

Oreti Bus Trip Booklet

Mid & Lower Oreti

22 March 2023



Welcome

Welcome to the first Oreti Catchment Group bus trip, organised by the Oreti Catchment Groups. This year we are focusing on the mid and lower Oreti, and learning about what is being done to look after our catchment and its estuary.

The Oreti Catchment is home to seven community Catchment Groups. These groups are all voluntary community groups, made up of a diverse range of people and businesses. They are all unique in what they do and how they run, and all have a focus on looking after our land, water and people.

Each group has their own Facebook page or uses a local community one to share their events and projects. They also have their own webpage and project pages on the Thriving Southland website.

This booklet is a brief overview of what each group has achieved in 2022, their main projects and how to contact them. You are also welcome to contact their Thriving Southland Catchment Co-ordinator for more information:

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Greater Dipton, Hedgehope Makarewa, Lower Oreti, Makarewa Headwaters, Mid Oreti and Waihopai

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Between the Domes



Oreti Catchment Summary

The Oreti River is one of the main rivers in Southland. It is 170km long and flows from the alpine environment of the Thomson Mountains, across the Southland Plains into Foveaux Strait through New River Estuary at the south-eastern end of Oreti Beach. On the way it passes through several settlements, including the urban catchments of Lumsden, Winton and Invercargill city (adjacent to New River Estuary).

The upper catchment maintains much of its natural qualities and is renowned for its trophy trout fishing. The mid and lower Oreti have been significantly modified for drainage, flood control and channel clearance work. It is predominantly an agricultural catchment, including both the Oreti and Waihopai Rivers.

Oreti River tributaries, such as Winton and Waikiwi Streams and Makarewa River, are each subject to point sources discharges of effluent from industry and municipal sewage treatment. Potential impact to water may also arise through tile drains and non point discharges. In addition, stock access to waterways, drainage maintenance and gravel extraction activities can degrade water quality.

Of the nearly 400,000 hectares of land in the Oreti and Invercargill Catchments, approximately 71% (280,300 ha) is now used for farming:

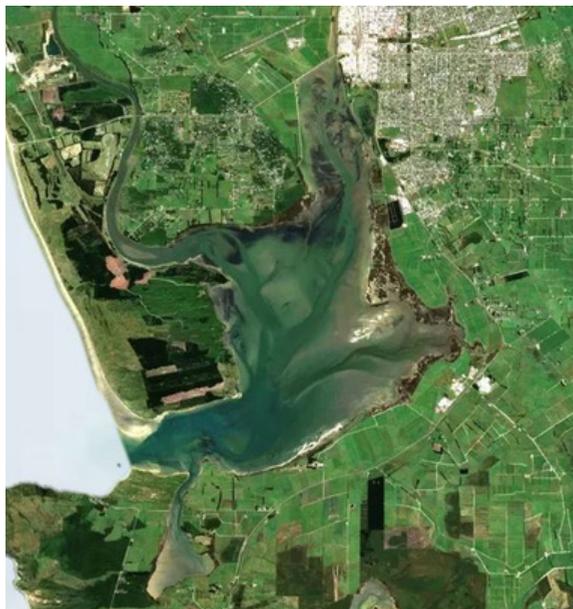
- Sheep and beef – around 45% of the farmed area
- Dairy and Dairy support – 38% of the farmed area
- Mixed livestock and livestock support – 15% of the farmed area
- Deer – 1.7 % of the farmed area
- Arable and horticulture – less than 0.3%

Commercial forestry covers 5% or 20,300 ha of the catchment area, and approximately 64,500 ha is Department of Conservation estate and 5,600 ha is Māori land.

The New River Estuary is 4100 ha and lies at the bottom of the Oreti Catchment next to the city of Invercargill. It is shallow, with a mean depth of around 2 metres, and is bordered by a mix of vegetation and land uses (urban, bush and grazed pasture). It has a wide range of habitats, including extensive mudflats, seagrass and saltmarsh areas.

