HURUNUI-WAIAU ZONE COMMITTEE

Hurunui-Waiau Zone Committee

Agenda

Ordinary Meeting
3.00pm, Monday, 17 August 2020

Council Chambers, 66 Carters Road, Amberley

Community Partnership in Growth and Wellbeing

Committee Membership:

Ken Hughey (Chairperson)
Mayor Marie Black (Hurunui District Council)
Cr Claire McKay (Canterbury Regional Council)
Josh Dondertman
John Faulkner Hawke
Julia McLean
John Preece
Makarini Rupene (Te Ngāi Tūāhuriri Rūnanga)
Nukuroa Tirikatene-Nash (Te Rūnanga o Kaikōura)
Vacant Position (Hurunui District Council)

Quorum:

The quorum of the meeting consists of:

- half of the members if the number of members (including vacancies) is even; or
- a majority of members if the number of members (including vacancies) is odd.

Committee Secretary – Michelle Stanley

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The purpose of local government:

(1) The purpose of local government is—

(a) to enable democratic local decision-making and action by, and on behalf of, communities; and

(b) to promote the social, economic, environmental, and cultural well-being of communities in the present and for the future.

(Local Government (Community Well-being) Amendment Act 2019 – Section 10)

HURUNUI WAIAU ZONE COMMITTEE
WORKSHOP & MEETING
Monday, 17 August 2020
Council Chambers, Hurunui District Council, Amberley

AGENDA

	Time	**Item**	**Pages**
	3.00pm	**Zone Committee Meeting commences** with karakia and formal order of business • Health and safety - In the event of an emergency: Please leave via the marked exits and assemble in the South carpark (Next to the St Johns Building) • Te Reo Maori: places in the zone • Apologies • Announced urgent business • Interests register (updates)	4
	3.15pm	Public contribution	
	3.25pm	Update from Zone Committee members on activities and meetings attended that relate to the Committee's outcomes for the zone	
1	3.35pm	Updates from Amuri Irrigation Collective Ltd Andrew Barton, Amuri Irrigation	5-28
2	4.05pm	Immediate Steps Braided River Project Zipporah Ploeg, Environment Canterbury	29-33
3	4.25pm	Youth Membership on the Hurunui Waiau Uwha Zone Committee Lyn Carmichael and Ruby Gill-Clifford	34-36
4	4.40pm	Water Quality Updates – Information requirements for Zone Committee workstreams Lyn Carmichael, Environment Canterbury	
5	5.10pm	Update from HWZC Wetlands Working Group Josh Dondertman, Michele Hawke, John Preece and Nukuroa Tirikatene-Nash	
6	5.20pm	Update from HWZC Communications Working Group Julia McLean	
7	5.30pm	Zone Facilitator's Updates Lyn Carmichael, Environment Canterbury	37-38
8	5.40pm	Confirmation of minutes from meeting of 15 June 2020	39-44
9	5.50pm	Matters Arising/ Actions from previous meetings	45
	6.00pm	Meeting concludes	

Register of Interests for the Hurunui-Waiau Zone Committee

Committee Member	Committee Member Interests
Mayor Marie Black	• Director of Eventful Hurunui Limited • Trustee of Hawarden/Waikari Community Vehicle Trust • Trustee of Hawarden/Waikari Community Trust • A member of all Hurunui Council Committees • Advisory Trustee of Enterprise North Canterbury • Member of the Licencing Committee
Cr Claire McKay	• Dairy/grazing Farmer in the Waimakariri District • Inenga Holdings partner (with spouse) • Woodfields Partnership partner (with spouse) • McKay Family Trust trustee (spouse is also a trustee) • Waimakariri Irrigation Ltd Shareholder • Consent holder of water take and use consents – CRC050222.1, CRC093084, CRR990908.1, CRC102890, CRC103260 • Consent holder of effluent discharge consents – CRC990910.4, CRC102594, CRC122256, CRC122318, CRC144865. • Member of Federated Farmers • Dairy New Zealand Environmental Leaders Alumni
Josh Dondertman	Nil
Michele Hawke	Nil
Ken Hughey	• Professor of Environmental Management, Lincoln University (2 days per week) • Chief Science Advisor, Department of Conservation, Wellington (3 days per week) • Board member Waihora Ellesmere Trust • Board member Hanmer Springs Conservation Trust • Member NZ Geographical Society. • Occasional contract water-related research work including for Environment Canterbury.
Julia McLean	• Deputy President of Aotearoa Climate Emergency Inc.
John Preece	• Consultant wetland ecologist – including occasional contracts for Environment Canterbury • Part owner of commercial flower garden at Conway Flat • Coordinator Hutton's Shearwater Charitable Trust
Makarini Rupene	• Cultural Land Management Advisor, Environment Canterbury • Tangata Tiaki Kaitiaki • Ngāi Tūāhuriri Representative, Motanau Coastal Guardians • Member, Executive, Ngāi Tūāhuriri Runānga
Nukuroa Tirikatene-Nash	• Tangata Tiaki • Trustee, Te Kōhaka ō Tūhaitara Trust • Member, Ngāi Tahu Farms Mana Whenua Working Party • CWMS Regional Committee North Canterbury Rūnanga Representative

AMURI IRRIGATION COMPANY LIMITED

AMURI IRRIGATION CO

Amuri Irrigation Company Limited (AIC) is a community irrigation scheme supplying water for irrigation to over 28,000 hectares in the Amuri Basin, North Canterbury.

AIC is made up of three schemes Waiau Plains, Waiareka Downs and the Balmoral scheme with water being taken from the Waiau and Hurunui Rivers which are the largest rivers in the Hurunui District. AIC was incorporated in 1990 to purchase the three schemes off the Crown and supplies water to 147 farms. A fourth scheme, the Hurunui Irrigation Scheme is proposed with construction to begin in late 2020.

The Waiareka Downs scheme was built in 1975 and irrigates 420 hectares on eight farms. It was piped in 2018 and is now largely spray irrigation with only two farms transitioning from borderdyke to spray irrigation.

The Waiau scheme is the largest and was completed in 1978. It takes 11 cubic metres of water per second from the Waiau River at the Leslie Hills Road Bridge.

The Balmoral Scheme was built in 1985 with water diverted from the Hurunui River below the Mandamus confluence into a diversion race on the North Bank.

In 2017, AIC upgraded most of its Waiau and Balmoral schemes from open race distribution system to a pressured pipe network which allowed an additional 4,700 hectares of land to be irrigated. The scheme now irrigates 24,000 hectares of land via the pipe network and 4,000 hectares by open race. Booster pump stations have been tailored to the needs of AIC and its shareholders. There are eleven combined stations boosting scheme lateral pipelines and 31 individual stations boosting after the farmer offtake. By sharing capital expenditure, we reduced overall infrastructure investment and energy use by both AIC and shareholders.

AIC has 131 shareholders and 60% of the irrigated land is used for dairy farming and the remainder is cropping, sheep, beef and arable farming as well as dairy support. The Company is run by an elected Board of Directors made up of farmer shareholders and an independent Director and employs a small team who are based largely in an office in Culverden.

AIC PROJECTS

HURUNUI IRRIGATION SCHEME

This project is the construction of a new piped irrigation scheme supplying 3-4,000-hectares of farmland belonging to forty farms on the south side of the Hurunui River near the townships of Hawarden and Waikari. This includes a new river intake structure on the Hurunui River and 30km of buried pipeline, a two-hectare buffer pond, four pump stations, and additional infrastructure on the existing Balmoral Scheme to facilitate utilising surplus water in the proposed scheme.

The area is drought prone and suffered significantly from successive droughts from 2015-17. The water will be supplied to farms that are primarily dryland sheep and beef farmers. It will provide an opportunity to manage the impact of climate change and diversify land use, such as horticulture and viticulture.

HYDRO POWER GENERATION

Hydropower generation will utilise our existing infrastructure to produce renewable energy. When the Amuri pipe network was constructed in 2017, a decision was made to include overbuild at three sites for future hydropower generation in the design. We are developing two of those sites for hydropower generation with a combined maximum possible output of 3MW.

In a typical year, irrigation water is only required for a 200-day season and on average farms are only using water on 100 of those days. Dual use of this infrastructure for hydropower and irrigation generates renewable energy which can be sold back into the grid.

There is no power generation in the Upper South Island and having a site here may have some localised benefit if the current energy supply was unavailable.

AIC Environmental Collective

The AIC Environmental Collective was established in early 2013. All AIC shareholders and most large independent irrigating farms within the Amuri, Hawarden and Hanmer Springs areas are members.

The Collective has an Environmental Management Strategy (EMS) which is reviewed and approved by Environment Canterbury. All farms that are part of the Amuri Irrigation Collective must have a Farm Environment Plan in place within six months of joining the Collective and the FEPs must be independently audited within three years of joining.

Currently there are 174 Farm Environment Plans (FEPs) in place covering 84,731 hectares of farmland. This includes 56,424 hectares for AIC Shareholders and 28,307 hectares for Independents members. The FEPs are audited by independent ECan approved auditors who assess if farms are operating to industry agreed Good Management Practice (GMP) standards and farms are graded A to D. The Collective has undertaken over 276 FEP Audits over the past five years and 94% of farms are now at either A or B grade. A grade means the farm is at GMP for all management areas, whereas B grade means for some areas the farm may not be at GMP, but there is a clear plan and timeframe to get to GMP.

The work of the Collective is directed by AIC's Environmental Subcommittee, made up of farmer members of the Collective. AIC's Environmental Manager is responsible for implementing the Collective workplan.

Taking on this environmental regulatory role is further testament to the company's commitment to environmental sustainability.

Beyond Good Management Practice

As the Collective continues to move its farmers to GMP, a number of initiatives have been developed by AIC's Environmental Subcommittee that go beyond what is required by GMP. These Beyond GMP projects include:

Nutrient Use Efficiency Benchmarking: Using the very latest versions of the OverseerFM Nutrient Modelling tool, we will bench marking Collective farms on their nitrogen use efficiency and focusing attention on farms that are least efficient in their nutrient use and working with farmers to develop more efficient systems.

Environmental Dashboard: Using a Geographical Information System (QGIS) the Collective has brought together a wide range of environmental data to help develop various projects and enable environmental risk assessment and management at both a farm and scheme level.

Winter Management GMP: Following nationwide concerns regarding the impact of winter management of stock on the environment, the Collective launched a project to look at various winter management practices and what could be done to reduce the impacts on the area's waterways. A new Winter Management Handbook, including a new Winter Management GMP standard will be published later this year and included in FEP Audits from next year.

Irrigation Efficiency Monitoring and Benchmarking: This project utilises various climate and water use data to model irrigation efficiency both for individual farms and the schemes as a whole. Initial results indicate that the AIC irrigation schemes, and the great majority of individual farms are exceeding Environment Canterbury's irrigation efficiency standards.

