ACRES CP – Supporting Biodiversity, Water Quality and Carbon Outcomes

Patricia Deane
ACRES Kerry - West Cork Cooperation Manager
South Kerry Development Partnership CLG

Kerry - West Cork ACRES CP

PÁIRTNERACHT FORBARTHA CHIARRAÍ THEAS TEO
SOUTH KERRY DEVELOPMENT PARTNERSHIP CLG.

Co-funded by the European Union

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

ACRES
Agri-Climate Rural Environment Scheme

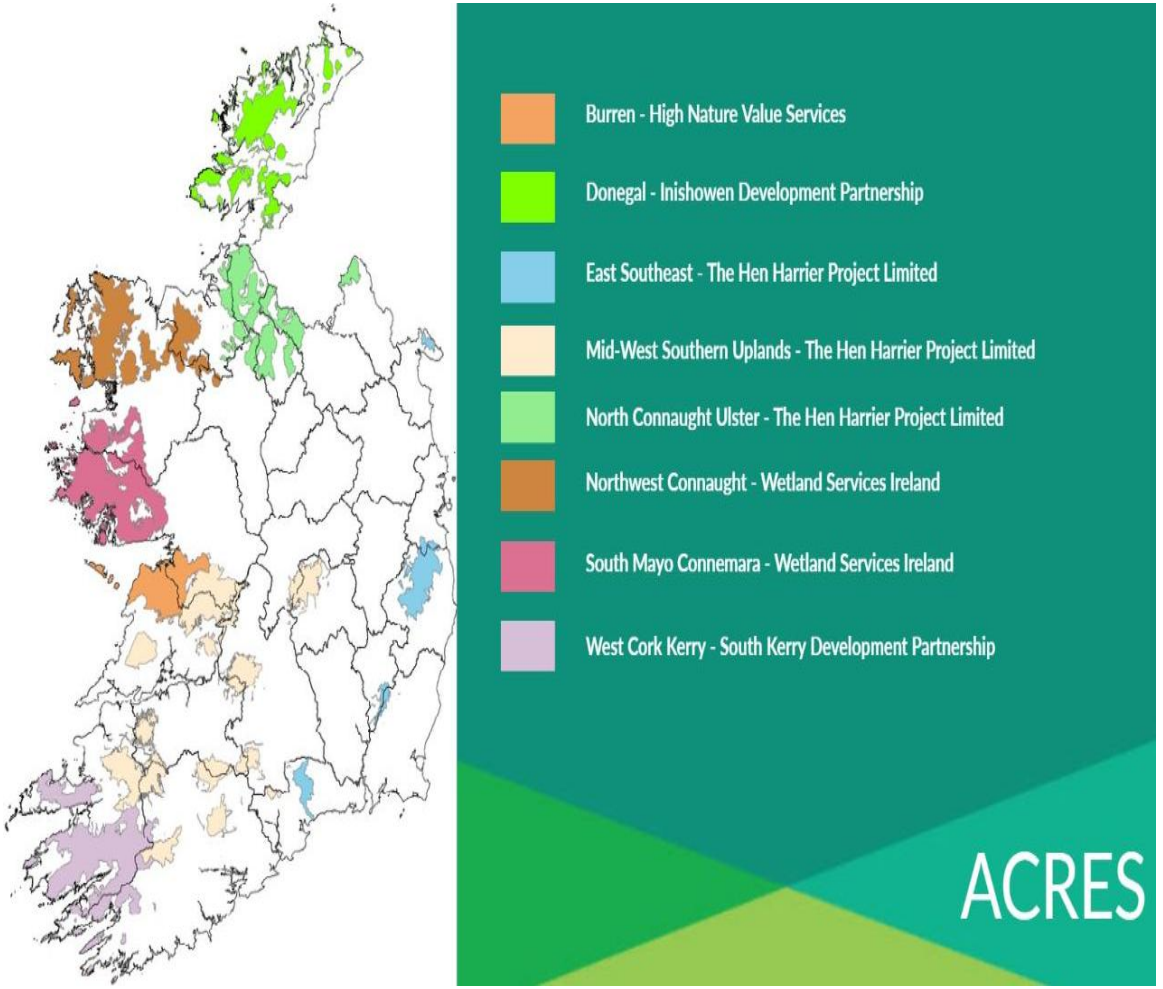
ACRES
(Agri-Climate Rural Environment Scheme)

General Approach

- Mix of results-based and prescriptive actions
- Available nationally in areas outside co-operation zones

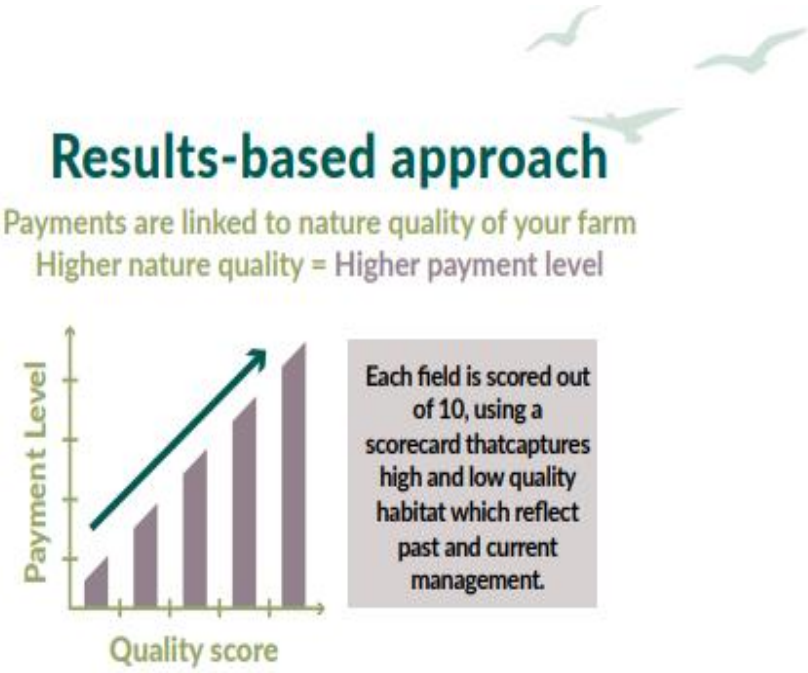
Cooperation Approach (CP)

