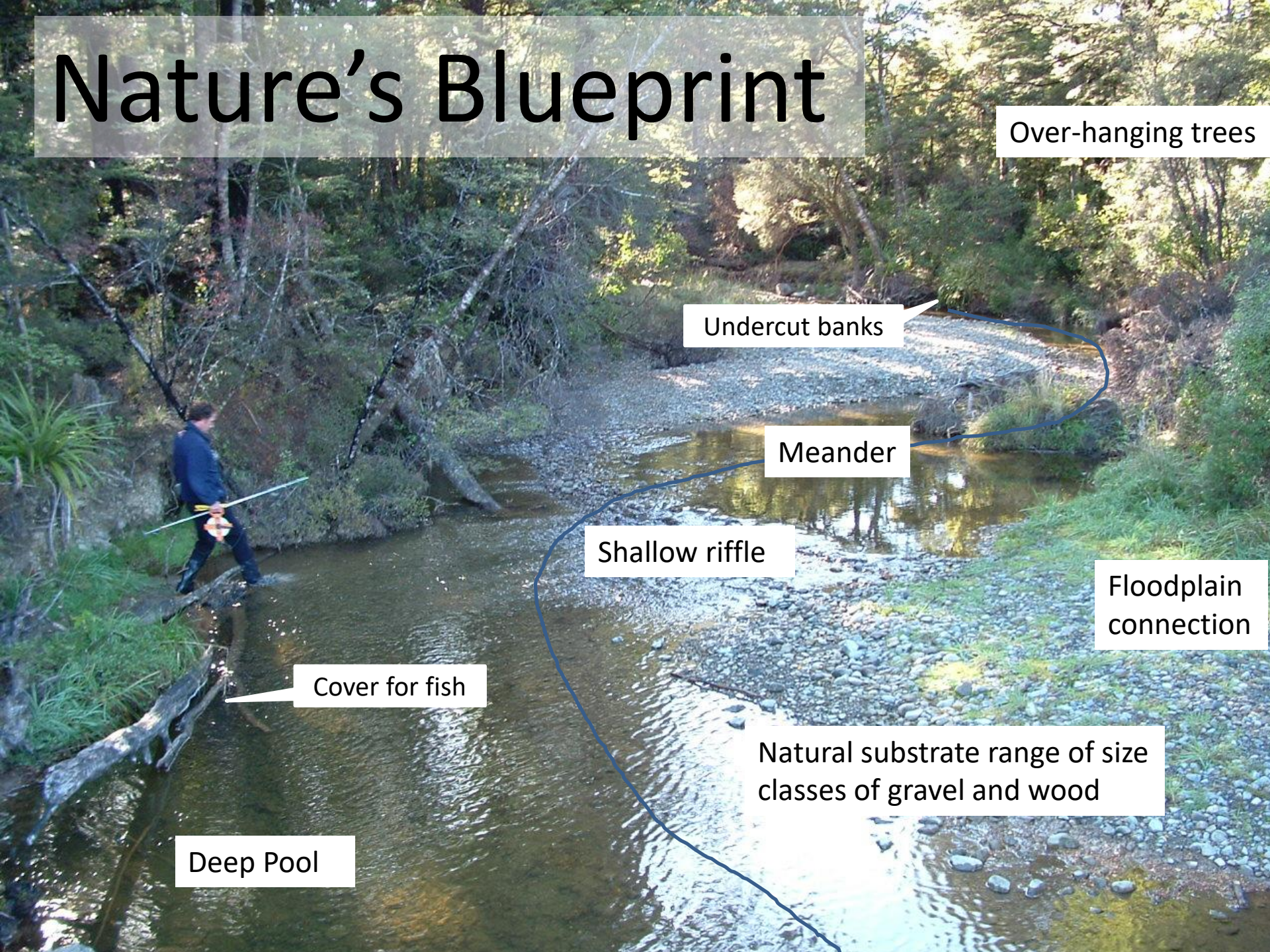




Nitella



# Nature's Blueprint



Over-hanging trees

Undercut banks

Meander

Shallow riffle

Floodplain connection

Cover for fish

Natural substrate range of size classes of gravel and wood

Deep Pool



# Berkett Creek, Motupipi

Wetlands > Reilly 1b

You're in Editor Mode

FLY

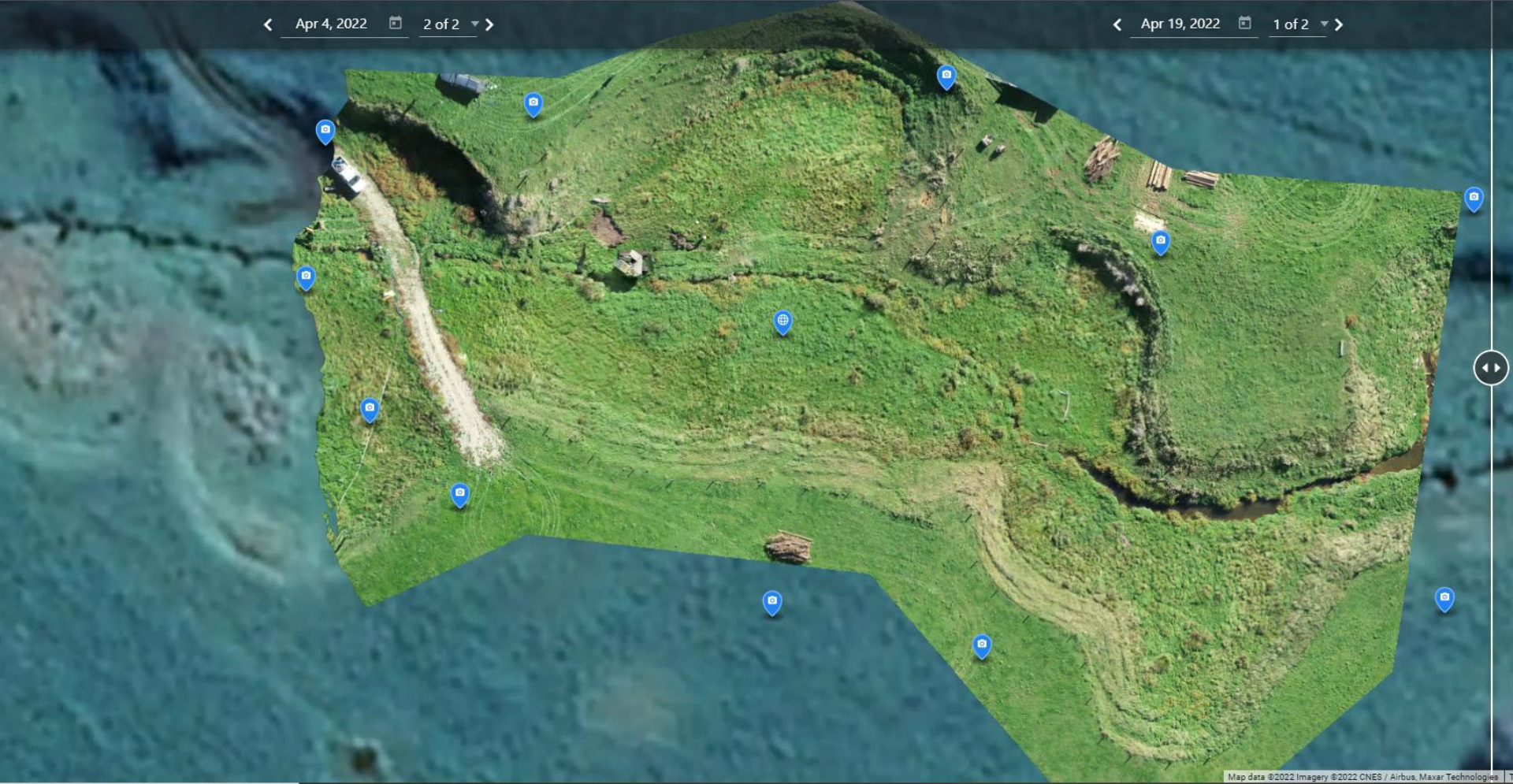
UPLOAD

EXPLORE

REPORT

< Apr 4, 2022 2 of 2 >

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# Policy

Tasman Resource  
Management Plan/ Tasman  
Environment Plan

Land Development Manual

Good Practice Guide to River  
Works

# NPS-FM - 3.20

## *Responding to degradation*

*(1) If a regional council detects that an FMU or part of an FMU is degraded or degrading, it must, as soon as practicable, **take action to halt or reverse the degradation** (for example, by making or changing a regional plan, or **preparing an action plan**).*

*(2) Any action taken in response to a deteriorating trend must be **proportionate** to the likelihood and magnitude of the trend, the risk of **adverse effects on the environment**, and the risk of **not achieving target attribute states**.*

*(3) Every **action plan prepared under this clause must include actions to identify the causes of the deterioration, methods to address those causes, and an evaluation of the effectiveness of the methods**.*

# NELSON TASMAN LAND DEVELOPMENT MANUAL

1 JULY 2019



 Nelson City Council  
te kaunihera o whakatū

 tasman  
district council

- the management of freshwater that protects and enhances the values and functions of natural ecosystems
- addresses stormwater effects as close to source as possible
- mimic natural systems and processes for stormwater management.



# Issues and Challenges

- geomorphological and hydrological constraints (disconnection with flood plain), land use altering hydrology e.g. urban and conifer forest)
- excessive fine sediment supply and legacy,
- historical channel modification (over-widening, over-deepening, straightening),
- contaminant discharges,
- fish passage barriers,
- degradation/modification of spawning sites,
- low summer flows (through climate change and reduced infiltration),
- stream bank erosion,
- stream bank over-protection (eg rock walling),
- stream down-cutting/degradation,
- excessive algal or macrophyte growth



The End