# Tussac Grass

Planting and Management

www.falklandsconservation.com

# General Information

This leaflet provides advice and encouragement to anyone interested in establishing areas of tussac grass in the Falkland Islands and those interested in undertaking replanting schemes.

## About Tussac grass

Tussac grass, which can grow to over 2 m tall and live for 200 years or more, forms the single most important wildlife habitat in the Falklands. Of the 62 birds breeding in the Islands, 46 use tussac for either nesting or feeding. Seals use tussac as shelter for breeding or as a hauling up ground. It is rich in invertebrates, many unique to the islands.

he extent of tussac cover has dramatically declined by some 81% from an estimated original area of 22,000ha. to only 4-5000ha. today. No more than 65ha. remain on the two main islands. Not only has this seriously depleted the available wildlife habitat, but in many places has caused a drying out of the soil resulting in serious soil erosion.

For farmers, it is important as a grazing resource and winter shelter. It starts growth earlier than any of the other native or introduced grasses and remains palatable all year round. For these reasons, both farmers and conservationists share a common interest in its establishment, management and long-term protection.

## Insurance

Falklands Conservation's insurance cover extends only to volunteers directly involved in events and conservation work organised and supervised by Falklands Conservation. It is essential that if individuals organise their own events or conduct their own practical conservation work that they undertake an assessment and institute precautions to ensure their own safety, that of other people who may be involved, and if appropriate, the public. If in doubt, seek advice from Falklands Conservation.

## Further advice

For further information, practical advice and conservation grants available for tussac replanting schemes contact Falklands Conservation on 22247. A more detailed background on the ecology and distribution of tussac grass can be found in 'Tussac Grass in the Falklands' (I J Strange, C J Parry, M C Parry & R W Woods, Falklands Conservation, 1988) and "The ecology and agronomy of Tussac grass" by J H McAdam and DWH Walton (Queens University of Belfast, 1990).

The soft peat and sheltered pedestals of tussac grass provide ideal nesting sites for burrowing birds such as Magellanic penguins (left), Sooty shearwaters and White-chinned petrels.

# Planning the Planting

## Where to plant

Fencing off bare soil near existing plantations and allowing tussac to regenerate naturally has been successfully tried on some sites. For new planting schemes, key considerations include the fertility of the soil, competition from other plants, and proximity to available planting material. Vehicle access is an advantage, though it may not always be possible. Future management will always be easier if plantations can be regularly monitored.

Tussac grass likes deep peaty soils and the best places to plant are generally those where tussac has grown in the past. By planting in areas within existing stands the young grasses will be sheltered and competition from other plant species will be minimal. Often the soil in such bare areas is prone to erosion by the wind and therefore they are prime sites to benefit from replanting programmes.

Plantation areas should be fenced to keep out larger domestic grazing animals, although with careful management and rotation of grazing areas this may be avoided. On mainland East and West Falkland, grazing by hares or rabbits can also be a problem. Rabbit proof fencing should be erected if the problem persists, although this can be removed when the plants are established.

## When to plant

Winter planting has the best success rate. In summer months, warm windy days can dry out young plants and their root growth may not be quick enough to ensure survival. Secondly, Magellanic penguins favour tussac grass areas and will pull out the young plans for nesting material. On a practical level, farmers and people in camp may have more time available in the winter months.

## Checklist for site selection planting dates

- ☐ Select a site with deep peaty soil
- ☐ Free from grazing until young plants are established
- ☐ Inland or coastal areas are suitable, provided they have deep and peaty soils
- ☐ Areas where tussac has previously grown are ideal
- ☐ Re-seeded pasture and around settlements should be avoided
- ☐ Proximity to planting stock supply
- ☐ Plant in winter (May-August)

Easy access to replanting sites encourages all ages to get involved. (Falklands Conservation)

## Growing tussac from seed

Collect seed from the biggest, healthiest plants, irrespective of site fertility or exposure. Always collect before midsummer to achieve maximum germination.

