

# CAREX News

The CAREX project is funded by the Mackenzie Charitable Foundation



Newsletter of the Freshwater Ecology Research Group

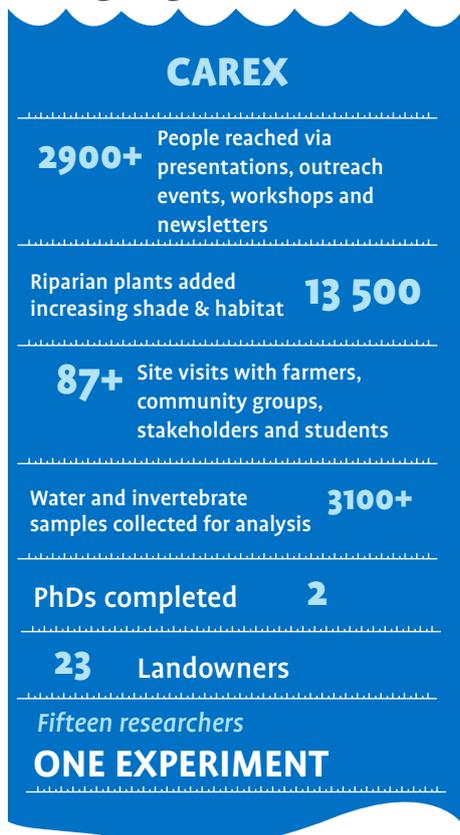
December 2018

Kia ora! Welcome to our December newsletter - the last one with updates from the CAREX team.

## CAREX project wrap-up & thank you

We would like to start by thanking you all for your trust and support over the past decade, as we have undertaken the science and built the unique research network that made CAREX work so well. We are so encouraged by the positive energy and momentum of farmers, landowners, stakeholders and community groups working for agricultural waterway rehabilitation and we wish you all the best in your endeavours. One of the most valuable things we learned through CAREX, was the importance of sharing what we know and working together with a diverse group of people motivated by a common goal to find solutions to improve waterway health, water quality and biodiversity. In this newsletter, we will share some final highlights and lessons learned from the CAREX project.

## Project highlights ~ 2013 - 2018



## Lessons learned ~ The CAREX toolbox

Through our research, we have found that *a combination of tools is likely needed to improve waterways, with a focus on getting the right tools in the right place.* Solutions must often address multiple issues, including aquatic weeds, sediment and nutrients, while also ensuring effective drain function and being practical to implement on farm. The CAREX toolbox approach has been designed to help people address these key issues and work towards rehabilitating agricultural waterways. Below are a few of the lessons we learned through CAREX. For further details and more information, please see our handouts and other resources. They will continue to be available from our website and through our resource collection ([www.tinyurl.com/carextips](http://www.tinyurl.com/carextips)). Please refer to these resources often and share them widely!



**Improve on riparian planting:** Rebatting the banks can remove a key source of sediments into a waterway and increase flood capacity. Native sedges can then be planted right at the waters' edge and can grow to provide shade that effectively controls aquatic weeds.

**Treat hotspots:** Hotspots are where a source of pollution (nutrients, sediments, bacteria) enter the waterway and can include rills, broken fences, slumps or tile drains. Treat with an appropriate restoration tool after fencing, rebarbating (if needed) and planting.



**Active communication:** Strong partnerships with landowners, stakeholders and communities are built on trust and open communication. Through face-to-face conversations, outreach events, presentations, multiple media approaches and site visits we have been able to best share our research, inform & engage.

## Spreading the word

It has been a busy few months, with CAREX team members out sharing our research findings. Catherine and Brandon presented at the Society for Ecological Restoration Australasia conference in Brisbane. More presentations are coming up next week at the annual New Zealand Freshwater Science Society meeting in Nelson. We look forward to seeing many of you there! Last month, we presented a seminar at ECan, which will be publicly available from our website by mid-December. It is great to see the number of views and downloads continuing to climb on our resource collection ([www.tinyurl.com/carextips](http://www.tinyurl.com/carextips)). We have just added a few new handouts there (*E. coli*, Rebattering, Restoration in Action) and a report on two-stage channels done with DairyNZ. We have also seen great uptake and sharing of info from our Facebook page over the past few months.



## Freshwater Biodiversity Box

Science outreach and engaging with youth of all ages, to encourage them to explore and interact with waterways and to value the life within them, has been a key focus of our CAREX science outreach efforts. Since 2014, we have reached over 600+ students from tamariki to tertiary levels through presentations and field trips to waterways.

We are excited to launch the Freshwater Biodiversity Box, a dedicated set of sampling gear and resources available for students of all ages. The Biodiversity Box includes the tools to sample freshwater biodiversity, instructions on sampling methods, invertebrate identification guides, and suggested activities developed based on three key concepts: 1) healthy freshwater habitats; 2) invertebrates as biomonitoring tools; and 3) food webs. The box will be available for booking on-line from the UC Science Outreach programme (<https://www.canterbury.ac.nz/science/outreach/>) early next year.

We used funds from the Canterbury Aoraki Conservation Board (CACB) Award that we won last year to make this happen - thank you!



*Thanks to the CACB for helping us bring more freshwater science to students of all ages.*

## Working together for waterways

Many thanks to the farmers, landowners, project partners, stakeholders, communities, and students who have been a part of CAREX. We value our strong network of partnerships and could not have done this work without you.



Science funded by:



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Waterway works funded by:



## CAREX team news

What a team! Some of the current CAREX team will continue on at UC and others are moving on. Here is where you will be able to find us: **Angus, Jon, Hayley, and Helen** will be based in the Freshwater Ecology Research Group at UC and working on a variety of research projects, including the Biological Heritage National Science Challenge and Living Water - Araria LII. **Brandon** has finished his PhD and is now working as a Riparian and Wetland Scientist with NIWA in Hamilton, where he is continuing research on edge-of-field contaminant mitigation tools. **Catherine** is returning to Canada to take up a faculty position at the University of Windsor to continue working on freshwater restoration and healthy headwaters. **Katie** submitted her PhD last month (Congrats!!). She is now a Freshwater Technical Advisor with the Department of Conservation and will be working on Living Water sites on the North Island. **Kristy** will be joining the Freshwater team at NIWA in Christchurch in January as a Periphyton Ecologist. All the best to everyone going forward & on their adventures in 2019!

~ Kia ora te wai mai i uta ki tai ~

*Please note:* The information provided in this newsletter is based on preliminary findings and is subject to revision and peer review. We share our results and findings to meet the need for best available science. Newsletters and information within cannot be reproduced without our express permission.

## Contact Information

Catherine Febria / Kristy Hogsdon  
Freshwater Ecology Research Group  
School of Biological Sciences, University of Canterbury  
phone 03 369 5148/ 03 369 5179  
[carex@canterbury.ac.nz](mailto:carex@canterbury.ac.nz)  
[www.carex.org.nz](http://www.carex.org.nz)



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