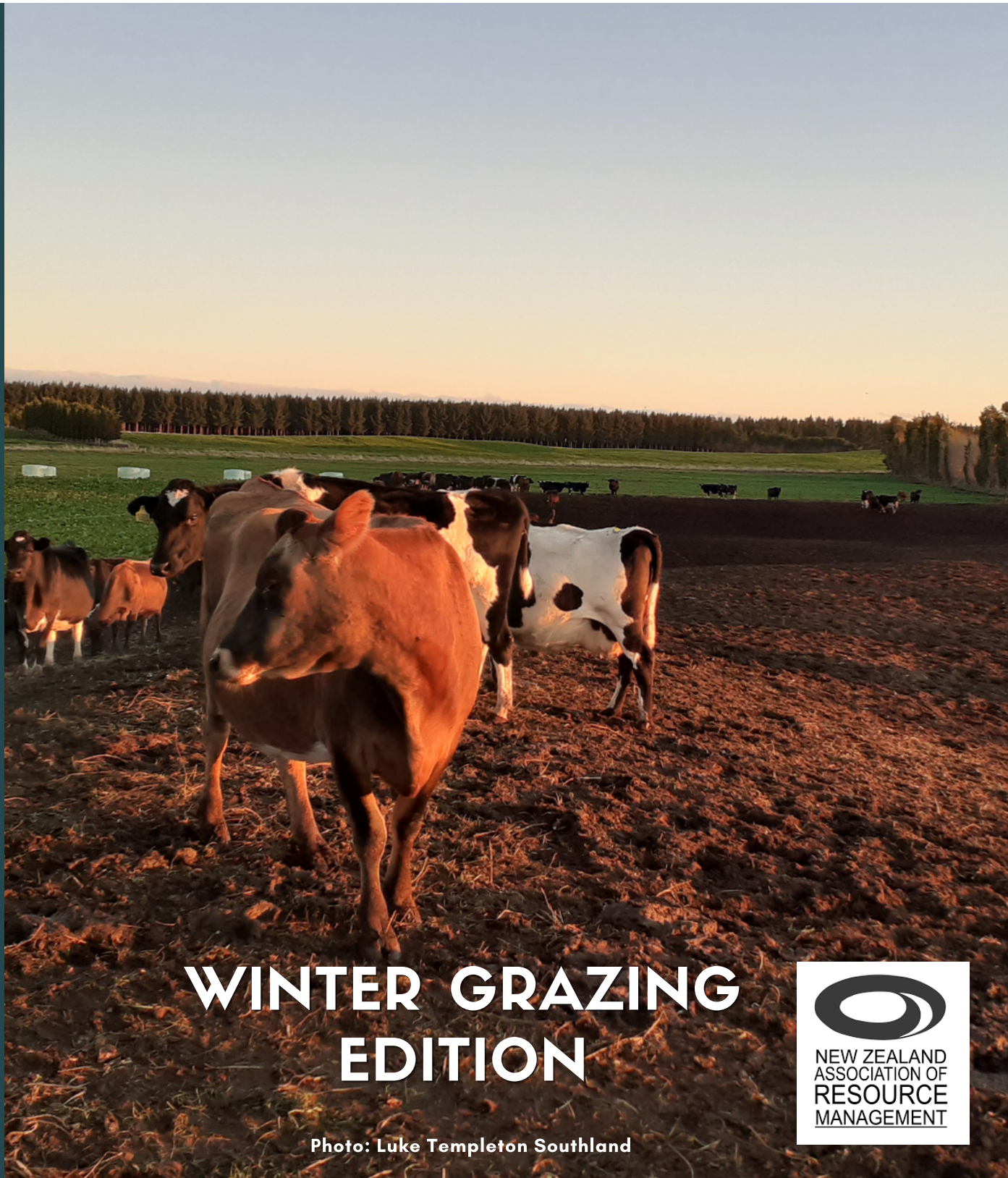
RESOURCE MANAGEMENT NEW ZEALAND

NZARM BROADSHEET

Issue 37 - September 2021



WINTER GRAZING EDITION

Photo: Luke Templeton Southland

NEW ZEALAND ASSOCIATION OF RESOURCE MANAGEMENT

WELCOME TO THIS SEPTEMBER'S EDITION OF NZARM'S BROADSHEET

Nicola McHaffie - NZARM president

Kia ora koutou katoa,

It was unexpected that I would be writing the President column for this latest Broadsheet under a Covid lockdown. I hope that you and your loved ones are safe and getting through this together. Lockdown is tough for everyone in a lot of different ways, if you or someone you know is struggling please reach out to a friend or call the free 1737 helpline.

