Achievements of the four pilot RBPS projects

Caitriona Maher, María Asunción Berastegi Gartziandia, Laura Sutcliffe, Clare Bains and Helen Keep

Achievements of the RBPS pilots Ireland and Spain

Caitriona Maher, caitrionamaher@gmail.com, European Forum on nature Conservation and Pastoralism (Ireland and Spain)

"Farming for biodiversity: building on know-how from the results-based payment scheme (RBPS) pilots"

17th October 2019, Brussels

http://rbaps.eu/

RBPS pilots Ireland and Spain

County Leitrim

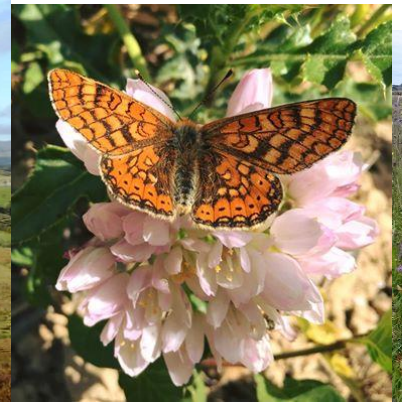
- 13 farmer
- 138ha species-rich grasslands
- 29ha of habitat suitable for Marsh Fritillary butterfly
- A ‘pure’ results-based approach which rewarded farmers for higher quality grassland habitats

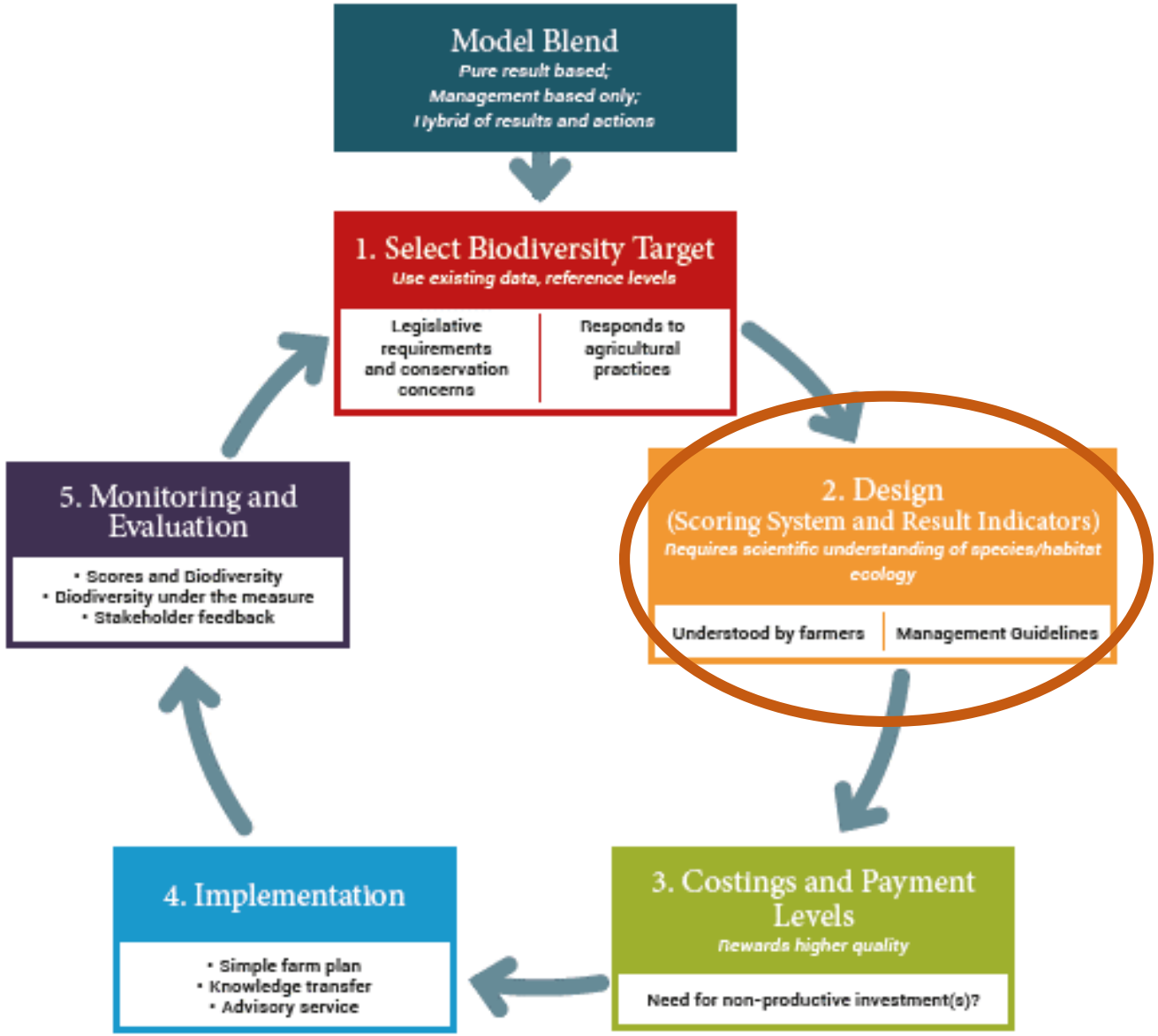
Shannon Callows

- 22 farmer
- 40 ha species-rich meadows (part of which also supported whinchat)
- 60 ha of breeding waders habitat
- Results-based payments were supported by a budget for one-off investments to improve the ecological quality

Navarra

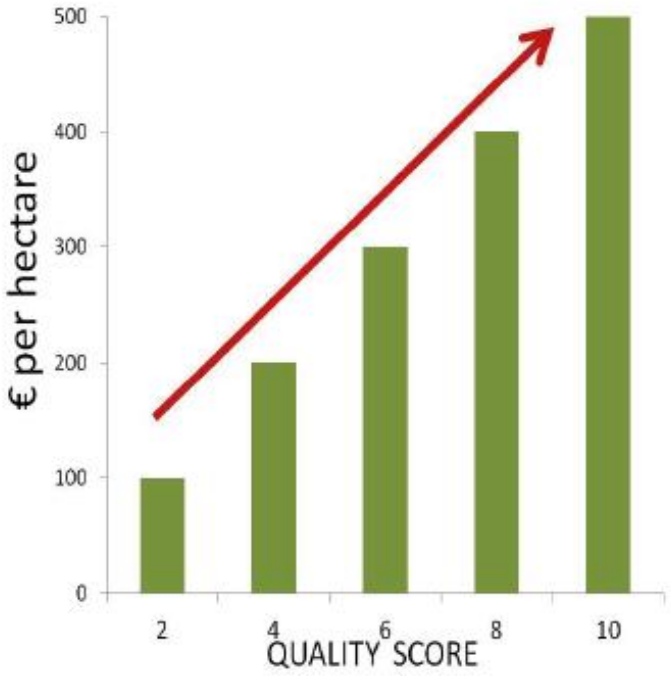
- 22 farmers
- 61 hectares:
  - 11 ha vineyards
  - 21 ha olive groves
  - 28 ha almond trees
- Results-based payments were supported by a budget for one-off investments to improve the ecological quality

- Common design approach in 3 pilot areas
- Locally adapted, practical and results focused
- Balance incentivising higher quality output and overall scheme complexity
- Facilitate flexible and adaptive management on farm
- Build local trust and capacity
- Enable co-creation and innovation
- Accounts for factors outside the farmers control

