

THE WOOL PRESS

July/August 2022

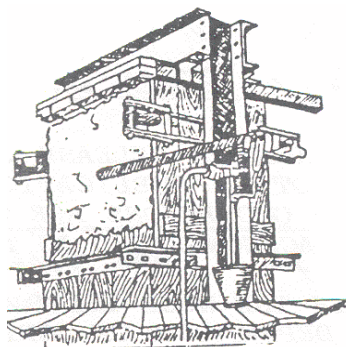
Volume 336

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In this issue...

Editorial	Page 2
Shearing, Fishing & Burning Permit Dates	Pages 4-5
Mid-Side Sampling Guidelines	Page 6
Fishery Patrol Vessel Protegat—Emergency Re-supply Trip	Page 7
Farmers Week	Pages 8-12
Saladero News	Page 13
Livestock Paint Information	Pages 14-15
On Farm Biosecurity Shearing Equipment	Pages 16-17
Bird Flu	Page 17
Falkland Islands Proposed MMA's to protect blue carbon	Pages 18-19
Going on holiday? Make sure you know what you can bring home	Page 20



*Edited By The Department of Agriculture
Printed by The Print Shop, Stanley
Produced by the Department of Agriculture, Falkland Islands Government*

Editorial

Welcome to another Wool Press for 2022. Let's hope we are pushing through winter and some warmer weather is on its way. This edition has a variety of articles from re-supply to marine management areas.

In early July the Fishery Patrol vessel, Protegat, did an islands run due to the delay in the return of the Concordia Bay. It was a smooth operation and a big thank you to Katrina and Andrea for all of their coordination.

With shearing approaching there are guidelines to mid-side sampling specifically for samples being sent to NZ Wool Testers and then at the DoA with the OFDA2000 machine. Bags for your samples can now be purchased at Southern Imports.

Farmers Week in early July was a success with a lot of discussion about climate change and the potential risks and challenges to farming businesses. This issue of the Wool Press reflects those at Farmers Week thoughts on the magnitude and urgency of potential risks over the four key themes of the natural environment, infrastructure, people and the built environment and rural business. There was a strong focus on water and productivity and mitigation options were also discussed which will assist us in looking at priorities.

National preparedness for emergency animal disease was also discussed during Farmers Week with one of the key aspects being good biosecurity around animals at all times. A contingency plan on your farm is important and we are happy to work with you to develop one. There is a draft contingency plan available, please contact the Veterinary Service if you would like a copy.

You can be a part of the biosecurity measures across the Falklands, read how in relation to fishing, shearing kit and bird flu. Animal disease is particularly important with a current strain of bird flu in the northern hemisphere having significant effects on migratory and seabirds with considerable deaths. Work is being done to ensure that biosecurity measures are implemented at healthy sites across the island.

At present the Falklands is free of invasive freshwater algae and fish diseases. To keep it that way if you have brought fishing tackle, waders or boots into the Falklands (that have been used somewhere else) please Check, Clean and Dry. Similarly, shearing season is approaching soon and any shearing equipment that you bring in needs to be cleaned and disinfected, importantly shearing moccasins will be detained and inspected. We know that good biosecurity is one of the keys to keeping invasives out. If you see anything that concerns you contact Biosecurity at the DoA.

Finally, I hope you will be happy to hear that Steve is settling into life in the UK. If anyone wishes to contact him upon arrival in the UK. His details are:

Steve Pointing,
Usborne House, Buttsway, Milverton, Taunton TA4 1LY
Mob: +44 07928944153
Email: spointing56@gmail.com

Enjoy this issue of the Wool Press,
Katrina

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However, such quotations are to be made in context and the Wool Press must be acknowledged as the source.
The articles printed in the Wool Press do not necessarily represent the views of the DoA.

DOG DOSING DATES FOR 2022/2023

Date	Drug
Wednesday 26th January 2022	Drontal
Wednesday 2 nd March 2022	Droncit
Wednesday 6 th April 2022	Droncit
Wednesday 11 th May 2022	Droncit
Wednesday 15th June 2022	Endoguard/ Drontal
Wednesday 20 th July 2022	Droncit
Wednesday 24 th August 2022	Droncit
Wednesday 28 th September 2022	Droncit
Wednesday 2 nd November 2022	Droncit
Wednesday 7th December 2022	Endoguard/ Drontal
Wednesday 11 th January 2023	Droncit

Regular weighing - it is important to keep a check on dog's weights to ensure correct dosage is being given.

All dog owners are responsible for worming their own pets. Please remember to contact the Veterinary Office and confirm this has been done. After normal working hours, please leave a message or email.

The Falkland Islands Government

Department of Agriculture,
Veterinary Service,
Tel: (500) 27366 Facsimile: (500) 27352
E-mail: sbowles@naturalresources.gov.fk



**SEEN ANYTHING STRANGE
LATELY?**

**IF SO CONTACT THE
DEPARTMENT OF AGRICULTURE
ON 27355
OR VETERINARY SERVICES ON
27366**

If you have any articles that you would like to be included in the next Wool Press please email them to
ztaylor@naturalresources.gov.fk

Weather Data

Department of Environment Climate Change Officer, Deborah (Deb) Barlow is collecting weather data across the Falkland Islands. If you have or know of anyone that has weather datasets, either historical or recent, or is currently recording weather, please get in touch by either emailing or phoning:

Deb Barlow
E: climatechange.officer@sec.gov.fk
T: 28427

Katrina Durham
E: kdurham@naturalresources.gov.fk
T: 27355

Burning Permits 2022

Burning permits are required for anyone burning land after September 15th 2022.

Please apply in writing to the Department of Agriculture

(email: kstephenson@naturalresources.gov.fk) giving details and a map of the area to be burnt at least 48 hours prior to wanting to carry out the burn.

Please note that grass fires or 'camp burns' will only be permitted on wet white grass flats on weekdays during September and no permits will be issued for 'camp' burns after 30th September due to environmental impact.

Permits will continue to be issued for the burning of trash on cultivated areas of ground. Please ensure the guidelines available from the DoA are followed.

Shearing Dates & Relevant Information

All adult sheep should be shorn annually. Additional limited shearing in the form of wiggling and crutching may be required at other times of the year to minimise impairment of vision, and the incidence of stained wool, respectively.