This edition of Broadsheet is packed with intensive winter grazing (IWG) stories. NZARM, in particular our CEO Matt, have played a key role in the coordination of efforts around IWG. The spotlight on IWG is one of the first noticeable signs on farm of the freshwater reforms. The effort that went in this winter signals to me that there is a real willingness from regional and central government, industry leaders and importantly farmer leaders to work together to make sure the new regulations are practical and outcome focused. NZARM members play a key role in our day jobs connecting these parties together.

On the horizon we have the 2021 NZARM Conference coming up late November in Wellington. The theme of the conference is Future New Zealand Catchments: Making sense of the complex. It is being led by the exec and some dedicated Wellington NZARM members, with support from GWRC.

The first day is all around what is going on and how to understand this fast moving resource management space, we have a line up of respected speakers to guide us through this. The second day is around what's being done on the ground, there will be poster presentations and master classes led by practitioners. The fieldtrip looks at two catchments near Wellington city to discuss the multiple drivers on land and water management, it draws on themes from the previous two days. For more information you can go here: https://nzarm.org.nz/conferences/id/111. I am really looking forward to having a Wellington craft beer with old and new connections and hearing how the last couple of years have gone!

The other big news is the work happening on the Resource Management Certification (RMC). We are building on the existing RMC. This programme has been implemented from the huge effort of NZARM members, led by honorary member and NZARM legend Norm Ngapo. The new RMC will provide an online, easy to use interactive platform where you can register where you work, your career aspirations, your skills and training needs. The idea is that this will help build a picture of the current capability across the country and help target the right training in the right places to support you, farmers and growers and regional councils better. Thanks to NZARM members Leanna Birch, Tom Stephens, Adam Schellhammer and Auckland Council for helping kick this new initiative off! We are excited about how this is shaping up so far and hope to launch the digital RMC pilot at the conference in November. We will update you on progress in the coming weeks as this project progresses.

Thank you for your continued membership and support. Please reach out if you have any comments or feedback for the exec.

Nicola
nicolamchaffie29@gmail.com

NEW ZEALAND ASSOCIATION OF RESOURCE MANAGEMENT

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SECRERTARIAT CHANGES

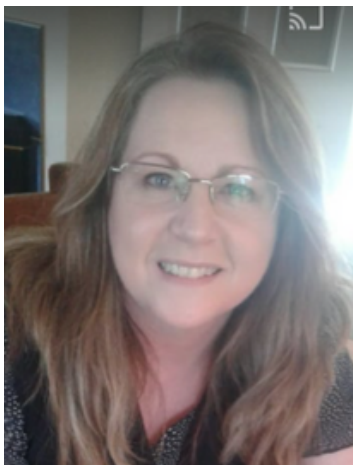
After years of great service (over 10 years), long time NZARM member, supporter and leader Annie Perkins and the Groundwork Associate team have passed on the secretariat torch. Stay tuned next issue as we explore with Annie, the role that Groundwork has had with NZARM and some of the highlights and challenges for the future.

Groundwork Associates Ltd

INTRODUCING SHEREE BAY - NZARM'S NEW SECRERTARIAT

A little bio about Sheree. Say hi next time you email the secretariat

I was raised in a farming community, am married to a farmer, have five awesome children and five gorgeous grandchildren. I've worked in various admin roles at Fonterra, Open Country and DairyNZ so farming, sustainability and looking after our resources has always been important to me. I enjoy spending time with family and friends, helping people, reading, movies and a good wine.



Sheree Bay - New NZARM secretariat. We are stoked to have her on board.

NZARM COORDINATION ROLE IN WINTER GRAZING

NZARM has been working with organisations across the country to help winter grazing co-ordination

With spring arriving, it a great time to reflect on this winter season and the huge effort (see the image below) that we have been part of, to respond to the challenges of new regulation and increased scrutiny on intensive winter grazing (IWG).

It has been an absolute pleasure to be working in the coordination role and I am impressed by the levels of collaboration, hard work and genuine intent to support farmers and meet good environmental and animal welfare outcomes.

The culmination of this coordinated effort was seen in the first report to Minister Parker from regional councils.

Whilst the regional sector was responsible for reporting to the Minister, they invited primary sector organisations to contribute to the report, which in my view led to a very well rounded and informative take on the effort that has been going into IWG management.

Thousands of IWG checklists were delivered to mailboxes around the country by Federated Farmers, dozens of events were held by Beef + Lamb NZ and DairyNZ, and community groups like Thriving Southland also pitched in with expertise, marketing and events. It has been a great being a small part of this effort and NZARM looks forward to continuing our support of the primary sector, MPI, MfE and regional councils in this important focus area.