Scoring system



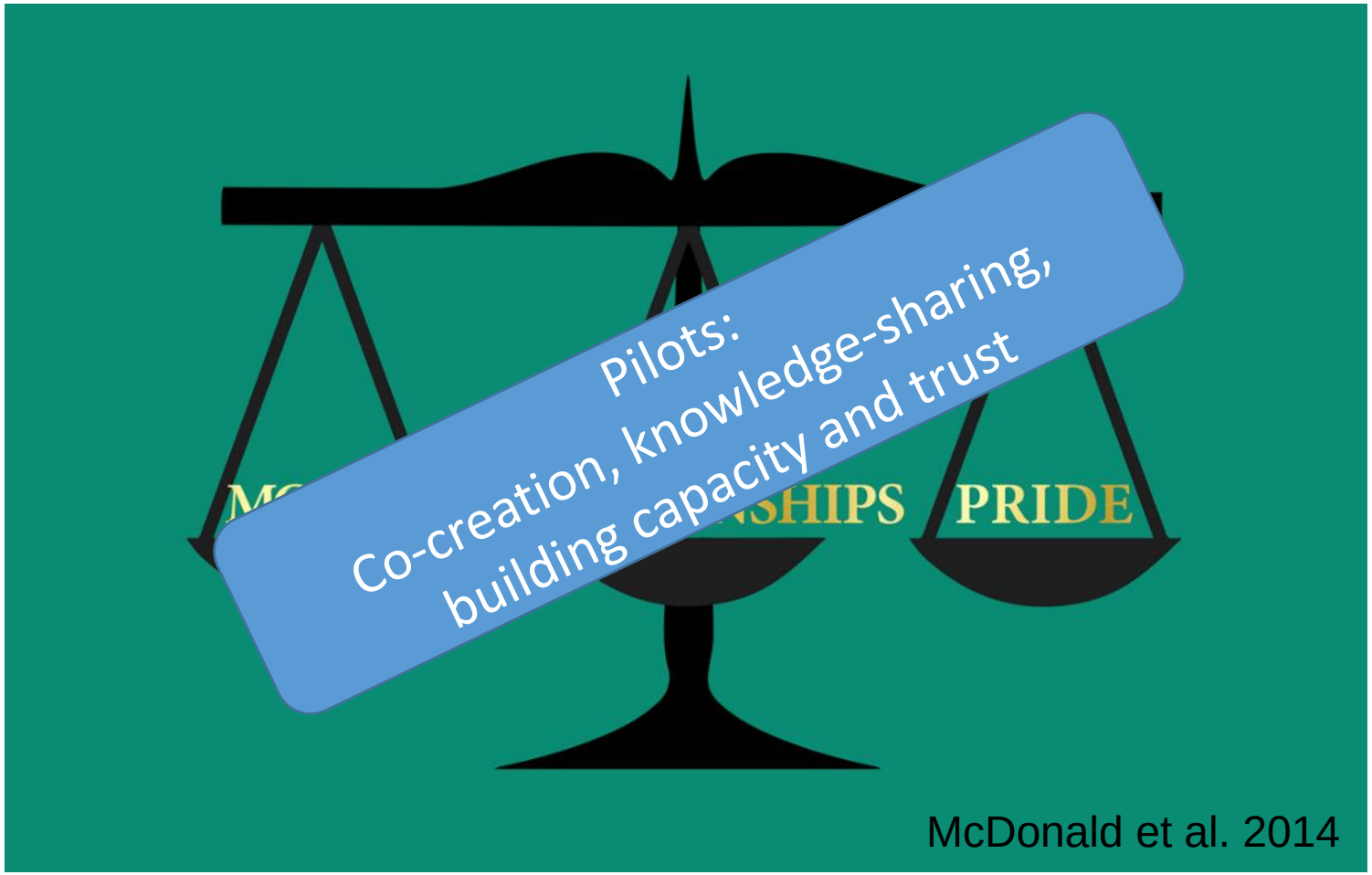
10 point score based on results indicators

- Ecological quality (pos. and neg. species)
- Threats/condition and future prospects indicators - damaging activities, bare ground, veg structure etc.

Lessons Learned

- Common design approach across diverse agricultural landscapes is possible
- Time and expertise required to develop the scoring systems to ensure:
  a) ensure indicators reflect achievement of the biodiversity target (potential for wider ecosystem services)
  b) account for variations in environmental conditions outside control of the farmer
  c) ensure locally adapted, practical and results focused
- Guidance and training are key
- Integrated local farm advisory systems are needed
- Implementation and control can be simpler than action-based but capacity and resources are needed for effective design

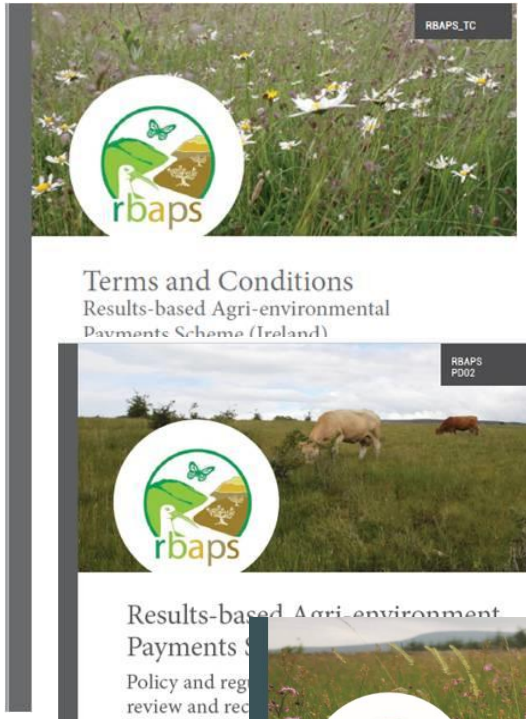
NOTE: Not all About the Money

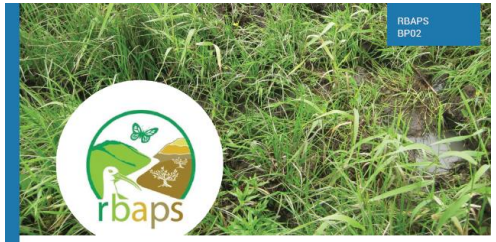


Source: Dr. Aine Macken Walsh (agricultural sociologist)