AIC PROJECTS

BALMORAL STORAGE POND

Increased environmental flows in the Hurunui and Waiau rivers will take effect when consent conditions are reviewed. These will reduce reliability of supply for the Hurunui River from 96% to 91% and the Waiau River from 99% to 95% affecting on farm production. Investment in water storage will make our farmers more resilient and future proof their farming businesses in the face of climate change. High reliability of water supply is critical in allowing our farmers to diversify their land use and other high value food production in the area.

We are working on a project to construct a 4-10 million cubic metre storage pond to improve reliability for existing schemes and the proposed Hurunui scheme. The pond will be fed from the Hurunui River via the existing Balmoral scheme. It will mainly be filled over winter but also over the summer when surplus water is available. The pond may also be used to improve reliability for independent irrigators and other water users.

ENHANCEMENT PACKAGE

Our farmers appreciate that clean water and sustainable farming must be entwined for the future economic success of the primary sector. We are committed to investing in projects to reduce nutrient losses and improve water quality. This is a long-term goal as it will take some time for groundwater to respond to on-farm changes.

We are proposing to undertake several projects to achieve water quality improvements. These include wetland creation, managed aquifer recharge (MAR), stream augmentation, stream planting for shade and sub-surface treatment systems such as bioreactors. These options will be advanced at a scheme level alongside the work of our Environmental Collective which requires continued environmental improvement from our farmers.

AIC ENVIRONMENTAL COLLECTIVE

AMURI IRRIGATION CO

FARM ENVIRONMENT PLAN AUDITING RESULTS 2019-20

BACKGROUND

The AIC Environmental Collective currently holds 174 Farm Environment Plans (FEPs) covering over 85,000ha of farmed land in the Amuri, Hawarden and Hanmer Springs area. Almost all larger irrigating farms in the catchment are members of the AIC Environmental Collective, either as AIC shareholders or independent members.

The AIC Environmental Collective was established by Amuri Irrigation Company Limited (AIC) in early 2013. The Collective has an Environmental Management Strategy (EMS) approved by the Canterbury Regional Council (ECan) which meets the requirements for an audited self-management environmental scheme. The Collective's EMS was first approved in 2014 and the latest version (copy available on our website **www.amuriirrigation.co.nz**) was approved in December 2018.

The EMS specifies the:

- Required content of FEPs
- Good Management Practice standards that members need to meet covering six different farm management areas:
  - Nutrient Management
  - Irrigation Management
  - Collected Animal Effluent Management
  - Waterway and Riparian Management
  - Soil Management
  - Management of hot spots such as silage stacks and offal pits.
- The governance and management procedures of the Collective
- The required standards and process for independent auditing of FEPs by ECan approved FEP Auditors.

Farmers are assessed by a standard defined by industry groups known as Good Management Practice (GMP). FEPs are individual to each farm and identify environmental risks and actions required for that farm to meet GMP standards to address those risks. FEPs are independently audited to assess if there are any areas in need of improvement and whether progress has made towards meeting the actions identified in the FEP and if the farm is at GMP.

Each farm receives a detailed FEP audit report listing required actions and a timeframe for implementation and an overall grading ranging from A to D:

- **A Grade:** All management areas meet GMP standards or better. Repeat audit within 4 years.
- **B Grade:** Some areas need further action but farm on-track to achieve objectives within a reasonable agreed timeframe. Repeat audit within 2 years.
- **C Grade:** Some areas need further action and the farm is not on track to meet these within an agreed timeframe. Repeat audit within 1 year.
- **D Grade:** At least one area needs urgent attention. Repeat audit within six months.

All farms in the Collective must have a FEP in place within six months of joining which must be audited within three years of joining. The Collective has been auditing FEPs since 2015 and has now concluded its fifth consecutive round of auditing. The Collective has undertaken a total of 347 FEP audits over this period.

2019-20 AUDITING RESULTS

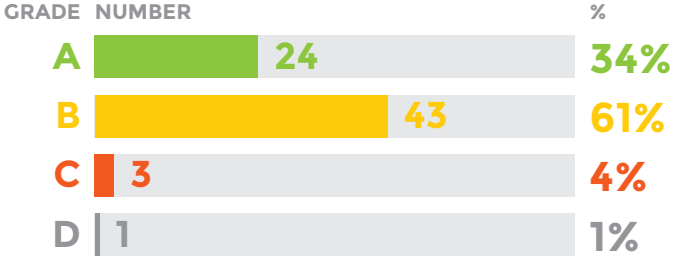
71 audits were completed by a team of four ECan approved auditors between early November 2019 and June 2020. Auditing was suspended in March due to the Covid-19 pandemic with six audits remaining to be completed. Auditing resumed in June when the postponed audits were completed. All audits were completed with fit for purpose Overseer nutrient budget for the 2018-19 season. All audits were repeat audits and undertaken across a range of farm types see Graph 1 below.

Graph 1: Audits by farm type 2019/20

Audits by farm type:	
Dairy	40
Beef & Sheep	19
Dairy Support	12
Other	0
Total audits undertaken	**71**

The distribution of audit grades for the 2019-20 year are shown in Graph 2 below:

Graph 2: Distribution of audit grade



There has been a steady improvement in performance across all five auditing rounds, see Table 3 and Graph 3. below. In 2019-20, 95% of all farms audited are either A or B grade compared to 73% in 2015/16. A fall in the number of B grades from the last auditing round (2018-19) reflects farms progressing from B to A grades. There has also been a steady decline in the number of farms at C grade from 20% in 2015-16 to only 4% in 2019-20.

C AND D GRADES

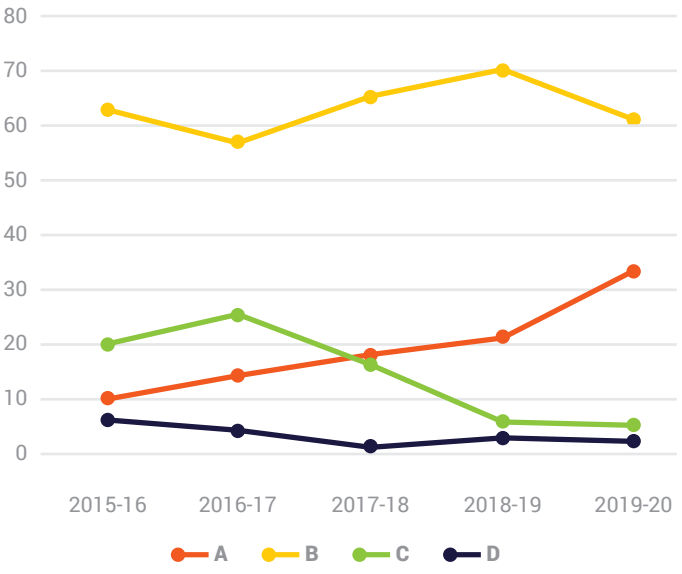
The farm that received a D grade was subject to ECan compliance action and will be reaudited in September 2020 to assess whether the actions outlined in the last audit have been addressed.

Three farms that were previously at a B grade received C grades for failing to make sufficient progress on actions identified in previous audits. These farms will be audited before March 2021 to assess whether these farms are on track to meet GMP.

Table 1: Distribution of Audit Grade by Year

	2015-16		2016-17		2017-18		2018-19		2019-20	
	No	%	No	%	No	%	No	%	No	%
A	5	10%	7	14%	19	18%	14	20%	24	34%
B	31	63%	29	57%	69	65%	52	74%	43	61%
C	10	20%	13	25%	17	16%	4	6%	3	4%
D	3	6%	2	4%	1	1%	0	0%	1	1%
TOTAL	49		51		106		70		71	

Graph 3: Audit grade trends from 2015-16 to 2019-20



BEYOND GOOD MANAGEMENT PRACTICE

As the Collective continues to move its farmers to GMP, a number of initiatives have been developed by AIC's Environmental Subcommittee that go beyond what is required by GMP. These projects include:

Nutrient Use Efficiency Benchmarking: Using the very latest version of the OverseerFM Nutrient Modelling tool, we will be bench-marking Collective farms on their nitrogen use efficiency and focusing attention on the least efficient farms in their nutrient use and working with them to develop more efficient systems.

Environmental Data Layer: Using our Geographical Information System (GIS) we have brought together a wide range of environmental data in one useful layer to enable environmental risk assessment and management at both a farm and scheme level.

Winter Management GMP: Following nationwide concerns regarding the impact of winter management of stock on the environment, the Collective launched a project to look at various winter management practices and what could be done to reduce the impacts on the area's waterways. A new Winter Management Handbook, including a new Winter Management GMP standard has been published and will be included in FEP Audits from next year.

Irrigation Efficiency Benchmarking: This project utilises various climate and water use data to model irrigation efficiency both for individual farms and the schemes as a whole. Initial results indicate that the AIC schemes and the great majority of individual farms are exceeding Environment Canterbury's irrigation efficiency standards.

AIC
ENVIRONMENTAL
COLLECTIVE

AMURI IRRIGATION CO

WINTER MANAGEMENT GOOD MANAGEMENT PRACTICE (GMP)

HANDBOOK

1.

INTRODUCTION

Winter stock management can have high environmental risks...

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2.

AIC ENVIRONMENTAL COLLECTIVE

Winter Management Good Management Practice (GMP)

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3.

PLANNING

Planning and use of a Winter Management Plan

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RISK EVALUATION

Risk 1: Soil Type

Risk 2: Waterways

Risk 3: Groundwater

Risk 4: Slope

Risk 5: Stock class

Risk 6: Fodder crops

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RISK MITIGATION

Tools and design considerations

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CONCLUSIONS

Conclusions and Summary

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TABLE 1

List of Mitigation Tools and Design Considerations

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1. INTRODUCTION

Winter stock management can have high environmental risks, particularly for loss of nitrogen (N), phosphorous (P), sediment and faecal material to water. Winter management can also pose animal welfare risks, while not considered in this document, these too need to be carefully planned and mitigated where necessary.

Given the nature of the risks and the variation in farming systems and situations, minimising one risk may compromise the ability to minimise another risk which calls for careful planning and good judgement on a case by case basis.

