

Introduction and Scope

- Four braided river reaches - “test cases”
- Provide information on values to inform ECan policy development
- National and international value of braided rivers
- Multi-discipline assessments:
 - Landscape values
 - Natural character
 - Aquatic and terrestrial ecological values
 - Recreational values

Study Reach Extent



Landscape & Natural Character

Landscape Values Methodology

- **Landscape** - *Cumulative expression of natural and cultural features, patterns and processes including community values.*
- High-level desktop assessment, to provide an understanding of the landscape values of the study reach context.

Biophysical	Geology, ecology, hydrology etc
Sensory	Perceptual dimension including appreciation through our senses and aesthetic qualities such as legibility, coherence etc
Associative	Cultural meanings, history, identity and belonging.

Natural Character Methodology

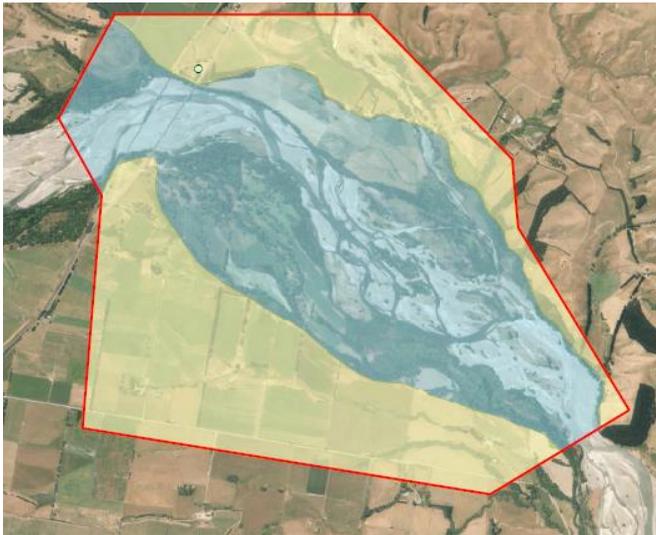
Natural Character- *the extent to which natural elements, patterns and processes occur.*

Degree of natural character- is highest where modification is least.

- Multi-discipline input, ecology, water sciences and landscape
- Desktop research and field work
- Identify extent of braidplain- historic maps, aerial photography, flood extents and fieldwork
- Assessed nine attributes of braided river
- Level of natural character rated on a 5 point scale

Very High	High	Moderate	Low	Very Low
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Findings



Alders and willow dominate the braidplain beyond the active channels and bed.

- Legend**
- * NZ Archaeology Association Site
 - Heritage NZ Site
 - Braidplain
 - Context
 - Extent of Study Reach
- Projection: NZGD 2000 New Zealand Transverse Mercator
- * None of these sites present on this map

Findings

NATURAL CHARACTER		
COMPONENT	ATTRIBUTE	NATURAL CHARACTER RATING
Braidplain	Braidplain Morphology	Moderate
	Active Channel	High
	Man-made Structures	Moderate
	Flow Regime	Moderate
	Water Quality	High
	Vegetation / Terrestrial Ecology	Moderate/ High
	Aquatic Ecology / Habitats	High
Context	Modification of land form and land cover	Moderate / High
Study Reach	Perceptual / Experimental	High
Overall level of Natural Character		Moderate / High

Very High High **Moderate** Low Very Low

LANDSCAPE	
ATTRIBUTE	LANDSCAPE RATING
Biophysical	High
Sensory	Very High
Associative	Very High



Side channels and standing water provide important aquatic habitat.