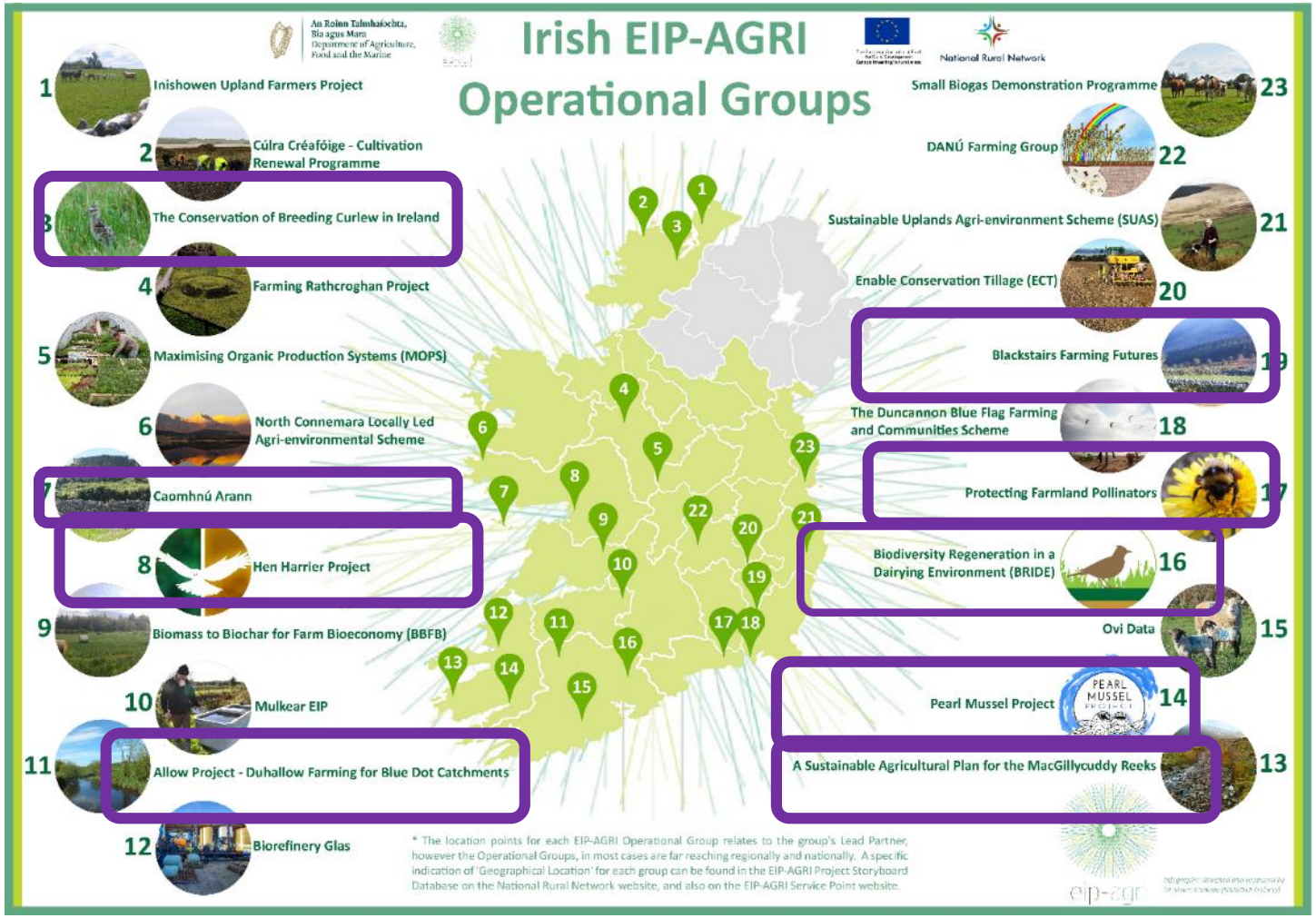
Guidance and Supports

www.rbaps.eu

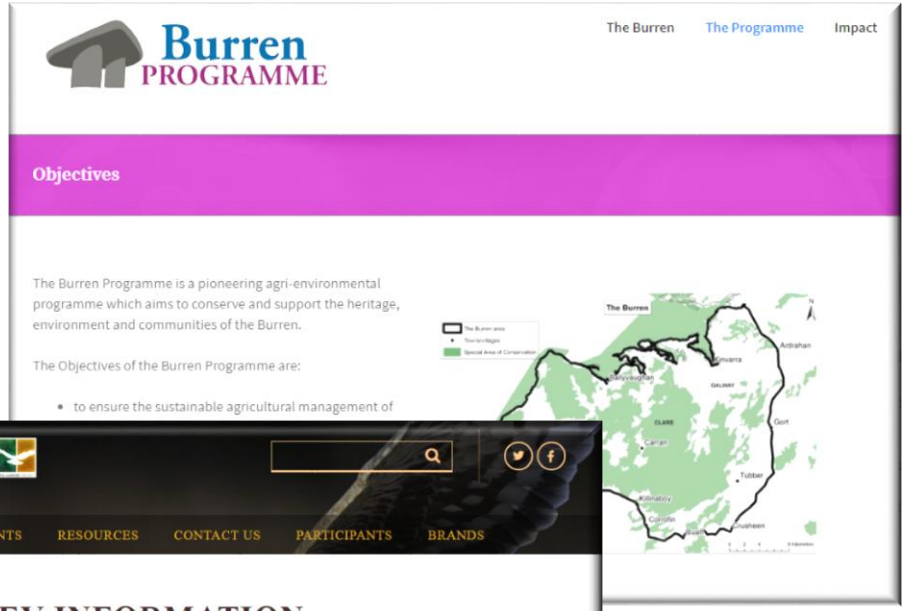


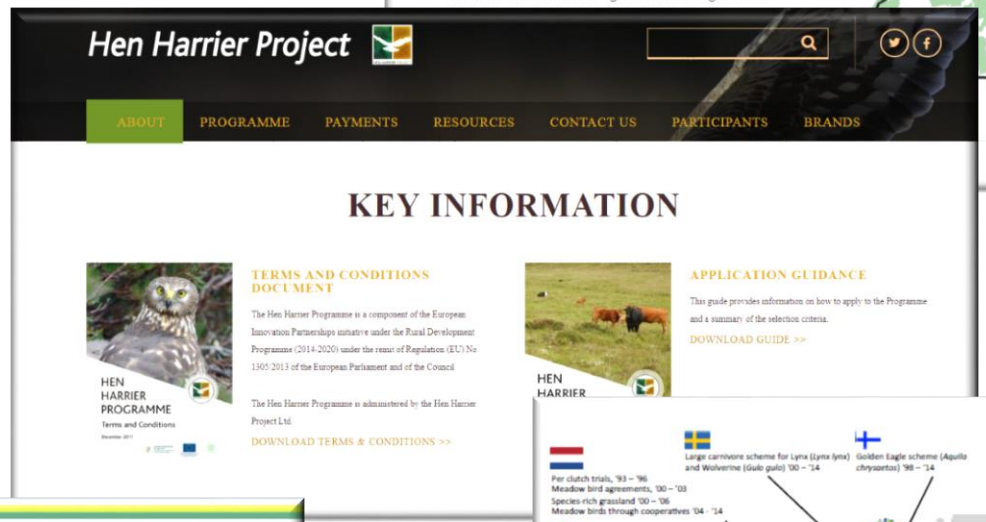


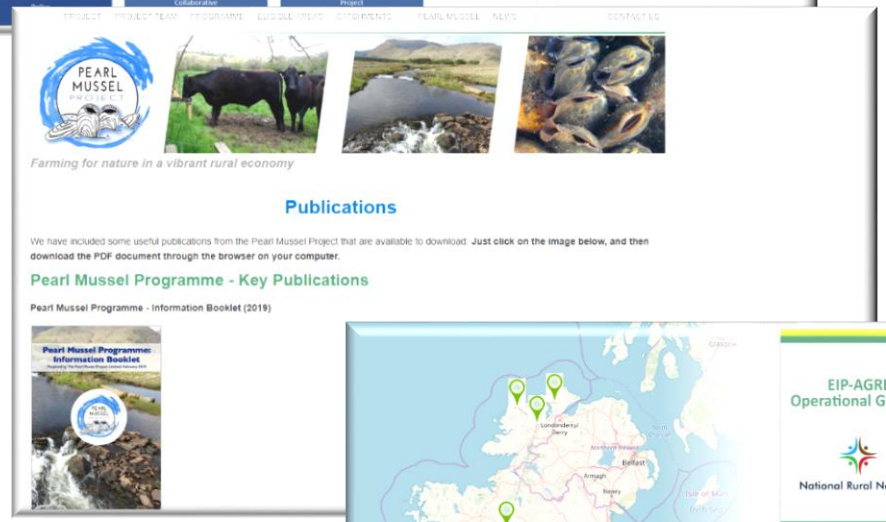
RBAPS and EIPs: Stepping stones to wider roll out

