



MHVwater Scheme News

Promoting Environmental Excellence

We want to celebrate and recognise our Shareholders who have achieved an A audit in a way that is visible to the wider community.

If you got an A at your last audit we will provide you with your plaque at your next FEP update for you to display on your gate.

This is a small way that we can celebrate the 'wins' with you and reinforce the on farm improvements that you are making which will drive improved environmental outcomes.

We congratulate all those who have achieved an A grade and look forward to seeing your plaques proudly displayed at your gates and our aim is that all shareholders have one at their gate next year.

Feel free to pop into the office to collect yours if you can't wait for your FEP!



Nicole Matheson (Irrigo Environmental Team) presents David Quigley (left) and Lindsay Gane with their A Audit Award.



Sam Anderson (Operations Manager) presents Duncan Barr with his A Audit Award.

Water for Optimal Growth

Water Usage Records

Water usage records from the 2019-20 season have been calculated and provided to the Environmental team.

They are also available on request from info@mhvwater.nz

Mycoplasma Bovis

If your farm is impacted by M Bovis, please advise your scheme operator or the Environmental team as soon as possible.

It is important that we are aware of requirements to sign in or spray down vehicles when accessing your property and that we can support you around FEP audits.

Details will be treated with the upmost confidentiality.

Leasing Water

If you are interested in leasing out or leasing in water, please contact Jo on 027 335 5524 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, and is subject to the restrictions of the 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.

Backflow Prevention

If you are mainlining effluent, on our piped network, it is your responsibility to ensure that the non -return valve in your line is working to ensure there is no backflow into our system.

Please ensure you check your device as per manufacturer's recommendation.

Vehicles in Races

With approx. 320km of open races we remind you to please be careful around the races.

If you see a vehicle in a race please call your Scheme Operator (once everyone is safe) to manage any possible spills, water flow levels, to aid safe recovery and ensure we are aware of any damage.

Maintaining Banks of Open Races

To ensure the efficient delivery of water, it is essential that the integrity of our open races be upheld.

Damage to race banks can have repercussions on the effectiveness of the race system and we remind shareholders that:

Banks may be grazed as long as there is no pugging and there is no feeding out of supplement feed within the easement. At all times, the operations team has final decision regarding grazing a race and it is expected that stock will be removed, or numbers reduced, should staff request this;

Any works within the easement are to be approved;

- If fencing, please consult your scheme operator and ensure that access to the easement is maintained at all times for spraying and maintenance.
- All tree trimmings are to be removed from the easement to avoid entering the water way.
- Please mow roadsides regularly or bail following mowing to avoid grass entering the water way.



Water for Optimal Growth

Water Ordering in Open Race

Are you having problems logging in to order your water for your open race property?

Go to www.mhvwater.nz and click on the Water Ordering icon.



You will be taken to the login screen where you will be prompted to enter your User Number and Password.

[How do I order water online?](#)

Your **User Number** is your first and last name with no spaces. This can be in upper or lower case i.e. JOEBLOGGS or joebloggs

If you need to reset your password, please contact the office on 03-307-8389 or info@mhvwater.nz

To access the user guides, visit www.mhvwater.nz and click on

Pond Levels, Flow Information and Trends

Pond levels, flow information and trends can now be viewed through your water ordering log in.

View the [Tips and Tricks](#) to find out how.

Do you have a new Water Manager?

A change of season often brings with it a change of staff.

With the irrigation season now underway, it is an opportune time to check who has access to order water for your property and receive text notifications.

Please contact the office if you need to remove old staff or add new staff and we can update our systems.

Remember to secure your irrigators

The windy season is upon us and irrigators can fall victim to strong winds.

Remember to move your irrigator to shelter, or

POINT the irrigator into prevailing wind

PARK it there until the wind dissipates

ANCHOR it by tying down and protecting moving parts.



Pipe Easements

We are now well through the process of surveying and registering easements on our piped networks.

All surveying has been completed and most easement plans have been signed by shareholders.

The next stage of the process is being undertaken by Tavendale and Partners on our behalf.

Easement documents have been sent to shareholders with a good number returned. If you have not yet signed the paperwork, please do so at your earliest convenience.