The estuary has been significantly affected by urban and rural development over the past 150 years. This includes large areas of reclaimed land, urban discharges including treated sewage and untreated stormwater, past landfill leaching, agricultural activities and run-off from further up the catchment.

New River Estuary is in a very poor state and continues to decline. It shows signs of eutrophication (nutrient enrichment) due to large amounts of nutrients and sediment reaching the estuary. It has areas that are currently classified as poor for soft mud, nutrients in sediment, oxygenated layer, macroalgae, cover/condition, sea grass loss and Gross Eutrophic Zone. A reduction in nutrient and sediment inputs is needed to improve its health, along with reduced faecal bacteria.



(Photo: LINZ)

CATCHMENT GROUP MINI UPDATES

Between the Domes Catchment Group

Formed in 2018 the group have undertaken a number of projects since then. They started 2022 with a bang with the launch of a big project 'Describing, understanding and improving Between the Domes Catchment with wetland development'. Alongside this major project the group have also been continuing with their Baleage Wrap Recycling project – working with Agrecovery and other key stakeholders to help facilitate the movement of baleage wrap from Northern Southland to the new Recycle South plant at Makarewa. They also held another successful winter speaker event with Derek Daniell from Wairere Rams and Tom Slee from Surfing for Farmers. The year concluded on a high with the group winning an award at the Environment Southland Awards for Environmental Action in Water Quality Improvement.

Greater Dipton Catchment Group

Very community focused group which started in October 2020. 2022 was another busy year full of events. They ran a native seed collection field day at Gavenwood Farm, and a Utilising Unproductive Land Field Day at the Day's looking at native regeneration process. They hosted a Brews & Banter Drought Shout, a B+LNZ workshop on climate change, and an interactive workshop on reducing waste with Trish Rankin. They also started the Dipton SHMAK (Stream Health Monitoring Assessment Kit) Project with Environment Southland, and are now choosing which local waterway to monitor. In September they ran a community social and wellbeing event with Bailley Unahi (aiming to become NZ's first female sit-skier at the 2026 Paralpyemics), and are now working hard on their first big project - Carbon Neutral Dipton – all about Greenhouse Gas Reduction and carbon sequestration.

Makarewa Headwaters Catchment Group

This group started in 2019 and is all about strong community connections and supporting their local community look after their waterways for future generations. 2022 saw them complete their first big project with Thriving Southland and Ravensdown, where they used LUCI-Ag modelling to identify N, P and sediment loss hotspots and pathways in their catchment, and explore possible mitigations at a farm and catchment-wide scale. They shared their results with a field day and two-page summary sheet, and created a top tips list to help other Catchment Groups planning larger projects. They started their next project to create a community space by the Makarewa River with a community planting day, and are working with Hokonui Runanga on developing another project to start tackling the larger feral animal pests in their area. They would love to increase local recycling initiatives and support the restoration of Kowhai Reach.

Mid Oreti Catchment Group

A busy, diverse group which started in 2019, and run a variety of events and projects to support their farming and Winton communities to look after their local environment and waterways. 2022 was another busy year for this group, with a wide variety of events and projects from field days on a composting barn trial, hands on practical sessions to grow your own natives, to a Funding for Farmers evening. Their big project is their Mini Forest Movement, with lots of their events having a focus on growing native plants for this project and supporting locals to grow their own native plants. The first five sites were planted up in 2022, including farms, a community area and a local school. This project covers rural and urban communities which is important for this group. They are also very keen on supporting and working with other Southland Catchment Groups. In 2021 they received a highly commended Environment Southland Community Award for Environmental Action in the Community.

Hedgehope Makarewa Catchment Group

Started in 2014 as the Hedgehope Dunsdale Catchment Group, and expanded in 2020 to cover the Ryal Bush and Makarewa areas.

