

# CAREX

A project funded by the Mackenzie Charitable Foundation

## What is CAREX?

The Canterbury Waterway Rehabilitation Experiment (CAREX) is testing practical tools to address aquatic weed, sediment, and nutrient management issues in lowland Canterbury and to improve agricultural waterway health.

CAREX is a strong collaboration with landowners, industry, government agencies and community.

CAREX goes beyond traditional scientific knowledge generation; we want to inform and engage and ultimately make a difference to waterway management.

### FACTS & FIGURES

**23** landowners

**9 km** of waterways  
across 14 farms

Instream tools tested  
with more to add **14**

**40+** stakeholders involved  
and **four** councils

Fifteen researchers  
**ONE EXPERIMENT**

### Generate robust science



### Communicate knowledge



### Transform waterways





# Transforming waterways through scientifically tested practical tools



## Aquatic weeds

*Fill waterways, impede drainage and increase sediment deposition*

### Tool choices

#### ► Shading

Chemical spray

Weeding

Weed mat

Flower removal

Riparian planting (competition)

## Simulate tree cover

*Stop weed growth when cover extends across waterway*



## Fine sediments

*Clog stream beds, reduce habitat and enable aquatic weed growth*

### Tool choices

#### ► Sediment trap

Sand wand

Fencing

Re-battering banks

Hedge removal

Two-stage channel

## Capture sediments

*Prevent smothering of habitats downstream*



## High nutrients

*Degrade water quality, increase algal blooms and aquatic weed growth*

### Tool choices

#### ► Bioreactor

Riparian planting

Organic matter additions

Denitrification beds

Two-stage channel

## Intercept nitrate

*Reduce nutrient levels flowing into waterways from tile drains*

