Healthy Soils and Biodiversity

BRIDE Project
Farming with Nature

The BRIDE and Danu EIP Projects

Presenter: *Donal Sheehan*
BRIDE Project Manager

BRIDE Project EIP

Farming with Nature

BirdWatchIreland
protecting birds and biodiversity

teagasc
Agriculture and Food Development Authority

The European Agricultural Fund for Rural Development: Europe investing in rural areas

Bord Bia
Irish Food Board

glanbia
IRELAND

An Roinn Talmhaíochta, Bia agus Mara
Department of Agriculture, Food and the Marine

Ireland's European Structural and Investment Funds Programmes 2014-2020
Co-funded by the Irish Government and the European Union

eip-agri
Agriculture & Innovation

Cork County Council
Comhairle Contae Chorcaí

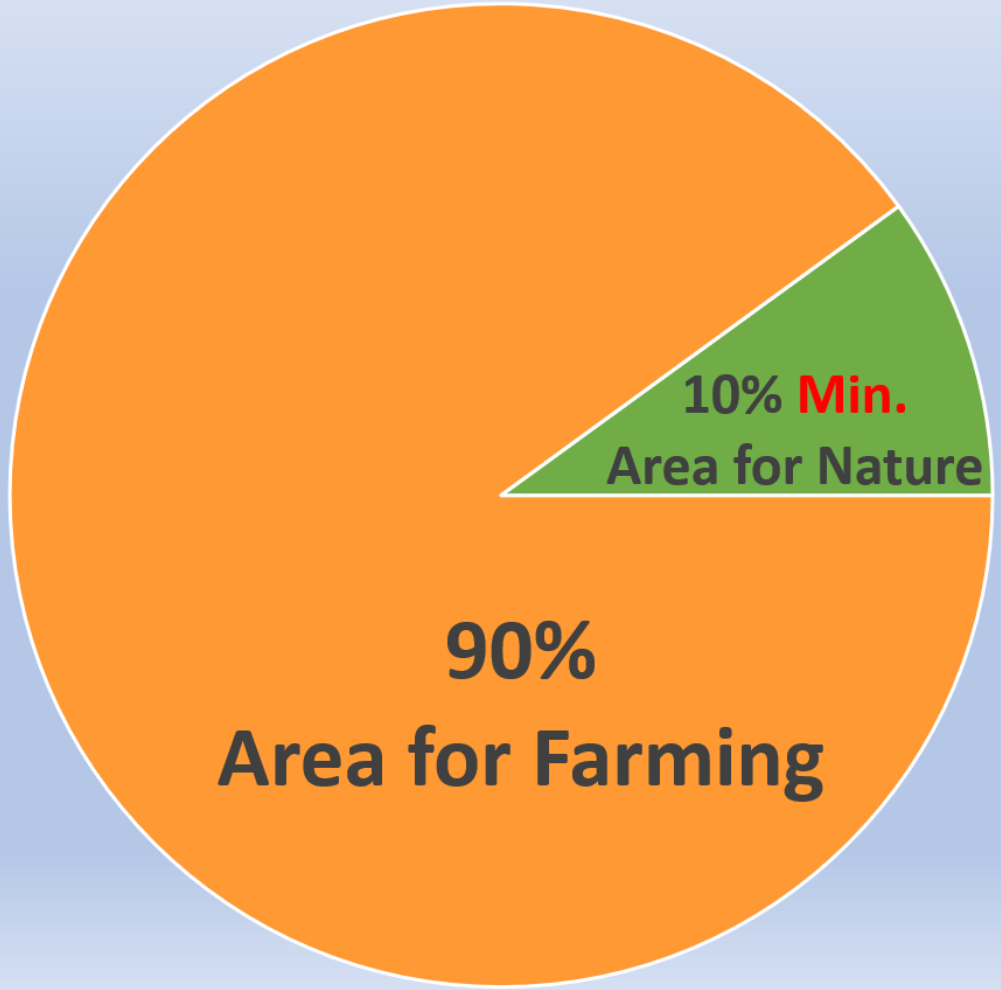
KEPAK

National Biodiversity Data Centre
Documenting Ireland's Wildlife

Why farmland biodiversity is in decline

- Focus for last 50 years on productivity at lowest cost
- Inevitable pinch on environment – more sprays, fertilisers, stock, machinery
- Land is now the new quota, maximising this limiting asset to make an income
- No financial value on the non-productive part of the farm – eligibility/policy
- Agri-environment schemes historically for the extensive farmer – mindset among some intensive farmers is “it’s not for me”. Extensive farming is not real farming!
- No encouragement from industry to improve or retain biodiversity at an intensive level