- Available in eight priority zones
- Farmers and advisors supported by local CP teams



Results-based assessments, NPIs & LAs

- The **ACRES Co-operation (CP)** approach is available to farmers in defined high-priority geographical areas.
- These areas were determined to be “high nature value farmlands” due to the rare habitats, species and watercourses that are located there e.g. peatlands, hen harrier, fresh water pearl mussel, chough in KWC.
- Each LPIS parcel (private or commonage) is **scored** using a **scorecard**.
- The scorecard has values from 1-10, with 1 being a low score and 10 being very high.
- Scores from 4 to 10 have a payment associated with them, to a maximum of €7,000 per annum, depending on no. of hectares.
- There is also funding available for suitable Non-Productive Investments (NPIs)/Supporting Actions and/or Landscape Actions (LAs) available to help improve scores.
- There are 10 unique ACRES CP scorecards;
    - Grassland, Peatland and Chough are the most common in KWC. We also use Woodland/ Scrub, Rough Grazing and Coastal Grassland scorecards in KWC.



Results Based Assessments payment rates

Results Based Payments (ACRES Co-operation) **(Private parcels)**

Grassland, Peatland, Scrub/Woodland – Results Based payment								
Field Score	**10**	**9**	**8**	**7**	**6**	**5**	**4**	**<4**
Payment Rate	€400	€350	€300	€250	€205	€175	€150	€0
Reduced scale for farmers receiving OFS	€150	€100	€50	€0	€0	€0	€0	€0

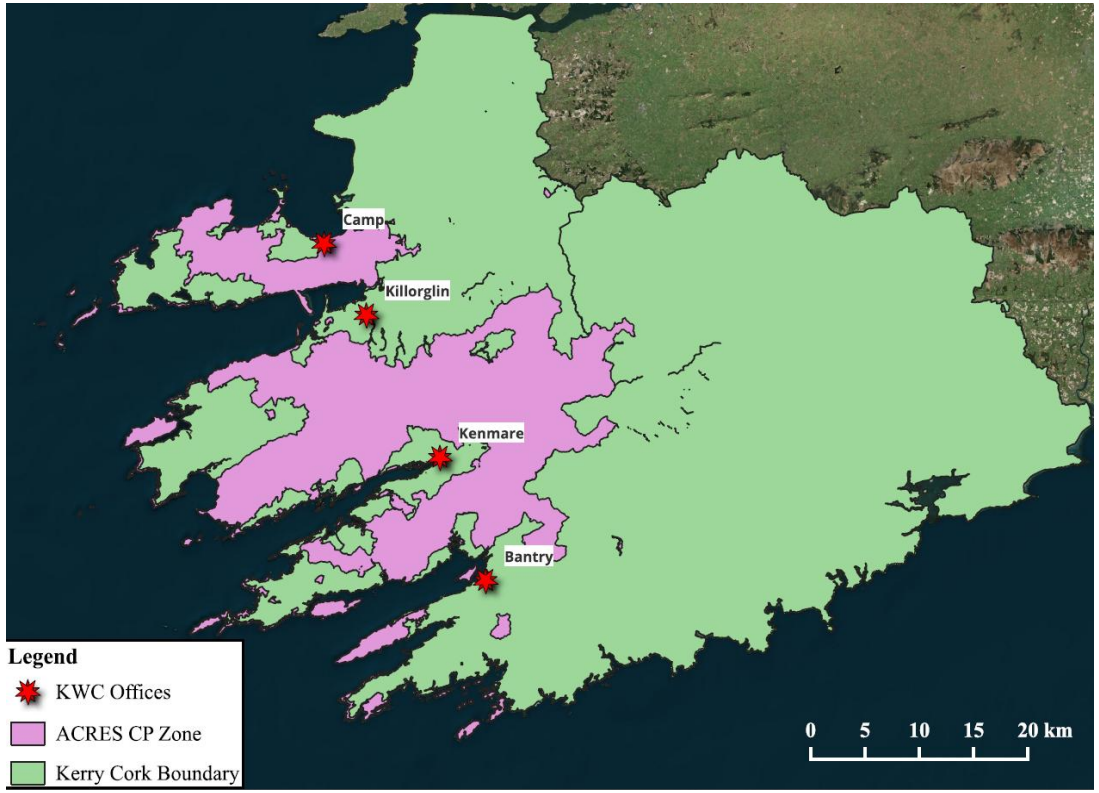
Results Based Payments (ACRES General & ACRES Co-operation) **(Commonage)**

Commonage (ACRES General & ACRES Co-op >10ha)								
Field Score	**10**	**9**	**8**	**7**	**6**	**5**	**4**	**<4**
Payment Rate	€220	€180	€145	€115	€90	€70	€60	€0
Commonage Payment (<10ha):	**€120/ha**							

*Note, a Commonage Participation payment set at €50/Ha is payable on the first 20ha, irrespective of the results-based score. The results-based payment rates are inclusive of this participation payment.

Uplands and Peatlands

- Peatlands provide a range of functions, including:
  - maintaining biodiversity,
  - carbon storage and sequestration,
  - water quality,
  - and flood risk regulation.
- Peatlands require the water table to be close to the surface year-round to provide ecosystem services.
- Modifications to peatland habitats causes higher rates of water run-off and a drying out of the bog surface due to lowering of the water table.