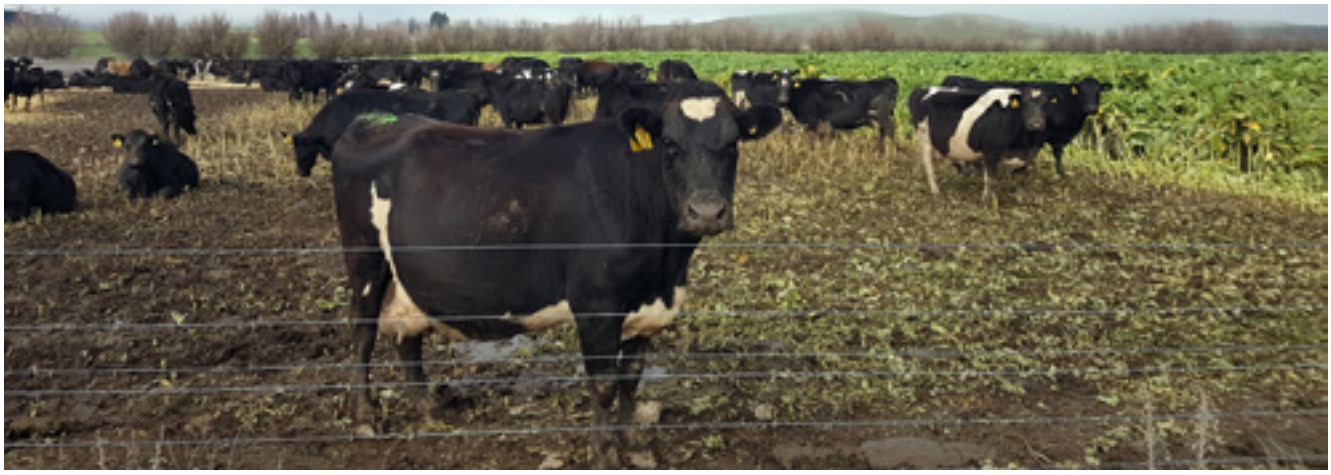
Winter management without exception requires careful management to minimise a range of environmental risks.

In some cases, environmental risk mitigation may not resolve welfare risks and may (in some cases) compromise welfare. Similarly, good welfare management may not meet good environmental management.

The government is likely to set a maximum soil pugging standard for the mitigation of animal welfare concerns from the winter of 2012. This will require pugging to be no deeper than 20cm and cover less than 50% of the paddock.

Farmers should start considering now how their winter management plan will meet this requirement.

The most effective approach to good winter management is to actively plan for winter early, carefully assess and evaluate likely risks and adopting appropriate mitigating measures rather than adhering to a fixed set of rules.



2. AIC ENVIRONMENTAL COLLECTIVE WINTER MANAGEMENT GOOD MANAGEMENT PRACTICE (GMP)

Effective winter management of stock to minimise risks is not about ticking boxes:

It demands:

- **Early Planning;**
- **Careful Risk Evaluation; and**
- **Appropriate Mitigation Selection.**

The AIC Environmental Collective has adopted a winter management GMP standard that is based on the Planning, Risk Evaluation and Mitigation Selection approach.

WINTER MANAGEMENT GMP

OBJECTIVE
Winter stock management is planned, and stock are wintered to manage identified risks to the environment, animal welfare and staff.

OUTCOME ON FARM
Environmental risks are identified, and various mitigations and management practices are planned and implemented to effectively manage risks and provide contingencies for extreme weather events.

TARGETS

- **T1** Prepare a written winter management plan early, ideally when crops are being planned for the coming season.
- **T2** Identify the risks associated with each wintering block and the mitigation measures needed for these. Note these on your winter management plan.
- **T3** Consider the likely impact of extreme weather events and what contingencies are available to ensure a difficult situation does not turn into a crisis.

The purpose of this new GMP standard is to reduce the environmental impacts of winter stock management and keep Environmental Collective members well placed during a time of increasing scrutiny of farming practices by the public and government.

The Collective will be adopting this GMP standard for application in Farm Environment Plans (FEPs) and FEP Auditing from winter 2021. It will be adopted as an advisory action for all members for winter 2020.

3. PLANNING AND USE OF A WINTER MANAGEMENT PLAN

Winter stock management presents several environmental and animal welfare risks. Managing these risks is a year-round process involving a range of farm staff and contractors.

THE FOUR STAGES OF WINTER MANAGEMENT

The four stages of winter forage grazing demonstrate that it requires year-round care to ensure good management.

STAGE 1	**Paddock selection and Planning**	**August to September**
STAGE 2	**Block set-up**	**Early summer to pre-grazing**
STAGE 3	**Crop grazing**	**April to August**
STAGE 4	**Post grazing management**	**August to September**

A written winter management plan is essential, particularly when several risk factors are involved. A plan need not be complicated and may be a simple farm map with wintering blocks, risks and mitigations identified with particular instructions for staff (e.g. *Stack baleage here, graze from top of slope or standoff area*). An example of an effective yet simple written winter management plan is shown in Figure 1 on the next page.

It is better to have a simple map that can be accessed and understood by staff than a complicated plan than takes a lot of preparation but is never used.

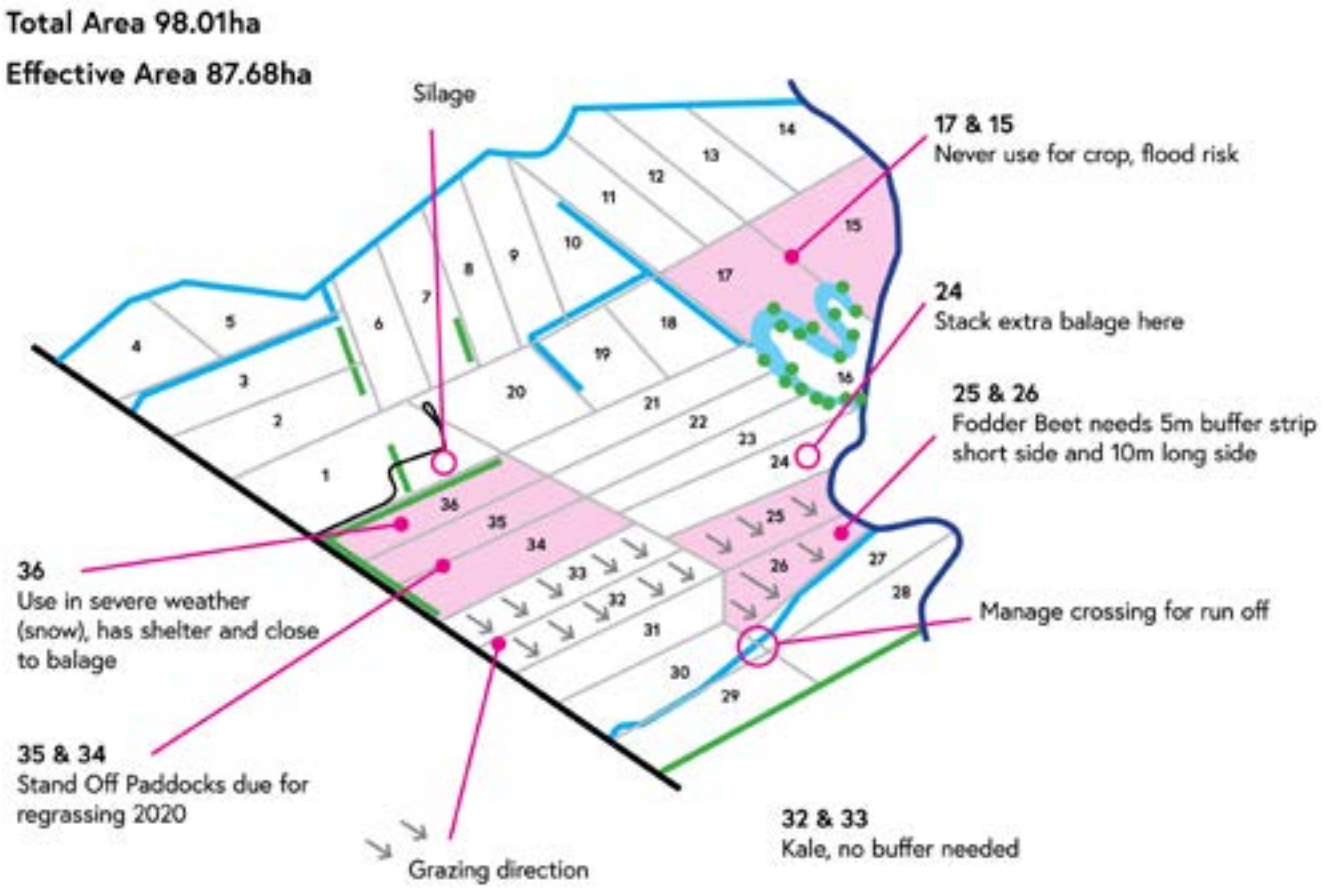


FIGURE 1

The plan should identify any 'Red zone' areas where the risks are so high that they should never be used for stock wintering, particularly cropping. A written plan is also evidence for FEP Auditors that the risks of winter management have been considered and appropriate mitigation measures have been identified and adopted.

The ideal time to start preparing a winter management plan is when crops are being planned for the coming season. Thinking about risks and what mitigations may be needed will add very little work to the normal crop planning process.

Your winter management plan should also consider what options or alternatives are available to you in extreme weather events. It is not acceptable to just hope for the best.

Difficult scenarios should be expected and planned for. Extreme weather events should be treated as a 'when' rather than an 'if'.

4. RISK EVALUATION

Evaluating risks is essential when developing a winter management plan and deciding on appropriate mitigation actions.

There are six critical environmental and management risk factors that must be considered when deciding on the overall level of risk for a particular winter management plan and the appropriate level of mitigation for that plan.

Risk 1: **Soil type**

Generally soils present two types of risk:

Heavy Soil: (poor draining, deep silty (palic) or clay soils) present significant risks in very wet weather. Waterlogging, pugging deep mud and surface run-off exacerbate sediment, P loss and faecal contamination are all risks associated with heavy soils in wet conditions.

Lighter soils: (freely drained, stony, shallow, silty or sandy) present lower risks from pugging and run-off, but present risks of high nitrate leaching. Lighter soils tend to offer the best choice in wet conditions for both environmental and welfare considerations. A plan should consider the range of soil types on the farm and the pros and cons of each.

Risk 2: Waterways

Stock wintered in close proximity to waterways and drains present a significant environmental risk of direct contamination to waterways with run-off from sediment, P and faecal material in run-off. Waterways must be protected from these risks.

Risk 3: Groundwater

Further consideration must be given to groundwater contamination especially by nitrate leaching on lighter soils with a high water table or paddocks with extensive artificial drainage. Particular care needs to be taken in sensitive areas, such as community water protection zones or the location of drinking water bores.

Risk 4: Slope

The increased angle and length of slope increases the velocity of water flow which exacerbates run-off and associated environmental risks. Complex slopes (rolling country) can concentrate sheet flows into channels. High velocity flows concentrated into channels creates the greatest run-off risk as flow velocity and volume of water increase the amount of suspended soil material and the erosive nature of the runoff. Any mitigation measure must consider slope. Wintering on sloping ground will always increase risks.

Risk 5: Stock class

Generally heavier stock presents the greater risk. Bovines have a high N loss risk whereas other stock such as deer present their own unique risks.

Risk 6: Fodder crops

Crops, by design, support a high density of stock which offers many advantages to the farmer. However, grazing fodder crops is likely to lead to damaged soil structure and very high deposits of faecal material and urine which is very high in soluble nitrogen, phosphorous and pathogens. The use of fodder crops greatly increases the environmental and welfare risks of winter stock management. Crops create bare ground, which in wet weather inevitably leads to muddy conditions.