Looking after the well being of each other, their environment and their community is at the heart of everything they do. Two big projects have dominated their work over 2022 - Understanding Our Landscape to Drive Change and the Winter Crop Establishment Trial.

The Winter Crop Establishment Trial has now finished and the technical reports (full and summary), two-page summary sheet and short videos are available to look at on the Thriving Southland website. The Understanding Our Land to Drive Change Project is currently sharing its results and findings. Alongside this, the group ran a seed field day at Sherwood Forest supported by Jesse Bythell from QEII, and are supporting Hedgehope School with stream health sessions for their Sherwood Forest investigation.

Lower Oreti Catchment Group

Oreti's newest Catchment Group started in June 2021. During 2022 this Catchment Group formed a strong, keen core team, and brought locals together to get their group off to a great start by better understanding their catchment, identifying any issues, and figuring out their next steps as a group. They worked alongside Land & Water Science on this work, which included creating a short easy to read handout and 30-minute video on their Catchment Group area, which can be viewed on their Catchment Group page on the Thriving Southland website. They followed this up with an evening learning about possible mitigations they could use on farm and across their catchment, and finished the year with a fantastic visit to Gavin Macpherson's constructed wetland, followed by a Christmas BBQ & Lawn Bowls social. They also took a strong role in the joint scoping study on good wintering practice when English is a second language. Understanding their area's water quality and learning about stream health (macroinvertebrates and Rapid Habitat Assessment) is their next project.

Waihopai Catchment Group

Starting in 2019, this group has a huge passion for their local community, especially their younger generations. Their focus for 2022 was to run some events for the wider catchment community. So, they brought Trish Rankin to Southland and hosted a fun interactive talk on reducing waste on your farm, in your household and in your community. They were also one of three Oreti Catchment Groups who lead a scoping study on how to support the adoption of good wintering practice in Southland when English is a second language. They plan to continue this work to create strong farming teams and communities, and look after their waterways. Next steps are to check in with their community and members on what they want to achieve and relaunch their group.



PROJECT SUMMARIES

Carbon Neutral Dipton

Greater Dipton Catchment Group

Dipton might be small, but we are mighty - and we have a vision. We are on a journey to become Carbon Neutral Dipton.

And we're doing the hard yards to make your life easy. All you need to do is follow our journey through Facebook, our events, newsletters, workshops, or by joining our buddy groups.

The Greater Dipton Catchment Group are working with five farmers, each with some buddies (neighbours and community members who share and learn at the farm sessions). These farmers and their buddies, will be brainstorming exciting ways to reduce GHG emissions on their farms. They are from all types of farming backgrounds so there is something for everyone.

Over the next 4 months they will come up with what they want to tackle and how they want to make it happen. Consultants will be on hand to help model and evaluate the different ideas. The farms might look at planting trees to sequester carbon, retiring or intensifying different parts of the farm, or changing livestock numbers to reduce GHG's... we're right at the start of the journey.

Join us on our adventure to see if small changes on-farm can make big differences to our emissions.

Follow us on Facebook at Carbon Neutral Dipton or at:

thrivingsouthland.co.nz/carbonneutraldipton



Describing, understanding and improving Between the Domes catchment with wetland development

Between the Domes Catchment Group

This project involves three workstreams which have allowed the group to really get an understanding of where they are now and will guide the groups projects for the next few years. The workstreams were:

1. Catchment Landholder Survey – the group identified the 1100 titles in the catchment and distilled this down to 550 landowners, and then focused on the 135 landowners with landholdings greater than 20ha. They then surveyed this group to find out more about the landholdings their topography, waterways, biodiversity, plantings, and improvements that had been carried out.
2. NIWA Wetland Scoping – 7 sites were identified by the group as possible areas where wetland creation or enhancement could result in environmental gain. NIWA scoped these sites and then narrowed it down to 3 sites which have now had full wetland designs and planting plans completed. The group will follow the development of these sites over the next few years.
3. Catchment Booklet – the final part of this project was to create a point of reference for understanding of the catchment and to serve as a baseline status report. The booklet was launched in early December with a field day at one of the wetland sites.