Sheep should be handled sympathetically during shearing by a competent shearer. Owners and managers have a duty to make it clear to shearers that the use of excessive force is not permitted.

Heavily pregnant sheep should not be shorn within 3 weeks of lambing and ewes with lambs at foot should not be shorn for 6 weeks post lambing.

Because shearing is stressful, managers should attempt to avoid undue handling and exposure to adverse weather. Sheep should be returned to food and water as soon as possible after shearing, and certainly not spend longer than 24 hours without at least water and preferably food as well.

Where circumstances indicate, shearing cuts should be treated to prevent infection and fly strike.

Cover combs must be used from 15th September until 31st October and from 1st March until 31st March.

Shearing is permitted from 1st November to 28th February (29th February in a leap year) using standard combs.

For shearing using hand shears only it is permissible to shear earlier than 15th September provided that the farmer first seeks permission from the veterinary service. The farmer will be expected to provide the following information: his reason for wanting to shear so early, the number of sheep to be shorn and the dates on which shearing will take place. At least 15mm of wool must be left on the sheep after shearing.

No shearing is allowed in April except for sheep going for immediate slaughter or small numbers of "straggler" sheep. In the case of the latter the farmer should first contact the veterinary section to give notice of his intention to shear such sheep. All sheep shorn in April, except those going for immediate slaughter, must be shorn using cover combs.

The only shearing permitted outside these periods will be of animals which are slaughtered off the shears. The slaughter should take place within 2 hours if the animals are not penned in the building and in any case not later than 24 hours post shearing.

Trout Fishing in the Falkland Islands

Fishing is a great way to explore and enjoy the Falkland Islands.

To ensure that you have an enjoyable experience, you should be familiar with what fish you can catch, where you can fish and when.

Trout Fishing Regulations

Trout means the species *Salmo trutta* commonly referred as the Brown trout which is an introduced species to the Falkland Islands.

The trout fishing season runs from the 1st of September until the 30th of April. The fishing tackle used must only be single rod or line.

No licence is necessary.

The daily bag limit is 6 trout per angler, except Murrell River – see below.

Permission must be sought before entering private land.

Practice catch and release by using a single barbless hook. Bring the fish quickly to the river edge, and carefully remove the hook.

Do not transfer trout or their eggs between waterways.

Special legislated conditions apply to the Murrell River and some other rivers have additional limitations imposed by landowners.

Trout fishing at the Murrell River, Stanley

1. Fishing is not permitted off the culverts or within 100m of the crossing on either side.
2. The daily bag limit is 3 trout and each trout must weigh over 1.5lb or 0.5kg.
3. Fishing is not permitted upstream from the area known as Drunken Rock.

Zebra trout

The Zebra trout are native to the Falkland Islands.

The Zebra trout is protected by law and can not be fished.

Mullet

This native fish, up to 80 cm in length, may be fished for all year-round.

Fishing - Biosecurity to Protect Our Rivers

The Falkland Islands is free of all invasive freshwater algae and fish diseases and we want to keep it that way! So, if you have brought fishing tackle, waders or boots into the Falkland Islands that has been used elsewhere, please Check, Clean and Dry.

Check: Hopefully before you left the river or lake where you last used your fishing gear outside the Falklands, you checked it for contamination with debris (e.g. pieces of weed, dirt, or other material). If you find any debris when you check your gear after arrival in the Falklands, please dispose of it in a rubbish bin. Do not wash it down the sink or wash it in a river.

Clean: Regardless of how clean your fishing gear looks, it should be disinfected before use in the Falklands. There are several ways to do this, including soaking or spraying all surfaces for at least one minute in 5% dishwashing detergent or 2% household bleach.

Dry: The item must be completely dry to the touch, inside and out, and then left dry for a further 48 hours before use.

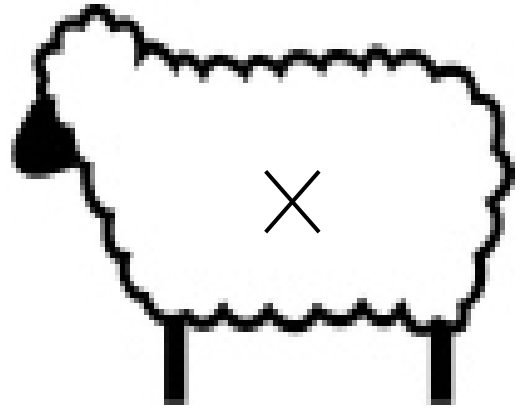
Report: Please report any dead/dying/diseased fish, new/unusual freshwater fish or algal sightings in Falkland Islands waterways. Most native algae are green or brown, slimy and easily fall apart when rubbed. Report observations to either the Environment Department or Agriculture Department.

Thank you for helping to protect the Environment

Mid-Side Sampling Guidelines

In preparation for the upcoming season the DoA would like to remind farmers of the mid-side sampling guidelines.

The sample needs to be from the middle of the sheep, please see the picture, because the micron changes over different parts of the animal. Please try to be as accurate as possible.



Each sample only needs to be **20-30 grams of wool** (a handful).

Samples being sent to NZWTA for testing:

- Samples should be rolled in a plastic bag and secured with an elastic band.
- All samples should be accompanied with an NZWTA ticket supplied by the DoA. Tickets should have Tag Number and Fleece Weight written on.
- With each batch of samples there should be test request sheet and summary sheet.

Samples being tested on the DoA's OFDA2000:

- All samples must be numbered either with ear tag numbers or a number of your choosing.
- Each batch of samples must be accompanied by a test request sheet. *Please note pricing will remain the same no matter how many measurements you request.*
- Every sample must be in a bag secured with a VERY LOOSE knot.

Please note that the DoA will not be supplying bags or elastic bands however, these can be purchased from Southern Imports.

