

MHVwater Scheme News



Message from the CEO

As we enter spring and the start of the irrigation season the noise coming from the numerous government/council led reviews of legislation, regulations, bylaws, and sub-regional plans is loud and distracting. Some of this noise is warranted and some of it is just that – noise. I am really proud to be associated with our agricultural sector, especially here in Mid Canterbury.



Melanie Brooks, Chief Executive

Our primary sector continues to challenge status quo, we have some of the most innovative and passionate industry professionals/farmers that I have ever had the privilege to work with and I think we should be celebrating how far we have already come. On your behalf we will continue to korero with our wider stakeholders and share the positive progress we are making and we ask you to join us and raise your heads and voices high. Yes, we have some challenges, yes we have further to go, and yes the improvements and change in mindset that I've seen in the Hekeao/Hinds Plains in the last few years is something we should all be incredibly proud of.

Our mission at MHV Water is to deliver sustainable solutions for our shareholders and the wider community.

Our mission at MHV Water is to deliver sustainable solutions for our shareholders and the wider community. This quarter, for our start of the season newsletter, we have made the decision to utilise the rural delivery network and share our update with our wider community. Whilst some of the content is specific to MHV, we are one community and we think that sharing some of what is front of mind for us, and highlighting our actions may support others and provide some value.

If you are interested in learning more about what we are focused on at MHV Water please feel free to give me, or any of our team, a call and I wish you a prosperous 2019/20 season.

Nga mihi, *Mel*

Key Dates

June to October
FEP Updates and Audits

26 September
Safeguarding our Water
Ashburton Trust Event Centre
8.45am - 11am

17 October
Annual General Meeting
Hinds Community Centre
7.30pm

31 October
Submissions close - National
Policy Statement for Freshwater
Management

Contact Us

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mel@mhwwater.nz

Sam Anderson
Operations Manager
027 435 6251
sam@mhwwater.nz

Jo Naylor
Executive Assistant
03 928 8041
jo@mhwwater.nz

Our People

Nick Houghton - Infrastructure Manager (Irrigo)

As the Infrastructure Manager for MHV, Nick is responsible for ensuring reliability of water supply to our shareholders is maintained.

Nick takes a particular focus on building resilience into our existing network assets and also strategic planning for future infrastructure. He also supports our Operations team.

Nick comes from a dairy and later beef farming background in the North Island. He completed an honors degree in Mechanical Engineering at Canterbury University before working in the oil and gas sector around the world and finally returning to Christchurch where he became involved in on-farm irrigation design.

For the past 10 years Nick has been involved in the development, design and construction of large scale irrigation schemes throughout New Zealand and Australia. He has had involvement in one way shape or form in Mayfield Hinds, Valetta, Ashburton Lyndhurst and Barrhill Chertsey.

Nick and his wife Charlotte live in Christchurch with their young son Finn. In his spare time Nick enjoys building, fly fishing and hunting. He enjoys being part of the team at Irrigo and helping to ensure our assets are passed onto future generations of Mid Canterbury farmers and growers.



Irrigo Environmental Team

Eva Harris

Environmental Manager
027 550 0129
eva@irrigo.co.nz

Nick Hand

Environmental Coordinator
027 550 0131
nickh@irrigo.co.nz

Sarah Hayman

Environmental Coordinator
027 96 6444
sarahh@irrigo.co.nz

Nicole Matheson

Nutrient Management Advisor
027 205 2355
nicole@irrigo.co.nz



MHV is a shareholder of Irrigo, which is a collective of collectives working for our shareholders' benefit.

By working collectively with the other schemes we have the ability to benefit from a team filled with great people, a range of skills and it gives us a depth of experience that would otherwise cost considerably more.

The team are available to talk with you about any environmental questions or concerns and are happy to brainstorm different options with you. The team also tailor education sessions that best fit with the current demand.

If you have an area you would like us to arrange training on, at no cost to you, please call us.

2018-19 Bucket Testing Results

Carrying out a bucket test helps determine application depth, rate and how uniformly the water is being applied during an irrigation event.

Identifying issues with application depth, rate and uniformity can allow for efficiency gains to be made, decreasing water wastage and improving productivity.

During the 2018-19 irrigation season, the Irrigo bucket testing team conducted 435 bucket tests across Mid Canterbury with 181 of these being across the MHV area.

Distribution Uniformity

Why is distribution uniformity (DU) important?

