

# Ashburton Branch Newsletter Dec 2019

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## Forest & Bird

TE REO O TE TAIAO | *Giving Nature a Voice*

Forest & Bird Ashburton Branch

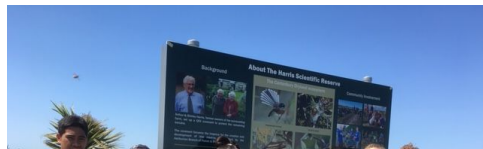


Welcome to the Ashburton Branch's new-look newsletter! Here is a quick update on a few of the conservation stories that Forest & Bird has been involved with during the year.

We wish you a Merry Christmas and a very happy New Year, and we hope to see you at our meetings and field trips in 2020. The first event will be a field trip to see the alpine plants on Mt Hutt on 12 January. Please contact Edith Smith, 308.4440, for more details.

### The Harris Reserve

In September we celebrated the Harris Scientific Reserve, the Harris family and our achievements at the dryland reserve with the unveiling of a sign featuring the history of the Reserve. We also planted another 250 native plants.





The sign includes a photo of St Joseph's School children at a planting day in 2013. Since then they have had two propagation workshops and a second planting day. This year they returned to weed and tidy the area and plant some tussocks and Kanuka. This community contribution is an important reason the Reserve is the success it is. Keen to volunteer? Email Edith at [edithsmith05@gmail.com](mailto:edithsmith05@gmail.com)

## Floods in Canterbury and Otago

Very heavy rainfall along the Southern Alps was recorded in the week from 1st Dec. to Sat 7th Dec. 2019: 610 mm at Arthurs Pass, 850 mm at Mistake Flat in the Upper Rangitata catchment and 927 mm at Mount Cook village in the Upper Waitaki catchment. The floods coming down all the Main Divide rivers on Sat. 7th Dec 2019 largely resulted from the heavy rain on Friday 6th December (191.5 mm at Mistake Flat, and 242 mm at Mount Cook).

For the Rangitata River at Klondyke, the flood peaked at 2307 cumecs at 9 am, and around 7 pm at State Highway 1. Flow broke through into the old Rangitata South Branch, scouring out a sizeable section of the railway line, with a flow of around 800-1000 cumecs crossing SH1.

This prolonged period of nor-westerly rain clearly demonstrates the importance of "antecedent conditions" (what things were like beforehand). At Mistake Flat, 1-5 Dec. rainfall totals 488 mm, while at Mount Cook, 1-5 Dec. rainfall totalled 580 mm. In both cases the catchment was already thoroughly saturated.

Another important aspect is lake levels prior to the storm event. In the Waitaki and Clutha catchments, the largest flood on record occurred from a succession of NW storms in Sept-Oct 1878. The lakes filled to record high levels, and the largest flood on record passed down the Clutha and Waitaki Rivers. In contrast, a large flood in October 1978 occurred at a time when the lakes were at low levels and in spite of record inflows, the lake outflows were quite modest floods. The flood inflows were simply soaked up into "storage". A similar flood event occurred in January 1994, when the Waitaki lakes were at record low levels following the "power crisis". Lake Pukaki recorded record inflows which quickly filled up the storage and very little extra flow passed down the Waitaki.

Given how wet the catchments are now, after almost a metre of rain, a further heavy rainfall of 300-400 mm in December 2019 or even January 2020 could produce another major flood. The Rangitata R flood on Sat 7 Dec 2019 of 2307 cumecs is around a 20-25 year return period event. The interesting question is what will happen when a 50 year or 100 year event occurs.

J. R. Waugh, Hydrologist, 7-12-2019.

## Planting at Wakanui





Wakanui School students planting in an area once covered with gorse.

A visit to Wakanui Beach, 20km east of Ashburton, reveals a community project coordinated by the Ashburton District Biodiversity Working Group of which Forest & Bird members are a part. Students from nearby Wakanui School have become very involved, by sowing seed, potting plants, making seed balls and firing them into gorse areas and designing signs.

### **What is the importance of biodiversity in the Ashburton District?**

Synlait in the Selwyn District is establishing a native plant nursery to produce one million native trees and shrubs per year with an aim to plant four million natives by 2028. The plants will be provided free to farmers and Synlait staff will help to plant riparian areas and wetlands. Proactive biodiversity programmes like this are being carried out throughout the Selwyn District. There are three Biodiversity Officers employed to provide important advice about native species and ecosystems to the District Council.

At our local Council, the Ashburton Biodiversity Working Group representing a number of groups with environment interests, meets just three times per year. There are no specialist biodiversity staff; the group is chaired by a councillor and led by one of the planning staff.

The Government's National Policy Statement on Biodiversity is currently under review and there is to be new criteria to determine biodiversity significance. If biodiversity is in decline, steps will be required to enhance these ecosystems. This will require changes to the Resource Management Act and it is expected that Councils will review their District Plans to become consistent with the new policy too.

Since the RMA has been in place the loss of native habitat and ecosystems has continued virtually unabated and we look forward to seeing an new effective RMA to halt this degradation and loss. Forest and Bird has an important role to ensure this is the case.

### **Managed Aquifer Recharge (MAR) Update to 31 May 2019**

Year 3 of the MAR trial programme has seen significant progress with the construction and commissioning of smaller test sites. 16 sites were completed and consented, 14 continue to operate.

The Hekeao/Hinds recharge site was completed in Sept. 2018, and is operational with water supplied from the RDR. The scheme includes recharge soakage basins and a wetland, there are also areas planted with native plants. This near-river recharge site has had a beneficial effect on groundwater around Mayfield. Recharge at the Frazer's Road/Timaru Track (Lagmhor) site has continued to operate successfully following some redevelopment works (deep soakage pits), which gave a 30% improvement. There has been a total recharge of 5.52 M cubic metres for Year 3. Recharge water from the Lagmhor

site may now have moved East of SH1.

Locally near the MAR site, the water levels have risen 18 metres, while over a larger area the rise is 4 metres (to April 2017). Nitrate readings are continuing to be reduced by dilution with "clean" MAR water. At a bore 2200 metres downstream from MAR, the N readings were 13.2 mg/l and have fallen to 1.2 mg/l. In a deep well (greater than 30 metres deep), the N values fell from 4.1 to zero (up to 17 March 2017). This could be clean MAR water displacing nitrogen enriched water down the aquifer. Regional groundwater levels have risen in the areas downstream of MAR sites.

To date we have not seen increased spring flows into the coastal drains and streams east of SH1 and Boundary Road. This should eventually happen when MAR water reaches this zone.

Source: Data from a report to the Ashburton Zone Committee, presented by Peter Lowe on 26 Nov. 2019, and Bob Bower (26 April 2017).  
John R Waugh, Hydrologist (Retired), Dec. 2019.

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