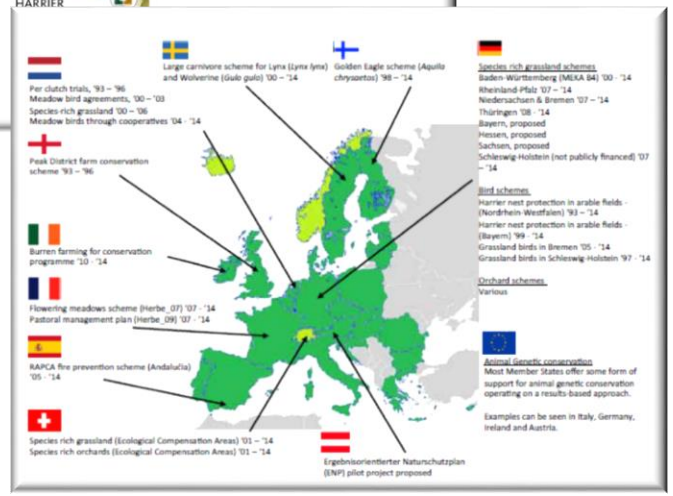


Guidance and Supports









Achievements from Navarra
Assessing monitoring indicators versus biodiversity target in perennial crops of the Mediterranean mosaic landscape

María Asunción Berastegi Gartziandia, aberastg@gan-nik.es, GAN (Spain)

"Farming for Biodiversity: building on know-how from results-based (RBPS) Pilots"

rbaps

17th Oct. 2019, Brussels

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European Forum on Nature Conservation and Pastoralism

Burren PROGRAMME

BirdWatchIreland birdwatchireland.ie protecting birds and biodiversity

Nafarroako Ingurumen Kudeaketa, S.A.

Gestión Ambiental de Navarra, S.A.

teagasc

An Roinn Cultúir, Oidhreachta agus Gaeltachta

Department of Culture, Heritage and the Gaeltacht

An Chomhairle Oidhreachta The Heritage Council

Department of Agriculture, Food and the Marine

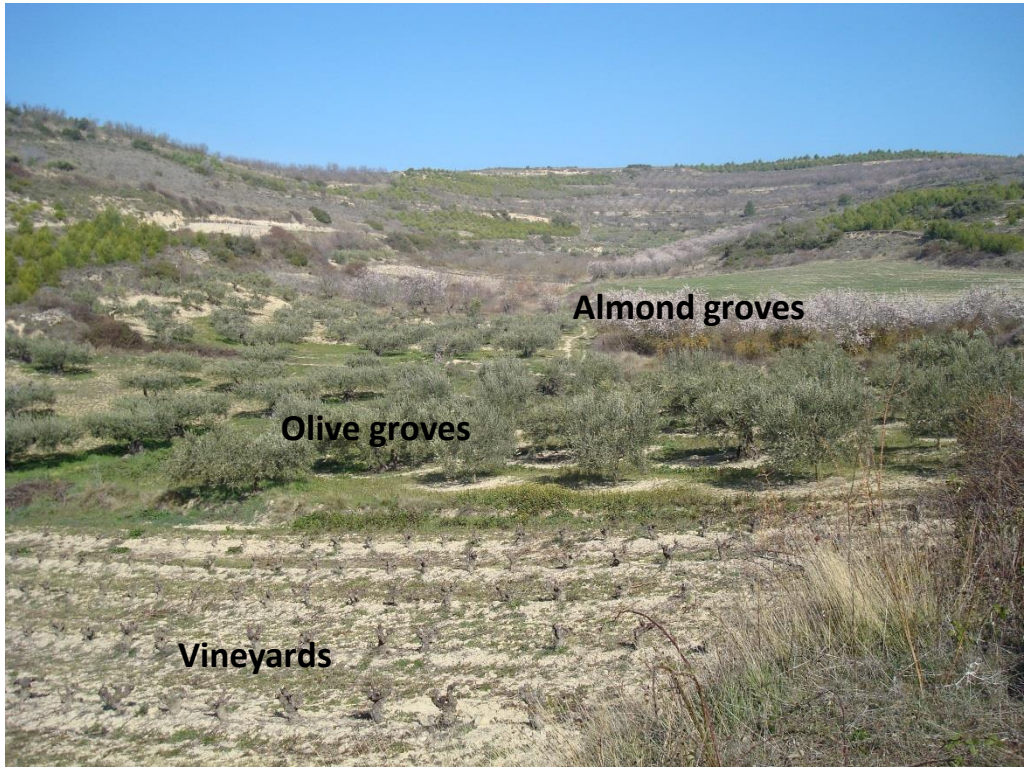
An Roinn Talmhaíochta, Bia agus Mara

Biodiversity target

- *Biodiversity target*:
  Low intensity management HNVF system mosaic landscape

- *Selected element*:
  Perennial crops:
  - Vineyards
  - Olive groves
  - Almond groves

- **Output: permanent crop with diverse herbaceous cover; richness of elements**

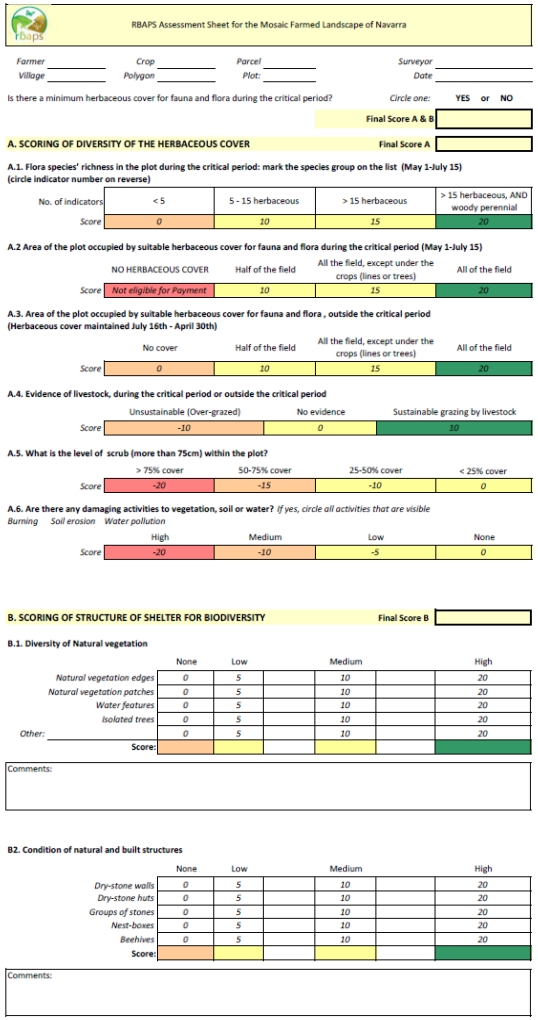


Scoring (result) indicators

- Biodiversity target measured by scoring on a 0 to 100 point scale based on results indicators