The DU is a key indicator of irrigation efficiency as it measures how evenly the irrigation system is applying water. A poor performing irrigator waters unevenly which can lead to production issues. For an irrigation system to be considered efficient it must score greater than or equal to 0.8 for DU in the bucket test.

Common limiting factors include:

- Worn componentry including nozzles and pressure regulators,
- Sediment and/or foreign particles in the water supply,
- Incorrect hardware installed.

Maintenance programs for irrigation systems are important as we see distribution uniformity decrease with the age of the irrigator. We recommend you record and manage the lifecycle of the significant components. Our bucket testing programme showed significant improvements in DU since they started in the 2016-17 season, but we still have a long way to go with over 33% of machines not meeting the expected standards.

Application Depth

All irrigation systems apply a set amount of water to the land to recharge soil water content. Testing application depth identifies if the irrigation system is under-applying, applying the desired amount or over-applying water. If a system is under applying it will impact the level of soil recharge and therefore have a negative flow on impact on production levels. Alternatively, irrigation systems that are over-applying lead to wasted water, the water that can't be held in the soil profile will leach through the soil profile, potentially taking valuable nutrients with it.

Common limiting factors include:

- Incorrect componentry installed
- Incorrect setup/commissioning at installation of the system
- Pressure and flow issues caused by worn componentry or modification
- Poor maintenance
- Technology failures

More than 43% of the bucket tests we conducted showed application depths significantly varied from their targeted depths, with over 33% of new systems failing to meet the standard. Make sure you have a wet commissioning of any new irrigation and make changes if your bucket test identifies an issue.

Bucket testing is a simple and cost-effective way to ensure your irrigator is working efficiently.



Moratorium on Movement of Water on the Valetta Line

To be able to fully understand the effectiveness of our optimisation workstreams, and the opportunities for potential increases in flow in the future, we need to do comprehensive modelling and comparison to actual results over the 17/18 – 19/20 seasons. As such the Board has agreed to place a temporary moratorium on any further movement of water between offtakes over and above the shared flows and/or agreed excess water flows on the Valetta Line for the 19/20 season until further notice.

Ballance Farm Environment Awards

Telling our story is something is regularly raised as a key function of the scheme.

While we will continue to do that, we all have a responsibility to share our stories and the great work that is happening environmentally across the scheme.

Entries for the 2020 Ballance Farm Environmental Awards close on 30th October 2019, and we encourage you to have a think about entering the awards. To enter, visit <https://www.nzfeatrust.org.nz/enter-awards>



Dairy Effluent Storage

Good Management Practice (GMP) requires all dairy effluent systems to have “sufficient, suitable storage available to enable farm effluent and wastewater to be stored when soil conditions are unsuitable for application”.

A lack of effluent storage makes it challenging to achieve GMP effluent spreading, so the auditors will place a high weighting on this target in your audit.

You can meet effluent GMP in your audits by:

1. Demonstrating you have enough storage by using the Dairy Effluent Storage Calculator (DESC);
2. Demonstrating assumptions used in the DESC are valid (e.g. dairy shed water use, constructed pond size);
3. Spreading effluent whenever conditions are suitable;
4. Regularly cleaning out stone traps and ponds;
5. Having soil moisture records to show conditions were suitable to spread effluent and solids, particularly in the cooler months.

If your effluent storage does not meet the DESC recommended volume and you don't have a plan to upgrade, then you will receive a “C” or “D” grade for your audit. If you are unsure of your obligations, please contact the Irrigo Environmental team for more information.