Matt Highway

PRIMARY SECTOR GROUPS

Group	Purpose	
B+LNZ Wintering Group	Develop winter resources, develop and ramp up extension events, initiate behaviour change initiatives and work with councils.	Active
DairyNZ Wintering Response	Develop winter resources, develop and ramp up extension events, initiate behaviour change initiatives and work with councils.	Active
Federated Farmers Wintering	Early initial response to the regulation change, coordination of the IWG checklist, support for the intervention hotline.	Active
Industry Comms Group	Share information across the primary sector, share resources and support media campaigns.	Active

LOCAL AND CENTRAL GOVT GROUPS

Group	Purpose	
Regional Council Winter Focus Group	To share information across councils and report back.	Active
Regional Council Certified Farm Plan Group	To support MfE in the development of the certified farm plan system and bring regional council information to the table.	Active
IWG Coordinator	Responsible for employment of NZARM as the IWG co-ordinator. Note that the co-ordination role is available for all organisations working in IWG	Active

COMBINED GROUPS

IWG Module Development Group	To develop the IWG module alongside MfE. Included some primary sector feedback.	Hiatus
Southland Advisory Group	Formed the initial recommendations to Ministers on the implementation of IWG standards in the NES-F.	Complete
Strategic Wintering Group	Formed to have senior level engagement across primary sector, regional councils and central government . To share information and seek solutions.	Active
Winter Grazing Action Plan Group	Formed to progress the work begun by the Wintering Taskforce.	Active

Groups Involved in Intensive Winter Grazing 2021

WINTER GRAZING PLANS

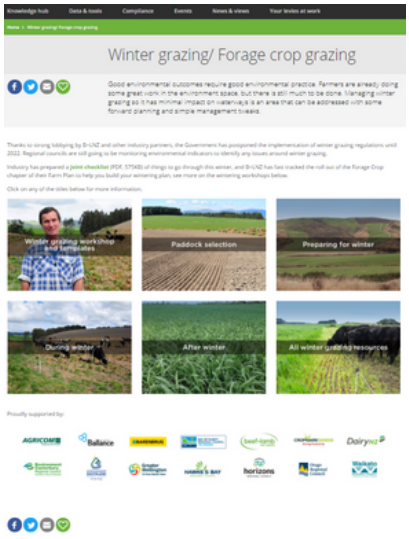
Use these plans this spring to help winter planning

In April 2021, an intensive winter grazing (IWG) module was developed. by the Ministry for Primary Industries (MPI) and Ministry for the Environment (MfE). The module was developed to help kick start IWG planning and provide a set of IWG practice expectations.
The recommendation is for all famers undertaking IWG this year to have a plan. IWG modules are the core way to undertake IWG planning, and can be accessed from MPI, DairyNZ, or Beef+Lamb NZ. Either of the below plans can be used, as long as they reflect the content of the MPI and MfE module.

MPI and MfE Winter Grazing Module -
This module has been developed to help achieve immediate improvements in intensive winter grazing practices and support improved planning.

https://www.mpi.govt.nz/dmsdocument/44866-20212022-Intensive-Winter-Grazing-Module

Beef and Lamb Winter Grazing Templates -
A range of resources that have been tested by farmers. From an editable forage cropping template, to downloadable winter grazing paddock plan template.



https://beeflambnz.com/wintergrazing

DairyNZ Winter Grazing Plan. -
This plan is an update for DairyNZ which now reflects MPI's wintering module

https://www.dairynz.co.nz/media/5794285/intensive_winter_grazing_plan_on_the_ground_action_for_2021_web.pdf

FROM THE BEEHIVE: PROPOSED INTENSIVE WINTER GRAZING REGULATION UPDATES ARE MORE PRACTICAL FOR FARMERS

Beehive: 26 August 2021

HON DAVID PARKER

HON DAMIEN O'CONNOR

Proposed changes to intensive winter grazing regulations are being consulted on that will make them practical for farmers to comply with while ensuring improved environmental outcomes, Environment Minister David Parker and Agriculture Minister Damien O'Connor announced today.

Intensive winter grazing is a farming practice where livestock, such as cattle and sheep, are grazed on paddocks planted with fodder crops. When done poorly it can have serious negative effects on water quality and animal welfare.

"The Government has been working with industry representatives and regional councils this winter to roll out on-the-ground support to drive better practices to benefit freshwater quality and animal welfare," Damien O'Connor said.

"It's important that what we develop is workable. That's why we're proposing amendments to manage the effects of pugging, get paddocks re-sown as soon as possible, and protect critical source areas."

Under the proposed changes, farmers would be required to re-sow grazed paddocks as soon as conditions allow, instead of by a set date. Specific requirements around the depth of pugging will also be removed.

"We've been listening to farmers and earlier this year changed our proposed approach to low slope maps and I encourage farmers to have their say on practical ways to improve intensive winter grazing," Damien O'Connor said. Under the proposal, farmers wanting to undertake intensive winter grazing on slopes over 10 degrees can do so with a certified freshwater farm plan that includes controls to prevent soil loss and mitigate the risks associated with a higher slope," David Parker said.