A. Herbaceous cover (max. 70 points)	Min.	Max.
A.1. Richness of species	0	20
A.2. Herbaceous cover between 1 May-15 July	0	20
A.3. Herbaceous cover the rest of the year	0	20
A.4. Presence of grazing in the plot	-10	10
A.5. Bush encroachment	-20	0
A.6. Damaging activities	-20	0

B. Structures of interest (max. 30 points)	Min.	Max.
B.1. Natural elements	0	30
B.2. Human made elements	0	30



RBAPS Assessment Sheet for the Mosaic Farmed Landscape of Navarra

Farmer _____ Crop _____ Parcel _____ Surveyor _____
Village _____ Polygon _____ Plot: _____ Date _____

Is there a minimum herbaceous cover for fauna and flora during the critical period? Circle one: YES or NO

Final Score A & B

A. SCORING OF DIVERSITY OF THE HERBACEOUS COVER Final Score A

A.1. Flora species' richness in the plot during the critical period: mark the species group on the list (May 1-July 15) (circle indicator number on reverse)

No. of indicators	< 5	5 - 15 herbaceous	> 15 herbaceous	> 15 herbaceous, AND woody perennial
Score	0	10	15	20

A.2 Area of the plot occupied by suitable herbaceous cover for fauna and flora during the critical period (May 1-July 15)

	NO HERBACEOUS COVER	Half of the field	All the field, except under the crops (lines or trees)	All of the field
Score	Not eligible for Payment	10	15	20

A.3. Area of the plot occupied by suitable herbaceous cover for fauna and flora , outside the critical period (Herbaceous cover maintained July 16th - April 30th)

	No cover	Half of the field	All the field, except under the crops (lines or trees)	All of the field
Score	0	10	15	20

A.4. Evidence of livestock, during the critical period or outside the critical period

	Unsustainable (Over-grazed)	No evidence	Sustainable grazing by livestock
Score	-10	0	10

A.5. What is the level of scrub (more than 75cm) within the plot?

	> 75% cover	50-75% cover	25-50% cover	< 25% cover
Score	-20	-15	-10	0

A.6. Are there any damaging activities to vegetation, soil or water? *If yes, circle all activities that are visible*
Burning Soil erosion Water pollution

	High	Medium	Low	None
Score	-20	-10	-5	0

B. SCORING OF STRUCTURE OF SHELTER FOR BIODIVERSITY Final Score B

B.1. Diversity of Natural vegetation

	None	Low		Medium		High
Natural vegetation edges	0	5		10		20
Natural vegetation patches	0	5		10		20
Water features	0	5		10		20
Isolated trees	0	5		10		20
Other: _____	0	5		10		20
Score:						

Comments:

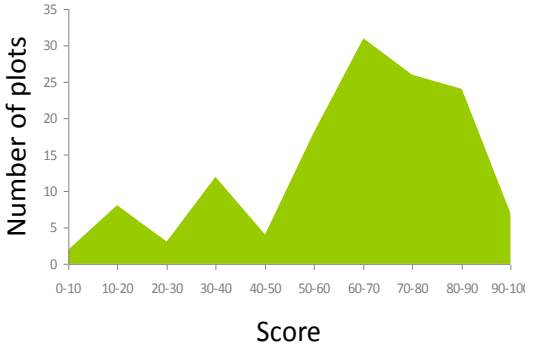
B2. Condition of natural and built structures

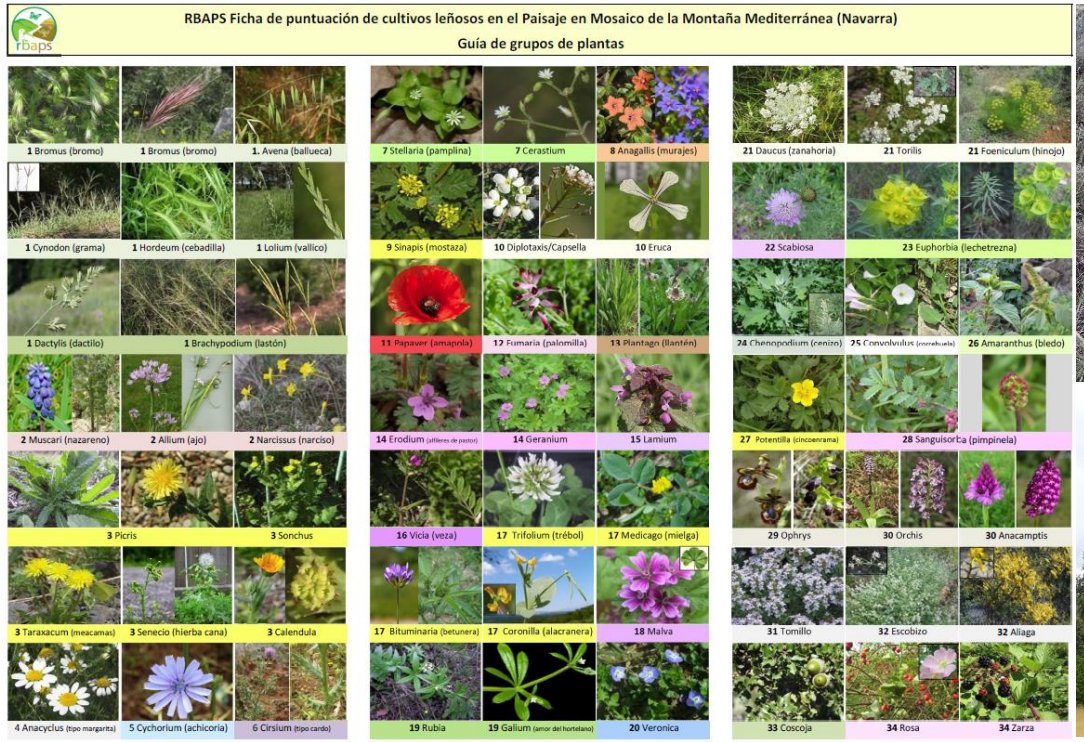
	None	Low		Medium		High
Dry-stone walls	0	5		10		20
Dry-stone huts	0	5		10		20
Groups of stones	0	5		10		20
Nest-boxes	0	5		10		20
Beehives	0	5		10		20
Score:						

Comments:

Scoring (result) indicators

- Number of plots: 115 in 2016, 133 in 2017
- Average score: 60 points



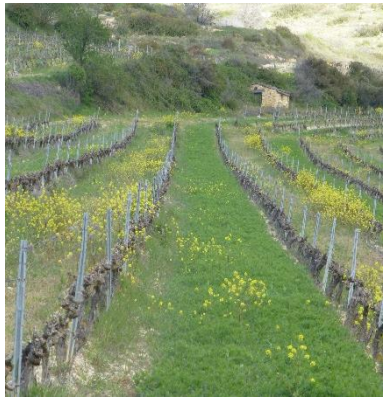


Monitoring indicators

- *Flora species richness and diversity indices:*

  - Plant relevé, three 4m^2 quadrants in each of the 21 monitoring plots (63 relevés/year)
  - High diversity of flora in the herbaceous cover of the fields

Maximum number of species per relevé:	39
Number of different species found per year:	166
Average species richness:	14,64
Average Shannon diversity index:	2,23
Average Simpson diversity index:	0,81
Average Pielou's evenness:	0,94