An example of a good effluent pond

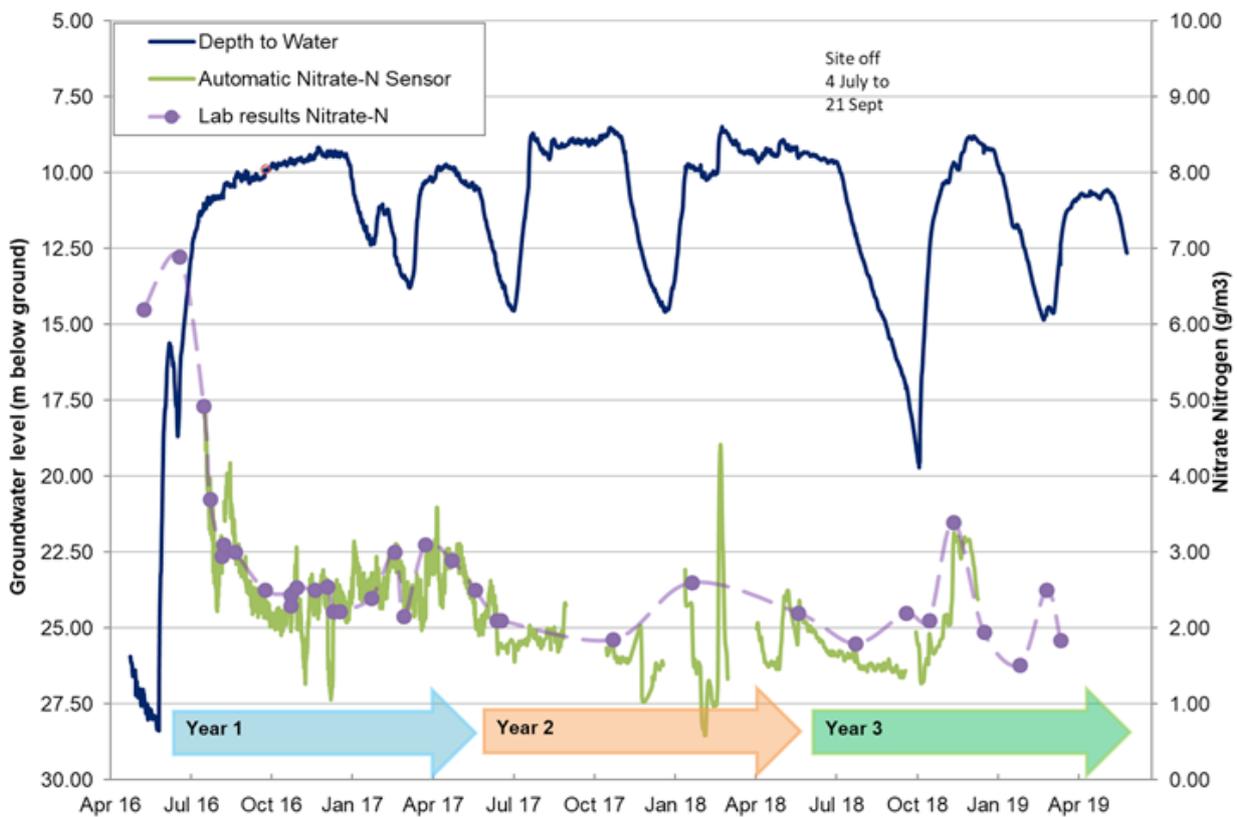
Our Environment

Hekeao Hinds Water Enhancement Trust (HHWET)

Water quality and quantity is a national issue of concern with recreational uses, ecological habitat, drinking water supplies and cultural values all feeling the effects of land use intensification.

The Ashburton Zone Committee tasked the Managed Aquifer Recharge Governance Group (MAR GG) to investigate how managed aquifer recharge and targeted stream augmentation could support the community in helping the natural recharge processes (rainfall and river recharge) to manage the overall water balance for the catchment and, along with on farm improvements in practice, improve groundwater quality.

This is a nationally significant trial, and the report covering the first three years of the pilot will be available by the end of the year, which we will make available to you all, and the progress from the Lagmhor site is promising. The below graph shows the increasing ground water level and decreasing nitrate levels downstream of the site.



The MAR GG has now evolved to the Hekeao Hinds Water Enhancement Trust (HHWET) a community focused Trust established with representatives from all stakeholders. We are proud to be one of the members and to be an integral part of the operational delivery as the pilot has grown from 1 to 16 sites.

The trial results to date suggest the use of managed aquifer recharge and targeted stream augmentation will play a critical role, along with on farm improved practices, in us achieving the objectives of 6.9mg/L Nitrate-nitrogen. The importance of the success of this trial shouldn't be understated.

If you have any queries regarding the Trust please contact Peter Lowe the trust Chair on 027 223 3784.



HEKEAO/HINDS
WATER ENHANCEMENT TRUST

Our Environment

Groundwater Programme

We want to know more about our Groundwater.

The Hekeao/Hinds Plains aquifer is complex, and to know more we have set up a comprehensive monitoring and research programme that is helping us to better understand the current position, trends and consequences as we focus on reducing our nitrate footprint. Our current catchment goal is to reduce nitrate-nitrogen in groundwater to an average of 6.9 mg/L, noting the NPS FM is currently under review.

As part of our groundwater programme we are looking for a medium depth bore that we can use for a real time nitrate sensor. The bore would ideally be located between Hinds and Mayfield, towards the Hinds River. It should be 10-30 m deep, unused with pump removed and single screen. The bore does not require power as it will be run from solar.