Summary

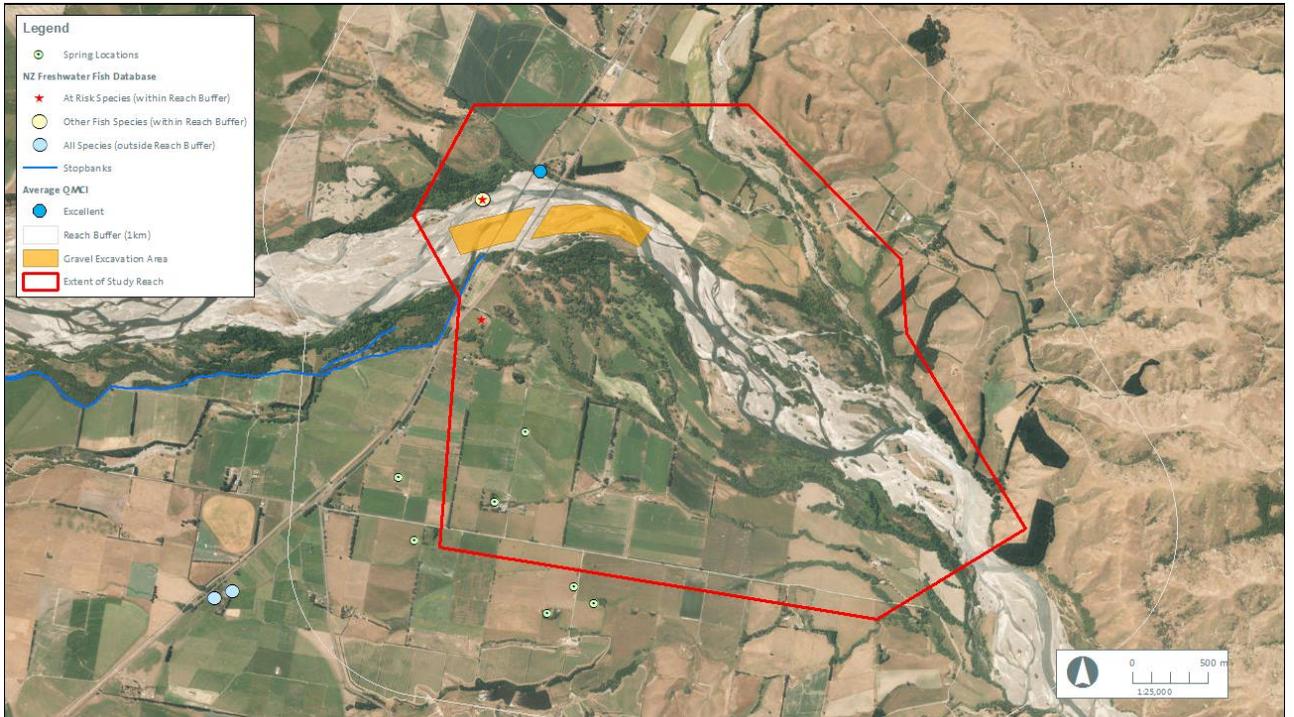
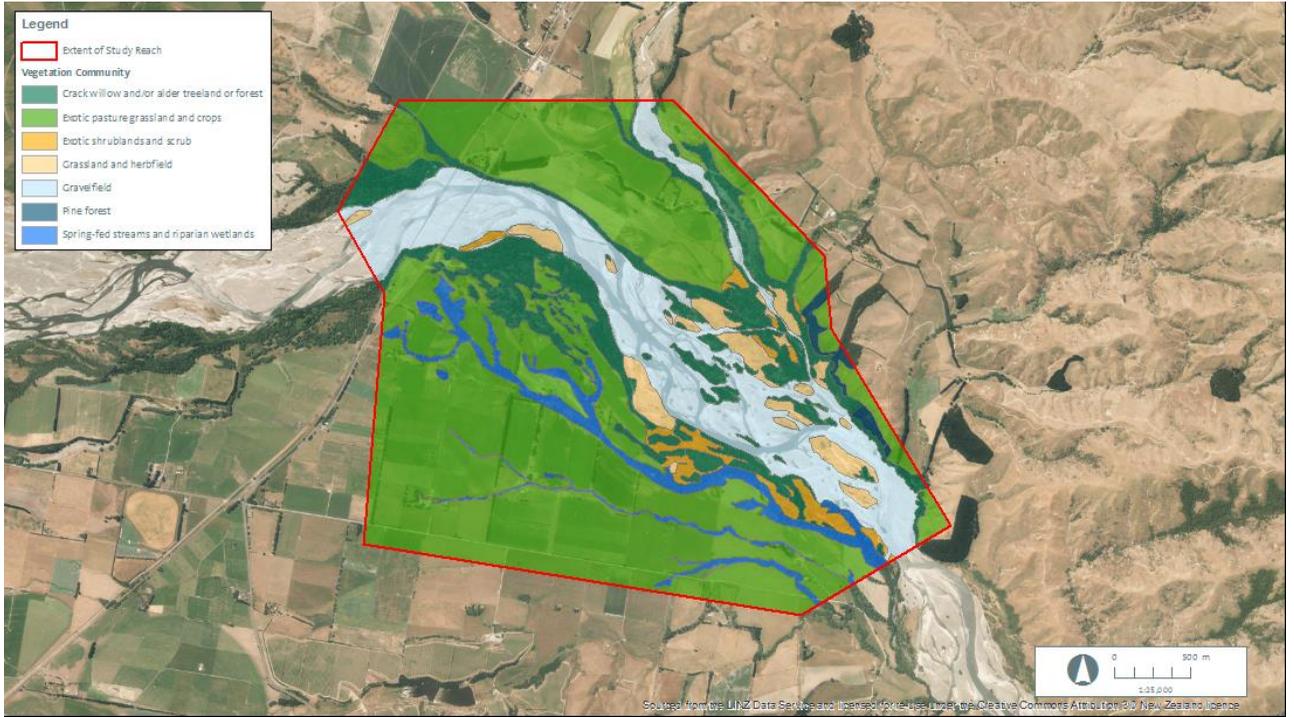
- The braidplain extends beyond the active channels and bed
- Level of natural character is Moderate / High
- The level of natural character is reduced by;
 - Physical modification of the braidplain
 - Flow regime – abstraction