In addition, fodder beet can compromise management options because of the need to transition animals on and off it. 100% crop-based wintering which avoids the need to transition and reduced stock movement is a more attractive option for farmers. Wintering on fodder crops will significantly increase environmental, welfare and management risks.

It is very important to understand that risk factors are cumulative and will influences the scale of the necessary mitigations required to minimise environmental risks.

In each situation, six risk-factors needs to be considered to develop an effective package of risk mitigations.

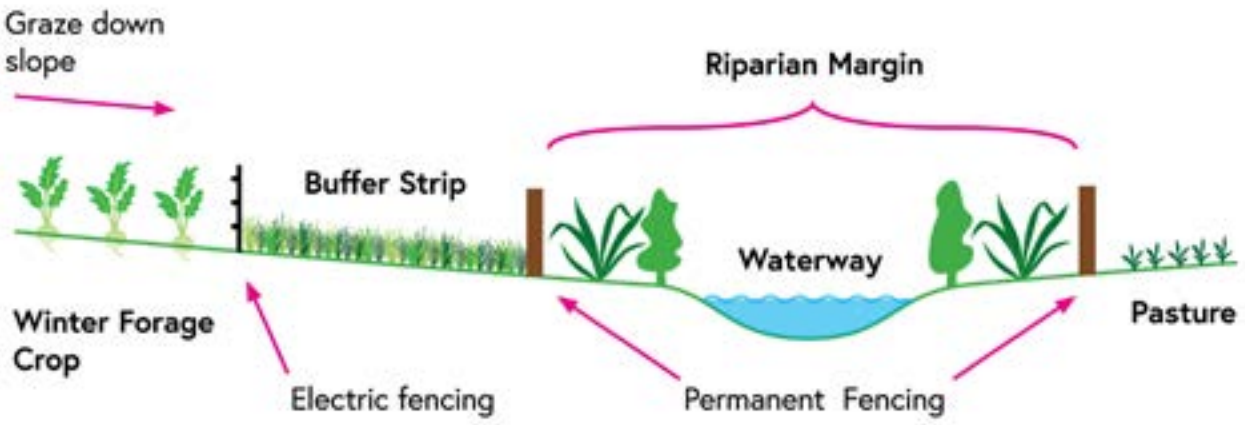


FIGURE 2

A riparian margin is not the same as a buffer strip. A riparian margin is a strip of land adjacent to a waterway and protected by permanent fencing. The ideal width of a riparian margin depends on a number of factors, including the significance of the waterway, flood or erosion risk or the landowners plans for any riparian planting or habitat creation. In a pasture situation, fencing and the riparian margin should provide adequate protection of the waterway from stock damage and runoff. Where forage crops are located adjacent to a waterway, then a buffer strip will likely be needed to provide additional protection to the waterway from higher risk of run off. The ideal width of a buffer strip depends on various risk factors which should be assessed when planning forage crops.

4. RISK EVALUATION cont...

FIGURE 3

Buffer strips work by slowing surface flows allowing water to infiltrate into the soil, trapping and depositing sediment in strip vegetation before reaching a waterway. Thick tussocky vegetation, such as cocksfoot make ideal buffer strips.

FIGURE 4

Buffer strips fail to be effective once flows exceed the buffer strip's capacity and run off flows through or over the vegetation and directly into watercourses. This can happen when flows are moving rapidly off a slope, volumes of water are too great for the size of the strip, where vegetation is too short or damaged or where flows are concentrated into channels. In such high risk situations buffer strips may need to be considerably wider than in low risk situations.

All diagrams (figures) acknowledgement: Amy Anderson

The two scenarios below illustrate two situations with very different risk profiles and accordingly a different range of mitigation measures.

SCENARIO 1: Heifers wintered on flat paddocks on light soils with no waterways present. Stock grazed on and off kale with a sacrifice paddock where they are fed silage.

Risk Assessment: Low risk situation: Likely to present few environmental risks other than high N leaching from fodder crop.

Likely mitigations:

- Use of portable water troughs to reduce stock movements (optional).
- Early establishment of a cereal catch crop following kale to mop up surplus N.
- Various contingency options likely to be available for severe events, such as keeping stock off kale crop and feeding additional silage on sacrifice paddock while snow on ground or soils saturated
- Very low-cost mitigations – cereal catch crop provides silage crop before regrassing or establishment of next fodder crop and sacrifice paddocks likely to need to be re-established.

SCENARIO 2: Friesian cows wintered on rolling country with deep palic soils prone to pugging with numerous waterways and gullies on 100% fodder beet with silage fed in-situ.

Risk Assessment: A multiple high risk situation presenting significant environmental risks which will require significant temporary and permanent mitigations. There are likely to be few contingency options available in severe weather, which will increase environmental and animal welfare risks.

Likely mitigations:

- Use of temporary water troughs to reduce need for stock to walk long distances on slopes in mud to find adequate water.
- Access by machinery to feed roughage will be difficult in very wet or snow conditions and likely exacerbate soil damage and pugging. Baleage may need to be stockpiled in paddock for extreme events.
- Permanent fencing at break of slope in any gullies with rough vegetation established throughout sides and length of gullies.
- Establish temporary buffer strips of rough grass (such as cocksfoot) adjacent to any waterways when crops are sown. These should be fenced off temporarily while crops are being grazed. They should not be grazed until the end of winter. The width of buffer strips may need to be significant and will need to consider slope angle and length. More than 10m is likely to be required to be effective in slowing flows to drop sediment.
- Where water is concentrated into channels along tracks, use permanent culverts to intercept flows and direct water onto grass paddocks to disperse flow and drop sediment.
- Construct permanent sediment traps along drains and/or waterways at strategic points to slow flows and enable sediment to drop out of suspension.
- Areas in-field that are identified as natural critical source areas which concentrate flows may need to be excluded from crops and left in pasture and/or fenced off temporarily in severe weather.
- Stock should be grazed from top of slope to bottom to ensure most risky areas are grazed last allowing un-grazed crop to act as a buffer strip. If this can't be done, then grass buffer strips will need to be proportionately wider (20m+)
- In severe events, animal welfare is likely to be a significant risk as it may be difficult to provide adequate shelter, lying areas and sufficient volume of feed.
- In areas which present insurmountable problems and high risks, it is best that they be excluded from use for fodder crops. (i.e. Sloping areas with waterways, access or risk of flooding).

This situation is likely to require multiple and high cost mitigation measures and present challenges for meeting good animal welfare considerations: These cumulative risks are likely to be high enough to question the use of the area for winter crop grazing.

5. RISK MITIGATION TOOLS AND DESIGN CONSIDERATIONS

Once the risks involved with a particular winter management plan have been identified, the most appropriate mitigation must be selected to eliminate or minimise these risks.

There are a wide range of mitigations available ranging from temporary buffer strips to permanent built structures (sediment trap), each may be necessary depending on the circumstances and the level of risk. The size or design of a mitigation measure will be influenced by the individual circumstances. For example, on flat ground a buffer strip near a waterway can be narrower than one sloping ground as the run-off risk is less.

Mitigation Measures must be up to the Job

Any mitigation measure adopted must be appropriate for the situation.

Similar risks may require very different risks in different situations (e.g. run-off to waterways)

Table 1 gives examples of a wide range of mitigation measures and design considerations. Use this table to help plan and implement your effective mitigation measures.

FIGURE 5

This sediment trap and new wetland feature has been created from a wet and difficult to manage area of a farm.

6. CONCLUSIONS AND SUMMARY

- ✓ Winter management needs careful management to minimise a range of environmental and other risks.
- ✓ Effective winter management is not about ticking boxes:

  It demands:

  - Early planning,
  - Careful risk evaluation; and
  - Appropriate mitigation selection.
- ✓ It is not acceptable to just hope for the best – difficult scenarios should be expected and planned for. Extreme weather events are not an 'if' but a 'when'.
- ✓ Good winter grazing management is a year-round process and requires careful planning and management throughout.
- ✓ There are six critical environmental and management risk factors that must be considered in order to decide on the overall level of risk for a particular winter management plan and the appropriate level of mitigation required.
- ✓ In each situation, consider the six risk-factors when developing an effective package of mitigations.
- ✓ There are a wide range of potential risk mitigation measures available from simple low-cost actions to more demanding actions required in higher risk situations.
- ✓ In some high-risk situations, the scale and cost of risk mitigation may outweigh the value of the planned approach to wintering and require a review of the farm's winter management systems.
- ✓ A situation with a combination of a number of risk factors may mean there is simply no effective way of coming up with an effective winter management plan. Such areas should never be used for stock wintering.

TABLE 1

List of Mitigation Tools and Design Considerations

Mitigation	Definition	Purpose	Scale and Management	Cost	Comments
Permanent Fencing and Riparian Margin	All waterways must be fenced off from intensively farmed stock, including cattle, deer and pigs. This includes any situation where stock are held for wintering and being fed crop or feed brought into the paddock.	Exclusion of stock from waterways	Appropriate to the size and flow of the waterway and nature of the channel. Should include some riparian margin that can accommodate the waterway during high flows. For waterways more than 1m across during median flows, a riparian margin (the distance between the edge of the waterway and the permanent fence) should be not less than 3m). The line of the fencing should consider any critical source areas (swales or hollows) and winter flooding that may need a wider riparian margin.	High initial cost with some areas likely to be sacrificed from productive area. Fencing very close to and following the edge of the waterway likely to result in problems with erosion and run-off -unlikely to be cost effective in the long term.	All farmers must meet Regional Rules regarding stock exclusion from waterways. Future National Environmental Standards are likely to require a riparian margin of between 3–5m
Temporary Fencing	Temporary electric fencing	Fencing off grass buffer strips, seasonal waterways, seasonal wet areas and/or critical source areas (CSA)	Appropriate to the individual situation. Consider the size and flow of the waterway the likelihood of pugging and risk of run-off.	Low cost	

Mitigation	Definition	Purpose	Scale and Management	Cost	Comments
Grass buffer strips. See fig. 3 and 4 above.	A rough grass strip designed to intercept and trap sediment from high run-off risk areas, such as winter fodder crops or tracks and laneways. The thicker the sward the better. Clumpy cocksfoot or similar rough grass ideal buffer strip. Should be established at the time of crop planting and adjacent to any waterway that may be flowing during the winter months.	To intercept and slow run-off water so suspended sediment is trapped or filtered before run-off water enters any waterway or ideally, has time to infiltrate into the soil.	To be effective the width of strip needs to be proportional to the flow and volume of run-off it intercepts. Once flows are concentrated into channels and run off flows over the top of the strip vegetation their effectiveness reduces dramatically. Strips need to be maintained in good condition throughout the winter i.e. fenced off and left ungrazed and not used as laneways as this will create channels that can concentrate flows. As a rule of thumb buffer strips should have sufficient vegetation and be wide enough to ensure flows do not become concentrated into channels. Buffer strips are unlikely to be effective on long steep or rolling slopes where flows will become concentrated into channels.	Relatively low cost: Buffer strips can be grazed out at end of winter and returned to production if not required the following winter.	Plan buffer strips early and establish when crops are sown. Grass buffer strips are not riparian margins. A buffer strip is in addition to any riparian margin and is located paddock side of any waterway fencing.
Grazing Top to Bottom of Slope	Grazing a sloping fodder crop paddock from top of slope to bottom using break fencing.	Graze highest risk areas last and use fodder crop in front of break as an additional buffer strip.	Access and location of water troughs should be considered when crop is being planned and whether they present problems. Also consider location of paddock access points – additional gateways may be needed before the start of winter.	Low cost	Is not a substitute for adequate buffer strip.
Portable Water Troughs	Plastic water troughs that can be relocated in a paddock used for winter grazing.	Reduces distance walked by stock to drink reducing pugging damage and stress on stock.	Plan use of portable water troughs when planning fodder crop. May need additional reticulation and troughs installed before conditions make job difficult.	Low cost	Reducing the distance stock need to walk for water can significantly reduce energy requirements particularly on muddy sloping paddocks.