The results will be part of our wider groundwater programme and will be available to you as well as our scientist.

Call Jo on 3 928 8041 if you have a bore that you would like to be considered as part of our programme.

Rural Support Trusts

Rural Support Trusts (RSTs) are here for rural people and farming families across New Zealand.

On any normal day RST's know that living and working rurally can be a challenge. Sometimes things can get a bit too much. If this might be you right now, or you are concerned for a family member or friend, call (0800 787254) for a free, confidential chat.

RSTs cover all aspects of rural agribusiness; dry stock, dairy, cropping, horticulture, forestry, poultry, and rural contracting. They support all rural people - owners, managers, staff, and contractors.

Services are free and confidential.

SUPPORTING FARMER WELL BEING



Rural Support Trusts

0800 787 254

(Calls are answered by your local Rural Support Trust)

www.rural-support.org.nz



RuralSupport

Our Regulatory Environment

Proposed National Policy Statement Freshwater Management (NPS FM)

There were well over 400 people at the MfE information session in Ashburton on the 11th September to discuss the proposed NPS FM and National Environmental Standard (NES). It was a two hour meeting, so to summarise, the key concerns raised were:-

The National Bottom Line of 1mg/L for Dissolved Inorganic Nitrogen (DIN) in Rivers is well below the current target of 6.9 and would mean significant changes to landuse.

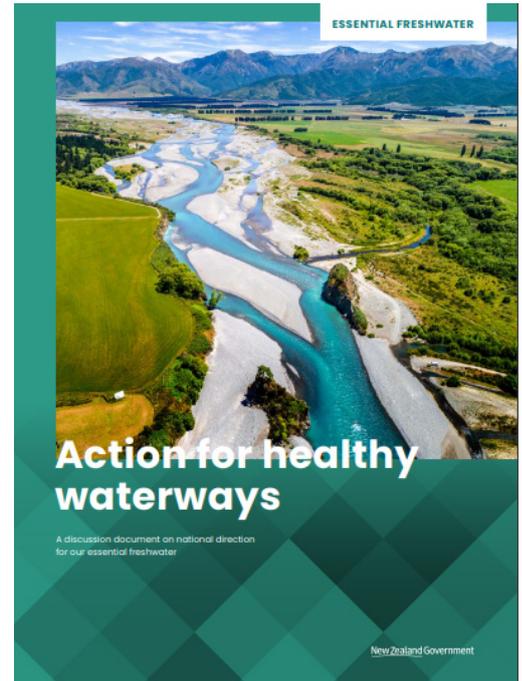
That the economic considerations and outcomes haven't been thoroughly assessed and the health of the water has been put above all else, which is not in line with the RMA. The RMA references sustainable management that enables people and communities to provide for their social, economic and cultural well being.

That the time frames for consultation are very short.

The government put together expert/reference groups to help inform their decision making. Some of the suggestions from those groups did not have consensus from the members but were included in the proposals anyway. That the proposal was pushed forward without that consensus of industry leaders is considered unacceptable for a change of this magnitude.

We support improved water quality and environmental outcomes. We are proud of the on farm changes that have been made and continue to be made by farmers, at their own expense for the benefit of the whole community. We do not support the proposed DIN National Bottom Line (Nitrogen), or that the health of their waterway should be above all else, however, with these exceptions we are largely supportive of the proposals and very supportive of the overall intent to ensure healthy waterways for our future generations.

We will be making a submission. The turnaround is reasonably short and we highly recommend you make a submission by the closing date of 31 October 2019. For more information <https://www.mfe.govt.nz/consultation/action-for-healthy-waterways> or give Mel a call.



Innovation Series

New conversations,
new opportunities

Safeguarding Our Water

26th September 8.45am–11.00am
Ashburton Trust Event Centre



For further information and tickets, visit <https://www.blincinnovation.com/upcoming-events/safeguardingourwater>

Our Regulatory Environment

Plan Change 7

Submissions closed last week for Plan Change 7 of the Canterbury Land and Water Regional Plan (LWRP).

There were three parts to this Plan Change, one relevant to Waimakariri, one for Orari, Temuka, Opihi and Pareora (OTOP) and an omnibus which introduces and amends some of the existing framework across all existing plans.

The omnibus changes impact us in the Hekeao/Hinds Plans, specifically the proposed changes to the framework and the changes proposed by the Hinds Drains Working Party. There are some reasonably contentious components to the Waimakariri and OTOPS sections of this sub-regional plan, however we are largely supportive of the omnibus changes and have made a number of suggestions in the drafting to ensure that the intent is clear and appropriately reflected in the document.