Scientific evidence shows that with intensive winter grazing at 15 degrees, twice as much soil will be lost than if planted at 10 degrees. If mitigation can prevent soil loss that can be reflected in farm plans," David Parker said.

The Government has today released the intensive winter grazing consultation documents and is seeking feedback from farmers and regional councils.

"We recognise it's a busy time of the year on-farm and that the country is dealing with the Delta outbreak. But, overlapping with existing consultation being undertaken for certified freshwater farm plans and stock exclusion, low slope maps will make it easier for farmers to have input," Damien O'Connor said.

"To help provide farmers with certainty, the introduction of intensive winter grazing practice regulations is proposed to be deferred for a further six months until 1 November 2022," Damien O'Connor said.

The Government is working alongside sector groups including farmers and eNGOs, to develop the integrated farm planning approach, with the aim of providing farmers and growers with a practical tool to meet requirements.

"This set of proposed regulations has come about from working steadily with industry leaders and councils on how we achieve the right result in a practical way," Damien O'Connor said.

Improving freshwater health and management is part of the Government's Essential Freshwater package.

Consultation runs for six weeks until 7 October 2021. The consultation document and online submission forms are available on the Ministry for the Environment's website: https://consult.environment.govt.nz/freshwater/intensive-winter-grazing-regulations/

See next page for proposed changes

MANAGING INTENSIVE WINTER GRAZING

A DISCUSSION DOCUMENT ON PROPOSED CHANGES TO INTENSIVE WINTER GRAZING REGULATIONS

The Government is proposing changes to the intensive winter grazing regulations. These are included within the Resource Management (National Environmental Standards for Freshwater) Regulations 2020 (NES-F). Have your say at: https://consult.environment.govt.nz/freshwater/intensive-winter-grazing-regulations/
Submissions close at 5pm Thursday 7 October 2021.

The below excerpt is from MfE's discussion document on proposed changes:

Amendments to the default conditions

Proposed amendments

We propose amending the default conditions so they can be complied with more practically. These amendments are detailed in table 2.

The changes to the default conditions would affect both Pathway 1 and Pathway 2, because Pathway 2 (the freshwater farm plans pathway) relies on the default conditions as a benchmark for assessing outcomes under a freshwater farm plan and therefore whether the intensive winter grazing activity is permitted.

Table 2: Detail of proposed amendments to the default conditions

Detail of proposed amendments to the default conditions
Amend the default conditions to address the practical and weather-dependent issues that make them difficult to comply with at present. Make the following changes to the default conditions (reg 26(4)[13]). • **Reg 26(4)(a):** No change (ie, the limit of area used for intensive winter grazing remains at 50 hectares or 10 per cent of the area of the farm, whichever is greater). • **Reg 26(4)(b):** Amend to measure the slope threshold as *maximum allowable slope* instead of *mean slope* of a paddock (while keeping the existing threshold of 10 degrees).[14] • **Reg 26(4)(c):** Amend so that farmers have to take reasonably practicable steps to manage the effects on freshwater from pugging (in areas that are used for intensive winter grazing). Officials will develop guidance to ensure that farmers and councils have a shared understanding of what reasonable and practicable steps are. • **Reg 26(4)(d):** Amend the definition of 'drains' to exclude *sub-surface* drains (as originally intended). Manage *sub-surface* drains (where known to exist) through critical source areas (see proposed new condition below). • **Reg 26(4)(e):** Remove the requirement to resow by 1 October (1 November in Otago and Southland) and, instead, require farmers to resow 'as soon as practicable', ie, in order to minimise the amount of time that bare ground is exposed to the weather, and clarify that other methods of establishing ground cover (eg, companion planting) are included. Officials will develop guidance to provide more clarity for farmers and councils as to what steps could demonstrate that farmers were resowing *as soon as practicable*. • **New condition:** Include a new condition requiring that critical source areas must be protected (uncultivated and ungrazed). See the proposed definition of critical source areas in table 1. Officials will develop guidance to ensure that farmers and councils have a shared understanding of how critical source areas will be identified and protected.

[13] Refer to table 1 for details of the current default conditions.

[14] Measuring the *maximum slope* could be based on the Proposed Southland Water and Land Plan, which measures slope as the average slope across any 20-metre distance. See Rule 25 in the Proposed Southland Water and Land Plan, available at: Proposed Southland Water and Land Plan – Part A – Decisions Version (4 April 2018) PDF.pdf (es.govt.nz) (note this is subject to appeal).

Beef + Lamb New Zealand

PREPARING FOR WINTER GRAZING

Careful planning for winter allows you to winter animals in a way that ensures they are well fed and in good health, and also manage the environmental impacts.