Mitigation	Definition	Purpose	Scale and Management	Cost	Comments
Laneway Management	Any laneway that could result in accumulated run-off, from either the laneway or adjacent paddocks, being channelled into a waterway must be managed to intercept and divert run-off and suspended sediment onto paddocks or sediment traps.	Prevent sediment and manure from laneways being directed into waterways.	Mitigations need to be proportional to the length and slope and design of laneway. A laneway should be profiled so any run-off is directed into paddock, along its length is ideal. Laneways that are lower than the surrounding paddock will accumulate and concentrate water and this risk is made worse by long sloping laneways frequently found on irrigated properties. Where laneways can't be profiled to shed water – cut-outs or culverts will be required along the length of the laneway to intercept channelled water and divert it onto paddocks.	From low to high cost. However, well managed laneways that don't hold and channel water are likely to suffer less damage during the winter and have lower maintenance costs.	Every 100m of laneway 5m wide receives $5m^3$ of water in a modest 10mm rain or irrigation event. 1km of a 5m wide laneway in a 40mm rain event receives $200m^3$ water.
Crossing Management	All waterway crossings must be managed to control accumulated run-off and sediment entering waterways.	Exclusion of stock from waterways.	Any frequently used waterway crossing, or a crossing used for intensively farmed stock, which includes any stock being break fed, must be bridged or culverted. Careful consideration should be given to the approach to any crossing and the risk of concentrated run-off from laneways entering waterways at the crossing point (see Laneway Management above).	From low to moderate cost. However well managed crossings are usually damaged less during from flooding and erosion.	Waterway crossing points present high risks of run-off and accumulated sediment and manure entering waterways.

Mitigation	Definition	Purpose	Scale and Management	Cost	Comments
Sediment Traps	An area in or adjacent to a waterway that slows flow and allows sediment to drop out of suspension. Structures such as old stock water dams, old irrigation channels or ponds can form effective sediment traps. New structures can be created for the purpose of trapping sediment.	To intercept and slow run-off water so suspended sediment is trapped before run-off water enters any waterway.	On sloping ground the accumulation of water and sediment into channels, that can't be diverted into grass paddocks, presents considerable risk of loss of sediment to waterways. In such situations the only possible mitigation is the use of constructed sediment traps of sufficient size to slow flows and allow sediment to drop out of suspension. Sediment traps can be effective in removing larger particles such as sand or silt, but are ineffective in removing very fine particles, such as clay and adsorbed phosphorous.	Existing structures: moderate cost but purpose-built sediment traps could have high initial construction cost. Sediment will need to be removed at appropriate times and returned to paddocks. Any cleaning or maintenance of sediment traps also presents risks to contamination of waterways and must be carefully planned. Sediment traps are not a low-cost option but may be an essential mitigation option available is certain high-risk situations.	Construction of new sediment traps and removal of sediment is likely to require a consent from ECan. Sediment traps are the ambulance at the bottom of the cliff. Preventative mitigations that prevent run-off in the first place or intercept run-off and direct flows onto paddocks are likely to be more effective and cheaper than constructed sediment traps.
Critical Source Areas (CSA) Exclusion Areas	A CSA is any sloping feature that accumulates surface water and run-off and channels it into a waterway.	Temporary or seasonal removal of stock from areas at risk of accumulating surface water and run-off and channelling sediment and faeces into waterways.	CSAs can be small areas within paddocks such as a swale or depression that can be temporary fenced off during wet periods through to large features such as gullies or the head of a waterway which are unsuitable for wintering stock.	Low cost, temporary electric fencing. May result in additional areas being excluded from winter grazing.	A versatile low cost means of excluding stock from high risk areas but not a substitute for adequate buffer strips, see above.

Mitigation	Definition	Purpose	Scale and Management	Cost	Comments
Cropping Red Zones	Areas that should never be used for an annual fodder crop. These are areas prone to flooding, very wet/boggy areas or paddocks with extensive wetlands or springs. These should never be used for fodder crops and should be avoided when ground conditions would lead to severe pugging or damage by machinery. In addition, areas such as the head of a waterway with complex slopes that concentrate flows into channels should not be used for winter cropping.	Avoids high risk management options and very damaging situations.	Could be single paddocks or parts of paddocks to substantial areas of a farm with soils, location or slope, or combination of these factors, which makes them unsuitable for winter fodder cropping.	Constrains use of areas used for winter management, but likely to be cost effective in long term by avoiding severe paddock damage and loss of crop, animal welfare issues.	
Harvested Fodder Beet	Fodder beet can be harvested when ground conditions are suitable and stored or clamped in an appropriate area to be used as fodder during severe weather when access to in situ fodder beet would cause severe pugging or compromise animal welfare.	Provides the ability to continue feeding fodder beet to manage transition issues in situations where stock need to be moved off fodder beet paddocks due to environmental, welfare or other management risks.	The amount of stored beet should be proportional to the likely risk of needing to move stock off fodder beet blocks.	Some costs associated with lifting and storage. Provides insurance against either having to manage high welfare or environmental risks in extreme weather situations.	Fodder beet has a long shelf life once lifted and stored in a clamp, so can be harvested early in the season when ground conditions don't present access issues.

Mitigation	Definition	Purpose	Scale and Management	Cost	Comments
Catch Crops	A crop (such as oats, barley or triticale) established as soon as possible following a fodder crop.	Mop up surplus nitrogen on paddocks used for grazing stock on fodder crops.	Very effective in reducing N losses from fodder crop blocks if sown early. Establishment is dependent on soil type and season.	Low cost if crop can be successfully established and provides useful early grazing or silage crop.	Trials have shown catch crops can significantly reduce N losses.
Sacrifice Paddocks	A paddock, ideally with free draining soils well away from waterways, used to temporally hold stock and managed in a way that the sward will be severely damaged and require pasture renewal.	Provides stock with a refuge from fodder crop paddocks should these become unsuitable for continuous use due to welfare, environmental or management reasons.	Paddocks scheduled for re-grassing can make convenient sacrifice paddocks. However just because a paddock is due for re-grassing does not necessarily make it a sensible sacrifice paddock.	Variable costs depending on what paddocks destined for re-grassing. Could significantly increase the area required for winter stock management and create additional stock movements and damage to soil and laneways.	
Stand Off Areas	A relatively dry or sheltered area that can be used to hold stock during periods of extreme weather. A wide range of features can be used as stand off areas such as laneways, old railway lines, marginal land or small farm forestry blocks.	Provides stock with a temporary refuge during extreme weather events such as snow or heavy prolonged rain.	Selection and use of standoff areas must include an assessment of environmental risks. For example, an area in a riverbed may be free draining but may present significant environmental risks. Use of laneways should consider risks of channelling of sediment and water into waterways, see laneway management above. Stand off areas are likely to lead to high stock concentrations in small areas, this may be manageable for a short duration but may cause additional problems if used for extended periods.	Likely to be relatively low cost if low productivity marginal areas used, but may create feed issues, particularly ensuring supply of fodder beet, see harvested fodder beet above.	

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AGENDA ITEM NO: 2	SUBJECT MATTER: Hurunui and Waiau Uwha Braided River Flagship Projects
REPORT TO: Hurunui Waiau Zone Committee	DATE OF MEETING: August 17th 2020
PREPARED BY: Zipporah Ploeg, Biodiversity Officer, ECan Mike Bell, Wildlife Management Ltd	ACTION: For decision and information

1. Purpose

1.1 A variation to the Hurunui and Waiau Uwha Braided River Flagship projects is presented below.

2. Recommendation

That the Hurunui Waiau Water Management Zone Committee:

1. Support the management changes to the Hurunui and Waiau Uwha Braided River Flagship Projects

3. Background

3.1 The purpose of the Immediate Steps (IMS) programme is to protect and restore freshwater biodiversity and water-use affected terrestrial biodiversity in Canterbury. The Hurunui-Waiau Zone Implementation Programme (ZIP) recommended that IMS funding be targeted to priority areas as this will make the most progress towards CWMS biodiversity goals.

In February 2017, the biodiversity subgroup of the ZC approved a new priority area, braided river ecosystems, with a particular focus on the main stems of the Hurunui and Waiau Uwha.

3.2 Hurunui-Waiau Flagship projects were established following HW Zone committee and braided river technical experts identifying key values, threats and gaps for braided river management in the Hurunui-Waiau.

The Hurunui Waiau Water Zone Committee funded three partnership projects over five years with a particular focus on improving habitat and nesting success for braided river birds in the Hurunui and Waiau Uwha rivers. The three projects are:

1. Southern black-backed gull (SBBG) control
2. Island enhancement
3. Surveys to monitor management outcomes

Funding Summery

	Funding Source	FY17-18	FY18-19	FY19-20	FY20-21	FY20-22	Total
Project 1: Black backed gull control	**Immediate Steps**	$11,440	$21,040	$30,640	$20,800	$11,200	**$95,120**
	Other	$9,512	$9,512	$9,512	$9,512	$9,512	**$47,560**
	Totals (5 Years)						**$47,560**
Project 2: Island weed clearance for braided river birds	**Immediate Steps**	$16,750	$62,850	$57,350	$17,850	$17,750	**$172,650**
	Other	$17,900	$11,900	$11,900	$11,900	$11,900	**$65,500**
	Totals (5 Years)						**$238,150**
Project 3: Bird Surveys and monitoring of populations	**Immediate Steps**	$8,900	$8,900	$8,900	$8,900	$8,900	**$44,500**
	Other	$52,450	$52,450	$5,400	$5,400	$5,400	**$121,100**
	Totals (5 Years)						**$165,600**

4. Project applications

4.1 Funding from IMS will remain the same, but it is proposed to move current funding from SBBG control to mammalian predator control. The report below explains the lessons learnt from the ongoing work programme and how these have informed the changes proposed. It is noted this was always intended to be an adaptive management programme.