Peatland Scorecard

ACRES Peatland SCORECARD

Farmer name: Surveyor:
Field number: Survey date:
Business ID:

Which of the following best describes the plot?
☐ Wet heath ☐ Dry heath ☐ Blanket bog ☐ Raised bog ☐ Mosaic of heath & bog ☐ Mosaic of heath & grassland

Total Score: (A+B+C) /100

A Ecological integrity

Total score A: *(sum of A1 to A3)* /60

A1 What positive indicators are present in the field?

Tick all positive indicators present below.
Note all positive indicators present as you walk through the plot.

Low: 0-2 **0** | Moderate: 3-5 **5** | High: 6+ **10**

Positive indicators:

Moss layer:	Grass/herb layer:		Shrub layer:	
☐ Branched mosses	☐ Bog asphodel	☐ Sundews	☐ Bell heather	☐ Bilberry
☐ Non-crustose bushy lichens	☐ Bog bean	☐ White-beaked sedge	☐ Cross-leaved heath	☐ Bog myrtle
☐ Sphagnum mosses	☐ Bog cotton		☐ Ling heather	☐ Western Gorse
☐ Liverworts	☐ Lousewort	☐ Black bog rush		

A2 What is the combined cover of all positive mosses, liverworts & lichens *(listed above)* throughout the field?

Cover is the proportion of the field taken up by all positive mosses, liverworts & lichens indicators present.

Low: ≤10% cover across the field	0
Moderate: 10-30% cover across the field	10
High: 30% cover across the field	20

A3 What is the vegetation structure?

Over-grazed: Vegetation height is uniformly low. Little or no heather present on wet heaths. Often lacking moss and dwarf shrub layer.	-15
Moderate (over-grazed): Significant areas (>25%) of the plot have low uniform vegetation, although not throughout.	10
Good: Sward in good condition; abundant grass and sedge-like vegetation on blanket bog with hummock, hollow, and pool complexes. On heath, all stages of heather/shrub growth present, mostly >30cm. Mix of bog and/or heath vegetation at various heights throughout. Well-structured vegetation with all three layers (moss, sedge/herb, and shrub) well represented.	30
Moderate (under-grazed): Significant areas (>25%) of the plot have rank vegetation although not throughout.	15
Under-grazed: Rank sward. Purple moor-grass/mat-grass and rank senescent heather dominating. Litter cover high, thatch forming in large continuous patches. Poorly developed ground layer.	-10

B Hydrological integrity (carbon capture)

Total score B: /20

B1 Surface hydrology and artificial drainage features:

Significantly altered bog/heath hydrology: Frequent widespread free-flowing drains on plot with notable effect on surrounding vegetation of bog/heath. >20% of plot affected.	-30
Moderately altered bog/heath hydrology: Free flowing drains in plot with notable effect on surrounding vegetation of bog/heath. <20% of plot affected.	-15
Slightly altered bog/heath hydrology: Drains present in plot although are somewhat impeded and little effect on surrounding bog/heath.	0
Moderately intact bog/heath hydrology: Bog/heath surface largely intact, although some evidence of historic disturbance (cutting, drainage, erosion channels) across any part of plot. Vegetation and hydrology largely recovered/stabilised.	10
Intact bog/heath hydrology: Intact bog/heath surface, no evidence of past drainage or disturbance across plot.	20

C Threats & future prospects

Total score C: *(sum of C1 to C5)* /20

C1 Is there any evidence of damaging activities to habitat, vegetation, or archaeology?

High: Damage occurring across a large area (≥21%) or of a serious nature if confined.	-30
Moderate: Damage occurring across a moderate area (≥6-20%) or of a moderate nature if confined.	-20
Low: Damage occurring across a small area (≤5%) or of a minor nature if confined.	-10
None: No damaging activities.	0

Damaging activities:
(tick relevant damage & describe in comments)

☐ Damage from supplementary feeding ☐ Quarrying
☐ Damage to archaeological features ☐ Burning
☐ Inappropriate herbicide use ☐ Dumping
☐ Boundary damage ☐ Other *(please specify)*:
☐ Removal of mature scrub/trees

C2 What is the level of risk to the quality of natural water bodies within, adjacent to and downstream of the field due to pressures relating to flow, sediment, nutrients or other pollutants?

The source - pathway - receptor model should inform the assessment (see guidance).

High: **-25** | Moderate: **-15** | Low: **-5** | None: **0**

C3 What is the extent of bare soil & erosion?

High: Excessive areas of bare soil within the body of the field. Bare soil may also be extending out significantly from the main feed sites and/or water troughs, where poaching evident. Significant rutting and soil disturbance caused by vehicle/tractor access.	-20
Moderate: Bare soil mainly along regularly used stock routes or congregation areas, with minor soil loss occurring at a few points. Bare soil may extend a short distance beyond the main feed site and/or water points. Minor rutting and soil disturbance caused by occasional vehicle/tractor access may be present.	-10
Low: Bare soil more or less restricted to regular stock paths, 'pinch' points & small congregation areas. No soil loss.	10

C4a Are non-native invasive species present?

Present: **-10** | Absent: **0**

Non-native invasive species: *(tick if present)*

☐ Rhododendron ☐ Himalayan balsam
☐ Cotoneaster ☐ Himalayan knotweed
☐ Japanese Knotweed ☐ Himalayan honeysuckle
☐ Giant Hogweed ☐ Other *(please specify)*:
☐ Self-sown conifers

C4b What is the cover of non-native invasive species?

High: Abundant. Some forming dense clumps, many seedlings.	-20
Moderate: Frequent. Some flowering, many seedlings present.	-10
Low: Scattered. Plants mostly small and not flowering.	-5
None: No non-native invasive species present or <5 individuals.	0

C5 Is there any evidence of damage due to turbary activity?