When planning for winter, careful thought needs to be given to:

Paddock/Grazing Management

When you're standing at the gate considering how best to feed your crop, here are some factors to consider:

Feed planning

How many animals will this crop feed and for how long. Consider using the B+LNZ FeedSmart app. This app brings together a raft of variables to give farmers instant information on: the nutritional requirements of different classes of livestock, feed values and feed allocation. This app is especially helpful to estimate the feed requirements for sheep and cattle at any time of the year and to help estimate the allocation of your winter crop. To find out more go to: www.feedsmart.co.nz

Exclude stock from waterways and Critical Source Areas (CSAs)

Create an un-grazed (preferably uncropped) buffer zone of crop between the livestock and any waterways. 3-5 metres is a good starting point but this should increase with slope and soil type risk. Identify areas that might channel overland flow (CSAs) of soil nutrients and faecal matter to water, fence these areas off during grazing to reduce the risk of contaminating waterways. CSA's can be grazed quickly and lightly when soil and weather conditions allow.

Trough placement and supplementary feeding

Consider portable troughs that you can move with breaks for stock drinking water to help keep stock away from CSAs and to reduce soil damage. Supplementary feeding (hay and baleage) needs to be placed away from CSAs, waterways and ideally fed in drier parts of the paddock. Supplementary feed should be put into the paddock prior to grazing. This will help limit stock movement and heavy vehicles on wet soils, helping to reduce damage to the crop and soil.

Strategic grazing

Fence placement – On a sloping paddock, fence across the slope and start grazing at the top of the paddock, so the standing crop acts as a filter. Or, if there is a waterway present, start grazing at the opposite end of the paddock to the waterway. Make breaks "long and narrow" – Research shows that the crop will be utilised more efficiently by cattle.

Back fence – Regularly back fence stock off grazed breaks to help minimise pugging damage and reduce run off risk.

Matching stock to the paddock and crop - Consider using high-risk paddocks for grazing of lighter stock (sheep) while lower risk paddocks can be used for grazing heavier stock (cattle) or deer.

Animal welfare – Is there appropriate shelter and somewhere to lie down? If necessary use a stand off area or otherwise provide temporary bedding to allow stock the opportunity to lie and rest on firm, dry ground.