	Funding Source	FY20-21	FY21-22
Proposed variation to Project 1: Predator control			
	Other (Mammalian predator control)	$36,000	$36,000

Hurunui-Waiau braided river native biodiversity Immediate Steps flagship project

Project Vision: *A thriving, natural, dynamic braided river environment, which protects the biodiversity values present, recreational and amenity opportunities are plentiful and all key stakeholders are actively engaged in braided riverbed biodiversity management*.

Background:
Globally, braided rivers are naturally rare ecosystems which support specialist plant and animal communities. These communities are highly adapted towards living in this dynamic, changing physical environment. Nationally, braided rivers support high levels of endemic, threatened or at-risk species. Many of these species are either unique to the braided river environment or depend on it to complete a critical life history phase.

In February 2017, the biodiversity subgroup of the Hurunui Waiau Zone Committee approved a new priority area, braided river ecosystems with a particular focus on the main stems of the Hurunui and Waiau Uwha rivers. In May 2017 the biodiversity subgroup hosted a meeting of braided river experts to identify the key values, threats and gaps for braided river biodiversity management in the Hurunui and Waiau rivers. This meeting indicated a need for a strategic management approach to address the multitude of threats facing our braided river-bed communities.

The Zone Committee decided on a set of strategic, focused and applied on-the ground biodiversity actions which formed the basis of their Immediate Steps flagship project.

These three projects were then implemented in partnership with the Department of Conservation, community groups and landowners to raise the awareness of braided riverbed values, trial new techniques and provide an adaptive management approach. This is only stage one of what was intended to be a much larger flagship project by the Zone Committee. Stage one utilised the available Immediate Steps funding and allowed for action-on-the-ground to be implemented and adaptively monitored over the five years to ensure the best outcomes were obtained with a particular focus on braided river bird nesting success.
This was designed to build momentum and get the project 'off the ground', however it was recognized a more comprehensive stage 2 package would be required to ensure that all the braided river habitat and biodiversity values on the Hurunui and Waiau Uwha rivers are protected and maintained for future generations.

Review and Results:
The last three years of data have been reviewed with the following results.
Project 1: Southern black backed gull control

- Where Southern Blacked Backed Gull control has occurred, it had been very effective (i.e. c. 90% reduction in gulls). However, this has not translated to an increase in Black-Fronted Terns (BFT) chicks
- Very few BTF eggs are making it to chick stage (when they are more likely to be preyed upon by SBBG)
- No direct evidence of SBBG predation on BFT or black-billed gulls in either river during the study period to date.

Project 2: Island weed clearance for braided river birds

- We assumed that the islands would address/deal with the mammalian predator issues. This does not seem to be the case. This may be due to sub-optimal islands or that, in the Waiau Uwha particularly, lack of clear gravels (i.e. breeding habitat) does not seem to be a limiting factor
- Flooding, as always, is a significant cause of nest failures.

Project 3: Bird Surveys and monitoring of populations

- High level of nest abandonments are probably also associated with predator interference.
- BFT nesting success is very low and comparable with 'unmanaged' sites.
- Harrier hawks have been identified on cameras as the primary predator of BFT eggs. There is some potential bias however with nest cameras often failing to capture nocturnal (primarily mammalian) predators.

Proposed changes
Project 1: Black backed gull control (change to predator control project)

- Stop planned SBBG for the next two seasons and focus on the other predators
- Continue to monitor SBBG populations and look to introduce rolling control cycles to maintain gains (which include water quality considerations)
- Mammalian control targeting cats, rats and mustelids (the islands do stop hedgehogs)
- 2km of traps on either side of the river adjacent to the colony
- Focusing on two colonies on the Hurunui

Project 2: Island weed clearance for braided river birds

- Reduce the number of islands developed and be more targeted with integrated predator and weed control
- Focus on islands known to support breeding colonies
- Take a ‘Proof of concept’ approach. If this leads to an increase in nesting success through management actions, actions may be able to be scaled up.
- Take a marine reserves model, i.e., few sites managed intensively with focus on successful recruitment of BFTs which then disperse to other areas.

Project 3: Bird Surveys and monitoring of populations

- Continue to monitor nesting success and causes of failure to help determine future management actions
- Monitor SBBG population to see how quickly it recovers from control

Harrier Hawks/ Kahu

- We are mindful that kahu are a valued species and are working with both Rūnanga on the best management for all these taonga species.

AGENDA ITEM NO: 3	SUBJECT MATTER: **Update on Youth Membership**
REPORT BY: Lyn Carmichael, Environment Canterbury	DATE OF MEETING: 17 August 2020

Purpose

To update the Committee on the potential for a youth member on the Hurunui Waiau Uwha Zone Committee and introduce local Youth Rōpū member Ruby Gill-Clifford

Background

The ECan Youth Rōpū is on a mission to further the voice of young people in and around ECan in regard to decisions that affect them. A main objective is to create a two-way relationship between young people and decision-makers. The water zone committee model introduced by the CWMS is a clear path to improving youth voice in the decisions that will affect them in their futures. A seat at the table of Zone Committees is considered the simplest way to achieve this goal.

Youth members on committees would also be able to provide recommendations on ways the Zone Committee could engage, work with and serve the youth community.

Recommendation

That the Zone Committee consider the opportunity to include a member from the Youth Rōpū on the committee for the remainder of 2020

YOUTH RŌPŪ
environment canterbury

Youth Participation on Water Zone Committees Proposal Early 2020

Prepared by Oscar Bloom and Erana Riddell on behalf of the Environment Canterbury Youth Rōpū

"Zone committees give consideration to and balance the interests of all water stakeholders in the region in debate and decision making." - CWMS

Intro:

The ECan Youth Rōpū is on a mission to further the voice of young people in and around ECan in regard to decisions that affect them. A main objective is to create a two-way relationship between young people and decision-makers. The water zone committee model introduced by the CWMS is a clear path to improving youth voice in the decisions that will affect them in their futures. A seat at the table is the simplest way to achieve this goal.

Proposal:

- Erana Riddell to be co - opted onto the Banks Peninsula Water Zone Committee for start of 2020
- Oscar Bloom - Investigating whether he is co - opted or another Christchurch member of the Rōpū is with an aim to begin in 2020
- Aim in the new year to reflect on time given to the WZC and structure a way where and how to get other youth involved in other wzc committees

Purpose:

Having a young person co-opted on the water zone committees will be important to advocate youth voice and opinion through energy sparked by the various environmental campaigns youth have contributed too. It will show the possibilities of how more proportional representation of young people acting in conjunction with other members in free and equal collaboration will achieve awesome things. Youth presence and the opportunity to have a foot in the door will inspire new framework for environmental education to ensure better engagement now and in the future. If youth are engaged at a young age, it is likely that youth will be in the future.This of which mirrors the responsibility facing decision-makers, researchers, community groups and Tangata Whenua to ensure the UN Conventions of the Rights of the Child as well as the philosophies of the CWMS are upheld.

Looking for an equal relationship:

- Obligation to support capability of young people to address challenges
- Youth members are given a space where their voice is acknowledged to the same degree as any other
- Where values don't align members respect and appreciate differing viewpoints without giving more bias to one or another
- Acknowledge we all come from separate backgrounds and this is appreciated without judgement.

Future Steps:

- Further investigate what co-opting means and whether there is a need for more rights this doesn't bring or not
- Discuss how WZC members are presently appreciated/paid for their work on these committees and see how this model could apply to youth
- Continue to share progress with other WZC and continue to push for this representation to spread
- Youth members to also collaborate on a plan of potential recommendations on ways the WZC could engage and serve the youth community better through different practices, plans and funding.

HURUNUI WAIAU ZONE COMMITTEE AGENDA ITEM NO: 7	SUBJECT MATTER: **Zone Facilitators Updates**
Report by: Lyn Carmichael Environment Canterbury	DATE OF MEETING: 17 August 2020

Action required:

Note the updates on:

- Proposed Plan Change 7
- Action for Healthy Waterways
- Allocation of Funds for Three Waters
- Funding for Hurunui District Landcare Group
- Groundwater survey in the Waipara area
- Regional Committee

Proposed Plan Change 7

Proposed Plan Change 7 (of the Canterbury Land and Water Regional Plan) has been developed to respond to emerging resource management issues, to give effect to relevant national direction, to implement recommendations from the Hinds Drains' Working Party, and to implement recommendations in the Waimakariri and Orari-Temuka-Opihi-Pareora (OTOP) Zone Implementation Programme Addenda (ZIPA). The Independent Hearing Panel has indicated a hearing will begin in late September / Early October. Evidence in Chief was exchanged on 17 July. Expert caucusing will occur through the month of August. Rebuttal Evidence is to be lodged by 18 September. For more information, go to: https://ecan.govt.nz/your-region/plans-s

Action for Healthy Waterways

The central government package for freshwater (all three parts NPSFM 2020, NES Freshwater and Stock Exclusion regs) have been gazetted and come into force on 3 September 2020.

More info here:

https://www.mfe.govt.nz/action-for-healthy-waterways

links to the instruments:

https://www.mfe.govt.nz/sites/default/files/media/Fresh%20water/national-policy-statement-for-freshwater-management-2020.pdf

http://www.legislation.govt.nz/regulation/public/2020/0174/latest/LMS364099.html

http://www.legislation.govt.nz/regulation/public/2020/0175/latest/LMS379869.html

Councils are developing workstreams to support the implementation of these national instruments and more details will follow.

Allocation of Three Waters Funds for Councils

The government also announced this week the **allocation of three waters funds for councils** - DIA have announced the allocation of the $761 million three waters stimulus funding. Councils must opt-in to the reform process to access the investment package which is split into two components; an allocation to each council and a regional allocation to be apportioned amongst councils in the region. A total of $100 million has been allocated to Canterbury region. Councils have until 31 August to sign up to a MOU to access their portion of the funding and until 30 September to agree as a region how to apportion the regional funding amongst the themselves. An additional $30 million has also been allocated to help non-council rural water supplies (including marae). We understand this $30 million is funding for allocation across New Zealand.

Funding Announced for Hurunui District Landcare Group

Hurunui District Landcare Group was successful in their recent funding application, receiving funding from the 1 Billion Trees programme.

https://www.beehive.govt.nz/release/catchment-restoration-investment-will-drive-clean-water-and-more-jobs

Groundwater Survey in the Waipara area

Starting this month, Environment Canterbury will be conducting a survey to research groundwater quality in the Waipara area. Groundwater quality is monitored across the region to understand the state of the resource, and every year two or three surveys are conducted focussed on specific areas. Environment Canterbury has not done a survey in the Waipara area since the 1990s. This year's survey will mainly focus on Waipara township, Waipara Flats, Darnley, and Omihi.