It is important to note that the documents **must be witnessed by a trusted professional** (i.e. a lawyer, accountant or Justice of the Peace) and you will need to take photo ID with you when you sign the documents as the witness needs to see the original photo ID of everyone signing. The witness will also take a copy of that ID and attach it to the documents.

This is not a requirement instigated by MHV but a Land Information New Zealand requirement which must be complied with for all land transactions. Tavendale and Partners are happy for people to call them and pop into their offices to sign if you wish or you can go to your local accountant, lawyer or a JP.

Stay Strong: Our People, Our Culture, Our Values

Introducing...

We are pleased to welcome some new faces to the team.

Jen Crawford

Jen Crawford recently took on the role of the MHV Board's second Independent Director.

Jen has a strong background in environmental and resource management law with specific experience in the irrigation sector advising on water resource use and delivery, project consenting and environmental compliance. Jen is also familiar with the political and economic issues that affect the agribusiness sector.

She is currently the Independent Chair of Ashton Wheelans Chartered Accountants and was previously a Partner at Anderson Lloyd Lawyers, Director of Ngāi Tahu Seafood Limited, and Board Member of Regenerate Christchurch.

Hailing from a farming background, Jen is passionate about the rural economy and the key role that agribusiness plays in NZ, and she looks forward to contributing to the governance level for MHV Water.



Ethan Forbes

Ethan Forbes began his role as Water Resource Engineer at the beginning of August.

Ethan's focus is to build resilience in our existing network assets and strategic planning for future infrastructure. He also supports our Operations team.

Ethan comes from a sheep and beef background in the lower South Island. He has a Bachelor of Engineering Technology (Mechanical) as well as considerable Sales/Design experience, on the farm side, from time with Waterforce in South Canterbury. More recently he has been involved in design, construction, and commissioning of large-scale irrigation schemes throughout the South Island including Amuri, Pukaki, and Kurow-Duntroon irrigation schemes, while working for Monadelphous.

Ethan and wife Chloe live in Christchurch. In his spare time, Ethan enjoys tramping, hunting, and getting out in the port hills for a mountain bike. He enjoys being part of the team at MHV and helping to ensure our assets are passed onto future generations of Mid Canterbury farmers and growers.



Ella Stokes

Ella Stokes started in the recently formed Change Communication Specialist role at the end of August.

From growing up on a Canterbury sheep and beef farm and having previously been a rural reporter Ella's passion lies in sharing stories from the ground up and helping others to understand agriculture and what's happening on farms around New Zealand. She enjoys learning about the agriculture industry both the land and its people.

Ella has experienced first-hand how hard farming in the ever-changing New Zealand environment can be and how irrigation has a significant positive impact not only on farmers and growers but, also on the wider community.

More recently she has worked for IrrigationNZ and has expanded her knowledge of the irrigation industry as well as freshwater policy. She is looking forward to building on her current relationships with farmers, growers, and industry bodies.

Ella's focus is to support our farmers with environmental change, help people tell their stories about irrigation, environmental management, and more.



Stay Strong: Our People, Our Culture, Our Values

Health and Safety around Waterways

With the start of the season upon us, now is an opportune time to remind everyone about the importance of awareness around water bodies.

There have been 58 preventable toddler drownings in NZ in the 10 years to 2019 with a further 7 in 2019.

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.

In 2019, MHV 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 all waterways and water bodies around houses, are 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 www.mhvwater.nz

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 787 254) for a free, confidential chat.

RST's 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



 **Rural Support**

Stay Strong: Our People, Our Culture, Our Values

Annual General Meeting

The Notice of Meeting for the 2020 Annual General Meeting has been circulated and you should have received it in your inbox, with hard copies posted to those requesting them.

The meeting is to be held on:

Wednesday 14 October 2020
7:30pm
Hinds Community Centre

There are a number of considerations for shareholders at this AGM.

This year our AGM process is being run by *electionz.com* and they also offer online voting prior to the meeting. This will be useful if you wish to vote in advance or if you are unable to attend the meeting.

If you have received your copy electronically, and do not wish to vote online, please note you can request hard copies of voting forms or proxy forms from the Returning Officer.