EU Green Deal / Farm to Fork



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The BRIDE Project
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FARMER:
ADDRESS:
MAIN ENTERPRISE:
FARMER REF:

2019

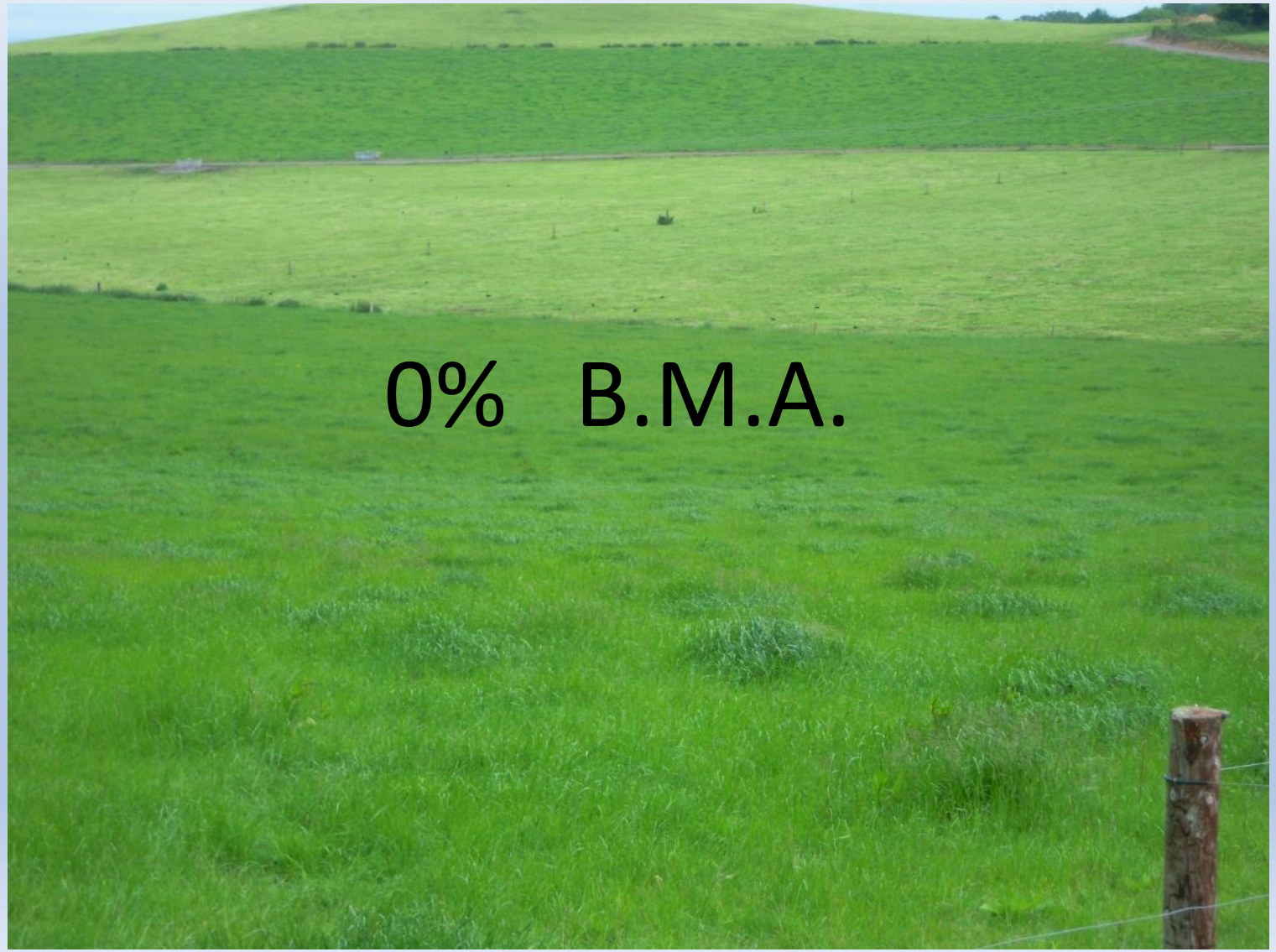
No.	BRIDE Project Habitats	SYMBOL	Area-Sq.m	BMA % Rating	Calculated BMA %
1	Bog			1	
2	Coniferous Forest			0.25	
3	Derelict Building / Historic Monument			1	
4	Watercourse/drain		1479	1	0.28
5	Exposed Rock			1	
6	Farmyard		10344	0.3	0.59
7	Field Margin		8169	1	1.56
8	Hedgerow/Treeline		15020	1	2.87
9	Marsh		3119	1	0.60
10	Native Woodland			1	
11	Mixed Woodland			1	
12	Pond			1	
13	Quarry			1	
14	Reed Bed			1	
15	Riparian Buffer Strip		12739	1	2.44
16	Scrub / Wasteground			1	
17	Multi-species Grassland			1	
18	Wet Grassland			1	
19	Winter Stubble			0.05	
	TOTAL BMA		5.09 Ha		8.35