High: Active peat cutting and associated works >10% of the field affected. High proportion of bare peat due to peat extraction. Sausage machine cutting taking place in any part of the field (regardless of the extent).	-30
Moderate: Active peat cutting (mechanical cutting from face-bank, hand cutting, milling etc.) and associated works <10% of the field affected.	-10
Low: No evidence of peat cutting during the most recent season.	10

C6 What is the cover of bracken? *(refer to CP team if 'moderate' or 'high')*

High: Very dense stands of bracken covering over half or more of the field, forming closed canopy.	☐
Moderate: Bracken forming dense stands covering parts of the field; mostly forming closed canopy.	☐
Low: Bracken absent or some scattered fronds and none forming closed canopy. Can include some isolated small patches or some larger patches on steep slopes.	☐

C7 What is the extent of spreading immature scrub? *(refer to CP team if 'Moderate' or 'High')*

High: Gorse dominated scrub occurring throughout the site or concentrated in large areas.	☐
Moderate: Small areas of gorse dominated scrub occur occasionally throughout the site.	☐
Low: Little or no scrub present.	☐

Common management recommendations to pick from:

☐ Continue current management of this high quality peatland.
☐ Control the occurrence and spread of invasive species. Consult with CP team regarding solutions.
☐ Control the occurrence and spread of encroaching scrub, supporting actions are available.
☐ Consider using supporting actions to slow or impede the flow of drains.
☐ Consider raising watertable to restore peatland, supporting actions are available.
☐ Use stock to graze field more evenly.
☐ Improve stock management. You may wish to avail of supporting actions e.g. Fencing / drinking facilities.
☐ Move feeders / troughs regularly and keep away from drains and rivers.
☐ No management advice.
☐ Other management advice:

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

A.1 Peatland positive indicators

Positive Indicator species

The pictures below display the flowering forms of different plant species which are positive indicators of well managed peatland habitats.

During the "W" walk, of the field, identify and tick off each positive indicator species/group present, excluding the field margins.

Higher cover of positive indicator species/group is associated with better quality semi-natural grasslands, unless one or a few species dominate, which can indicate sub-optimal quality.

Cover of a plant is based on the visible above ground parts, *i.e.*, leaves, flowers, and stems.

SHRUB layer













12. Bell heather
13. Cross-leaved heath
14. Ling heather
15. Bilberry
16. Bog myrtle
17. Western Gorse

SEDGE / HERB layer











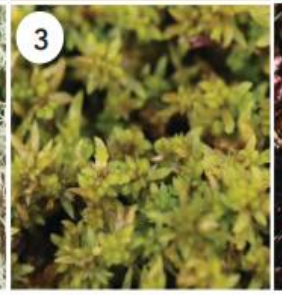




MOSS layer









1. Branched mosses
2. Non-crustose bushy lichens
3. Sphagnum mosses
4. Liverworts

5. Bog asphodel
6. Bog bean
7. Bog cotton
8. Lousewort
9. Sundews
10. White-beaked sedge
11. Black bog rush

A.2 What is the cover of all positive mosses, liverworts and lichens?













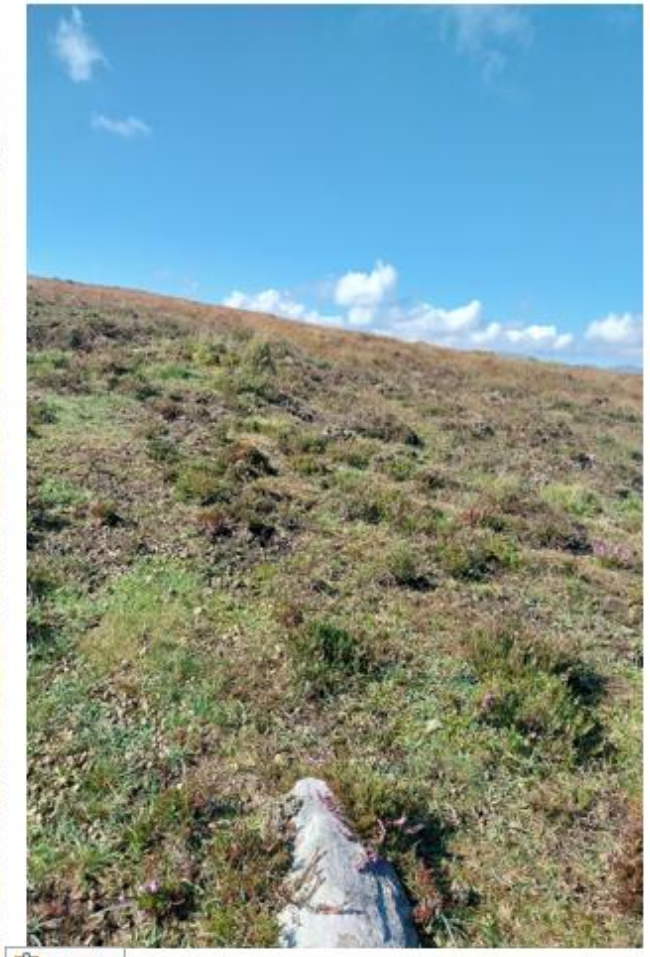
A.2 The cover of mosses, liverworts & lichens – Low (≤ 10% cover)






A.3 Vegetation Structure - Overgrazed





(Ctrl)