Seeds can be planted into prepared areas of bare ground (Falklands Conservation can provide advice on ground preparation) or into cheap disposable or re-usable plastic pots. Peaty soil is best for seeds and when planting out, tussac prefers deep, peaty soil. Larger seedlings can be grown in Rootrainer type plastic pots as used for tree seedlings. These are available via the internet. Tussac seedlings must be kept free of weeds, and protected from birds and pests. One-year old seedlings can then be planted out in their plantation and should grow rapidly.

## Planting material

A tiller is a shoot of tussac taken from an existing tussac plant and are obtained by getting to the pedestal of the plant and working a few shoots away from the main stem.

With practice, shoots can be removed with their roots intact to ensure plant survival. Research has shown that tillers need to be at least three shoots thick to replant successfully. They can be taken several days before they are needed, and kept moist in buckets or wet black plastic bags until planted out. It is important to note that these should NOT be left out in the sun or the young plants will rot.

Tillers re-grow best when taken from 2-3 year old parent tussac plants. These show the most vigorous growth though there is evidence that these younger shoots grow best when planted in combination with shoots taken from older bogs.

Check that tillers are pest free. To prevent any pests being present on the material you have collected, soak in a weak solution of insecticide for a few days prior to planting. This eliminates the risk from pests. Seek advice from either Falklands Conservation or the Agricultural Department before using any chemicals.

## Checklist

- ☐ Tillers should be at least three shoots thick and have roots
- ☐ Best taken from plants 2-3 years old
- ☐ Keep moist after removal
- ☐ Check for pests while collecting

## Equipment

- ☐ Shovel
- ☐ Gloves
- ☐ Black bags or buckets for storage
- ☐ First aid kit
- ☐ Notebook and pencil
- ☐ Camera

Pulled tussac tillers in a trailer with a young helper

# Planting Tussac

## How to plant

Planting out tussac tillers is simple and can be a social occasion involving helpers of all ages. The more people involved, the less time it will take to cover a substantial area and the less time tillers or seedlings will suffer in transit. When planting out, use a spade to make a cross to half a spade depth, part the soil in the middle and place the tiller or seedling in. Firm the soil back around the young plant.

## What distance between plants?

Plant spacing is not critically important for natural plantings. The closer the plants, the more rapidly the ground will be covered by canopy, but the plants will be smaller and planting will be slower, using many more seedlings or tillers. This soon adds up if a large area is being planted. If plants are spaced at half a metre apart, 12,000 new plants will be needed to cover 1 acre. If plants are spaced 2 metres apart, only 1000 new plants will be needed to cover 1 acre. This makes a difference of 4 man-days as opposed to 50 for planting out! Shelter for young plants can be built into a planting scheme by making every 10th row larger, closely planted tillers from mature tussac bogs.

A freshly removed tussac tiller with roots intact.

Tussac flowers early and seeds can be ripe by November.

Tussac planting in progress.

## Control of pests

Rust does not kill tussac grass but it can reduce its grazing value. The problem can be worse if a cool moist spring follows a mild winter. An application of a cereal fungicide such as Bayfidon (applied before December) will give good control, but this can be expensive and may be environmentally dangerous. Young plants are particularly susceptible to rust and it may be that a severe outbreak in a young plantation may benefit from a one-off spraying with fungicide. Once plants form large tussocks, spraying becomes increasingly difficult to justify and increasingly environmentally damaging.

Insect pests pose a potentially greater threat than rust and in combination with rust may kill tussac plants. Insect eating birds (hens, tussacbirds) can heck reduce the degree of infestation and may be one reason why tussac grass grows so well in hen runs around settlements. Adult insect pests are not very mobile, so the best way to manage is to ensure that tillers are free of pests when they are split up. Pre-soaking tillers overnight in a drum containing a weak insecticide prior to planting out will also discourage insect pests.

Cats and rats can also damage young plants. Cats kill insect eating birds and rats will weaken the plant by burrowing into the roots and pedestals. For advice on clearing and controlling rats and cats, contact Falklands Conservation.

## Fertilisers

Generally, tussac grass should not need any additional fertiliser. However, if a plantation appears not to be thriving and there is little wildlife content, an application of nitrogen-based fertiliser in spring will help. Ease of application is obviously important, and while a rapid response will be obtained from soluble, inorganic fertilisers (such as Nitrochalk ICI Ltd), we recommend using organic fertilisers such as those based on chicken manure. Rotted kelp and sheep manure have low nitrogen value, but are excellent soil conditioners.