% of Biodiversity Managed Area (BMA)		
0 - 4	Total farm area	52.27 Ha/522777 SqM
5 - 9	BMA Habitats occurring	6
10 +	**BMA% =**	**8.35%**
	BMA AREA (Ha)	**5.09**

BRIDE Project
Environmental Measures

Measure No.	Measure		Capital / Labour Payment	Environmental Benefit
1	**Annual Biodiversity Plot**			
	Minimum 0.1 ha		**€250** (annual payment)	B
2	**Bee Scrape (x5)**			
	(1m x 0.5m)		**€100** (5 x €20)	B
3	**Farmyard**			
	BRIDE Bat boxes (x2)		**€70 (max)**	B
	BRIDE Species Specific Bird Boxes (x2)		**€220 (max)**	B
	Rodenticide Alternative		**€60 (max)**	B
4	**Field Margin**			
	First 2m wide x 100m		**€50**	B, C
	Every subsequent 2m x 100m		**€30 (max €500)**	B, C
5	**Hedgerow (new)**			
	First 100m x 2.5 metres		**€380**	B, C, W
	Every subsequent 100 x 2.5 metres		**€100**	B, C, W
6	**Invasive Species Control**			
	Giant Hogweed, Himalayan Balsam, Laurel etc		**max €100**	B,W
7	**BRIDE Multi-species Grassland**			B, C, W
	1 hectare		**€475**	
8	**Nettle Patch (x2)**			
	(size 2m x 2m)		**€40** (2 x €20)	B
9	**Native Woodland**			
	New Woodland (max 0.1 hectare)		**max €415**	B, C, W
10	**Pollinator Plot**			
	Grassland	($200m^2$ = 2m x 100metres)	**€145**	B
	Tillage	($300m^2$ = 3m x 100metres)	**€175**	B
11	**Pond**			
	New Pond (14m x 14m = $196m^2$)		**€450**	B, C, W
12	**Riparian Buffer Strip Creation - Bride River**			
	First 3m wide x 100m		**€50**	B, C, W
	Every subsequent 3m x 100m		**€30 (max €500)**	B, C, W
13	**Riparian Buffer Strip Creation - Bride Tributary**			
	First 2m wide x 100m		**€50**	B, C, W
	Every subsequent 2m x 100m		**€30 (max €500)**	B, C, W
14	**Tree Line**			
	New Tree Line - first 20 trees (2.5m x 100m)		**€80**	B, C, W
	Every subsequent 20 trees (2.5m x 100m)		**€60**	B, C, W
15	**Farmer Suggested Measure**		**Measure Dependant (max €250)**	