A.3 Vegetation Structure – Moderately Overgrazed



A.3 Vegetation Structure – Good - Bog






A.3 Vegetation Structure – Good – Wet Heath






A.3 Vegetation Structure – Good – Dry Heath






A.3 Vegetation Structure – Moderately Under-grazed






A.3 Vegetation Structure – Under-grazed



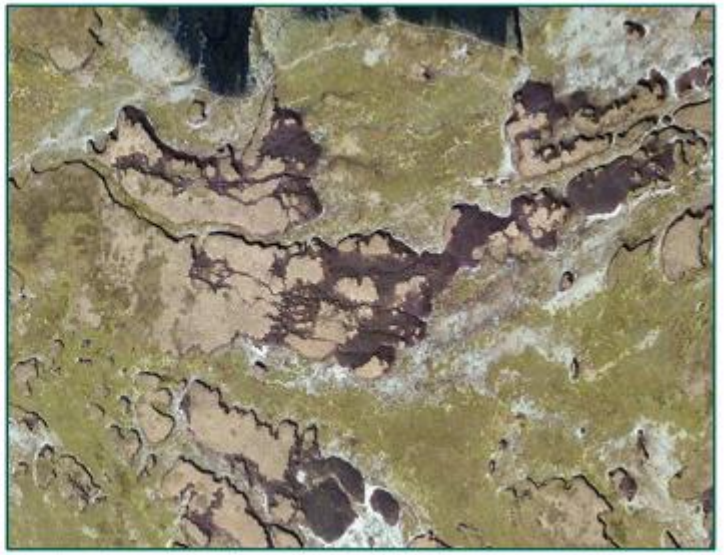



B.1 Hydrological Integrity – Surface hydrology and artificial drainage features

- Hydrology considers the occurrence, distribution, and movement of water. As peatlands are wetland habitats, water is the main factor influencing their health and condition.
- Peatlands require the water table to be close to the surface year-round to provide ecosystem services.
- Modifications to peatland habitats causes higher rates of water run-off and a drying out of the bog surface due to lowering of the water table.

B Hydrological integrity (carbon capture)	Total score B: /20
B1 Surface hydrology and artificial drainage features:	
Significantly altered bog/heath hydrology: Frequent widespread free-flowing drains on plot with notable effect on surrounding vegetation of bog/heath. >20% of plot affected.	-30
Moderately altered bog/heath hydrology: Free flowing drains in plot with notable effect on surrounding vegetation of bog/heath. <20% of plot affected.	-15
Slightly altered bog/heath hydrology: Drains present in plot although are somewhat impeded and little effect on surrounding bog/heath.	0
Moderately intact bog/heath hydrology: Bog/heath surface largely intact, although some evidence of historic disturbance (cutting, drainage, erosion channels) across any part of plot. Vegetation and hydrology largely recovered/stabilised.	10
Intact bog/heath hydrology: Intact bog/heath surface, no evidence of past drainage or disturbance across plot.	20





B.1 Hydrological Integrity - What can negatively impact the hydrology of a peatland?



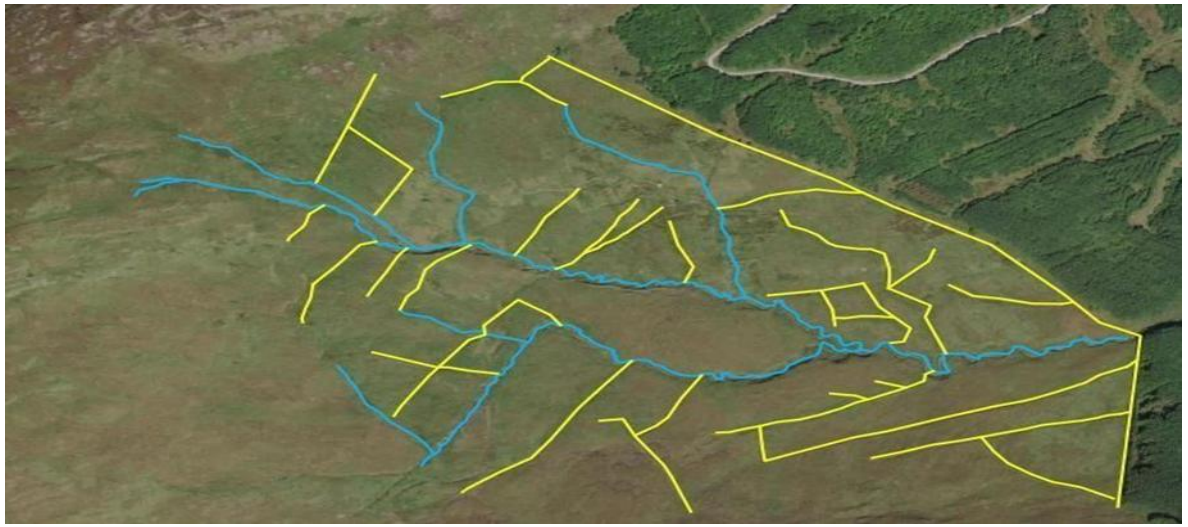






B.1 Hydrological Integrity - Drainage













C.1 Damaging Activities



Burning



Burning/Supplementary Feeding



Inappropriate Herbicide Use



Dumping



Supplementary Feeding



Supplementary Feeding

C.2 Water quality

- Estimate the level of risk to water quality of natural waterbodies.
- The **source - pathway - receptor model** informs this assessment.
- This model involves identifying the **source** of a potential threat, determining the **pathway** in which the threat may reach the receptor and identifying the **receptor** which may be impacted.
- The severity/nature of the threat, the quantity/efficiency of transport mechanisms, and the vulnerability of the receptor must be taken into account.

Source Pathway Receptor Model

Source

Sediment loss from soil

Nutrients loss from fertiliser or soil

Pesticides or **other pollutants**

Water quantity due to drainage (Flow)

Pathway

Drains

Overland flow

Receptor

Rivers

Streams

Lakes







C.2 Water quality

Risk	*Description*
High	Presence of: a **major source**, a **direct pathway**, and a **sensitive receptor**.
Moderate	Presence of; a **minor source**, a **direct pathway**, and a **sensitive receptor**. Presence of; **a major source**, an **impeded pathway**, and a **sensitive receptor**.
Low	Presence of a **minor source**, an **impeded pathway**, and a **sensitive receptor**.
None	No functional pathway or no source present.