More information on the project can be found here:

thrivingsouthland.co.nz/understanding-and-improving-catchment-project/



LUCI-Ag project with Ravensdown

Makarewa Headwaters Catchment Group

Makarewa Headwaters Catchment Group worked closely with Ravensdown to use LUCI-Ag modelling to identify N, P and soil loss hotspots within their catchment, and explore mitigation options and scenarios to help guide decisions and prioritisations for mitigations at a farm and catchment scale.

Six farms at strategic locations and covering different farm types, were looked at closely using OverseerFM and LUCI-Ag. The results were put into a catchment model which used other information sources and databases to add further details on catchment land use, allowing current catchment baselines for N, P and sediment and hotspots to be developed, along with catchment and farm specific mitigations.

The final Catchment Report and summary is available at: thrivingsouthland.co.nz/makarewa-luci-project-page/.

The group hopes that local landowners will use them to help guide which mitigation options will best assist local properties, and ultimately the catchment, in meeting their environmental objectives and in making environmental improvements.

They are now working on how best to use this information, and used the experience of running a big project to create a top tips sheet to help other Catchment Groups develop and manage larger projects.



Mid Oreti Mini Forest Movement

Mid Oreti Catchment Group

This exciting long term project by the Mid Oreti Catchment Group aims to get some more native mini forests planted, and teach people how to grow their own native plants along the way. To kickstart this project, AB Lime kindly donated 1000 native plants and the manpower to plan and plant these mini forests, along with the use of their nursery space.

The group also ran a series of local seed collecting and propagation workshops to help people learn new skills, and to grow some more plants for their properties, and the project, which will be ready to plant in 2023-2024.

The group will keep propagating native plants for the nursery (and applying for funds to buy materials to support this project), and each year anyone in their area can apply for native plants for \$1/plant (waived for community groups and schools). Donations will go back into the project and help work towards making this Catchment Group self sufficient.

For more information look at their webpage:

thrivingsouthland.co.nz/mid-oreti/



Understanding our Landscape to Drive Change

Hedgehope Makarewa Catchment Group

This Project has seen the group work closely with Land & Water Science, with the aim to help people better understand their catchment and how variations in landscape characteristics can impact water quality and GHG emissions.

They used state of the art technology to map the landscape and its interaction with water quality and GHG emissions, including airborne radiometric data to improve and refine existing soil maps, data from a drone survey to create high-resolution hydrological layers, “ground-truthing” to validate the accuracy of the radiometric data, and studying four case study farms.

They have created a free online platform which pulls the information together in a really easy to use and understand way. It displays the information in seven sub catchments, and links to information on possible mitigations - <https://bit.ly/HMCGstorymap>

The project is now sharing its results through local field days and its webpages. This is a very exciting, cutting-edge project, that will give some powerful information into the hands of farmers and landowners, so they can make great decisions on future mitigations for their farms and where to target them.

More information on the project can be found here:

thrivingsouthland.co.nz/hedgehope-project-understanding-land/



Winter Crop Establishment Trial

Hedgehope Makarewa Catchment Group

Working with the Southern Dairy Hub, the Hedgehope Makarewa Catchment Group extended the Hub's Winter Crop Cultivation Pilot study onto 10 commercial farms across Southland. They tested whether utilising alternative crop establishment methods to conventional cultivation (e.g. direct drilling, strip tillage, air seeding, precision drilling etc), for fodder beet, swedes and kale, improves soil structure and strength, thereby reducing pugging and improving animal welfare during winter grazing.

With the help of farmers and volunteers (and the wonderful Independent Agronomist Natalie Sutton (nee Stocker)), they gathered a huge amount of data and gained real, practical on-farm information (in Southland conditions) about different aspects of winter grazing (e.g. cultivation, crop, soil condition and animal welfare) to support farmers in Southland (and across New Zealand) meet the upcoming Essential Freshwater Regulations.