% B.M.A. = % Biodiversity Managed Area = %Habitats

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Skylark Plot – 7040m²


CLAAS
870
JAGUAR


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•Multi-species Grassland

BRIDE PROJECT EIP

Farming with Nature - RBP Score Card

Habitat No. 15

HEDGEROW (existing) (Max Score = 100)

Date checked : Summer

1. Last Topped		
<1 year	1 - 4 years	5 years +
10	30	60

2. % Gaps (ground level)		
> 70 % gaps	10 - 70 % gaps	<10 % gaps
Autofail	8	20

3. Free from Disturbance	
No	Yes
See below	10

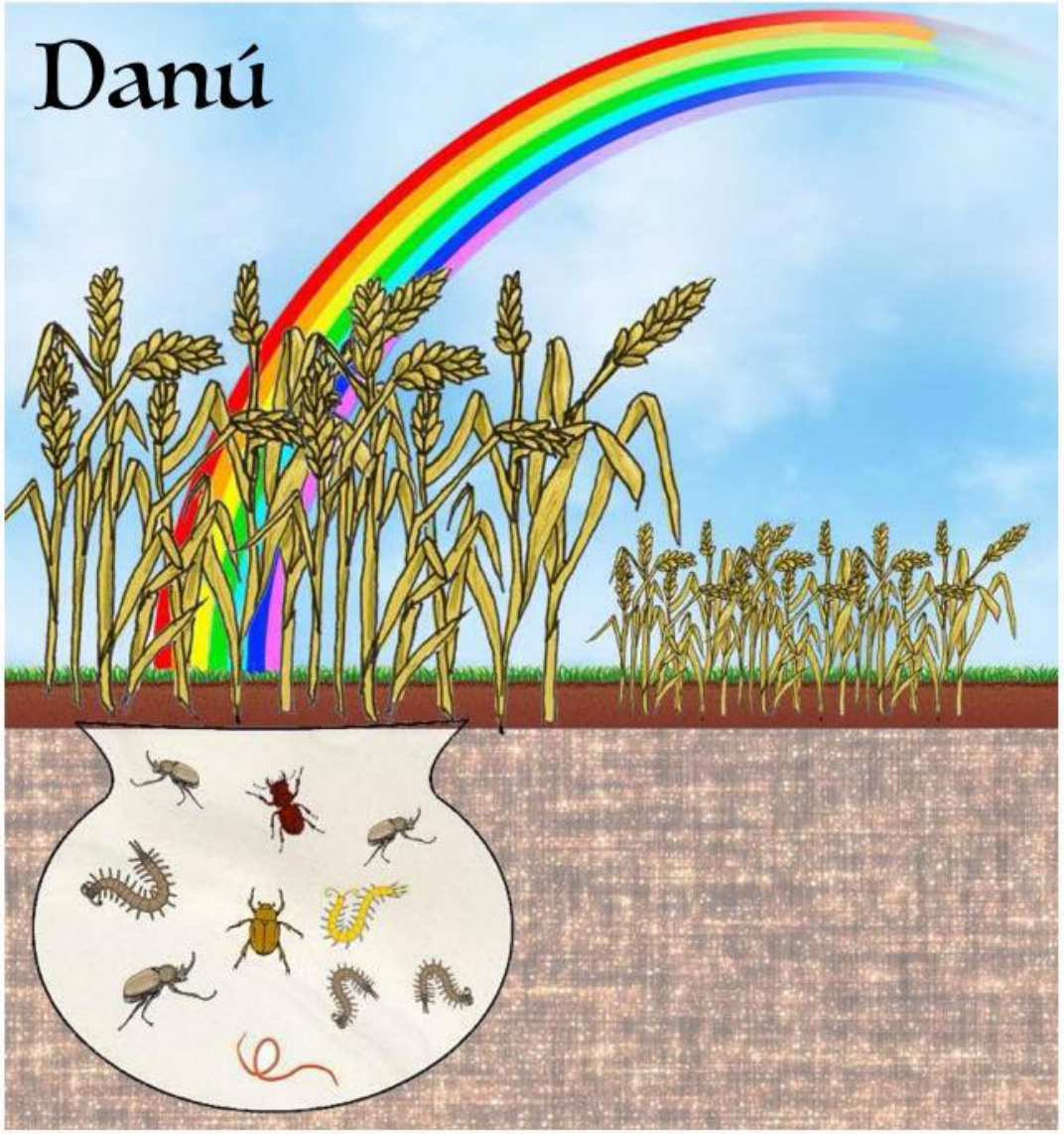
4. Cover of Invasive Species			
> 50%	25 - 50%	10 - 25%	<10%
0	2	5	10