You can also collect hard copies of



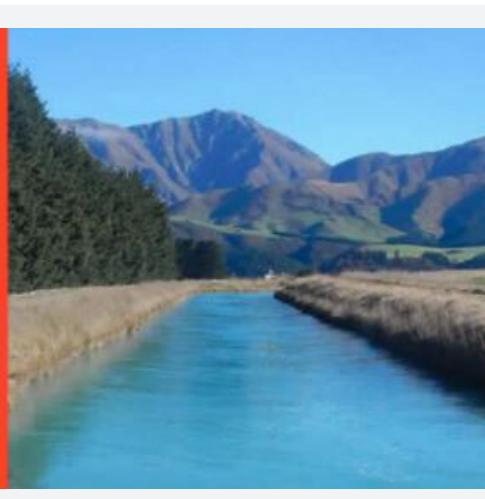
the Memorandum, Annual Report and audited financial statements from the Irrigo office, 326 Burnett St, Ashburton.

As mentioned, there is much for Shareholders to consider at the AGM this year and we urge you to check your email and to read the content thoroughly.

If you have any queries, please contact Melanie Brooks.



A red and white poster for a Vibe event. It features the Vibe logo (a green circle with a white 'b.' and a red circle with a white sunburst pattern) and the text 'Vibe Connecting the community'. Below this, in red, is the title 'Irrigation Schemes; the problem or the solution?'. At the bottom, in white, is the date '13th October 4.00pm–5.30pm' and the guest speaker information 'Guest Speaker - Mel Brooks, MHV Water'.



A photograph of a long, narrow, blue-colored irrigation canal running through a landscape. The canal is bordered by tall grass and trees. In the background, there are several snow-capped mountains under a clear blue sky.

MHV Water is an irrigation co-operative that prides themselves on delivering sustainable solutions for local communities. Focussing on innovation, strength and organisational efficiencies, MHV is committed to ensuring environmentally and economically sustainable water is available for future generations.

Join us to hear from MHV Water CEO, Mel Brooks as she provides an overview of MHV's vision, strategy, projects and how the role of irrigation schemes is evolving in New Zealand.

[https://www.blinchinovation.com/
upcoming-events/mhv-water](https://www.blinchinovation.com/upcoming-events/mhv-water)

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Environmentally Sustainable

2019-20 Audit Results

MHV shareholders continue to demonstrate on-going environmental improvements on their property, with over 60% of audits this year receiving an "A" grade.

As the process goes on, audits are getting tougher and expectations are higher and it's fantastic to see such a large proportion of shareholders achieving the standards expected of them.

However, we are also starting to see an increase in "C" and "D" grades where shareholders have not taken steps to address issues raised the first time round. Some activities are considered "high risk", such as a lack of effluent storage or irrigation scheduling, and auditors have been given clear guidance from ECan to expect these matters are addressed on follow up audits.

If you are unsure about what you need to do to address previous actions, just have a chat with our Enviro Team and we can sort you out. Our team are available to complete and explain the Dairy Effluent Storage Calculator and Bucket Test for you and talk you through your options when considering an upgrade.

Workshops

We are still planning to continue with our workshop programme, however we need to review how these are delivered.

We are looking at running webinars, group sessions or a series of short online videos. Let us know what you would prefer. Key topics coming up include:

- N Fertiliser Reduction
- OverseerFM – the why and how to use it
- Irrigation Maintenance and Calibration
- Effective Irrigation Scheduling
- Regenerative Farming in the Hinds Plains - fairytale or possibility?



2020 FEP Updates

FEP Updates are wrapping up for this year. If you haven't had a chance to catch up with the team, please touch base with our team to update your plan as soon as practicable.

2019-20 Bucket Tests

Well maintained irrigation systems are essential to maximise the impact your water has on your pasture production and crop yields. All irrigation systems (including K-lines and sprinklers) need to be checked at least once every three years, more often for older systems.

The Bucket Test is a quick check you can do yourself to make sure your system is working as it should. If you would like the Irrigo Team to help, give us a call and we can come out and give you and your staff one on one training on how to complete a bucket test or we can complete the tests for you.

We have also recently employed an accredited Irrigation Evaluator, who can provide you with professional advice and assistance with understanding the effectiveness of your irrigation system.

Please let us know if you are interested in this service and we will organise a time with you during the irrigation season.