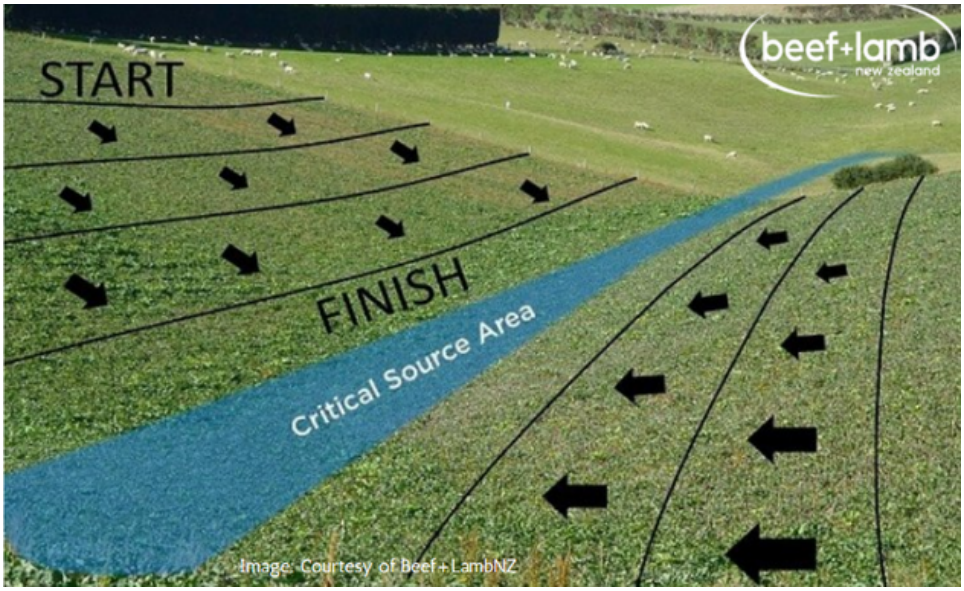


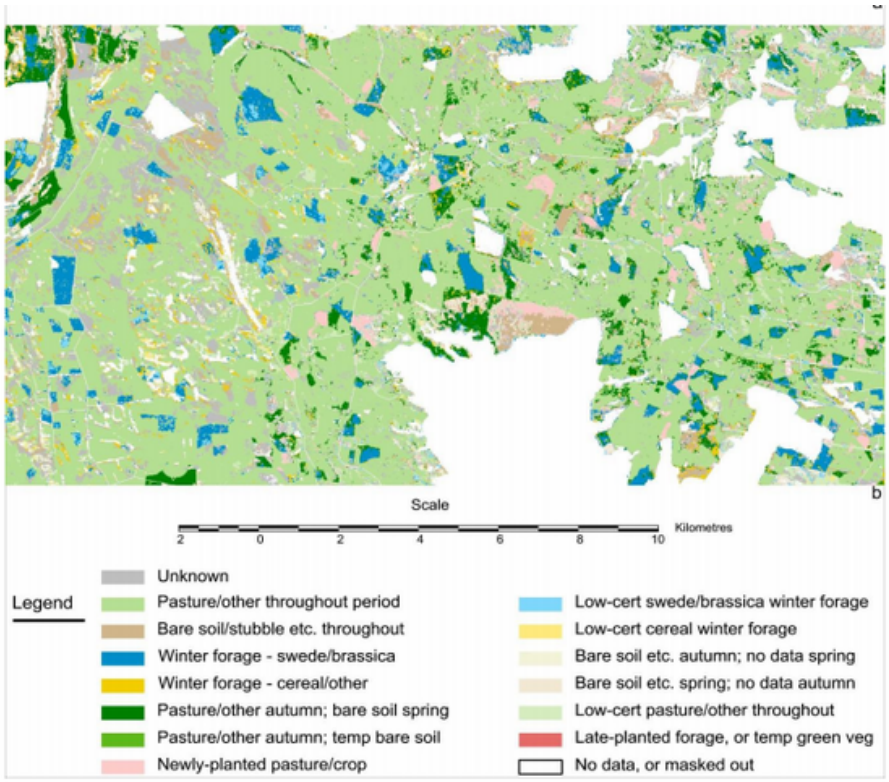
Image: Courtesy of Beef+LambNZ

USING SATELLITE IMAGERY TO DETERMINE THE EXTENT OF WINTER GRAZING LAND

In 2014, Environment Southland commissioned Manaaki Whenua (Landcare Research) to produce a map of livestock forage areas for the Southland region using time-series satellite images. They analysed agricultural land (approximately 1 million hectares) and found over 70,000 ha were specifically mapped as winter livestock forage (6.7% of the mapped agricultural area). This was done using a combination of forage-crop spectral signature (a certain type of light that is emitted from objects) and the distinctive temporal pattern (i.e. IWG is usually vegetated in autumn, then bare in spring). A further 55,000 ha (5.2%) also had this temporal pattern, but had a spectral signature of pasture or other vegetation. The latter category is often associated with winter forage paddocks, but can also be caused by other non-forage land uses such as spring pasture renewal, so these areas were termed 'likely forage'. In a further 8.6% of the mapped agricultural area, the imagery was insufficient to conclude whether the land use was winter forage.

Of the 331 paddocks identified in Environment Southland's field data as forage, 95% (314 paddocks) were classified by Manaaki Whenua's method into the 'specific' and 'likely' forage categories. Of the 43 paddocks identified by Environment Southland as non-forage land uses, 77% (33 paddocks) were correctly classified as such by this method. They further found that classification does not appear to be affected greatly by hilly terrain, as similar accuracies were obtained for the paddocks that Environment Southland recorded as being gentle, moderate or steep in gradient.

Manaaki Whenua states that this method of winter forage mapping has been successful at regional scale, with good accuracy levels. The image dataset was strongly affected by cloud, and an image-set with less cloud cover would have allowed for a simpler mapping method, and likely higher accuracies. Future winter forage mapping would be improved if image coverage in May was included to aid identification of these paddocks.



Above figure: Southland Region, 2014 – Example enlarged maps of agricultural land under winter livestock forage crops, plus other non-forage land

CAREFUL PLANNING IN SPRING FOR SUCCESSFUL WINTERING

DairyNZ

Choosing your paddocks is a crucial part of planning for winter. Critical source areas, waterways, shelter, water troughs and being prepared for prolonged weather events all need to be taken into account when selecting a paddock.

Critical source areas are low lying parts of a farm, such as gullies and swales, where water flows after rain events. These areas can transport soil, E.coli and phosphorus into waterways. Paddocks with multiple slopes and large critical source areas are best avoided for winter crop grazing, as they are time-consuming to graze and present an environmental risk.

"Strategic grazing and careful management of critical source areas resulted in an 80 to 90 percent reduction in sediment and phosphorus losses in a 2012-2014 trial at Telford Dairy.

Creating buffer zones or grass strips in and around critical source areas and next to waterways helps slow water flows and trap contaminants. These buffer zones should be left uncultivated and un-grazed to be effective. The faster water flows in a buffer zone, the wider the zone needs to be.

There are a number of things to consider when planning how to fence the paddock and position feed and water troughs.

Using portable troughs reduces the amount of walking cows need to do, decreasing soil damage and mud.". Cow lying time is another factor to consider when planning for winter. Correct lying times, at least eight hours a day, reduce the risk of lameness and stress on the animal. On a winter break-fed paddock, consider how your cows will have access to enough dry areas to lie down.