The learnings from the Winter Crop Establishment Trial are available through their project webpage, including a short video, easy to read Project Summary, Technical Summary and Project Reports:

thrivingsouthland.co.nz/winter-crop-cultivation-trial/



CROSS CATCHMENT PROJECTS

Aquavan

In 2021, Waihopai and Gore-Waimumu Catchment Groups brought the NZ Marine Studies Centre (University of Otago) Aquavan to Southland. Over three weeks, 1350 Year 5 to Year 8 students, teachers and parents from 21 schools in or around Gore, Invercargill and Winton, took part in a fun two hour hands-on learning programme to discover their catchment and coastal connections.

The focus was to reach students from our more inland and urban areas, and to help them discover the connection between what happens on the land in their catchment, and how it affects the health of their rivers, estuary, coast and oceans, and then figure out what they can do about it. Community events were also run alongside the education programme.

It was a huge success, and local Catchment Groups and local schools regularly use the four education kits that were created by the project: How healthy is your stream? Growing your own natives. Solving the pest puzzle. How healthy is your estuary? Look at the Education Kit webpage for more information:

thrivingsouthland.co.nz/education-kits/



English as a second language Good Management Practice Communications Project

In 2022 the Mid Oreti, Lower Oreti and Waihopai Catchment Groups started working together on a project to find out what support English as a second language (ESL) farm workers need to improve their understanding and implementation of wintering Good Management Practices for improved environmental outcomes.

Thriving Southland gave some funding for the groups to run a mini scoping project to understand the needs and barriers for local ESL farm workers. They hired Nicola McGrouther from Creekside Consulting to meet up with some locals ESL farm workers and hear their ideas, and talk to some local agencies about what their views and ideas were too.

The result, including a two page summary document are on their project webpage:

thrivingsouthland.co.nz/international-farming-communities-project-page/

We hope it will be the start of something really special which sees lots more farm workers of different nationalities becoming part of our vibrant community Catchment Groups.



Southland Catchment Groups Christmas Competition

The Southland Catchment Groups Christmas Competition was the very cool idea of Hedgehope Makarewa, Waihopai, Gore and Mid Aparima Catchment Groups. It has run for two years now (and we hope it will for many more), with lots of fantastic entries from Catchment Groups, families, neighbours, communities, businesses and farms that help spread some Christmas Cheer across Southland.



Reducing Waste Workshops – What can you do on your farm, in your household and in your community?

In 2022, Waihopai, Greater Dipton, Three Rivers and Waikaka Stream Catchment Groups brought the wonderful Trish Rankin to Southland to run a series of four recycling and waste reduction fun and interactive workshops. Lots of ideas and top tips were shared. The waste reduction ideas brochure and top local recycling tips brochure are available for you online:

[thrivingsouthland.co.nz/site_files/24893/upload_files/Recycling BrochureWeb.pdf?dl=1](https://thrivingsouthland.co.nz/site_files/24893/upload_files/Recycling%20BrochureWeb.pdf?dl=1)

Womens Enviro Series

During 2021 Mid Oreti, Hedgehope Makarewa and Makarewa Headwaters Catchment Groups ran three community events aim to bring together women from across Southland with the common goal of improving the environment. These included a workshop, an evening speaker event with over 180 people and setting up a Facebook page. Phillipa Cameron from 'What's for Smoko' was the first event's keynote speaker, appealing to a wide range of urban and rural women. The second event featured three speakers – Dan Steele of Blue Duck Station, Kristy McGregor, Publisher and Editor in Chief of Shepherdess magazine, and Kaapua Smith, Head of Sustainability at Contact Energy. The ladies then got back together and helped create the Southern Women NZ Facebook group inspiring, connecting and supporting women from across Southland.



Oreti Catchment Group Contact Information

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