Winter Grazing

If you carried out intensive winter grazing in line with your approved MHV FEP for 2020 and you're not planning on making any changes to the scale, scope or intensity of your wintering, then you can continue to operate in line with those practices for the 2021 winter.

You will need to contact a member of the Irrigo Team if any changes are proposed.

Environmentally Sustainable

Well Head Security

The impact of the outbreak of gastroenteritis in Havelock North in August 2016 is still being felt today with well head security being ‘front of mind’ for MHV, from both an environmental and health perspective for our shareholders and the wider community.

Section 5.103 of the *Canterbury Land and Water Regional Plan* that describes the requirements for bores:

The use of land, including the bed of a lake or river, for the installation, maintenance and use of a water infiltration gallery (other than a water infiltration gallery used for emergency firefighting purposes), or a bore, other than a bore for hydrological or geotechnical investigation or monitoring, is a permitted activity, provided the following conditions are met:

1. The bore or gallery is installed by a bore driller or bore drilling company that holds a current accreditation under the CRC bore Installers Programme; and
2. The screening of any bore or gallery may only be into a single aquifer or water-permeable zone.

During bore installation reasonable and practicable methods shall be used to minimise the risk of interconnection or movement of groundwater between aquifers or water-permeable zones; and

3. Any bore constructed to abstract groundwater is screened to below any minimum water level for the groundwater zone as set out in Section 6 to 15 of this Plan; and
4. Contaminants or water are prevented from entering the top of the bore or gallery or underlying groundwater by:
 - a) covering or capping the bore or the above ground portion of the gallery pipe, when not in use; and

b) sealing the exterior of the bore (the annulus) with bentonite or concrete grout from ground level to above the screen or 1 m below ground level, whichever is the lesser; and

c) sealing the bore-head or above ground portion of the gallery pipe at ground or pumphouse floor level with a concrete pad of at least 0.3 m radius and 0.1 m thickness which is contoured to slope away from the bore or pipe; and

5. Information on bore or gallery location, bore installation (including bore logs and intended uses), and other relevant information is submitted to the CRC within 20 working days of drilling the bore; and
6. The bore or gallery is not installed on contaminated or potentially contaminated land.



To meet this concern, MHV will be including a well head security as part of our routine monitoring program, with the following items to be considered that are in keeping with the LWRP:

Item	Description
1	Is the bore capped?
2	Is the bore secure (e.g. fenced off)?
3	Does the bore have a robust collar > 20cm above ground?
4	Is there a concrete pad at least 0.3m radius and 0.1m thickness around the collar?
5	Is the bore <25m from potential contaminants?

MHV will report the outcomes to farmers as a numeric value as shown below:

Score	Response	Description
5		All items met / exceeding requirements
4		Most cases - usually due to the absence of a concrete pad
3		Minor adjustments required
2		Some adjustments required
1		Major adjustments / modifications required

Groundwater Survey Report

Introduction

During June, MHV completed its quarterly round of routine groundwater monitoring of Nitrite-Nitrogen ($\text{NO}_3\text{-N}$) levels within the MHV irrigation scheme and surrounding areas.

In doing so, MHV is compiling data that will enable evidence-based decision making that lead to environmentally and sustainable water management practices, thus keeping MHV's mission to provide "Sustainable Solutions for our Shareholders and the Community".

What did we do?

MHV increased the survey size from 75 in March to 95 sites, representing an increase in spatial coverage from 62,000 to 81,500 ha. From this survey 72 samples were retrieved with 42 samples being congruent bores from the March survey.

As part of this survey MHV tested for:

Nitrate – Nitrogen: The concentration of nitrogen (N) present in the form of the nitrate (NO_3) – often reported as $\text{NO}_3\text{-N}$.

Dissolved Oxygen: the amount of oxygen (O_2) dissolved in water.

Conductivity: a measure of water's capability to pass electrical flow; which is directly related to the concentration of ions in the water from dissolved salts; and

pH: a scale used to specify how acidic or alkaline a water-based solution is. Acidic solutions have a lower pH, while basic solutions have a higher pH. Pure water is neutral and has a pH of 7.