  - Three main ecological groups:
    - Perennial species of the surrounding grasslands and scrublands, including some camephytes
    - Small terophytes characteristic of open dry areas
    - Nitrophilous os subnitrophilous species typical of the crop-fields

Monitoring indicators

- *Fauna groups*:

- Along transects of a width of 1,5m in the inner perimeter of the 21 monitoring plots:

  - Butterflies' abundance
  - Grasshoppers' abundance
  - Dragonflies' abundance
  - Abundance and richness of reptiles
  - Presence and abundance of birds
  - Presence of wild mammals

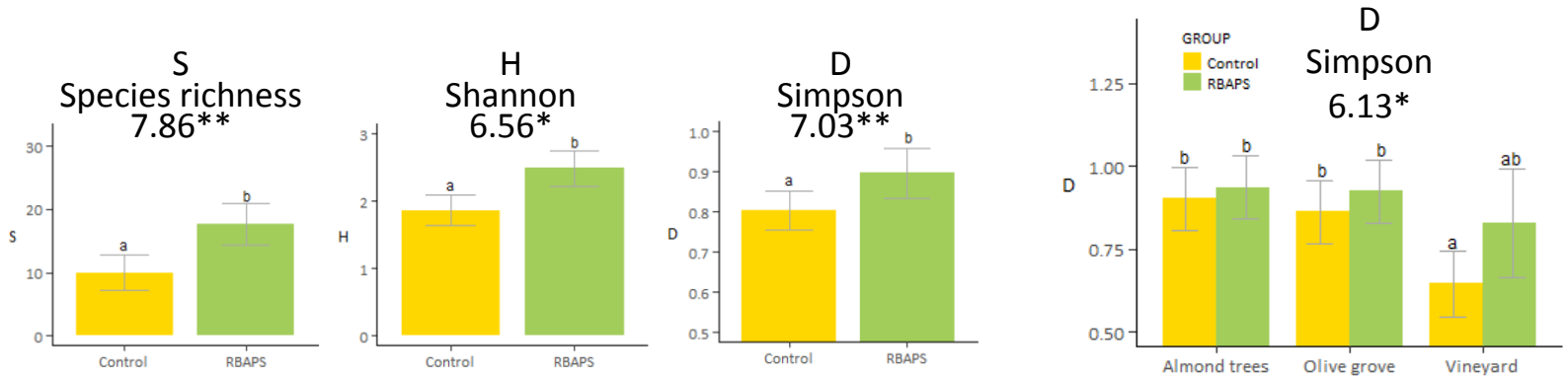
- Pitfall traps:

  - Insects' abundance

Evaluation

- ***RBAPS vs. control data (flora):***

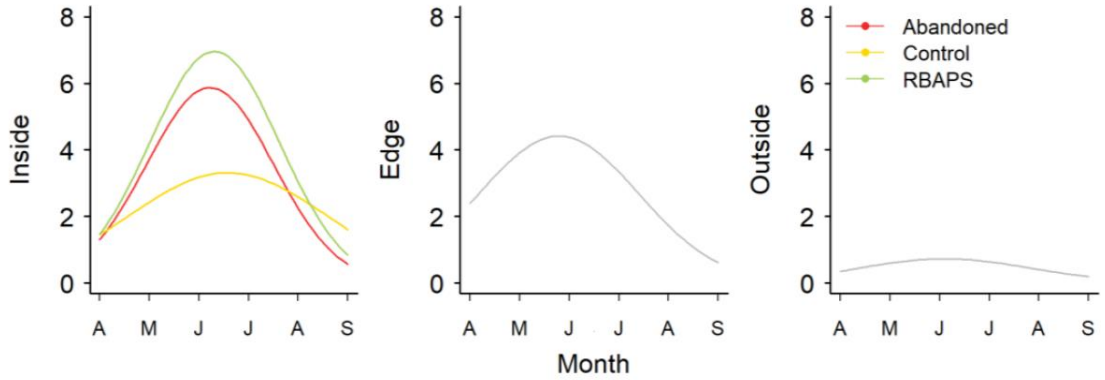
- Management of crops done by farmers participating in RBAPS results generally in a higher biodiversity of flora than other farmers of the area



Evaluation

- ***RBAPS vs. control data (fauna):***

- Only butterflies inside the monitoring sites showed significant differences between control and RBAPS plots (but not on the edge or outside the plots)



- Dragonflies and grasshoppers no significant differences

Evaluation

- ***Score versus biodiversity target (part A)*:**

- In flora and butterflies inside the plot it succeeded in reflecting variation in the status of the biodiversity targets in part A

RBAPS score	Flora				Butterflies			Grasshoppers		Dragonflies	
	S	H	D	J	Edge	Inside	Outside	Edge	Inside	Edge	Inside
A	**0.83*** **	**0.83*** **	**0.83*** **	0.15	0.260	**0.66** **	-0.160	-0.040	0.330	0.110	0.350
B1	-0.16	-0.13	-0.14	0.06	0.040	-0.030	-0.030	-0.120	0.240	-0.280	-0.20
B2	0.19	0.22	0.22	0.3	0.120	0.050	-0.370	-0.360	0.20	0.050	-0.020

Evaluation

- ***Score versus biodiversity target (part B)*:**
- The monitoring methodology should be reconsidered to assess part B of the scorecard
- Reptiles and birds were selected to monitor biodiversity in part B of the scorecard:

- The lack of reptiles in the are was a completely unexpected surprise
- Birds (mobile indicator) could work at a landscape level indicator, but not useful for a plot level evaluation

- Plant diversity in the plot boundaries could be monitored

Reflexions on evaluation

- A well-designed scoring system needs to be focused on the chosen biodiversity target

- A well-designed monitoring methodology is also important to validate the results

- Importance of **spatial scale** to assess the impact of RBAPS. Results at a plot level require different indicators than landscape level

- Importance of **temporal scale**. For example the potential return of reptiles in pilot area

Thank you! ¡Gracias! Eskerrik asko! ☺

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Burren PROGRAMME

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The Heritage Council

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

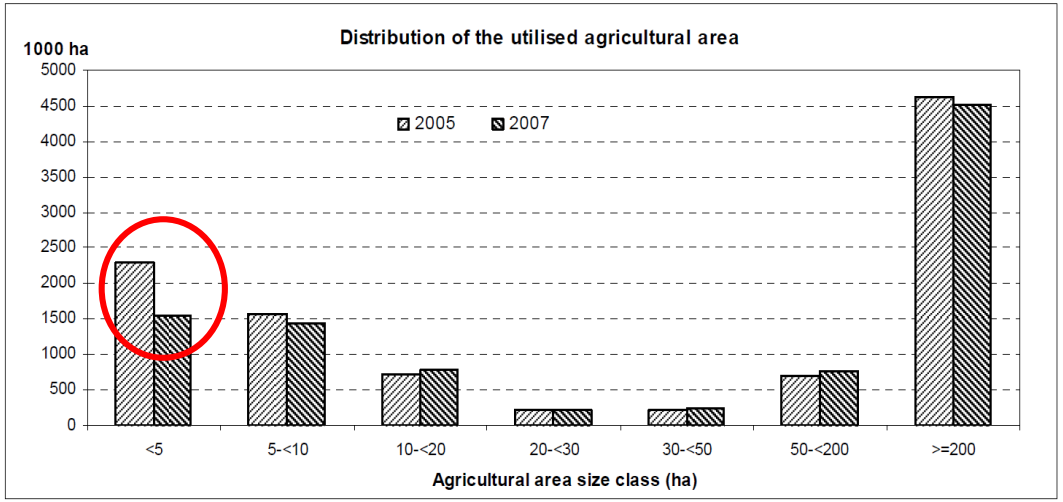
Achievements of the Romanian pilot RBPS project