For more information contact Richard at the DoA on 27355 or
rchivinda@naturalresources.gov.fk



**SEEN ANYTHING STRANGE
LATELY?**

**IF SO CONTACT THE
AGRICULTURAL DEPARTMENT
ON 27355**

Fishery Patrol Vessel Protegat - Emergency Re-supply Trip

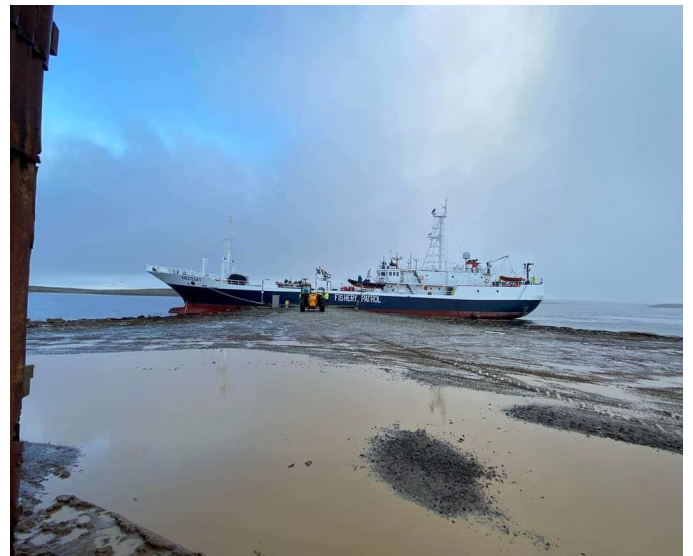
By Katrina Stephenson



Due to the Concordia Bay being delayed in dry dock in Punta Arenas some members of the farming community were starting to run short of essential supplies so the Natural Resources Department working with RBC Ltd and Workboat Services Ltd offered the FPV Protegat to carry out an essential supply voyage to West Falkland and any Islands requiring urgent supplies.

Plans quickly went into place with Workboat Services receiving the consolidated cargo on the 29th & 30th June and Katrina from the Department of Agriculture co-coordinating any fuel & gas requirements. The FPV Protegat loaded cargo & supplies on Friday 1st July and after a crew change on the 2nd set sail on Sunday 3rd.

The itinerary was Saunders, Pebble, Fox Bay, Bleaker & Lively Island; everything went really smoothly and with all cargo being successfully delivered the FPV Protegat arrived back in Port William on Friday the 8th July.



A huge thank you to everyone involved for making this such a successful mission.

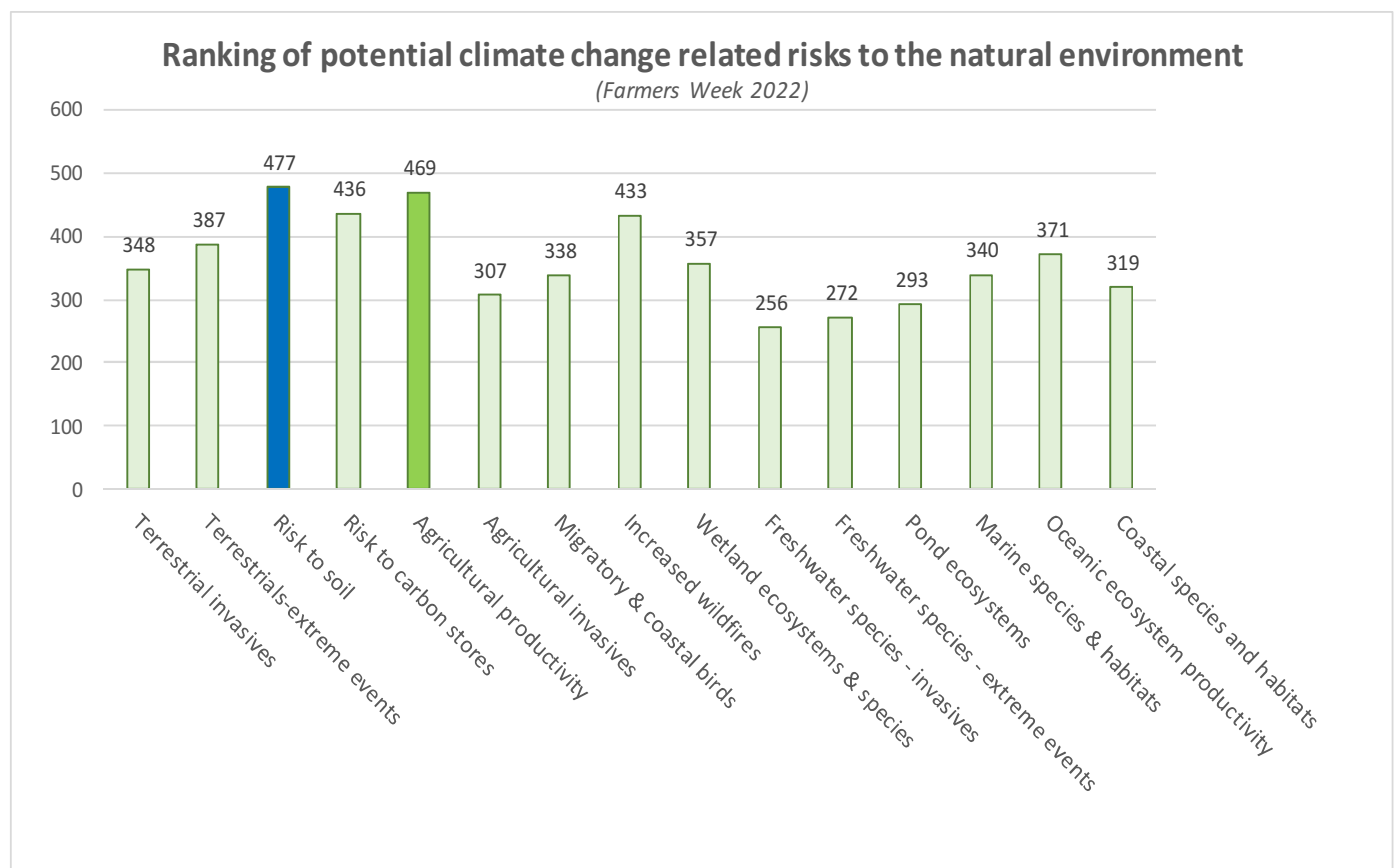
Farmers Week

By Katrina Durham

Last week the RBA sent out a report that I wrote covering all the topics discussed over the two days at Farmers Week. During Farmers Week last year there was a clear message to look at the environment and climate change. This year there was a focus on climate change and the challenges it might make in managing your business. Climate change risks were divided into four key themes