This research depends on the good will of property owners who allow Environment Canterbury staff to collect samples from their wells. In August and September, staff will be conducting site visits to assess the suitability of approximately 60 wells/bores for our investigation. We expect that the final number of wells that are sampled will be fewer than 50.

CWMS Regional Committee

The last CWMS Regional Committee meeting was held on Tuesday 11 August 2020.

The link to the CWMS Regional Committee meeting papers is provided below:
https://ecan.govt.nz/data/document-library/?Search=regional+water+management+committee%2C+agenda&documentTypes=-1&pageSize=12&start=1&sortDir=desc

HURUNUI DISTRICT COUNCIL
MINUTES

Meeting	Hurunui-Waiau Zone Committee
Date and Time	15 June 2020, 4.15pm
Venue	Council Chambers, 66 Carters Road, Amberley
Agenda	https://www.hurunui.govt.nz/find/how-the-council-works/meetings
Members Present	Ken Hughey (Chairperson), Mayor Marie Black, Cr Claire McKay, Josh Dondertman, Michele Hawke, Julia McLean, John Preece, and Makarini Rupene.
In Attendance	***Environment Canterbury (ECan) –*** Lyn Carmichael (Zone Facilitator), Marco Cataloni, Andrew Arps, Stephen Bragg, Zipporah Ploeg. ***Hurunui District Council –*** Hamish Dobbie (Chief Executive Officer) ***Department of Conservation (DOC) –*** John Benn ***Committee Secretary –*** Michelle Stanley
Recording Device	A recording device was in use for the accuracy of the minutes.
Karakia	Ken Hughey led the Karakia.
Te Reo Maori: places in the zone	Nil.
Apologies	Apologies were received from John Faulkner, Cr Lynda Murchison, and Nukuroa Tirikatene-Nash. THAT THE APOLOGIES BE ACCEPTED. Hughey/Black CARRIED
Urgent Business	Nil.
Conflict of Interest Declarations/Interest Register	Nil. Cr Claire McKay noted that an updated version of the Environment Canterbury Councils interests will be online shortly. The Secretary to update the HWZC Interests Register.
Pubic Contribution	Nil

Update from Zone Committee members on other activities and meetings attended that relate to the Committee's outcomes for the Zone.	• Julia McLean and the Zone Facilitator attended a 'Catchment Community Group' webinar run by Beef and Lamb NZ. It was a well-attended webinar on how to create and run effective catchment groups. The Zone Facilitator to forward the link to the webinar to the Zone Committee once published online. • Josh Dondertman was interviewed by TVNZ1. He intended to make some comments during the interview regarding Hurunui-Waiau Zone related issues, but TVNZ1 changed their questions. • Julia McLean notified the Committee of a security cameras proposal that she has put forward as a possible way to help minimise illegal rubbish dumping in the Waipara Riverbed. • Ken Hughey was interviewed by Angus Kebbell of Factum-Agri for a number of radio programmes including Compass FM locally. The interview focussed on how land use changes brought by irrigation are changing the river catchment water quality.

REPORTS, SPEAKERS AND PRESENTATIONS

1. Immediate Steps Zipporah Ploeg, ECan	Zipporah Ploeg, Biodiversity Officer, spoke to the Zone Committee on the proposed Immediate Steps project application by Scargill Hills Covenant. The application from the Scargill Hills Covenant was to the amount of $4,500 towards erecting protective fencing and weed control on 3.5 hectares of regenerating native vegetation and the Scargill Creek. THAT THE HURUNUI WAIAU ZONE COMMITTEE SUPPORTS THE IMMEDIATE STEPS PROJECT APPLICATION FOR THE SCARGILL HILLS COVENANT. Hawke/Rupene CARRIED The Canterbury Biodiversity Initiative Fish Habitat Fund was discussed, noting that proposals are sought by Friday, 3 July 2020. The Zone Committee was asked to forward on any suggestions to the Zone Facilitator for high priority fish passage sites within the Hurunui-Waiau Zone. This fund is open to any organisation or individual. John Preece to notify the Jed River Group of the fund. The Environment Canterbury (ECan) Biodiversity Officer Zipporah informed the Zone Committee that enquires have been made with the Zone Delivery Team regarding a potential River Care Group for a section of the Hurunui River. Michele Hawke requested that, if possible, a field trip to some of the successful Immediate Steps applicants be added to the Zone Committee's priority to-do list.
2. Update from Zone Delivery Andrew Arps, Environment Canterbury	Andrew Arps, ECan, spoke to a presentation about North Canterbury post Covid-19 funding opportunities. There are six funding opportunities being looked at by ECan: • EFW (Ministry for the Environment (MfE) and Ministry of Primary Industries (MPI)).

- Regional Environmental Projects (MfE and MPI).
- Jobs for Nature Fund (Department of Conservation (DOC)).
- New jobs enhancing biodiversity on public and private land (DOC?).
- 1 Billion Trees.
- PGF Funding for waterway fencing, riparian planting and stock water reticulation.

ECan in conjunction with the Hurunui District Council (HDC), have pulled together a list of possible projects to put forward for these funds. Listed are the ones relevant to the Hurunui-Waiau Zone:

- Regional Planting and Regeneration Programme. ECan would work with the local nurseries to enable this programme to get underway.
- Braided River Revival. The Ashley-Rakahuri River is to be the first project with other rivers to follow.
- Enhancing regional parks along the Waimakariri River, Ashley-Rakahuri River and in Tekapō.
- Regional Catchment Management.

If these projects are successful, they will come with conditions, milestones and goals around employment. Further engagement with stakeholders will be sought after clarity on the funding is received. Any further ideas of projects to be emailed through to the Zone Facilitator.

Further updates were provided:

- Billion Trees – Hurunui Landcare Group are putting an application in. Mike Bennett and Josh Brown are collaborating on the application.
- Provincial Growth Fund – it was reported that MPI are generating discussion around funding projects like riparian planting. ECan are looking to create a list of projects around $100,000 to apply to the Provincial Growth Fund. Ideally these would be made up of a cluster of projects in the same area.

  It was requested that any ideas be forwarded to the Zone Facilitator who will share with the Zone Delivery Team and with HDC.

  The Jed River would be a good project to include.

  It was further noted that the Provincial Growth Funds key driver is employment.

  It was suggested that the Wetlands Working Group has a meeting to compile a list of potential projects to pass to the Zone Facilitator.
- Regional Catchment Management is a grass roots approach that creates an opportunity for the Delivery Team to support the various catchment and community groups. They work on increasing participation, creating a safe environment for members, and will work with the willing.
- It was asked if the Delivery Team will be hosting any field days in the near future. Andrew Arps noted that ECan have realised that

	they are better placed to enable willing groups to host events and field days by providing resources, rather than trying to replicate. Every three months, the Delivery Team meets with industry representatives and discusses any issues. At the last meeting, via Zoom, there was a good feeling of collaboration and people are finding their feet. • John Benn noted that if there was a major catchment project proposal to talk to DOC for collaboration. • Ken Hughey relayed in JohnFaulkner's absence, that he has expressed that he is thankful for the support he has received in applying for funding for his project
3. Update from HWZC Wetlands Working Group Josh Dondertman, Michele Hawke, John Preece and Nukuroa Tirikatene-Nash	Josh Dondertman spoke to the Wetlands Working Group update and the following was noted: • The Group is looking to host their own field day but will wait to align with a willing landowner or group rather than being Environment Canterbury run. • A letter to be written to Hurunui College regarding biodiversity learning opportunities. The letter is to be formatted as an offer with an overview of possible projects and opportunities. • The group is looking for a suitable wetlands flagship project to support. The project needs to be publicly accessible and of high value, amongst other criteria. John Preece to provide a written report to the next Zone Committee meeting with a pros and cons summary of a few possible projects.
4. Update from HWZC Communications Working Group Julia McLean, Ken Hughey and John Faulkner	Julia McLean spoke to the Engagement and Communication plan. It was updated that the Facebook page has now become a community page. It was discussed that whilst the HDC has been in discussions about deferring the environmental/community awards for a year, this does not stop the Zone Committee from continuing to seek external funding for its awards proposal. It was noted that the Communications Working Group is still to update its terms of reference. Ken Hughey to work with Julia McLean.
5. Zone Facilitator's Updates Lyn Carmichael, ECan	The Zone Facilitator spoke to her update on the following, noting the links within her report for further information: • HWZC Annual Report • Fish Habitat Fund • Proposed Plan Change 7 • Action for Healthy Waterways • Our Freshwater 2020 • Groundwater Science • CWMS Regional Committee – looking to reconvene in July. The following was further noted:

- There is a Braided River Conference scheduled in Lincoln on the 8 July 2020. It is a free conference and includes a field trip on the second day. Facilitator to email details and registration link to the committee members.
- The Section 42A report for Plan Change 7 has now been released. Submitters are required to have their second lot of evidence in by 17 July 2020, with the hearing being scheduled to begin in early September.
- John Preece raised the issue of nitrates in drinking water and referred to a Danish study which reflected these concerns. Some Committee members noted that this issue has been raised before at the Committee. The Zone Facilitator agreed to look int the issue.

6. Minutes

THAT THE MINUTES OF THE HURUNUI WAIAU ZONE COMMITTEE MEETING HELD ON 16 MARCH 2020 ARE CONFIRMED, SUBJECT TO THE FOLLOWING AMENDMENTS:

- Page 25, Item 4, second bullet point, at the end of first sentence add another bullet point and change to read "… Lyn Carmichael noted that Ben Ensor had spoken to Ken and herself regarding this project."

Hughey/McLean CARRIED

Matters Arising:

Item 1, Public Contribution (Page 22)

It was updated that the Zone Facilitator has followed up on the issues raised by Jamie McFadden and she noted that wetlands or braided river mapping is not used as a trigger for consenting.

Action Sheet

The action sheet was considered. It is noted that due to Covid-19 there has been a delay in progressing some of these actions. The following was noted:

- That there should be plenty of data on St Annes/Mata Kopae Lagoon. Cawthron Institute has included the Lagoon in a monitoring project on lowland lakes and will collect and release further data, which will be analysed for trends.
- It was noted that the relationship with LINZ will be addressed when the Zone Committee are clear on its own direction. Makarini Rupene noted that he has spoken to them about their iwi relationship.

Urgent Business

Cr Claire McKay brought to the Committee's attention to the ECan Youth Rōpū. This is a group of youth, aged 14 to 24, who have a keen interest in environmental issues. They are modelled on the Regional Council. Discussion around the table has included an idea to have a representative from the Youth Rōpū sit on the various Zone Committees.

The Zone Facilitator noted that she has asked that the Youth Rōpū come and speak to the Zone Committee at a future meeting.