The South Island can experience periods of extreme winter weather, such as snow and heavy rainfall, so it's essential to have another grazing option. This could involve moving cows to a sheltered area or leaving an un-grazed area next to a shelter belt for bad weather. It's also a good idea to allow a feed buffer in your budget to account for extra feeding on cold, wet or windy days.

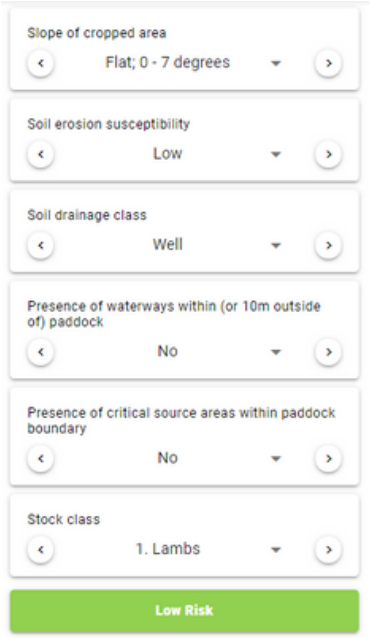
Alongside other organisations, DairyNZ has provided events over the past few weeks for farmers, rural professionals and rural contractors to upskill themselves on good wintering practices.

There's been a lot of focus on winter grazing practices recently. As a result of this, there has been strong attendance at wintering events as everyone is keen to improve their knowledge. Successful wintering is good for the cows, the environment and the people involved."

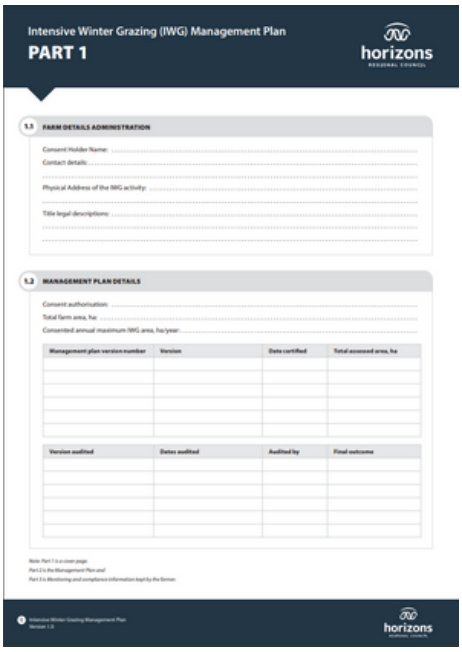
For more advice on planning for winter grazing visit dairynz.co.nz/wintering

HORIZONS REGIONAL COUNCIL TRIFECTA OF TOOLS FOR IWG

Resource Consent Winter Grazing
https://www.horizons.govt.nz/managing-natural-resources/apply-for-consents



Paddock risk assessment app
http://iwgrisk.horizons.govt.nz/#/



Intensive Winter Grazing management plan
https://www.horizons.govt.nz/HRC/media/Media/Consent/052021-IWG-Management-Plan.pdf?ext=.pdf

Horizons Regional Council has developed a paddock risk assessment app for IWG, which categorizes the risk of sediment, phosphorus and E.coli runoff from IWG areas. The app categorizes the risk as low, medium or high, depending on paddock features such as slope, drainage, stock class and proximity to waterways and critical source areas. They have also developed an IWG management plan that integrates with the app to address the identified risks through good management practices or further mitigations.

The first step for farmers in the planning process is to decide which paddocks to graze for winter. Paddock selection is not always based on risk, but on the farming systems such as the need for re-grassing, pasture renewal, weed issues, fertility or the ease of management. The tool allows farmers and rural professionals a consistent way to assess risks, and enables identification and selections of low risk paddocks to help drive good management practice when used in conjunction with the management plan.

You can find these here:

App:
http://iwgrisk.horizons.govt.nz and the

Management plan:
http://www.horizons.govt.nz/HRC/media/Media/Consent/052021-IWG-Management-Plan.pdf?ext=.pdf

JULY PHOTO COMPETITION - FANTASTIC SHOTS LEE!

Congratulations Lee Davies (DairyNZ) for Winning NZARM's July photo competition. A couple of my favourites are on the back cover, check them out. Lee you have a great talent for photography.
We would love to see some NZARM members in action too. Send through your shots to matt.highway@nzarm.org.nz

ENVIRONMENT SOUTHLAND'S NEW IWG APP

Environment Southland is developing an end-to-end online approach for planning and managing IWG. This approach includes a cultivation and IWG mapping tool; a permitted activity checklist, and a registration process, along with an online resource consent application process.
After some internal testing and changes, Environment Southland is now testing these tools with a small group of users to ensure clarity, suitability and ease of use before wider roll out to the community. The mapping tool allows farmers to draw polygons on their farm and identify risks and other management considerations when selecting paddocks for IWG. The PA checklist and resource consent application process considers both the requirements in the proposed Southland Water and Land Plan and the NES-F.