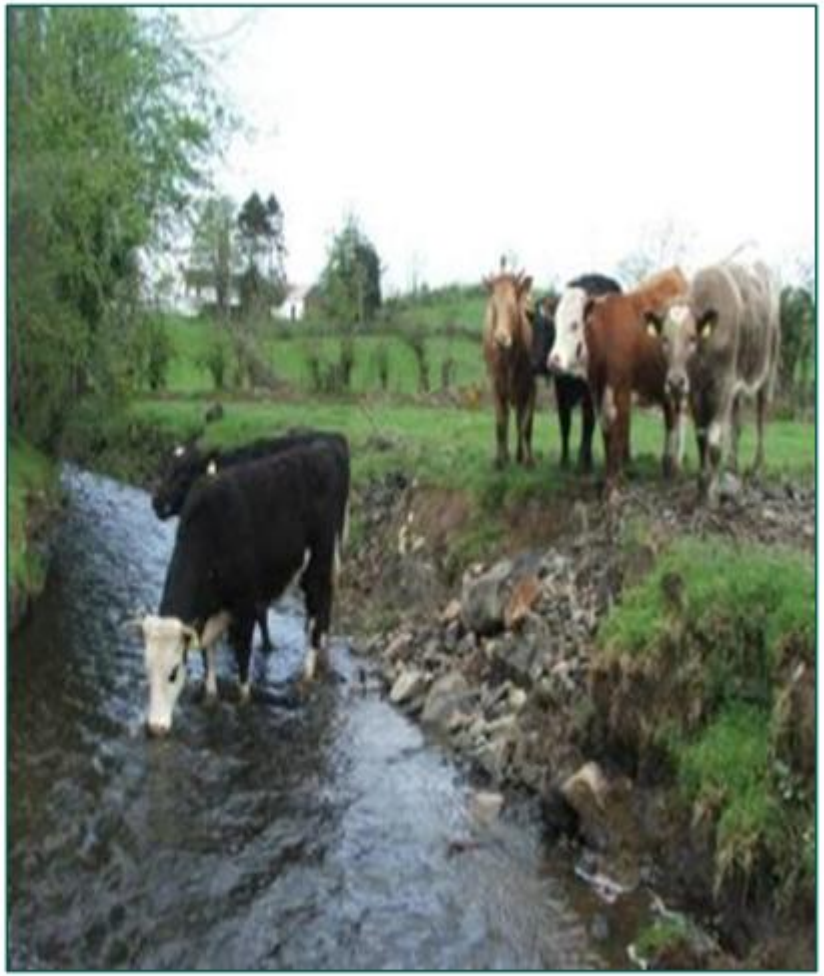
C.2 Water quality – level of risk



High
Major source and direct pathway for a sensitive receptor



Moderate
Minor source and direct pathway for a sensitive receptor



Moderate
Minor source and direct pathway for a sensitive receptor

C.2 Water quality & quantity – flow

- "Flow" is listed as a source under the **source - pathway - receptor model** and is linked to hydromorphology.
- Often referred to as "water quantity", many factors can influence flow, particularly clearing naturalised drains or creating new drains.
- High risk to watercourses;
  - Pathway for nutrients & sediments;
  - Alteration of flow paths on a site;
  - Bank erosion.





C.2 Water quality – threats & pressures



Dumped Slurry

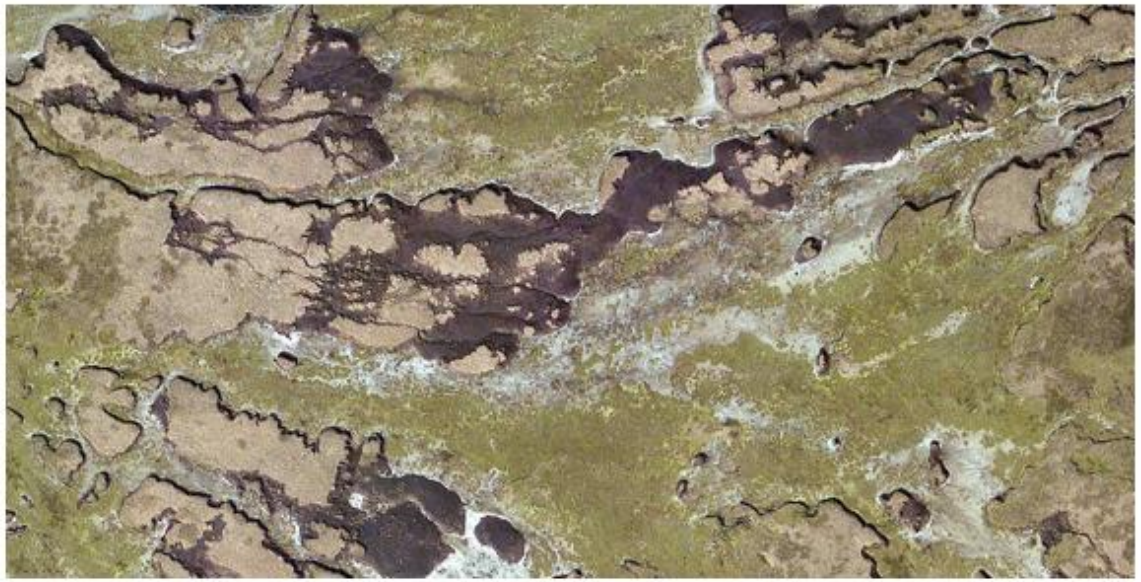


Alteration of watercourse



Bare soil adjacent to watercourse

C.3 Bare Peat & Erosion















C.4 Non-native invasive plant species

- Non-native invasive plant and animal species are the second greatest threat to biodiversity worldwide after habitat destruction.
- They can negatively impact native species, can transform habitats and threaten ecosystem services, causing serious problems to the environment and the economy.
- There are a number of invasive plants that occur commonly on farmland, including, but not limited to, *Rhododendron ponticum*, Japanese knotweed, and *Gunnera tinctoria*.