Workshop	Prior to the meeting the Zone Committee held a workshop on its future vision and strategy, an update on the Zone Committee review process and a brief summary of the Freshwater package as provided to ECan Councillors.
Meeting concluded	*The meeting concluded at 5.49pm with a Karakia from Stephen Bragg.*

Hurunui-Waiau Zone Committee Action Sheet *(updated for 17 August 2020 zone committee meeting)*

Item	Meeting Date	Name of Item	Action Required	Actioned By/Manager	Status of Action
	15 June	Letter to Hurunui College	A letter or email to be drafted to Hurunui College to offer projects and opportunities for education on Wetlands	Wetlands Working Group	**Completed**
	16 March	St Annes / Mata Kopae Lagoon	Request for update on any water quality monitoring in Mata Kopae Lagoon and follow up with CDHB	Lyn	**Completed**
	16 March	Work on hapua flow dynamics	Richard Measures to be asked to present on this recent work. – Hapua workstream?	Lyn/All	**Work in progress**
	17 February	Advice from LINZ	Request clarification from on LINZ relationship with local iwi	All	**Work in progress** Question to be posed when LINZ attends ZC meeting
	17 February	Update request	Update to be sought from SFF wetlands project	Lyn	**Work in progress** Update scheduled for upcoming ZC meeting
	9 December	Branding for Wetlands Project	Develop branding for the Wetlands project to promote engagement and partnering	Zone Delivery / ECan Comms	**Work in progress.**
	17 June 2019	Non-partisan Biodiversity Group	Investigate establishing a non-partisan Biodiversity Advisory Group	All	**Work in progress** Committee to consider this in setting priority workstreams
	18 March 2019	Cultural Discussion of identifying grades of the Rivers	That a cultural discussion of the rivers be undertaken to identify and recognise Māori values versus A and B grades used by ECan.	Nukuroa Tirikatene-Nash/Lyn	**Work in progress.** Māori look at the river in terms of reliability of the water and grade via state of the river: Drinking water, baptism, wai tapu. Further discussion to be held – to be scheduled in Work Programme.

Hurunui Waiau Zone Water Management Committee

Terms of Reference

The area of the Hurunui Waiau Water Management Zone is shown on the attached map.

Establishment

The Committee is established under the auspices of the Local Government Act 2002 in accordance with the Canterbury Water Management Strategy 2009.

The Committee is a joint Committee of Environment Canterbury (the Regional Council) and Hurunui District Council (the Territorial Authority).

Purpose and Functions

The purpose and function of the Committee is to:

- Facilitate community involvement in the development, implementation, review and updating of a Zone Implementation Programme that gives effect to the Canterbury Water Management Strategy in the Hurunui Waiau area; and
- Monitor progress of the implementation of the Zone Implementation Programme.

Objectives

1) Develop a Zone Implementation Programme that seeks to advance theCWMS vision, principles, and targets in the Hurunui Waiau Zone.
2) Oversee the delivery of the Zone Implementation Programme.
3) Support other Zone Implementation Programmes and the Regional Implementation Programme to the extent they have common areas of interest or interface.
4) Ensure that the community of the Zone are informed, have opportunity for input, and are involved in the development and delivery of the Hurunui Waiau Implementation Programme.
5) Consult with other Zone Water Management Committees throughout the development and implementation of the Hurunui Waiau Implementation Programme on matters impacting on other zone areas.
6) Engage with relevant stakeholders throughout the development of the Hurunui Waiau Implementation Programme.
7) Recommend the Hurunui Waiau Implementation Programme to their respective Councils.
8) Review the Implementation Programme on a three yearly cycle and recommend any changes to the respective Councils.
9) Monitor the performance of Environment Canterbury, Hurunui District Council, and other agencies in relation to the implementation of the Hurunui Waiau Implementation Programme.
10) Provide Environment Canterbury and Hurunui District Council with updates on progress against the Zone Implementation Programme.

Limitation of Powers

The Committee does not have the authority to commit any Council to any path or expenditure and its recommendations do not compromise the Councils' freedom to deliberate and make decisions.

The Committee does not have the authority to submit on proposed Resource Management or Local Government Plans.

The Committee does not have the authority to submit on resource consent matters.

Committee Membership

The Zone Committee will comprise:

1) One elected member or Commissioner appointed by Environment Canterbury;

2) One elected member appointed by each Territorial Authority operating within the Zone Boundary;

3) One member from each of Tūāhuriri and Kaikōura Rūnanga;

4) Between 4-7 members appointed from the community and who come from a range of backgrounds and interests within the community;

5) Environment Canterbury and Hurunui District Council will appoint their own representatives on the Committee. Tūāhuriri and Kaikōura Rūnanga will nominate their representatives and the appointments will be confirmed by Environment Canterbury and Hurunui District Council.

Selection of Community Members

To be eligible for appointment to a Zone Committee the candidate must either live in or have a significant relationship with the zone. Recommendations on Community Members for the Hurunui Waiau Zone Committee will be made to Environment Canterbury and Hurunui District Council by a working group of representatives from Environment Canterbury, Hurunui District Council, Tūāhuriri and Kaikōura Rūnanga. The recommendations will take into account the balance of interests required for Hurunui Waiau, geographic spread of members and the ability of the applicants to work in a collaborative, consensus-seeking manner. Environment Canterbury and Hurunui District Council will receive the recommendations and make the appointments.

Quorum

The quorum at a meeting consists of:

(i) Half of the members if the number of members (including vacancies) is even; or

(ii) A majority of members if the number of members (including vacancies) is odd.

Chair and Deputy Chair

Each year, the Committee shall appoint the Chair and Deputy Chair from the membership by simple majority. There is no limit on how long a person can be in either of these positions.

Term of Appointment

Members of Committees are appointed for a term of three years. To coincide with Local Government Election processes terms shall commence from January each year, with each Committee requiring confirmation of membership by the incoming Council. The term for community members will be staggered so that one third of the community members is appointed (or reappointed) each year. There is no limit on the number of consecutive terms.

Financial Delegations

None

Operating Philosophy

The Committees will at all times operate in accordance with the requirements of the Local Government Official Information and Meetings Act 1987, and will observe the following principles:

1) Give effect to the Fundamental Principles, Targets and goals of the CWMS;

2) Be culturally sensitive observing tikanga Maori;

3) Apply a Ki uta ki tai (from the mountains to the sea) approach;

4) Work with the CWMS Regional Committee to support the implementation of the CWMS across the region as a whole;

5) Give consideration to and balance the interests of all water interests in the region in debate and decision-making;

6) Work in a collaborative and co-operative manner using best endeavours to reach solutions that take account of the interests of all sectors of the community;

7) Contribute their knowledge and perspective but not promote the views or positions of any particular interest or stakeholder group;

8) Promote a philosophy of integrated water management to achieve the multiple objectives of the range of interests in water;

9) Seek consensus in decision-making where at all possible. In the event that neither unanimous agreement is able to be reached nor a significant majority view formed, in the first instance seek assistance from an external facilitator to further Committee discussions and deliberations. Where the Committee encounters fundamental disagreements, despite having sought assistance and exhausted all avenues to resolve matters, recommend that the respective Councils disband them and appoint a new Committee.

Meeting and Remuneration Guidelines

1) The Committee will meet at least eight times per annum and with workshops and additional meetings as required. At times, the workload will be substantially higher. Proxies or alternates are not permitted.

2) Any Committee may co-opt such other expert or advisory members as it deems necessary to ensure it is able to achieve its purpose. Any such co-option will be on a non-voting basis.

3) Remuneration for members will be paid in the form of an honorarium currently set at the following levels:

   a. Appointed members - $4,000 pa
   b. Deputy Chair - $5,000 pa
   c. Chair - $6,000 pa.

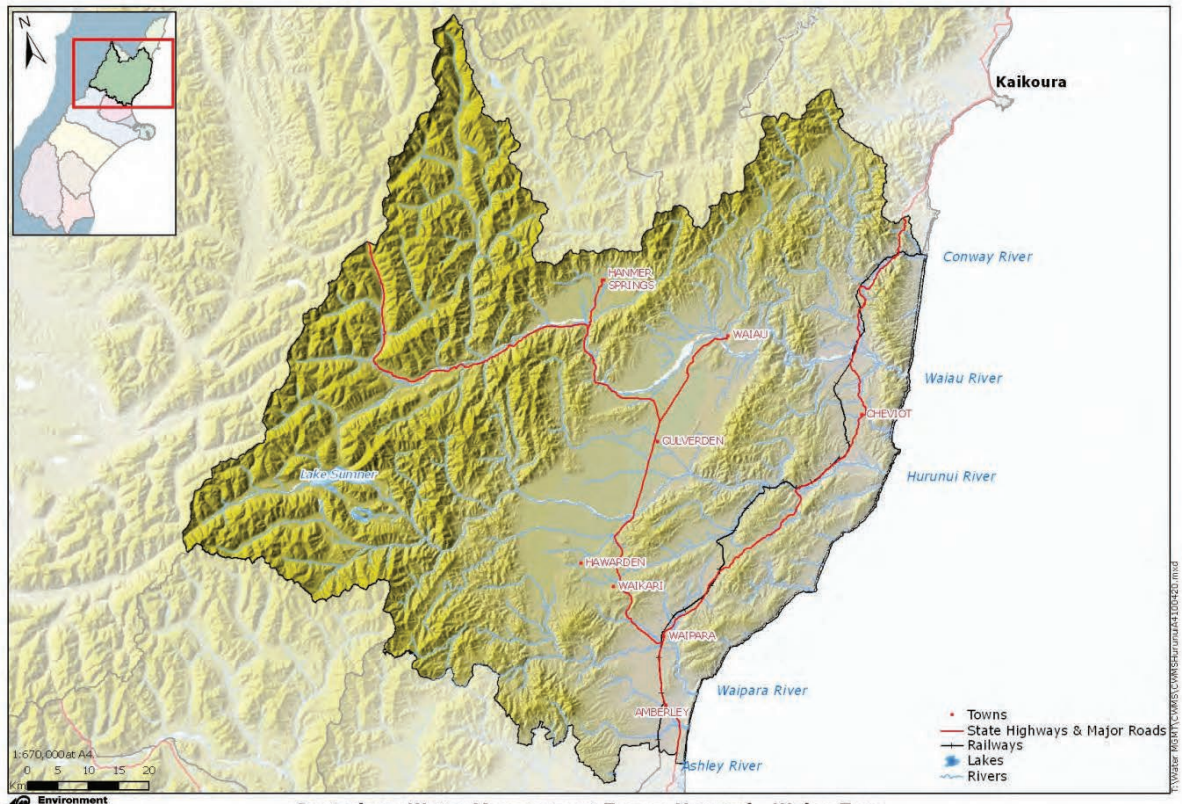
Staff or elected members of Territorial Authorities or the Environment Canterbury shall not be eligible for remuneration.

Mileage will be reimbursed.

Committee Support

The Committee shall be supported staff from the Territorial Councils and Environment Canterbury, primarily through the Committee Secretary and the Zone Facilitator.

Map showing Hurunui Waiau Water Management



Canterbury Water Management Zones: Hurunui - Waiau Zone