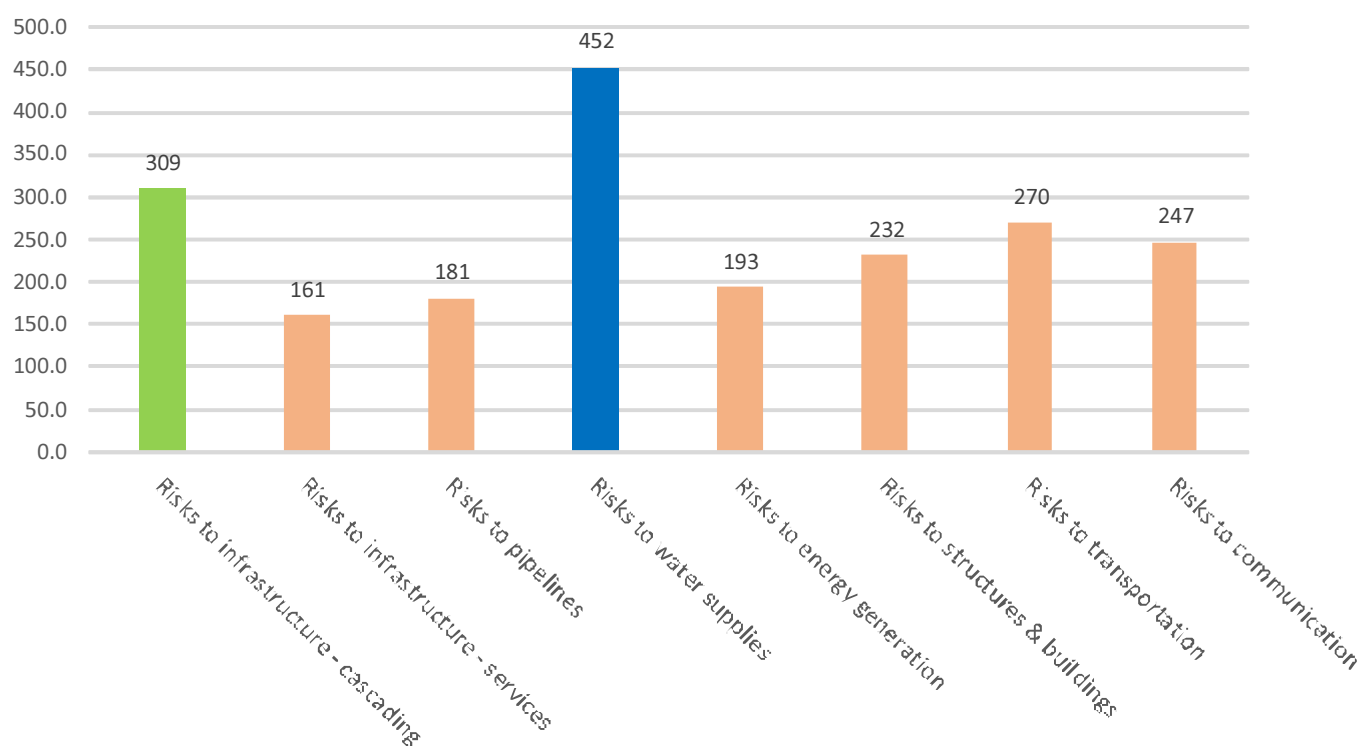
- Natural environment
- Infrastructure
- People and the built environment
- Rural Business

We conducted a workshop activity to better understand which potential risks posed the greatest threat to the people in camp. This involved critically analysing the risks using set criteria to understand the social, environmental and economic impact that each potential risk could have on the Falkland Islands. Participants were then asked to consider the urgency with which a response should be conducted towards that potential risk. This could reflect both the timeframe with which participants believed the impact would be experienced, but also the time required to be able to set up appropriate adaptation responses to that potential risk. Once individual participants rated the potential risks these were collated together to produce the rank order of potential risks according to the group as a whole. The risk score is the combined magnitude of the risk across of the three impact areas (environment, economic and social) and the urgency of the response to those risks. Below are graphs ranking the potential risks across the four themes.



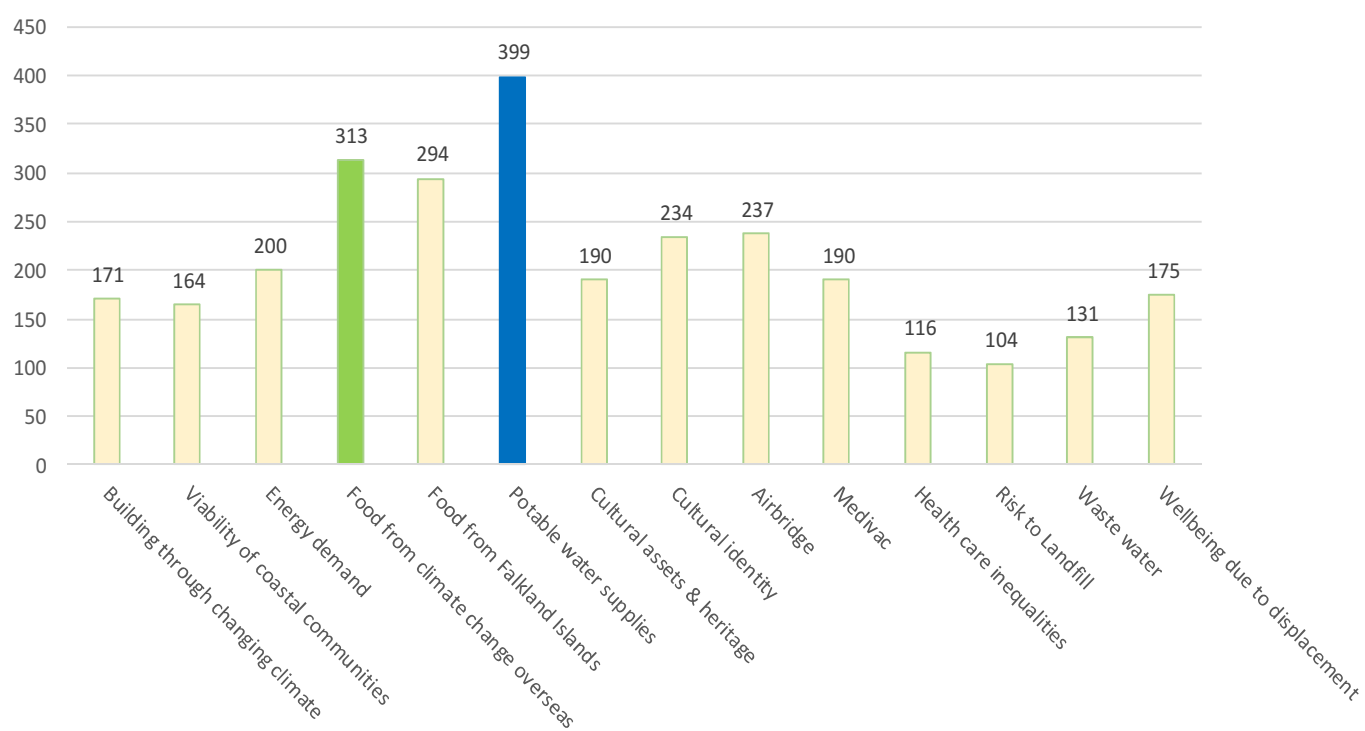
Ranking of potential climate change related risks to infrastructure