Rhododendron ponticum

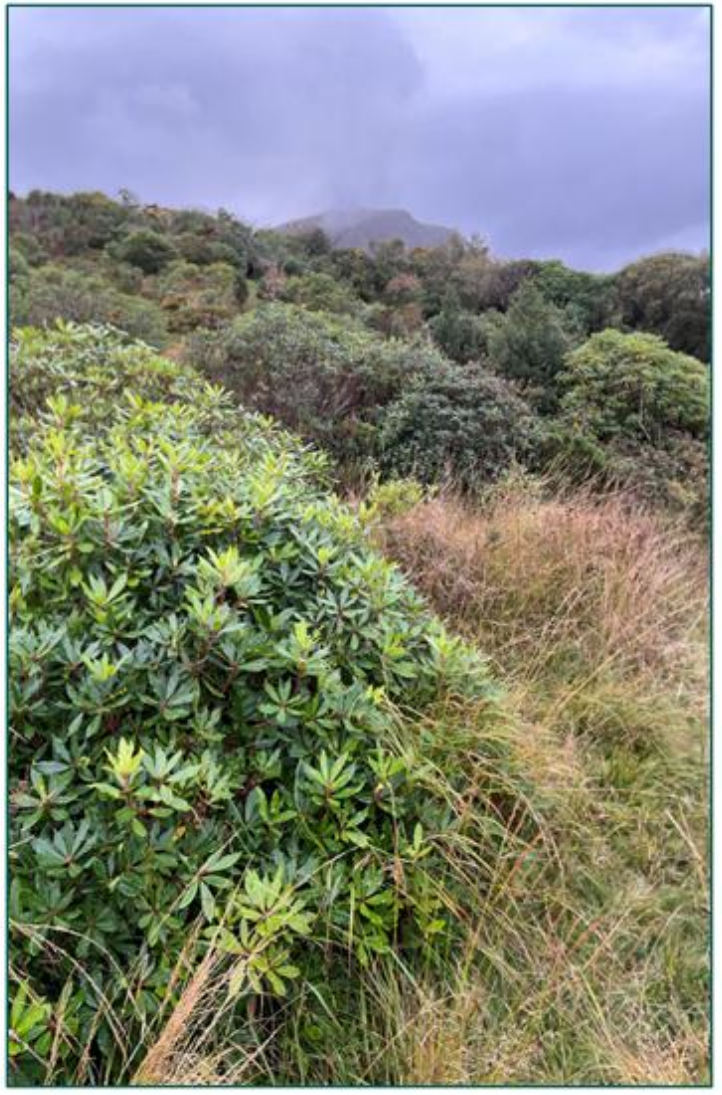


Reynoutria japonica (Japanese knotweed)

Rhododendron ponticum







Farmer supports & possible solutions- Non-Productive Investments/ NPIs

- Non-Productive Investments (NPIs) are funded actions that are available to the ACRES Co-operation Participants to either:
  - Address environmental issues on the farm,
  - Directly contribute to environmental objectives or
  - Increase the farmer's capacity to improve field scores through management.
- NPIs differ from Landscape Actions in that they are generally smaller in scale and are standalone actions on a single farm.
- You can choose different NPIs year to year and frontload if needed.
- You contact your farm advisor to apply for these on your behalf.
- *"The right action in the right place*".

Non-Productive Investments/ NPIs







Non-Productive Investments/ NPIs

ACRES NPI Action	Minimum to be delivered	Maximum units payable per NPI- Annual Works Plan*	Payment Rate per Unit	Maximum Payment per NPI- Annual Works Plan*	Maximum Units Payable per 5-year ACRES Contract*
NPI Solar Pumps	1	2	€1,852.50/unit	€3,705.00	2
NPI Water Troughs	1	10	€290.66/unit	€2,906.60	
Fencing Sheep Wire	10m	1000m	€3.44/m	€3,440.00	

Farmer supports & possible solutions- Landscape Actions/ LAs

- Landscape actions (LAs) will be developed by the Co-operation Project team (CP Team) working with the participants.
- Appropriate packages of LAs for objectives identified in local action plans will be promoted to relevant participating farmers, identified for those areas relevant in the Local Action Plan.
- Within each package, Landscape Actions may be supplemented by additional NPIs.
- Examples include:
  - Invasive species treatment,
  - Virtual fencing LA in conjunction with targeted grazing LA,
  - Scrub clearance (conifer removal on peatlands),
  - Removal of dumped material.



LA Training

- Invasive Species: Invasive Species management is a high-risk activity due to the danger of spreading invasives, therefore attendance at a specialist training course is an essential requirement. Training will focus on the delivery of specific Invasive Species Landscape Actions such as Rhododendron Treatment.

- Habitat Support: Habitat Support Training will focus on the delivery of one or more Habitat Support Landscape Actions such as Virtual Fencing.

- Hydromorphology: The Landscape Actions in support of the protection of water quality, erosion reduction and peatland restoration can be high risk if carried out incorrectly and are technical. Training will focus on the delivery of one or more Hydromorphology Landscape Actions.

Landscape Action	Unit	Payment Rate	Maximum LA Annual Works Plan
3 Hr Training Invasive/Scrub	3 Hr Course	€125	3
3 Hr Training Hydromorphology	3 Hr Course	€125	3
3 Hr Training Habitat Support	3 Hr Course	€125	3

Vegetation Structure – LA options with added NPIs







Landscape Action	Payment rate	Action Unit	Max paid Units per LA-AWP*	Maximum Payment per LA-AWP*
Virtual Fencing	€404.00	Collar	20	€8,080
Targeted Grazing (Bovines on Molinia)	€717.00	Hectare	5	€3,585
Exclosure	€1,562.00	Hectare	4	€6,248

Landscape Actions/LAs





Landscape Action	Payment rate	Action Unit	Max paid Units per LA-AWP*	Maximum Payment per LA-AWP*
Livestock Crossing Point	€1,022.00	Crossing		
Restoration Action Machine	€250.00	Unit	2	€500
Strip 4m Scrub Removal Hand Tools High	€5.28	Metre	4000	€21,120