Ecology

Methodology

- Desktop review
 - Technical reports and literature
 - Databases – GIS spatial data
 - Aerial photographs
- High-level site investigations
 - High-level surveys of:
 - Terrestrial vegetation and habitats
 - Aquatic habitats within braidplain (river and lateral aquatic habitats)
 - Observations of fauna
- Mapped extent of ecological features





Ecological Values

- Special Site of Wildlife Interest
- Natural river bed with margins dominated by exotic vegetation
- Slightly modified river flow
- Numerous high value lateral aquatic habitats (spring-fed channels, wetlands)
- “Excellent” stream health – QMCI
- Diverse fish community, typical of Canterbury braided rivers, 3x nationally At Risk freshwater fish species
- High diversity of river birds, 8x Threatened & At Risk species
- Potential habitat for skinks, important for terrestrial invertebrates and adult aquatic insects

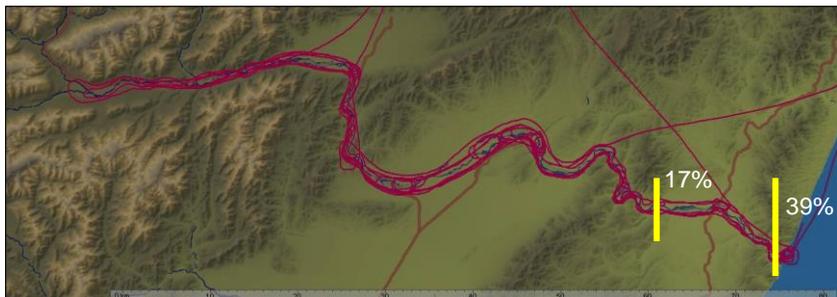
Summary of Findings

- Generally, low level of modification
- Important lateral aquatic habitats (spring-fed channels, wetlands)
- Important habitat for indigenous fauna
- National importance for bird life
- Important ecological corridor
- Nationally braided rivers naturally uncommon ecosystems. Threat status of ‘Endangered’.

Recreation

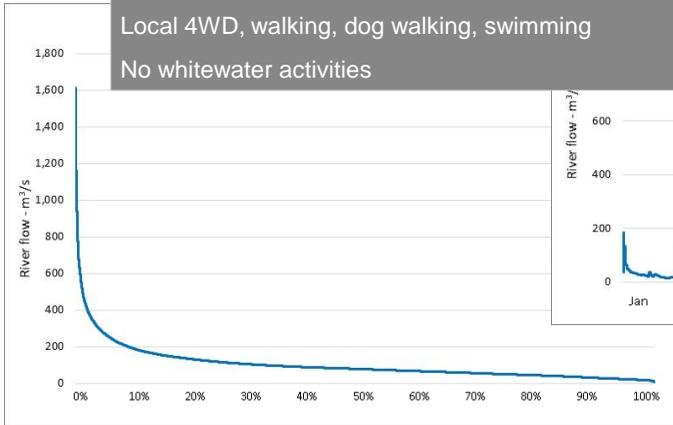
Methodology

- Literature Review
- Local familiarity: previous recreation assessments relating to Amuri – Meridian Energy and Ngai Tahu 2011, intercept and aerial surveys