(Farmers Week 2022)



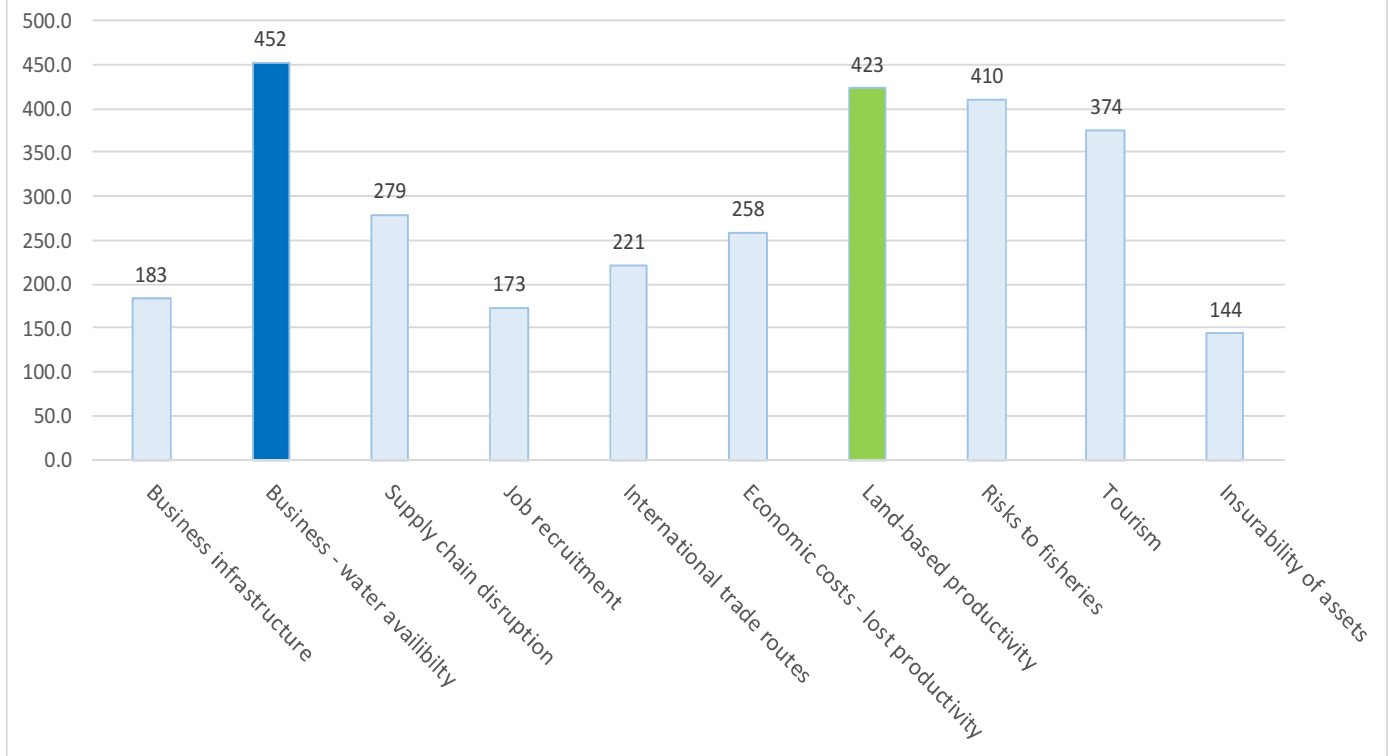
Ranking of potential climate change related risks to people & built environment

(Farmers Week 2022)



Ranking of potential climate change related risks to rural business

(Farmers Week 2022)



Risk management and mitigation options were discussed during the workshop. These can be found in the Farmers Week Report, if you would like a copy, please let me know.

The Rural Economy Project (by Andrea Clausen and Andrew Bendall)

With a political mission to "support the rural economy and explore options for growth" and the significant impacts and challenges on the Falkland Islands rural economy, FIG has embarked on a project firstly to take stock and secondly to develop policy options aimed at building on the robustness of the rural sector. The Stocktake looked at rural business in the context of history, demographics and global vs. Falkland Island factors such as commodity prices, volume of wool clip and meat, labour force and global events (to name a few). The SWOT analysis with the farmers will be incorporated into the final Falkland Islands Rural Economy report and the development of draft policy options to take out for consultation with the rural sector and stakeholder organisations. The results of the SWOT analysis can be found on the next page.

Animal Health (by Zoe Fowler & Philip van der Riet)

From an animal health perspective Philip introduced the National Contingency Plan for Emergency Animal Disease (NCPEAD). The importance of this is linked to international trade agreements make such preparations essential for maintaining our disease-free status and international trade requirements. More information regarding the plan can be found on page 12.

The question of "where to from here" was asked in relation to hydatid. We know that less than 1% of sheep inspected at the abattoir have hydatid cysts; farms that have cysts vary and there is not pattern and there is a low level of transmission. We know that we have knowledge gaps in relation to incidents in non-FIMCo sheep, farmer recognition of hydatids; the efficacy of treatments and intermediate or final hosts. The question now is "do we want to continue". More information regarding hydatid in the Falklands can be found on page 12.

