

Get growing! Sheep poop and native plant seeds prove a successful recipe for habitat restoration



Eroded ground is common across the Falklands. Regular causes of erosion are fire, unsuccessful planting and overgrazing – it may also be exacerbated by climate change. Once erosion starts it often spreads and it's a problem. In agricultural areas it means a loss of fodder and the contamination of valuable wool with soil, in conservation areas it saps biodiversity – from native plants upwards.



Erosion is common across the Falklands.

We have just finished a two-year Darwin Initiative project to find ways of tackling erosion using native plant seeds. Falklands native plants are cool! They are beautiful, they are adapted to the gnarly Falklands climate, and they support communities of animals – even bright butterflies and cheeky birds that are only found in the Falklands. Using native plant seeds is an exciting new technique for tackling erosion in the

Falklands – previous techniques have used non-native plants or tillers of tussac and bluegrass.

Eroded areas are a harsh place for little plants to get established because they are often both very dry and very windy, and the soil can be anything from impenetrably hard to very, very moveable... tricky! But this two-year project took these challenges on – it found out which native plants could grow from seed and how we could help them get growing.

Luckily for our native plant heroes the project was off to a super start – building on work by Alicky Davey and Rebecca Upson (RBG Kew), as well as excellent advice from Falklands farmers.

In 2014 Stuart Smith (my Habitat Restoration predecessor) and kind helpers made a patchwork of Habitat Restoration trials across East Falkland. Areas were fenced to keep out grazing sheep, hares and cattle. Inside test patches were raked and sprinkled with seed from 15 different

types of native plants. On top of some patches Stu popped sheep dung, sheep dags (mucky bits of wool trimmed off at shearing time), or natural fibre matting, or combinations of these delicious treatments. After two growing seasons the patches were monitored to death!

It worked! Plants grew on eroded peat, sand and even clay. Yippee! The winners were.....FUEGIAN COUCH GRASS (my personal favourite), tussac, and coastal blue grass. These species are often found along the coast and may have evolved to grow quickly in tough conditions; taking advantage of spaces where puny species struggle. Other plants grew best on specific soils – Magellanic fescue favoured clay, buttonweed did best on sand and land tussac preferred peat. Species such as cinnamon grass and native fog grew slowly but consistently across soil types.

Spreading seed with no ground treatment was useless – plants needed help! Dung was best, dags were ok and matting was just a little better than nothing (except on sand where it seemed to be helpful in pinning the ground down). The treatments worked well together but not significantly better than dung alone.

So we have new techniques for combatting erosion and already folk have begun small trials on their farms. Now we need more seed! The current project used a Native Seed Hub, kindly hosted by Stanley Nurseries. We will now work

with Cape Dolphin Farm to bulk-up seed production in an agricultural setting.

There are caveats to these studies, exciting questions to keep us all experimenting... Like – How do the different plants fare after two growing seasons – will they need another feed of dung and dags, will new winners emerge? Are dags beneficial in the long term (wool releases nutrients more slowly than dung)? How does rotational grazing by sheep and cattle affect the species trialled? What might we use where on islands where dung is not available (it is best to avoid transporting dung and dags between farms in case they carry seeds from invasive plants).

This has been a very exciting project, we hope that the findings will be useful for those managing land for conservation and agriculture, and we will continue our own trials. It is important to say a really big and sincere thank you to everyone that has helped including: farmers and landowners across the Falklands, the Darwin secretariat, the Falkland Islands Government, Stanley Nurseries, Quercus Statistical Consulting Ltd., Falkland Islands Development Corporation, and our super FC Volunteers.

If you are keen to find out more leaflets on these trials are available from the Falklands Conservation Website or contact Frin (habitatsrestore@conservation.org.fk).

TOP TO BOTTOM:
An endemic Queen of the Falklands fritillary rests on coastal bluegrass; A meadow of Fuegian couch grass on New Island, West Falkland; Bluegrass, tussac and Fuegian couch grass get growing on a severely eroded clay site.



Native plants growing on dung and dags in an eroded peaty area.



Gathering native seeds at Shallow Harbour Farm. PHOTO COURTESY OF MARLANE MARSH