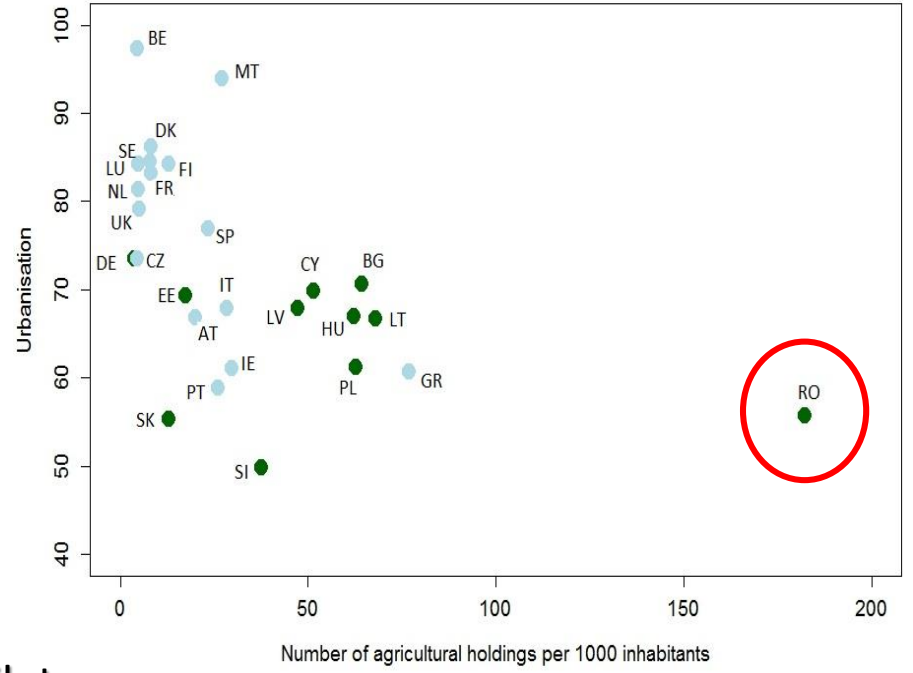
Laura Sutcliffe, Rainer Oppermann - Institute for Agro-ecology and Biodiversity (IFAB)
Razvan Popa, Nat Page - Fundatia ADEPT Transilvania

Farming context and conservation challenges in Romania

Romania has a large number of smallholdings (~90 % of holdings are <5 ha)

➔ Delivery of AECS to a large proportion of HNV farmland is challenging!



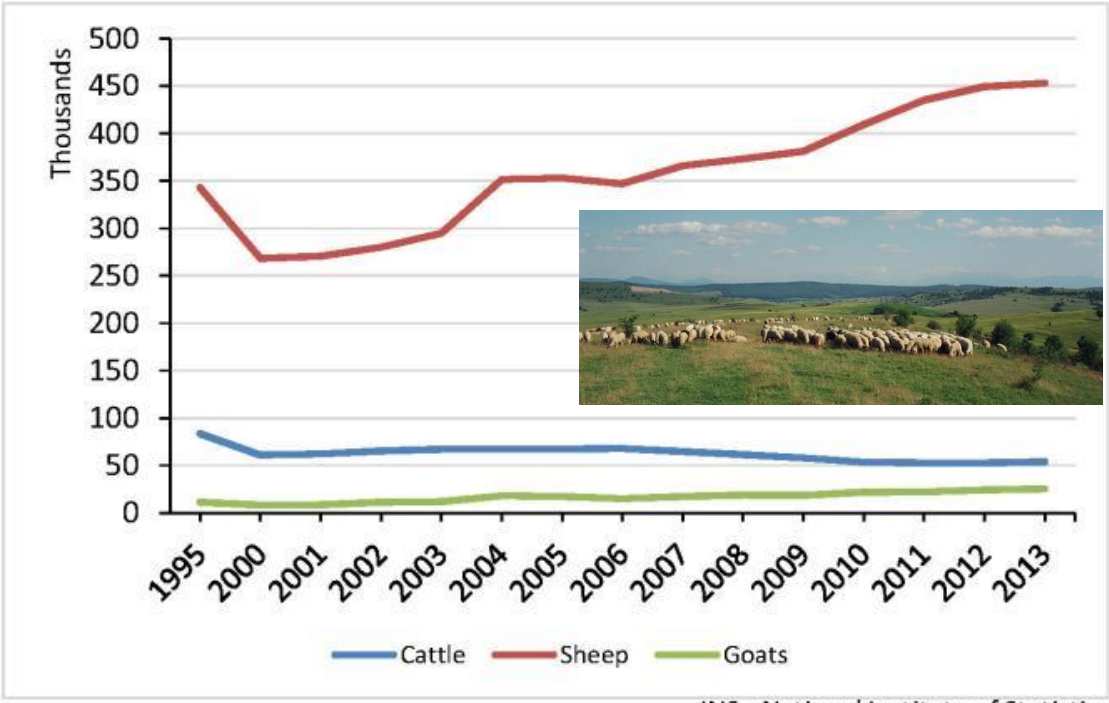


Objectives

To support species rich **meadows** in the target areas, counteracting abandonment or intensification.

We chose meadows because:

- They tend to have single ownership (as opposed to communal ownership)
- They are in a generally homogeneous ecological state
- They are not currently supported by market forces, AECS or Natura 2000



INS - National Institute of Statistics

Selection of plant indicator species

- Preparatory surveys in 2015 -> identification of a species list with 30 species that:
  - Are moderately common
  - Are easy to identify
  - Cover a range of habitat types
  - Correlate with HNV habitat score
  - Distinguish between meadows of different habitat quality

- Additional stipulation of 1 cut per year due to time lag between management change and species disappearance


Primula spec.


Dianthus spec.


Trollius europaeus


Filipendula vulgaris


Orchidaceae spec.


Scorzonera purpuraea


Fragaria spec.


Leucanthemum vulgaris

Delivery costs

3 payment levels calculated with methodology (income foregone based on assumptions of the necessary management to maintain species rich meadows):

- 5 species: €213 / ha / year
- 8 species: €229 / ha / year
- 10 species: €259 / ha / year

(payments for national AECM available for grassland in the area 142€ to 242€)

Levels provide some flexibility against surveyor error/interannual variation, but still reward increasing species richness

Evaluation

- Farmers enjoyed the flexibility of the scheme. Their species knowledge was mixed.
- Comparison to control parcels: condition remained stable under RBPS
- Experience with variation in number of indicator species found is a potential issue
- Species list should be reconsidered
- Support in species identification through advisors and/or an app would help scheme delivery


FUNDATIA
ADEPT
ifab
DG Environment, European Commission
POGÁNY-HAVAS
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gefördert durch
DBU
Deutsche
Bundesstiftung Umwelt
https://fundatia-adept.org/projects/rbaps-results-basedpayments-for-biodiversity