SWOT analysis for the Rural Economy Project

Strengths

- Environment
- Community
- Adaptability - fast & agile
- Low input - clean & green
- Unique
- Limited animal disease
- Island
- Resourceful & resilient
- Falklands story
- Diverse tourism
- Self sustaining
- Wildlife
- Low pest impact
- Markets
- Brand identity
- Sharing information

Weaknesses

- Distance to markets
- Extreme, challenging environment
- Geo politics – neighbours
- Political mandating – lack of continuity in strategic connection
- Earwigs
- Lack of collaboration
- Labour availability
- Telecommunications
- Transport/logistics
- Marketing – brand use & promotion
- Resources – skill & capability
- Cost of production
- Access to finance
- Regulations
- Dependency on fishing industry
- Outdated or lack of tax policy
- Small volume of products leads to lack of competition in the global market

Opportunities

- Import substitution
- RWS
- Inclusion in effective schemes
- Carbon economy
- Collaboration
- FI story – Branding & marketing
- Adaptability to become global environmental leaders
- Different farming systems e.g.. Finishing farms
- Unique tourism offering – open spaces, low numbers of tourists
- Brexit – market opportunities
- Keep it simple
- Flexible and novel employment opportunities
- Eco tourism
- Gateway to Antarctica
- Land based tourism – local & international
- Dairy
- Renewable energy alternatives e.g.. Hydrogen
- Renewable resources eg. Fertiliser & kelp
- Military market – tourism & food

Threats

- Impact of climate change – adaptation & mitigation
- Geo politics
- Biosecurity/invasives
- Global events i.e. Pandemics & shipping
- Collapse of fishing industry – unregulated fishing
- Regulation
- Bad press/media
- Cost of employment
- Predatory birds
- Rising input of cost – fuel
- Cost of living increasing
- Land degradation
- Wildfires – ability to control them
- Perception vs reality of camp living
- Continuation and completion of projects & research
- Lack of targeted applied research
- Renewable energy alternatives e.g.. Hydrogen
- Renewable resources eg. Fertiliser & kelp
- Military market – tourism & food

National Contingency Plan for Emergency Animal Disease (NCPEAD)

The NCPEAD has three distinct areas, animal keeper responsibilities, movement controls and a focus on livestock disease, both domestic and wildlife. A draft plan has been written so what is next? We need to finalise and legalise the plan and work with the farmers to develop farm contingency plans for emergency animal disease. **Your** contingency plan will cover

- What are your main risks?
- How would you manage movement and biosecurity restrictions? (animals, equipment, people)
- How and where would you dispose of large numbers of dead animals?
- How would you cleanse and disinfect your premises?
- Plans for recovery

In summary we need to practice good biosecurity around animals at all times. Check the health of your animals regularly. Report any suspicion of animal disease immediately to the Veterinary Service on 27366 (mobile 55366) or the Police. In the event of an animal disease outbreak, follow all official guidance and comply with all restrictions placed on you, your animals and your premises. By working together we can all help to keep the Falkland Islands free of unwanted animal disease, and to maintain the local way of life and economy.

Hydatid control in the Falkland Islands

There had been a long history of control measures to get to the point we are in relation to hydatid control. Below is the data so far in the Falklands

- <1% of sheep inspected at abattoir have hydatids cyst
- Farms that have cysts in sheep vary – no pattern
- 8 dogs in 2010 copro-PCR positive (although 6 commented as borderline)
- 0 in 2012 & 6 in 2014
- Significant findings of *T.hydatigena* (bladder cysts) and *T.ov*
- Indicates there remains a low level of transmission

We know that there are knowledge gaps in relation to the inspection of farm kill, the incidents of hydatid (*E. granulosus*) (EG) in non FIMCo sheep, farmer recognition of hydatid, the efficacy of praziquantel and any whether there are any other immediate or final hosts.

So where to from here? We need to determine if there is an appetite to continue. Should we follow up with recommendations from a recent PhD regarding hydatid in the Falklands that cover items such as

1. Surveillance and monitoring infection levels in sheep at Sand Bay abattoir
2. Surveillance of monitoring infection levels in sheep slaughtered on farms
3. Surveillance of infection levels of EG in dogs (and soil)
4. Disposal of offal on farms
5. Culling of old sheep and deposition of carcasses at cull sites
6. Dog maintenance/control
7. Dosing of dogs with praziquantel

Do we need to reinstate a hydatid officer, look at potential resistance to praziquantel, potential vaccinations and if we need to change laws.

If you have any questions or comments, please get in touch with Zoe Fowler (zfowler@naturalresources.gov.fk)

Saladero News

By Jack Wilson

As Andrew Bendall stated in his write up in the last edition of the Wool Press, I took over the role of Saladero Manager on the 1st July 2022. Originally from New Zealand, I first arrived in the Falkland Islands on the 25th October 1995 to shear for John Jones, who was then running one of the contract shearing gangs. Twenty seven years later and I am still here after undertaking various jobs, but with the majority of my years spent shearing all around the Islands. Over the years I have witnessed a significant reduction in micron and the ability for the finer woolled sheep to adapt to the conditions and continue to be very productive. I would like to thank Andrew Bendall for all his support in the last few weeks in the Islands and to the rest of the DoA team for their warm welcome. I look forward to working with you all.



Farmers Week

The first week into the job was spent attending most of the Farmers Week meetings and workshops. I found this very informative and hopefully a lot of what was discussed will be carried on further and acted upon.

National Stud Flock

Andrew and I took the rams off on the 30th June and they are now running with the ram hogs. Ram hogs and ewe hogs were weighed; body condition scored and boluses administered in early July. They are holding their condition considering the weather. The ewes have been belly crutched thanks to Paul Phillips, Lachlan Crowie and Pilar Castro. They look to be in fair condition and strong enough and will be scanned in August. Cull shearling wethers and ewes are being sent to Sandbay in the coming weeks.



Prodetect Sheep Paint

We have been contacted by a Chile based company called Prodet. They produce a livestock marking paint sheep that is quick drying and easy to apply. It is specifically formulated to mark sheep. Below is information regarding the product, if you are interested in the product, please contact them directly on the following email address **fmurua@veterpropet.com**.

Prodetect sheep paint is a water based with acrylic emulsions that allows a good permanence and remains clear on the animal for approximately 12 months. Is fast drying and weather resistant and not harmful to livestock. The paint can be removed during the normal industrial cleaning process.

There are a variety of intense colours available — red, blue, green, black, purple, orange and yellow.

The product is easy to use and can be applied to wet or dry animals. The marker can be easily washed in water. Make sure you shake the product well before use, however it is recommended that you use gloves when applying.