## Grazing

Given reasonable growth, tussac plants can withstand managed grazing after about three years. Grazing tussac is best in the early winter (May-July) than later in the season. More care must be taken if animals are allowed to remain in tussac after July. Plants can survive having all the green leaves removed, but animals should be removed well before they start to dig into the crown of the tussac and the leaf bases, or start to pull up shoots. As a rough guideline, in good mature tussac plantations, hoggs can be stocked at 10-12 per acre and dry sheep and ewes at 3-5 per acre for most of the winter (no more than 180 days).

Tussac provides a superb habitat for insects such as this harmless Camel Cricket. The use of chemicals can have serious effects on some of the inhabitants of tussac so only use as a last resort. (Richard White)

# Recording

Recording your planting scheme is important. This can inform future planting and management, provide information to and an example for others, and may be a condition of grant support. It is useful to record:

- ☐ Location (using a GPS if possible) and map plantation
- ☐ Time and date of any work-planting and follow-up management
- ☐ Who is in charge and others who have been involved
- ☐ What has been done, quantified if possible (eg how many tillers planted and how long did it take)
- ☐ If relevant, weather conditions
- ☐ Pets or diseases
- ☐ Wildlife observed

## REMEMBER!

- Tussac soil can be soft and frequently hollow underneath- take care when you walk.
- Look out for burrows of birds around the tussac grass.
- Caution should be taken if sites are on cliff tops or near rocky shores.
- Ensure all those present are aware of any such dangers.
- Always have a first aid kit and method of communication.
- Tussac can be sharp on hands – care should be taken when tillers and handling grass.
- If using chemicals, ensure that someone takes responsibility for this who is experienced in their handling and use.
- Tussac areas are often favoured resting places for seals and sea lions. They can be dangerous if you come between them and the sea.

## Twelve tips for better Tussac!

1. Securely fence off any area planted.
2. Plant firstly on old tussac peat then on reasonably fertile land with deep soil.
3. Avoid old grass fields, reseeds and areas very close to settlements.
4. Take tillers from young, heathy bogs and pre-soak roots in water or a weak solution of insecticide.
5. Plant tillers 0.5–2m apart in winter (May–August).
6. Plant without fertiliser.
7. Try growing seedlings in small pots or trays under cover or in the garden, from seed collected before December from healthy plants.
8. Provide shelter for the developing plantation by making every 10th row planted close space large tillers from mature tussocks.
9. Avoid grazing of any kind until plants are 3 years old.
10. Graze only in winter at no more than 5 ewes or 12 hoggs per acre and take great care not to over-graze.
11. Control rust by spraying only as a last resort.
12. Fertilise struggling plantations with organic manure.

# FALKLANDS CONSERVATION

- Offers practical support, advice and equipment for practical conservation work in the Falkland Islands.
- Organises tussac replanting projects.
- Awards conservation grants for local wildlife projects.
- Has a well-stocked library of wildlife and conservation literature reference.
- Provides advice on wildlife issues.
- Maintains a comprehensive Falkland Islands wildlife recording database.

Falklands Conservation has worked to protect the wildlife of the Falklands Islands for over 25 years. Based in Stanley, the charity now has over 600 members worldwide, a flourishing junior group and many volunteers. The Falkland Islands are small and remote with limited resources but with hugely important wildlife to protect. Falklands Conservation is heavily dependent on public support to fund its conservation programmes. You can help us by making a donation or by becoming a member. We welcome visitors to our offices in Stanley, or you may find out more about us on our website (below).

This leaflet is one in a series giving guidance to our members, volunteers and the public on a range of practical conservation and wildlife issues produced with financial support from the Overseas Territories Environment Programme.

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www.falklandsconservation.com

# Falklands Conservation

*Partnering with the local and international community to conserve the Falkland Islands' natural environment.*

Falklands Conservation rely on donations and public support to carry out our work in the Falkland Islands. If you would like to join those already supporting our work, please consider becoming a member or adopting a penguin via our website

## www.falklandsconservation.com

Or contact **ukadmin@conservation.org.fk** for more options.

For regular updates on our work, follow us online

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