Hydromorphology LAs











Hydromorphology LAs

Landscape Action	Payment rate	Action Unit	Max paid Units per LA-AWP*	Maximum Payment per LA-AWP*
Coir Roll	€54.00	Metre		
Erosion Control (Geotextile)	€4.00	Square Meter		
Ditch/Peat Reprofiling	€6.32	Metre		
Timber Dam	€144.00	Dam		

Hydromorphology LAs

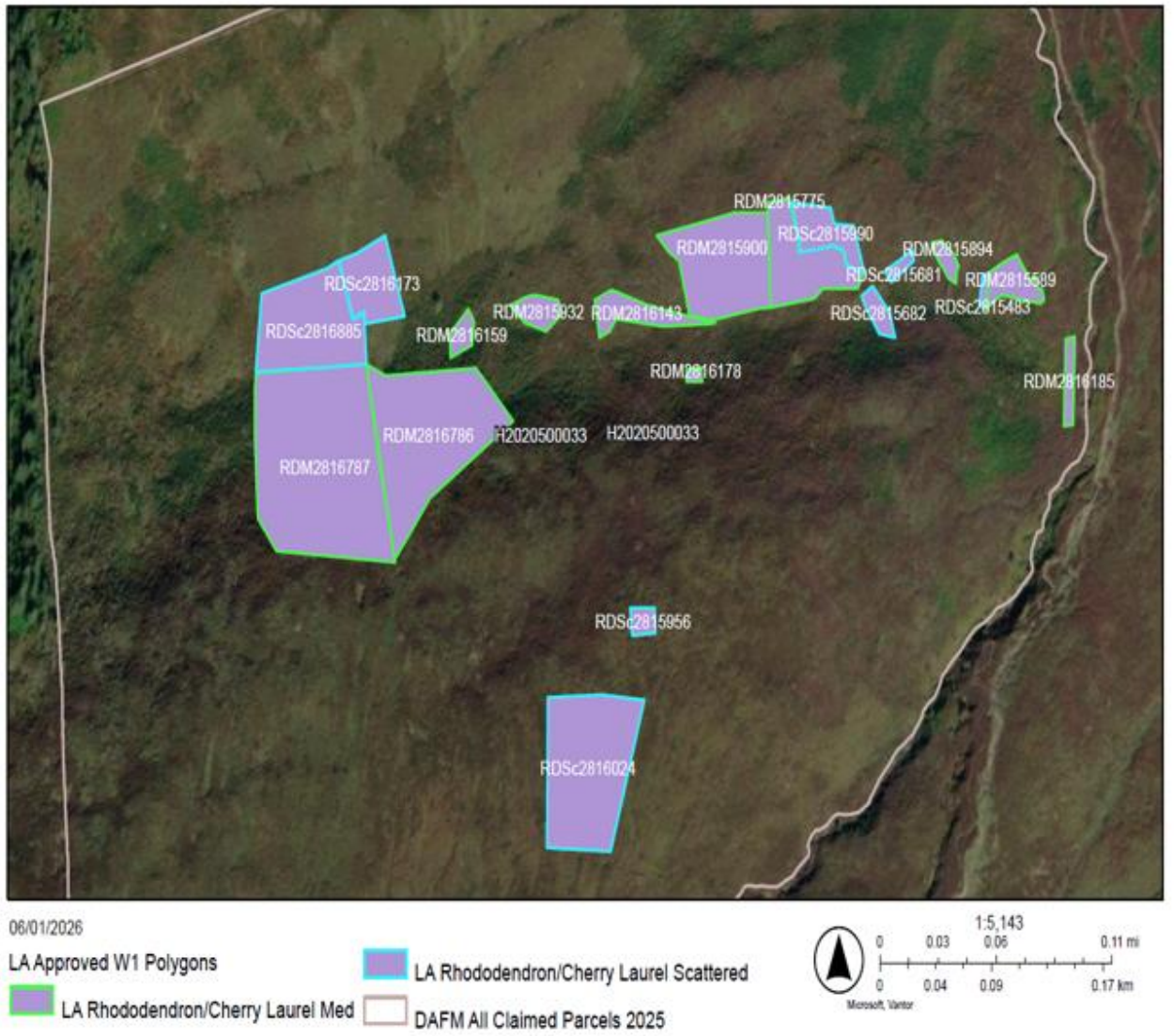




Invasive Species LAs







Invasive Species LAs

Landscape Action	Payment rate	Action Unit	Max paid Units per LA-AWP*	Maximum Payment per LA-AWP*
Rhododendron/Cherry Laurel (Severe)	€20,250.00	Hectare	2	€40,500
Rhododendron/Cherry Laurel (High)	€14,120.00	Hectare	3	€42,360
Rhododendron/Cherry Laurel (Med)	€6,951.00	Hectare	4	€27,804
Rhododendron/Cherry Laurel (Scattered)	€4,121.00	Hectare	10	€41,210
Rhododendron/Cherry Laurel Follow Up	€1,064.00	Hectare	20	€21,280



Invasive Species LAs






Invasive Species LAs

Landscape Action	Payment rate	Action Unit	Max paid Units per LA-AWP*	Maximum Payment per LA-AWP*
Removal of Conifer Treeline (Small trees)	€8.00	Metre	1000	€8,000
Removal of Conifer Treeline (Large trees)	€15.00	Metre	750	€11,250
Area Scrub Removal Hand Tools Scattered	€480.97	Hectare	15	€7,214.55

Thank you for listening

Kerry - West Cork ACRES CP
Páirtneracht Forbartha Chiarraí Theas
South Kerry Development Partnership CLG.
ACRES
Agri-Climate Rural Environment Scheme
An Roinn Talmhaíochta, Bia agus Mara
Department of Agriculture, Food and the Marine
Funded by the European Union