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Department of Agriculture,
Food and the Marine



An Roinn
Cultúir, Oidhreachta agus Gaeltachta
Department of
Culture, Heritage and the Gaeltacht



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

Best Practice Checklist No.4

Water Management - Provision & Protection

Why the Burren Programme (BP) co-funds this work:

Having a reliable supply of clean drinking water is essential if livestock are to graze a field properly. This can be quite a challenge in the free-draining land of the Burren, where the availability of natural water sources such as springs, streams, ponds and turloughs can be unpredictable. But equally so, the uncontrolled access and use of such water sources by livestock can lead to serious damage and water pollution. A damaged water source will reduce a farmer's I-1 field score; so protecting natural water sources while providing a reliable alternative supply of drinking water is good for the environment, good for livestock and human health and good for the farmer's pocket.

Burren Programme funding:

The cost of each water job is calculated using rates which were developed as part of the BurrenLIFE project, and are updated regularly to account for inflation. The amount of money you will receive for each fully-completed water job will be listed in your I-2 work plan. All 'water protection and provision' works are co-funded, with higher rates for work that is considered to deliver the greatest environmental benefit. The co-funding rates offered by the BP are as follows:

- Water source protection: walling-off works 75%; wire fencing works 50%
- Painting or stone-facing of concrete/cement structures: 75%
- Water gathering: harvesters, enclosures around springs etc. 50%
- Water storage: concrete/block tanks, plastic tanks etc. 50%
- Water transfer: pumps, pipes etc. 50%
- Water provision: drinking troughs etc. 50%

To be assured of receiving your allocated payment for such planned tasks, the work must be carried out and completed to at least the baseline standard outlined in this checklist. Failure to do so may result in a **delay, reduction or loss of payment**. Persistently poor performance or failure to correct poor work may result in no further funding for certain work for the remainder of your contract (see BP Terms & Conditions). In contrast however, by doing a job well, you will receive the full allocated payment, reap the benefits of the job itself and make it easier to get permission and funding for future work.

Remember, always read your individual I-2 work plan carefully before starting any job, and speak to your advisor and/or the BP team if in any doubt.

Water provision (drinking troughs):

- 1.** Drinking troughs should sit on a solid, level surface (e.g. limestone chip) in an accessible location, taking care to avoid wet or peaty ground which is easily poached or eroded. Installing a hardcore standing base, 2m around the trough, will help prevent soil damage/erosion.
- 2.** Drinking troughs should be securely fitted and adjusted to avoid any leakage or overflow. Ballcocks should be set at the correct height and a stop valve used to shut off the water supply when not in use.
- 3.** Drinking troughs should be situated away from any archaeological sites such as mound walls.
- 4.** Drinking troughs should remain in place year-round and not be removed in the off-season. Remember to clean and check your troughs in advance of the grazing season.
- 5.** Ensure the water trough purchased is the size/capacity as listed in your work plan, otherwise the BP office must be notified so as to adjust your plan.
- 6.** If possible, please repair or adapt existing water troughs rather than constructing new ones.
- 7.** It is strongly recommended to include some sort of wildlife escape from the rim of the trough, such as a section of thick rope, to prevent animals, such as red squirrels, from accidentally drowning.

***Tip:** Anchor plastic troughs to avoid wind-blow by (carefully) laying several large stones in the bottom.*

***Tip:** Help avoid the freezing over of water in troughs by using a simple float.*

Consultation check:

You or your advisor will need to consult with the BP team to get approval for certain water provision jobs. The BP in turn may need to consult with the relevant bodies, namely NPWS, NMS and in some cases the County Council. Situations where additional consultation is required may include:

- Where you intend to situate a water trough within an archaeological complex or near a monument.



Acceptable Standard

Unacceptable Standard



Located on level, dry ground.



Located in wet, muddy, uneven ground.



Posts used to stabilise trough, prevents spillage.



Limestone chip base needed on rough ground.



Solid, large trough to service large field.



Concrete water trough not maintained.



Small trough on a solid base, well maintained.



Overgrown, unmaintained, inadequate trough.

Rainwater gathering/harvesting and storage:

1. When planning to build a permanent rainwater harvester, select an accessible, yet discreet location which makes the most of the local topography (scrub, walls, hollows) so as to minimise the visual impact.
2. If possible, please repair or adapt existing structures rather than constructing new ones – for example add chutes to the roofs of existing buildings to gather rainwater.
3. The location, dimensions, design, materials and approximate cost of the water harvester must be decided upon submitting the proposal to the BP team for funding. Pre-approved (by the local authority) and costed designs are available through the BP office.
4. Take care to ensure the structure is fully water-tight, particularly by sealing any joints in concrete tanks and by using suitable waterproof plaster for block-built tanks.
5. If building cement or concrete storage tanks, consider stone facing or painting them grey to reduce the visual impact – this may be a stipulated condition of the work, but can be funded at the higher rate of 75%.
6. If possible, avoid high (>2m) side walls for tank as these can be less stable and more un-sightly.
7. After construction/installation, all building materials and debris must be removed from the site.
8. If using plastic storage tanks, ensure they are well anchored and sit firmly on a solid level base (e.g. layer of limestone chip). To avoid wind-blow, choose a sheltered location and always keep party filled.
9. Though these plastic tanks are 'moveable', suitable placement in the landscape is still important, and a dark (green) plastic colour is strongly preferred.

Tip: Look at options of providing a cover on large water storage tanks (that still lets rainwater run in), as wildlife may otherwise enter and drown in such tanks during the dry summer months, contaminating the water. Alternatively, consider an escape ramp out suitable for wildlife (and humans!)

