

# NOFENCE GRAZING TRIAL CASE STUDY

## Overview

There is now widespread recognition that long-term intensive grazing by livestock is bad for the environment. Supported by a growing number of financial incentives, many landowners are now considering making a transition towards lower intensity, 'lenient' grazing, which can increase biodiversity, improve soil health, and enhance carbon sequestration.

Yet installing fences on low-intensity grazed land when protecting habitats and species, or restoring landscapes can often be prohibitively expensive. This is particularly the case in challenging terrain, where there are access issues, or restrictions associated with land ownership. Maintenance may also be costly in these areas.

Even in situations where perimeter fencing has been installed, landowners may often shift internal electric fences over time to avoid overgrazing or facilitate rewilding. But this frequent movement can be time-intensive work and these lightweight fences are susceptible to wind damage or short-circuiting on vegetation.

## Project Brief

Fenceless grazing systems are a new and potentially game-changing way of managing and monitoring livestock. Ecosulis recently trialled the Nofence system at one site using sheep in Doddershall and another site using cattle in Wincanton; we found the results to be highly encouraging.

The system uses a GPS collar, which emits warning

sounds and signals to restrict livestock (currently cattle, sheep and goats) to an area marked out virtually within an app. When the animal nears the virtual boundary, a warning signal is played through the collar. When it reaches the boundary, a signal is emitted which causes the animal to turn back towards the field. The collar also allows remote tracking of the animal, permitting the farmer to identify when animals have left the boundary.

A recent study, published in the highly-respected scientific journal *Animals*, found that after a 14 day learning period, the NoFence collar was 'successful' in keeping cattle within a virtual boundary. There were only 4 escapes in a 139 days experiment on 12 cows.

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## Solution and Results

Overall, we found the Nofence collars to be an extremely effective deterrent. There were some technical problems during the calibration stage, but these were quickly resolved. These issues were offset by the lack of a need for physical fencing and the ease with which sheep could be monitored.

In trials involving sheep it was discovered that the animals had to be correctly shorn for collars to work correctly. Matted or thick wool around necks tended to cause units to fail. These units were easy to identify in the app, and a quick haircut solved the issue.

Two collars entered an error state during the first two months of the trial - attempts were made to fix this issue remotely, but eventually the problem necessitated a site visit. Some minor adjustments to the ways in which the sheep were initially handled were also required, while minor issues with collar design prompted the use of WD40. Potential battery life issues with some units due to their reliance on solar energy are being investigated by NoFence.

## Good for business and nature...

Virtual fence boundaries are changed in seconds, maximising land use and reducing animal management costs. Heat maps of animal movements provide invaluable insights into grazing intensity and animal behaviour. GPS allows easy tracking of animals in complex terrain.

Flexible grazing patterns can restore natural ecosystem dynamics, rewilding landscapes at significantly lower cost. The removal of physical barriers improves dispersal of wildlife, connecting fragmented habitats, making nature more resilient.

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## Impact



### Biodiversity

Grazing by large herbivores can enhance biodiversity. By enabling their movement to be easily and cost effectively controlled, this technology offers an opportunity for the positive impact to be scaled up. It could also keep herbivores away from sensitive areas, such as ground-nesting birds and rare wildflowers, and boost landscape connectivity.



### Habitats

Controlled grazing by herbivores can enhance habitats and habitat structure. In this way, NoFence technology can help to steer ecological processes, prevent overgrazing, and facilitate so-called 'mob grazing', which can lead to hugely improved soil health.



### People

Nofence technology can benefit herd managers by providing a low-cost, flexible and practical alternative to traditional fencing, opening up previously ungrazeable land. It can also provide critical insight on livestock movement and behaviour, allows herds to be rapidly located, and is beneficial to animal welfare.