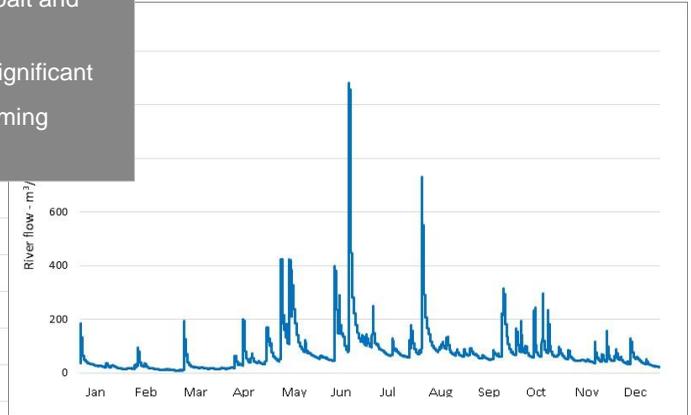


Values

Jet boating – access to mouth for whitebait and salmon – nationally significant
 Angling, trout and salmon – regionally significant
 Local 4WD, walking, dog walking, swimming
 No whitewater activities



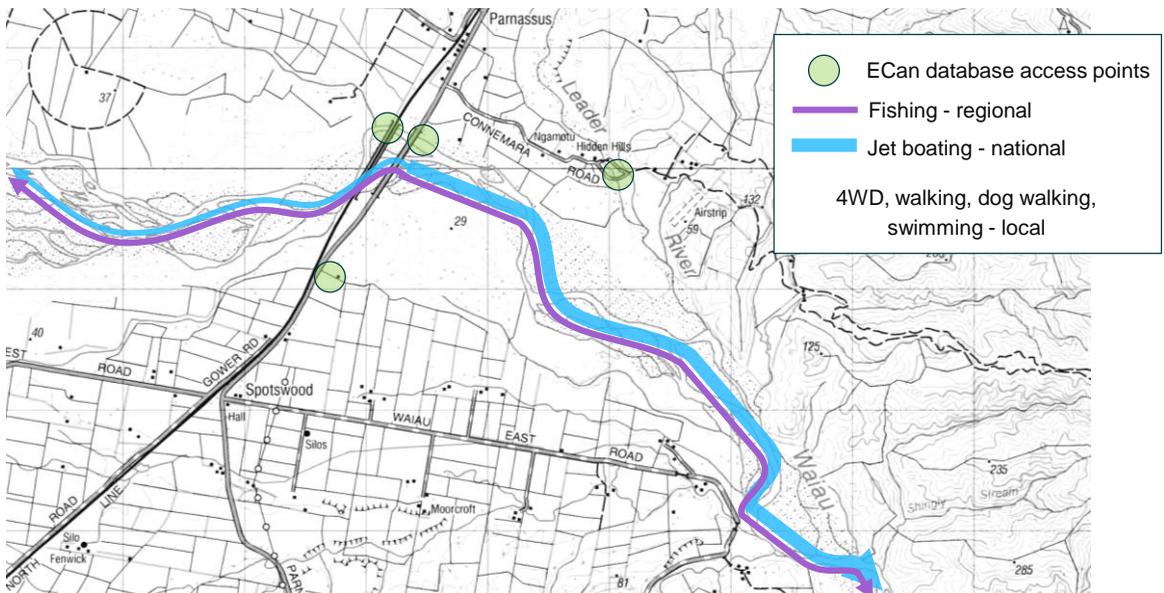
Mouth flow duration, Feb 2010 to June 2018



Mouth hydrograph for 2015 year

Mean 102.5 m³/s, median 77.1 m³/s

Where those values are



Key Messages

- Relatively low recreation value in this section compared with the remainder of the River
- Important access for jet boating for River downstream
- Little recreation in riparian areas and in-river – locally mostly, and some regional angler activity