Tip: Insert a stop-valve at the storage tank's water outlet to minimise losses from pipe leakages (50% funding available for such valves).

Tip: Sheets of dark, non-reflective corrugated steel can act as effective, lightweight water harvesters – position the sheet(s) on a natural ramp and anchor with stones or wooden posts, and feed the rainwater directly into a large, adjacent water trough.

Consultation check:

You, or your advisor, will need to consult with the BP team to get approval for certain water harvester and storage jobs. Situations where additional consultation is required include:

- When constructing a water harvester/storage unit in an archaeological complex or near a monument;
- When constructing a water harvester/storage unit with a footprint that exceeds the planning threshold of 5m x 5m.

Some options for rainwater harvesting and storage



Well disguised, low sided and close to existing wall.



Simple harvester setup suitable for remote location.



Traditional design, that uses the topography well.



Harvesting rainwater by adapting the shed chutes.



Nicely stonefaced harvester on an exposed location.



Existing structure repaired and protected using bars.

Water transfer (pumps and pipes):

1. Water pipes should be laid out carefully so that they will not be dislodged or damaged by livestock, and the pipes should be hidden where possible (using grikes or scrub). Highly visible blue coloured piping is not recommended, black piping is strongly preferred – this can also be obtained in the durable 'MDPE' quality.
2. Use heavy gauge piping on exposed sites (better freeze resistance) and on heavily trafficked sites, and use bigger bore pipes when pumping over longer distances as the water will flow more easily.
3. Pasture ('nose') pumps and hydam pumps must be securely anchored, regularly checked, and re-primed if needed, so that they are functional. Hydam pumps will need a good slope and sufficient water flow to function effectively – professional help may be needed to install them.

Tip: Add a mesh filter at the start of the pipe, especially when in a spring to prevent debris or frog blockages.

Tip: A combination of wind and solar pumps can give good results but ensure you have a reliable supplier and installer as otherwise these can prove costly mistakes – talk to other farmers before you buy.

Consultation check:

You, or your advisor, will need to consult with the BP team to get approval for certain water-related tasks, in particular where there is a proposal to drill for water on your land.

Some options for pumping water



Pasture pump anchored using old sleepers.



Drilling for water, submersible pump to be used.



Hydam pump with stop valves fitted.



Combined wind and solar pump setup.

Natural water source protection:

1. If possible, please repair or adapt existing water retention structures at sources such as springs, rather than constructing new ones - this may involve sealing off cracks, adding an additional layer of blocks, installing protective bars etc.
2. If walling off a spring to create a drinking point, insert an overflow pipe to channel excess water away from direct standing and drinking area. Where possible however, try to return this overflow back to its original downstream course - as this may be feeding your downhill springs too.
3. Before undertaking any work that affects natural water sources, please ensure you consult with your advisor and/or the BP team, as otherwise you could be damaging a rare habitat such as a 'petrifying spring' without realising it.
4. If limited due to remoteness or size, even a temporary fencing setup using a portable solar fencer can be a beneficial means of protecting a vulnerable spring, stream bank or lake from livestock damage.
5. All spoil and waste materials resulting from any work must be removed off-site.

Tip: Great care must be taken when cleaning out or walling-off natural springs as there is a risk of losing or 'driving back' the water supply altogether.

Tip: If restricting livestock access to a water source, try to use traditional means (i.e. stone wall) – this will result in a lower visual impact and a higher rate of funding (75%) rather than posts and steel wire (50%).

Tip: If water is also being gathered at a protected source, then a plughole at the base of the retaining wall should be installed to pipe 'gravity fed' water away, if needed, and also to drain water to allow for cleaning.

Tip: If walling-off a spring, a metal bar should be used to prevent stock from entering the protected area. This bar should be set back just enough to allow the cattle to drink from the spring, and ideally still be adjustable and removable if ever needed.

Tip: Managing your natural water sources well, and protecting them from livestock damage, is of course beneficial for your field scores. These areas can become wonderfully biodiverse habitats, so don't forget to also visit them during the summer months to enjoy the buzz of insects and wildlife.

Consultation check:

You, or your advisor, will need to consult with the BP team to get approval for certain water tasks at or near natural water sources. Situations where additional consultation is required include:

- Where you plan to construct a new wall around a water source in a designated SAC;
- Where you plan to clean out a natural water point (e.g. pond) with a digger.

Acceptable Standard



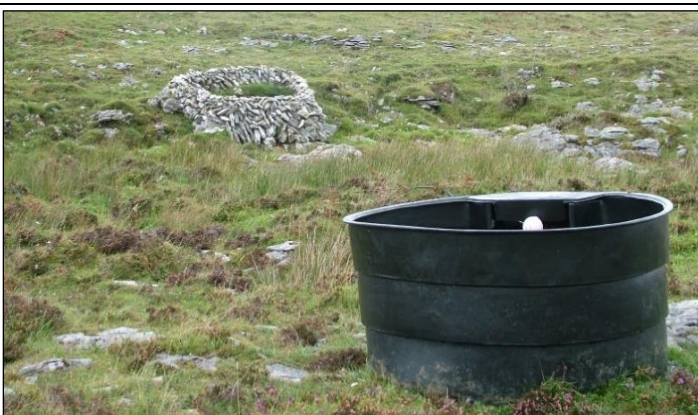
Retained, clean spring, metal bar to keep cattle out.



Walled-off pond with healthy water and flora.



Spring emerging from cliff base, well managed.



Walled spring source, with water piped to trough.

Unacceptable Standard



Flow too low or spring not cleared out.



Adjacent un-walled area, with poaching.



Unprotected access to water source, weak flow.



Open access to inadequate water source.