Disturbance	Point Deduction
Pesticide Application	Autofail *
Dumping / Spoil	Autofail
Livestock Access	Autofail

Invasive Species	
Laurel	Japanese Knotweed
Travellers Joy	Snowberry
Bracken	Giant Hogweed
Himalayan Balsalm	

* Unless under the guidance of an ecologist

*[See **BRIDE Project Habitat Management Guidelines** for more detailed information]*


Danú
Nurturing nature's abundance


RAUCH

PENERGETIC IRELAND
0
0
0

PLANT & SOIL SOLUTIONS

Sustainable Soil Management
Solutions for Eco-nomically Sustainable Farming

Sample No: Q23804
LAB No: 107614
Sample DATE: 15/01/2021
Report DATE: 00/01/1900

0 SSM Soil Advisor **Padraig Shevlin** 0
0 Facts Fertiliser Advisor **Padraig Shevlin** **FE/5488**

Field ID: 15-19 **0 Ha** **CROP SOWN:** **No Crop Given**

pH and CEC

Active pH 6.40
A slightly acidic soil.
Very good crop responses.
Buffer pH 7.00

Consider Req: Crop pH

Total Exchangable Capacity (TEC) — A key measure of the soil's ability to hold & exchange soil nutrients. 6 = small, 40 = large. **Result** 9.16

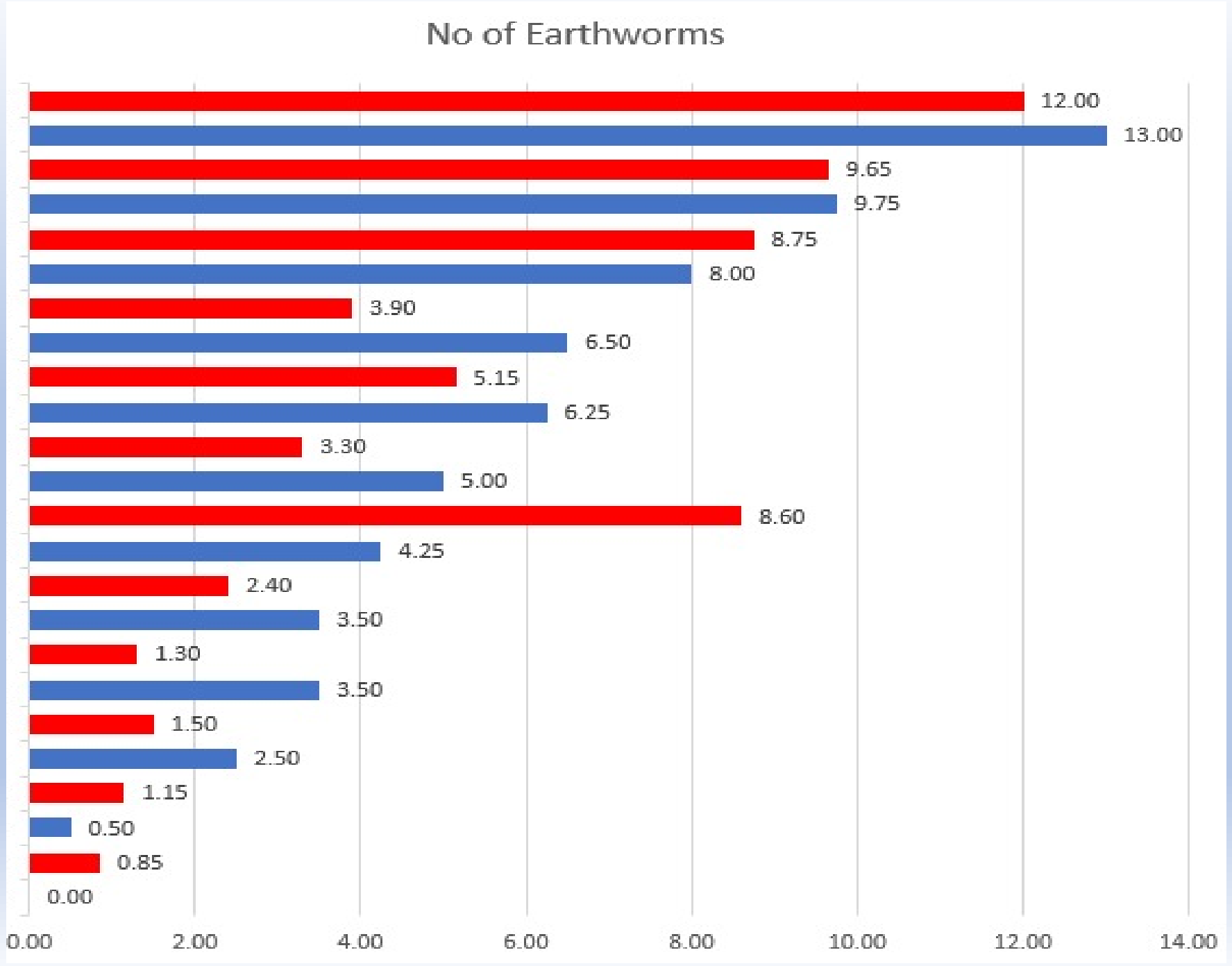
Estimated Soil Type
light coloured Sand
Dry bulk density t/m^3 0.982