The product comes in a 3.78 litre (1 gallon) container and should be stored between 8 to 30°C. The paint will remain stable in storage for up to 36 months from date of production on the container.

A poster for the Conservation Ball 2022. The background is dark blue with a gold border. At the top center is the Falkland Islands Conservation logo, which is a circular emblem with a penguin in the center and the words 'FALKLANDS CONSERVATION' around it. Below the logo, the title 'Conservation Ball 2022' is written in a large, gold, cursive font. Underneath the title is the tagline 'It's not easy being green!' in a smaller, green, cursive font, followed by 'Celebrating Green Initiatives' in a small, gold, sans-serif font. A large, gold, ribbon-like banner in the center contains the date 'Saturday 17th September 2022' in a bold, black, sans-serif font, with 'Dinner | Live Auction | Music' written below it in a smaller, black, sans-serif font. At the bottom, there is a block of text in a small, gold, sans-serif font: 'Tickets go on sale Tuesday 23rd August, 12:30pm', 'online only at', 'https://bit.ly/BallTickets2022', '£45 per person | Sold as tables of 6 at £270', and 'For more info contact 22247 or marketing@conservation.org.fk'. The poster is flanked by two vertical images of champagne glasses filled with bubbly liquid.

PRODETECT **SHEEP PAINT**

PLUS DRYING



Paint specially formulated to mark sheep.
Wide and efficient use in field work (shearing, marking,
replenishment selection, etc.)
Its acrylic-based composition allows a good permanence
and remains clear on the animal, for 12 months,
approximately.

The paint is removed, during the normal process of
industrialization of wool.

INNOCUOUS product for livestock.

Consultations: fmurua@veterpropet.com



On-Farm Biosecurity Shearing Equipment

By Dani Baigorri

The Falklands are in a unique position in that few common invaders have established. With a relatively unspoiled environment and livestock with high health status and few diseases, it is our responsibility and duty to protect the islands. To fulfil this we have put in place a number of measures to reduce the risk of introducing into the country, or spreading within the islands, harmful species, diseases and pests.



The Biosecurity unit is frequently present at the airport to perform inspections of passengers arriving into the islands carrying goods that might pose a biosecurity threat and seriously impact agricultural production, fisheries, human and animal health, the natural environment and tourism of the Falklands. With recent international events such as the outbreak of Foot and Mouth Disease (FMD) in Indonesia, on-farm biosecurity needs to be tackled and everyone involved with animal production and product harvest, including the shearers and the shearing crew, must pay attention to their role in minimizing the risk of spreading diseases between animals and to other farms they visit.



Appropriate cleaning and disinfection is critical to breaking transmission cycles of disease agents that contaminate housing, feeding, and equipment.

Due to the wide range this disinfectant has (kills bacteria, fungi and viruses, including HIV-1 and TB) and it being benign for the equipment we will be detaining and spraying all shearing equipment that is not spotless.

In addition, shearing moccasins will also be detained and inspected and will be retained for further disinfection if these fail to be clean and free from soil, weeds and any organic debris (faeces, urine, milk, sputum, etc.).



Once in the Falklands, it is important that shearers and sheep producers recognize disease risk and take measurements to minimize the risk of disease spread between flocks and animals within a flock. We encourage shearers and shearing crews to incorporate biosecurity management techniques to protect other flocks and themselves from the spread of a disease.

Techniques such as:

- properly maintaining and cleaning all equipment and clothing when working between different farms and between different flocks on the same farm
- if you shear a potentially diseased sheep, be sure to clean your equipment prior to shearing other sheep in the flock to minimize spread between animals within the flock

- reduce exposure to infected animals within a flock. Shear healthy young sheep first, followed by older sheep. Shear potentially unhealthy or sick sheep last. If sheep have lumps or potential boils, handle them last and try not to cut or rupture the abscess.
- be sure to clean organic material, mud and manure off your shoes before you disinfect. Manure and mud on your shoes can also transfer disease between flocks and will stop disinfectant working.
- dispose of any excess wool product or waste that you may have picked up before starting
- farmers should ensure facilities and disinfectants are available on their farm for biosecurity measures.



No one biosecurity plan is going to work for every shearer or shearing scenario. Therefore use a common-sense approach to prevent the accidental introduction of infectious agents to sheep within a flock and most importantly to other flocks you shear.

Bird Flu

By Rachel Cooper

One of the current strains of highly pathogenic avian influenza (subtype H5N1) is having significant effects on migratory and seabirds in the northern hemisphere and causing considerable numbers of bird deaths. The 2022/2023 summer will be a risk time for us as birds congregate to breed at colonies in the southern hemisphere and more normal tourist activity resumes. Land owners should be aware of the signs of HPAI (discharge and swelling around eyes, difficulty breathing, lethargy, inability to stand or walk properly, seizure and tremors or significant sudden deaths) and colonies and rookeries should be monitored and anything concerning reported to the DoA, FC or Environmental Department. No visitors should be granted access to affected sites other than those carrying out disease investigation and strict biosecurity measures should be implemented (foot baths and cleaning of all kit and wearing of full PPE if handling birds or carcasses). Healthy sites should also consider using foot baths and ensuring visitor equipment is spotlessly clean. Boots should be free from organic material (mud and faeces) before being dipped in the footbath which should be made up fresh daily (virkon or 10% bleach can be used).

Environment Department: 28449 and email: environment@sec.gov.fk
 Falklands Conservation: 22247 and email: info@conservation.org.fk



Falkland Islands proposed MMAs to protect Blue carbon

By Narissa Bax

In a time of rapid global change, the Falkland Islands stand out as a rare gem of stunning marine biodiversity where habitats such as kelp forests and the animals living on the seafloor thrive in isolation - including beautiful coral and sponge gardens that store and sequester carbon dioxide, taking CO₂ out of the atmosphere and locking it away - in some cases for 100s to 1000s of years in sediments on the seafloor.