RBPS ENGLAND GRASSLAND MEASURES

European Commission

YORKSHIRE DALES National Park Authority

NATURAL ENGLAND

ACHIEVEMENTS

Farming Context

YORKSHIRE DALES
National Park Authority

NATURAL ENGLAND

European Commission

Objectives and Indicator measures

<u>Grassland for breeding wader objective</u>:
To provide suitable feeding, nesting and chick rearing habitat for breeding waders (lapwing, curlew, snipe and redshank)

A single self assessment in May/June undertaken by the farmer, looking specifically at 5 key habitat features needed to meet the objective:

1. Vegetation height
2. Rush cover
3. Scale of wet features
4. Quality of wet features
5. Damaging operations

Rush cover	Score
10 – 30% cover, well scattered with local areas of dense rush	10
>30% rush cover, large areas of dense rush and tall vegetation	5
Absent or sparse <5%	1

<u>Species rich meadows objective:</u>
To undertake sustainable agricultural management to produce good quality herb rich hay

A single self assessment in June / July undertaken by the farmer, looking specifically at 2 key habitat features needed to meet the objective:

1. Range of positive and negative plant species
2. Impact of damaging activities

Assessment of range of species undertaken by following a set line through the meadow, with the farmer stopping 10 times to ID plant species

Field number:												
STOPS	Species Score	1	2	3	4	5	6	7	8	9	10	Total species score [1]
Positive plant species (√)												
Betony	3											
Lesser/greater birds foot trefoil	3											
Bugle	3											
Burnet saxifrage	3											
Common bistort	3											
Common black knapweed	3											
Cowslip	3											
Eyebrights	2											
Fairy flax	3											

Payment rate calculations & delivery costs

Delivery costs:

- The administrative simplicity of RBPS approach, offsets the additional resource required to manage and support ongoing implementation of agreements in terms of advice

- Costs of baseline assessment, payment of claims, compliance monitoring and environmental monitoring the same between RBPS and convention management based schemes

- Higher scheme payments due to high level of results are off set against lower payments for under performance

- Where higher payment rates under RBPS are higher than management based agreements, this corresponds to environmental performance improvements, suggesting the additional benefits are likely to be at least proportional to the higher scheme payments

Headline results

Species rich hay meadows

PBR meadows exhibited an average 24% increase in quality score over the 2 years in all but 2 sites

12 of the 19 meadows had an increase in payment tier

There was an 8% increase in species frequency of the meadows

Grassland for breeding waders

Quality scores declined by 13% on average over the 2 years – weather and method played their parts in the decline

Strong improvements made in grassland and rush management scores

Accuracy of farmer self assessment

Adviser & farmer payment tiers correlated in 2/3rds of meadow assessments

Farmers picked up skills and confidence

Discrepancies rarely > 1 payment tier

Poor correlation between adviser and farmer payment tiers for grassland for breeding waders

Evaluation compared with control sites - grassland

Control sites were selected from comparable sites in Wensleydale managed under existing conventional agri-environment schemes

- Meadows

  RBPS meadows have performed more strongly than control sites – 79% of RBPS meadows had an increase in score compared to 40% of control sites

  60% of control sites had a drop in score compared to just 10% of RBPS meadows

  90% of control sites stayed within the same payment band – no improvement in habitat condition, compared to 58% of RBPS meadows

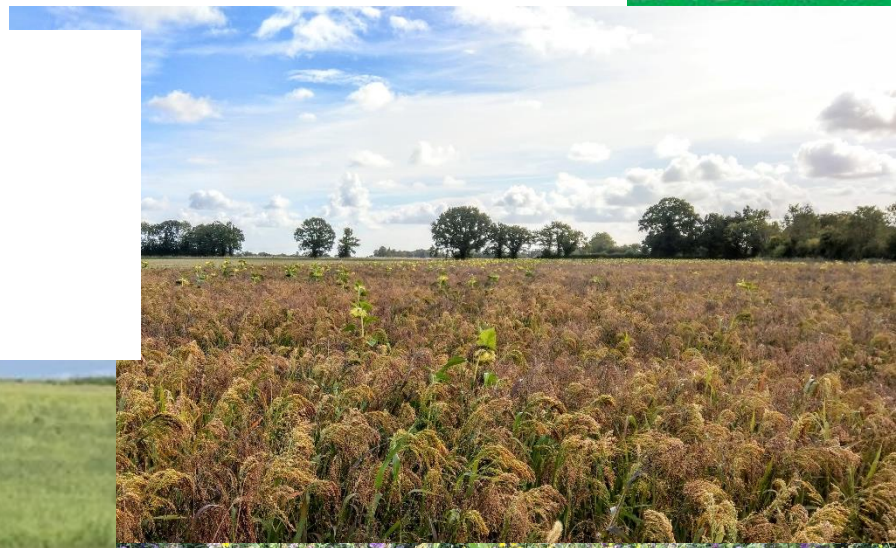
- Grassland for breeding waders

  Results not as significant as meadows, but RBPS wader sites still out performed control sites

  44% of RBPS sites had an increase in score relating to improved habitat condition compared to 22% of control sites

  RBPS sites were more likely to have an increase in payment

RBPS ENGLAND ARABLE ACHIEVEMENTS



Farming Context

European Commission

YORKSHIRE DALES National Park Authority

NATURAL ENGLAND

Norfolk/Suffolk Pilot Area

Two counties of **Eastern England** – Norfolk and Suffolk.

Relatively **flat landscape** dissected by streams and river valley corridors.

Soil type is variable but dominated by **boulder clay**

Predominately **Arable** cropping - **Cereals, oilseed rape,** other **combinable crops,** some **sugar beet**

North West of pilot area **soil type** more variable, from light **loamy sands** to heavier **sandy clay loams**.

Still predominately **Arable** cropping**,** but **pulses** and some **potatoes** on the **lighter land**.

East of England average farm size - 118 hectares
English average farm size - 87 hectares

Objectives and Indicator measures

PBR PROJECT - Winter Bird Food Assessment Table								
	No. of Plants/Seed Heads Required per Quadrat	**Quadrat 1**	**Quadrat 2**	**Quadrat 3**	**Quadrat……**	**Quadrat 10**		**Tick if Present in 5 or more Quadrats**
Crop								
Cereals	25 Seed Heads							
Red Millet	4 Seed Heads							
White Millet	4 Seed Heads							
Quinoa	2 Plants*							
Fodder Radish	1 Plant*							
Dwarf Sunflowers	1 Plant*							
Linseed	5 Plants*							
Mustard	2 Plants*							
Gold of Pleasure	5 Plants*							
Spring OSR	1 Plant*							
Buckwheat	4 Plants*							
Number of Crops Present in 5 or more Quadrats		* Must be a seed producing plant						

Payment rate calculations & delivery costs

Results Criteria: Number of Established Sown Species Producing Seed*	Grant payment rate where 50% or more of plot assessments reach the required plant or seed head threshold - Winter Bird Food
5+	Tier 6 (£842)
4	Tier 5 (£674)
3	Tier 4 (£505)
2	Tier 3 (£337)
1	Tier 2 (£168)
0	Tier 1 (£0)

Evaluation compared with control sites

ARABLE

Winter Bird Food

RBPS plots significantly out performed conventional scheme control plots during both years (43% higher scores)

Greater attention by RBPS farmers on species choice has resulted in a greater range of seed available to the birds

Pollen and Nectar

RBPS plots exhibited less difference but still performed better than the control sites (15% higher scores)

RBPS farmers chose a wider range of plant species to ensure success of plots

Evaluation compared with control sites

Winter Bird Food – average payment tier