We have asked to be heard as part of our submission and will keep you informed as this progresses.



Proposed Dam Safety Regulations



Thank you to all shareholders who took up the opportunity to use the base template we provided and submitted as part of the MBIE Proposed Dam Safety Regulations.

We engaged with Irrigation NZ, other irrigation schemes and Federated Farmers to build a compelling case requesting that the pond size for assessments is raised from 30,000 m³ to 100,000m³. There were a number of other recommendations that we made, and points for clarification. Ultimately, we believe the MBIE proposal did not adequately recognise the risks of these onfarm ponds and canals and they are layering considerable cost on farmers for little community benefit.

We recognise that Dam Safety in NZ is paramount, and we are supportive of the regulations where the risk warrants them. The currently proposed regulations would capture 144 water and effluent ponds across our scheme, and should assessments be required we will investigate how we can support you in delivering a cost effective, timely service.

We are yet to have any feedback as a result of our submission, we have sought to be engaged in the next steps and will keep you informed.

Our Infrastructure

Open Race Automation Update

This winter we have undertaken a large project to complete the automation of our turnouts on the c.320km of open race infrastructure and install pond sensors on the MH ponds.

WHY? – there are a number of reasons:-

- Fairly and equitably deliver water. We need to know we are fairly distributing the water across the whole network
- Unlock more of your onfarm storage for you to utilise
- More efficient delivery of the water, significantly reducing the km driven around the district
- Remote dangerous gates now are operated automatically, safer for our team
- It will help us to better understand actual race losses and particularly leaky stretches

To benefit most from the automation we need to better understand the demand profile. Accordingly we have implemented water ordering for shareholders in the open races this season. By ordering water we will be able to create a far more accurate demand profile and potentially unlock on-demand delivery without ordering in the future.

We appreciate this is a big change for shareholders and appreciate your support as work towards the aspiration of providing you with the most cost effective, reliable, efficient and effective water delivery network in NZ.



Duty Phones

Lateral 1 & 2

027 435 6256

raceoperations@mhvwater.nz

MR, Lat 3, 4 & 5

027 435 6252

raceoperations@mhvwater.nz

Easements

Easements are in place to protect our infrastructure and to protect the legal and commercial arrangements which MHV has committed to provide as an essential part of the scheme.

Easements authorise MHV to convey water, electricity, and communications underground, through and along the stipulated course, to establish, operate and maintain plant and equipment on the scheme.

If you need to dig or undertake any work within the easement corridor, please ensure you contact **beforeUdig** or our office before works begin.

We will happily assist to locate the pipe, rather than you finding it by chance!



Hackthorne

The Ashburton River Consents Review process is currently underway by ECan.

The plan states that minimum flows in the Ashburton River should be increased to 6 cumecs at the SH1 bridge by 2023, and then increase to 10 cumecs by 2033. To try and achieve the minimum flows they are reviewing all direct take consents from the Ashburton River and groundwater takes that have been deemed, by a desktop model, to be hydrologically connected to the river.

There is potentially an opportunity for us to support some of these existing irrigators in the Hackthorne area with our shoulder water.

We completed a feasibility study earlier in the year to deliver to the area, however prior to the review process there was not sufficient demand for the line to be economically feasible. We are now engaging with these impacted landowners to see how we can work together to find a solution that will benefit both our existing shareholders and landowners in the district.

If you have any interest in scheme delivered water in this area please call Mel Brooks on 027 435 6882.

Our Infrastructure

The Small Things...



Its the small things that can make a massive difference.

We know you need to be across irrigation, soil, effluent, animal health, health and safety, profitability and the rest, but it is the small things that can make a big difference.

For someone driving in the district to get an unsuspecting carwash from water or effluent it is never going to win us any favours.

We know that the end arms often have a mind of their own and often get a little out of wack, but please can you keep an eye on them and make sure they are only watering your paddock.

If one of our team sees an issue we will call you so you know, if you see someone else with an issue call them or call us. We need to get on top of this, not just to avoid the spot fines from ECan and ADC but also because it is good practice.

Water Safety

There have been 58 preventable toddler drownings in NZ in the last 10 years.

Many of those have been in rural settings. The risks of water races, ponds, streams, rivers and drains are real and many of them are not fenced. We are making a concerted effort to raise awareness.