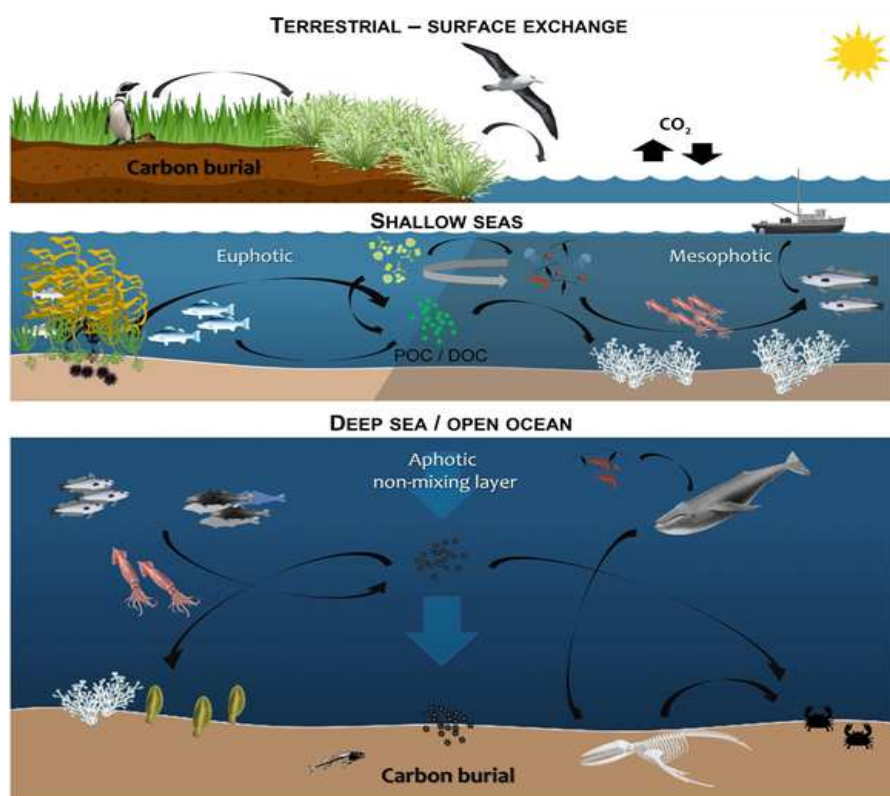
This ecosystem service, one of the many services that nature provides to humans, is termed 'blue carbon' and the Falkland Islands is a potential blue carbon hotspot. Hosting large carbon stores in kelp forest ecosystems, and sequestering CO₂ in deep-sea habitats.

In order to investigate this potential, SAERI researchers collaborated to understand the important carbon pathways in the Falkland Islands for a special issue on Blue Carbon: Beyond the Inventory.



Image credit N Bax: Ten Shilling Bay, West Falkland

This research provides new information to support the proposed Marine Managed Areas (MMAs), with a holistic view of the Falklands carbon cycle which includes 'green carbon' on land and 'teal carbon', where green mixes with blue in freshwater and wetland habitats.



This perspective is an informative way to visualise carbon across multiple pathways (Figure 1.).

Starting on land, the Falkland Islands host amongst the world's highest proportional peat cover (green carbon). Based on our calculations, much of these carbon stores could be lost along rivers (teal carbon) and to coasts due to degradation, and efforts to restore land-based carbon stores pair well with marine conservation planning.

In the blue carbon zone, Falklands kelp forests are some of the most pristine in the world, and they serve as important nursery habitats for commercially and non-commercially important fish and squid species.

Figure 1. Overview of blue carbon habitats considered in the Falkland Islands including tidal marsh, mud flats and terrestrial input, the mesophotic zone (30 - 150 metres) and seafloor (carbon storage and sequestration potential). Source Bax et al. (2022)



Image credit : SMSG Giant kelp forest (*Macrocystis pyrifera*)

In open waters, sustainable fisheries also have an important role to play in the carbon cycle, as do the smaller and lesser studied parts of the food web such as phytoplankton, zooplankton and bacteria.

The mesophotic zone (30 - 150 m), is a vast area still to discover, and very little has been surveyed nearshore below 20m to date.

Offshore, one of the proposed MMAs encompasses part of the Burdwood Bank, a sunken plateau region (~50 - 150m), surrounded by the deep sea (~200 - 1800m), with surprisingly high potential for carbon storage, and potentially long term sequestration.

In totality, marine protections in the Falkland Islands represent a rare opportunity to safeguard unimpacted habitats that have genuine climate change mitigation potential. The MMAs include near pristine marine wilderness areas that have little or no fishing impact, irreplaceable biodiversity and are ecologically representative of the Falkland Islands marine ecosystems. What is imperative to their role in climate change mitigation is their capacity to remove CO₂ from the carbon cycle for 100s of years if not more. This removal occurs naturally when animals die and they are buried below oxic layers of sediment on the seafloor [the site of long-term sequestration]. As long as these ecosystems (and the linkages between them) remain healthy, they (along with other high biodiversity locations like Antarctica) protect life on Earth.



Image credit: N Bax/A Guest SAERI Coral and sponge garden at Bird island discovered in 2021 in mesophotic depths (~50 m).



Image credit: British Antarctic Survey Image of the seafloor on the Burdwood Bank plateau region at 150m depth.

Department of Agriculture



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Mary Berry's Butternut Squash Soup

- 1.5kg/3lb 50z peeled and deseeded butternut squash, cut into 3cm/1 1/4in cubes
 - 1 large onion, roughly chopped
 - 2 medium carrots, peeled and chopped
 - 1 red pepper, deseeded and cut into cubes
 - 4tbsp olive oil
 - 1 tbsp. clear honey (optional)
 - 5cm/2in piece fresh root ginger, peeled and chopped
 - 1.5 litres/2 1/2 pints vegetable stock
 - Salt and freshly ground black pepper
1. Preheat oven to 200C/180C Fan/Gas 6.
 2. Tip the prepared squash into a large, resealable freezer bag with onion, carrots and red pepper. Add half the oil and salt and pepper and toss everything together until the vegetables are evenly coated. Tip into a large roasting tin and spread out to form a single layer.
 3. Roast in oven for 40-45 minutes, or until tender and tinged brown. Drizzle over the honey, if using, 5 minutes before the end of cooking.
 4. Place the large, deep-sided saucepan over a medium heat, add the remaining oil, when it is hot, add the ginger and fry for a minute. Pour in the stock and bring to the boil, then stir in the roasted vegetables and add salt and pepper.
 5. Remove the saucepan from the heat and, using a hand blender, blend the mixture until smooth.
 6. Return to the heat to warm through and serve hot with crusty bread.