OM

Organic Matter	Min >3%	6.70	Levels helping soil structure and nutrient holding capacity	**Estimated NR**	79 kg of NR from OM
Organic Carbon	ideal >5%	3.93	Maintaining organic Carbon is essential for sustainable farming.	**T/C/ha Target**	75 Found 58 T/C/Ha

Summary

pH	**pH adjustment recommendations would depend on the crop type, some adjustment may benefit some crops.**
Calcium	**Calcium levels are within the acceptable range**
Magnesium	**Magnesium levels in the soil solution need to be increased to ensure adequate availability to the crop.**
Potash	**Potash is low and should be increased appropriately, this could affect potassium : sodium ratios.**
Sodium	**Sodium levels are elevated against our guides. Sodium should be monitored as part of a program, or raise potash if it is low**
Phosphates	**Apply phosphate in an acceptable product type for the soil's pH; include a soil phosphate build factor if possible.**
Sulphates	**Low levels of sulphate in reserve; look to build soil levels if possible. ?N:S ratios**


No of Earthworms
12.00
13.00
9.65
9.75
8.75
8.00
3.90
6.50
5.15
6.25
3.30
5.00
8.60
4.25
2.40
3.50
1.30
3.50
1.50
2.50
1.15
0.50
0.85
0.00
0.00
2.00
4.00
6.00
8.00
10.00
12.00
14.00

Danu soil improvement trial – 2018-2023

- Water filtration test
- Earthworm count
- Targeted nutrient allocation based on soil Albrecht test and periodic sap analysis during growing season – feeding soil rather than the plant
- Aim to increase soil organic matter and thus carbon sequestration potential
- Reduced nitrogen use through better slurry and soil management – multi-species sward
- Increasing the biology in the soil

My livestock and grassland system

- Improves biodiversity
- Improves soil health
- A healthy biodiversity below ground means a healthy biodiversity above ground
- Aim to reduce nitrogen and eliminate pesticides
- Healthy soil will mean healthy plants and thus healthy nutrient-dense food
- Livestock and nature have evolved side by side but there needs to be a balance back to nature

Acknowledgements:

- BRIDE Project Administrator - Sinéad Hickey
- BRIDE Working Group
  - Daire Ó hUallacháin, Teagasc
  - John Finn, Teagasc
  - Paul Moore
  - Tony Nagle
- Our 42 farmers

Thank you!