Earlier in the year we teamed up with Water Safety NZ, Ashburton District Council and the other irrigation schemes to make a video targeted at the importance of toddler supervision and the risks to be aware of in our rural setting.

Please make sure that around houses you have all waterways and water bodies securely fenced. Many of our workers on farm may not have grown up around water, or understand the risks of water bodies, and it can take less than a minute for a child to drown.

Please review your health and safety procedures especially around communicating the risks and how you can mitigate them where possible.

Watch the video at https://www.youtube.com/watch?v=4RxU2Ua_obg



2018-2019 Snapshot

Mission and Purposes

Sustainable Solutions for our Shareholders and the Community

Water for
Optimal Growth

Environmentally
& Economically
Sustainable

Stay Strong:
Our People,
Our Culture,
Our Values

Enable
Innovation

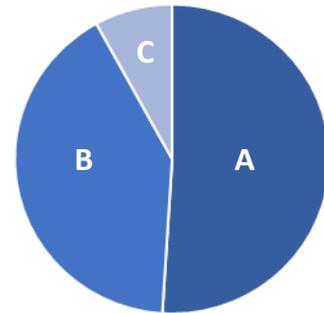
Key Facts

- 206 Shareholders
- 100km piped infrastructure
- 320km of automated open race infrastructure
- One strong united voice
- Sector Leading Groundwater programme
- 14 new MAR sites operational
- Divisional Accounts in place
- 102 FEP Audits completed 2018-19
- We support c.\$500m of on farm production

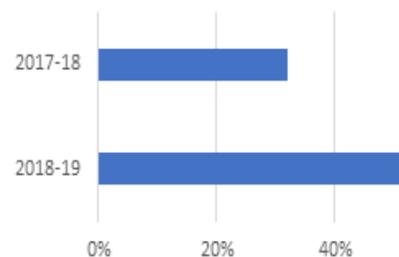
Workshops Held

- New Manager Induction
- Irrigation Calibration and Maintenance
- Soil Moisture Monitoring
- Effective Irrigation Scheduling
- Strategies for Reducing Nitrate Leaching
- Effluent Workshop
- Aiming for an A - Dairy and Arable
- Arable Field Day
- Consent Update

2018-19 Audit Grades



A Grades per Year



12 Environmental Workshops
232 Attendees



Coming Up

Upcoming Workshops - Dates to be confirmed

Scheme Introduction

All new farm managers and shareholders are invited to learn all they need to know about being part of MHV Water Ltd.



Fertiliser Calibration Event

Make sure you apply your fertiliser evenly and accurately by calibrating your fertiliser spreading equipment.



Good Practice in Action

Farmer focused field day to demonstrate GMP in action, with case studies and guest speakers to showcase why GMP is just good farm practice.



Resource Consent Update

In our regular updates we have been sharing the progress with our consent application.

This is a placeholder for when our new consent is issued. It will cover any new expectations, conditions and timeframes.



Irrigation Calibration and Maintenance - Bucket Testing Workshop

Bucket testing is a simple and cost effective way to ensure your irrigator is working efficiently.

Find out the benefits of bucket testing and how to do it in this practical 3 hour session.

Alternatively there are plenty of providers you can pay to undertake your tests, let us know if you'd like us to arrange a test for you.



Annual General Meeting

The AGM will be held on:

**Thursday 17 October 2019
7:30pm
Hinds Community Centre**



A Notice of Meeting has been sent to Shareholders via email or post.

Upcoming Share Tender

MHV is managing a share sale by tender on behalf of a shareholder.

The shareholder wishes to sell 1,274 M Shares (12.74 l/s). M shares enable water delivery from the Mayfield Hinds open race and on the Ruapuna line.

The share sale will be open to both shareholders and non shareholders within the MH scheme area.

Sales are subject to environmental, legal and operational considerations.

Tender documents will be circulated to shareholders shortly.

If you are a landowner outside of the scheme and are interested, please contact Mel Brooks on 027 435 6882 for further information.

Leasing Water

If you are interested in leasing out or leasing in water, please contact Jo on 03 928 8041 or jo@mhvwater.nz and confirm you are comfortable for us to share your details with the wider shareholder base.

Please note:

- M and MG water must remain in the MH or Ruapuna infrastructure, and Valetta water within Valetta infrastructure;
- All leasing is subject to approval by MHV and there must be no net increase in nutrient leaching as a result;
- Any financial arrangements around the leasing of water shall be the responsibility of the lessor and lessee to determine and enforce.