Cultivation and Intensive Winter Grazing Tool
A screenshot of the very sophisticated online mapping tool for cultivation and intensive winter grazing. You can access the tool here:

https://esgis.maps.arcgis.com/apps/webappviewer/index.html?id=0701d0309563425881a0fa7653daa7df#

ANIMAL WELFARE REQUIREMENTS FOR IWG

New Zealand's animal welfare legislation, the Animal Welfare Act 1999 (the Act), requires people who are responsible for animals to ensure that their animals' physical, health and behavioural needs are met, and that any pain or distress being suffered by ill or injured animals under their care is alleviated. Failure to meet these requirements is an offence under the Act.
Information about how people can meet their obligations is contained in codes of welfare which are issued under the Act. Codes of welfare contain minimum standards and recommendations for best practice for different animals in different situations. They have been developed following an extensive process of public consultation. Failure to meet a minimum standard in a code of welfare is not directly enforceable but can be used as evidence to support a prosecution for an offence under the Act.

A person who is charged with an offence under the Act can defend him/herself by showing that he/she has equalled or exceeded the minimum standards.
The recommended best practices shown in the codes set out standards of care and conduct, over and above the minimum required to meet the obligations in the Act.
The three codes which apply to pastoral species are:

1. Dairy Cattle
2. Sheep and Beef Cattle
3. Deer

All codes of welfare are publicly available on the MPI website:
http://www.mpi.govt.nz/protection-and-response/animal-welfare/codes-of-welfare/
Contact animalwelfare@mpi.govt.nz or phone 0800 00 83 33 if you have any questions about the Act or codes of welfare.

EVENTS: NZARM CONFERENCE

FUTURE NZ CATCHMENTS: MAKING SENSE OF THE COMPLEX
NOVEMBER 23-25 2021

REGISTRATIONS ARE NOW OPEN!

It is great to be back in 2021.... NZARM's 67th Annual Conference. Head to the NZARM conference page NZARM.ORG.NZ to find out more

Tuesday 23 November, Parliament Buildings Wellington

- Registrations
- Pōwhiri
- Opening by Minister Parker & NZARM President
- Plenary addresses
- panel discussion
- Catered morning tea, afternoon tea and lunch
- Icebreaker social hour and drinks
- Optional night walk of Zealandia (get in quick spaces are very limited)

Wednesday 24 November, Parliament Buildings Wellington

- Young resource managers keynote
- Conference Presentations
- Poster sessions
- Masterclasses.:
  - Biodiversity
  - Catchment management
  - Edge of field mitigation
  - Extension strategies
  - Greenhouse gas
  - Modern geospatial techniques
  - Nutrient management
  - Regen Ag & soil health
  - Right Tree, Right Place, Right Reason
  - Soil conservation
- Catered morning tea, afternoon tea and lunch
- AGM & social hour
- Awards Dinner & guest speaker. Banquet hall, Parliament

Thursday 25 November, field trip

- Field trip to local natural resource management areas around Wellington:
  - Kaiwharawhara Stream catchment
  - Sanctuary to Sea project / urban catchment experience
  - Mana whenua collaboration and Te Mana o te Wai
  - Makara Stream catchment and Terawhiti Station
  - Working with small blocks for environmental outcomes
  - Farming on the fringe / supporting good land management beyond regulation
  - Wind farms, Capital Kiwi, dung beetles, honey

NEW ZEALAND ASSOCIATION OF RESOURCE MANAGEMENT

WELCOME NEW MEMBERS!

Welcome to our new NZARM members!
Its great to have you with us as part of NZARM and please reach out to the Exec, Kolja, Matt, Sheree or Nicola if you have any questions about NZARM. It's crucial we stay connected to keep abreast of, and help guide resource management in New Zealand. Please join us in welcoming the new members, we look forward to connecting with you!

Left: New members June - August 2021

TAMMY COOPER
KATHERINA WOODLOCK
ABBY MILLER
SUSAN HARRIS
MURRAY PEDLEY
SIMON HUNT
JENNI VERNON
JOSE ENRIQUE
HANNAH KOHN
DAVID MCDERMOTT
DEBORAH NICKEL
SARAH CATLEY
BELINDA VAN DUIVENBODEN
KYNAN HARRISON
CLINT RISSMANN
TAHIROA BISHOP
ANDY MCCALL
TREVOR WAIKAWA
VICTORIA ANSTIS
EVAN WARD
CALLUM REES
WOLFGANG KRUGER
ADRIAN BROCKSOPP
MELISSA SAUNDERS
JESSICA HYLAND
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Great Lee Davies photos, winner of NZARMs photo competition!

Have you got an article for future NZARM publications?
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