In response to the NZ Central Government 'Action for Healthy Waterways Package', MHV also submitted 39 samples for:

Dissolved Inorganic Nitrogen

Dissolved Inorganic Nitrogen (DIN) is the sum of nitrogen present as Nitrate (NO_3), Nitrite (NO_2) and ammonia (NH_3) so:

$$\text{DIN} = (\text{NO}_2\text{-N}) + (\text{NO}_3\text{-N}) + (\text{NH}_3\text{-N})$$

Dissolved Reactive Phosphorus

The dissolved phosphorus within water as Orthophosphate PO_4^{3-} .

Kia ora e te whanau!

Thanks (again) for allowing me to come on farm and test the wells in your area.

The June survey was a great success producing some interesting results that have generated some interesting ideas – certainly the more information we gather the better the picture becomes.

Since the last survey we have been able to map out the ephemeral water pathways as well as develop a broader sampling program for the Hekeao/Hinds plains in concert with HHWET, HDWP, Ecan & Fish and Game – so we're staring to put the data to use.

Mā te wā

Justin



Justin Legg

Senior Hydrogeologist
Kaimātai Wainuku Matua

027 223 7260

justin@mhvwater.nz

How did we do it?

Building on from the Autumn survey, MHV started to fill in the gaps based on a 2km radius in keeping with a standard drawdown assessment . This generally entailed visiting the bore and purging it of the residual water – i.e. run it for >10 minutes and then taking a sample.

Figure 1 presents a map showing the evolution of the groundwater monitoring survey

NO₃-N levels for all samples were determined inhouse via a HydroMetrics® Nitrate GW50 Groundwater Optical Nitrate Sensor. As an additional cross check, 39 samples were analyzed at Hills Laboratories (Hornby) via Automated Azo dye colorimetry.

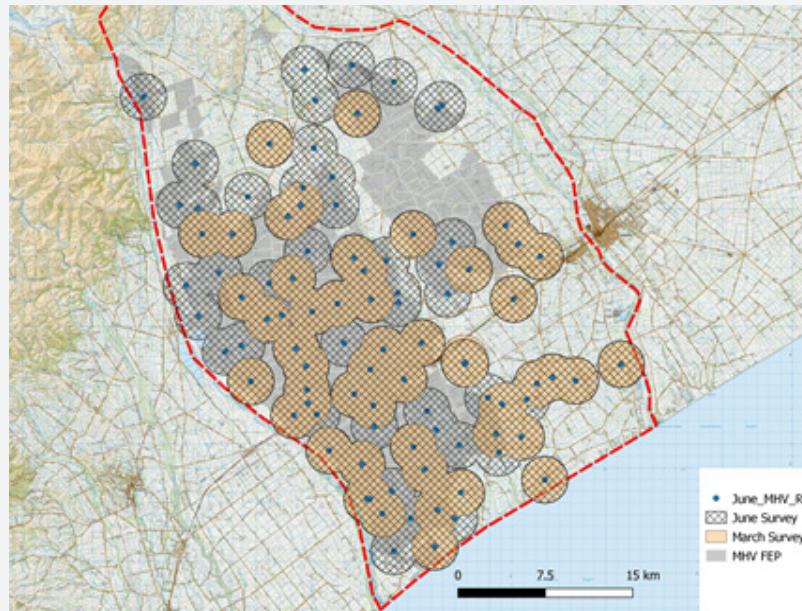


Figure 1: Locations sampled in March & June 2020 with a 2km buffer

What were the results?

The NO₃-N results ranged from 0.45 to 23.2 ppm with an average of 8.9 g/m³ – see Table 1.

Table 1: Summary of results for June Sampling Program

Variable	Min	Max	Range	Most Common Value	Average
NO ₃ -N (ppm)	0.45	23.67	23.22	6.15	8.89
pH	6.05	8.25	2.20	7.56	7.25
Dissolved Oxygen (mg/l)	0.70	14.71	14.01	11.12	9.05
Conductivity (µS/cm)	67.10	556.00	488.90	258.00	274.34
Temp. °C	5.67	16.53	10.86	11.83	11.28

When the Optical Nitrate Sensor results were compared to the Automated Azo dye colorimetry, the results had an acceptable regression factor of R²=0.9922 with <10% difference between the results.

How do they compare to the previous survey?

The results indicate that there was a slight drop across the catchment – however it should be noted that these reductions are largely attributed to the influence of the MAR program, and do not negate the need for ongoing farm improvements or adherence to best management practices. Additionally, seasonal effects such as the rain fall received during June may have also altered the results.

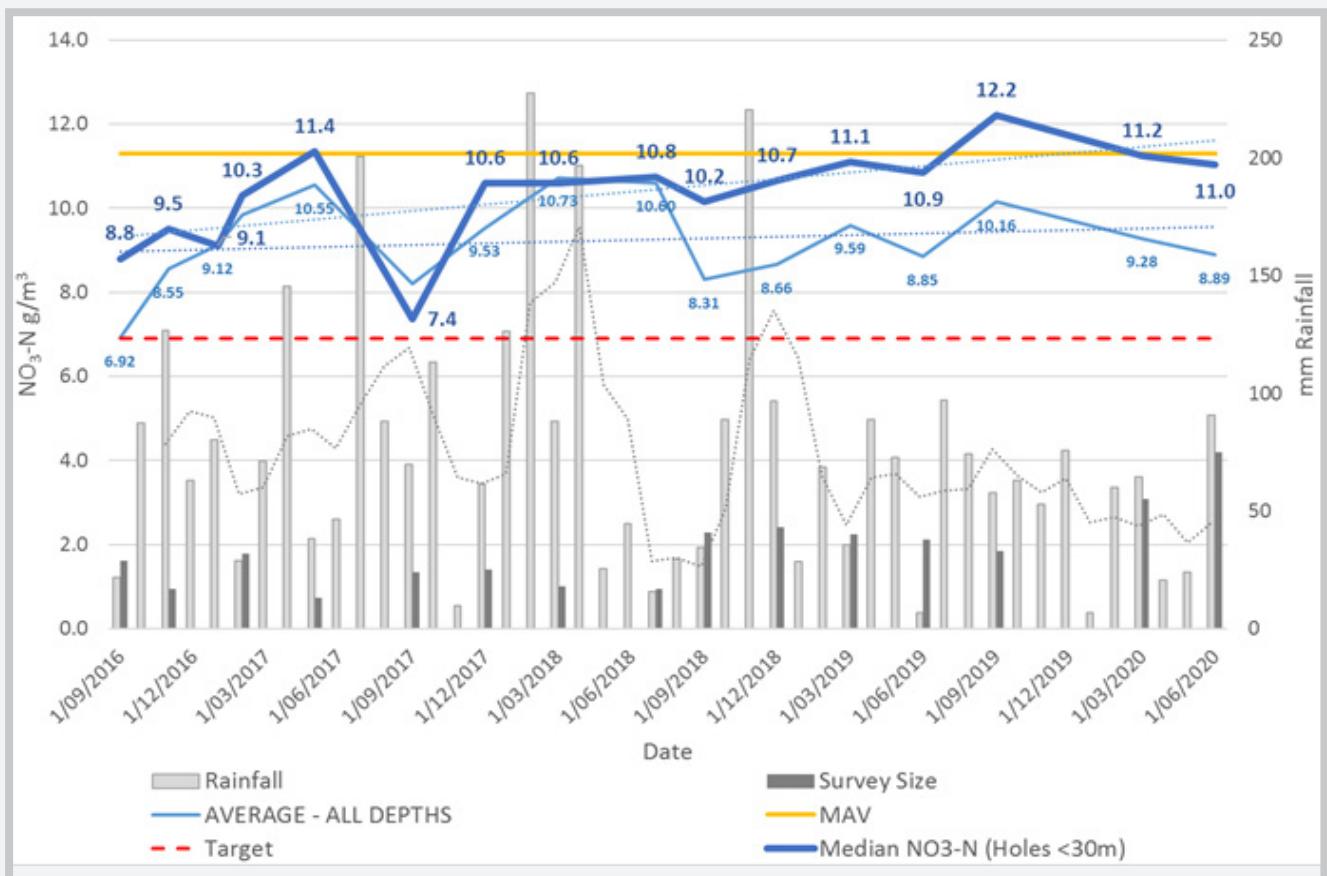


Figure 2: Gross arithmetic mean NO₃-N results over time