

A New Falkland Island Habitat Assessment



Falklands Conservation's Peat-Wetlands project, funded by the Darwin Initiative, assessed the habitats of the Falklands for vegetation health and the diversity of plants and birds the habitats supported. From this, the Habitat Assessment Score has been developed to measure the relative quality of land by classifying each survey site.

The assessment can be used for one-off surveys, rapid surveys, or long-term repeat monitoring. It is ideal for use within the Responsible Wool Standard and will help farmers to get a better quantitative understanding of their land and any changes over time, in a reportable format.

How does it work?

The survey is a combination of a 50-metre line transect with 5 more detailed spot surveys undertaken at approximately 10-metre intervals along this transect

Birds survey: 50m survey for 5 minutes

Vegetation: 5 spot surveys along 50m transect

At each spot survey measure:

- sward height and take the average
- area of bare soil and take the average
- Measure height of 5 fachine and 5 boxwood if present

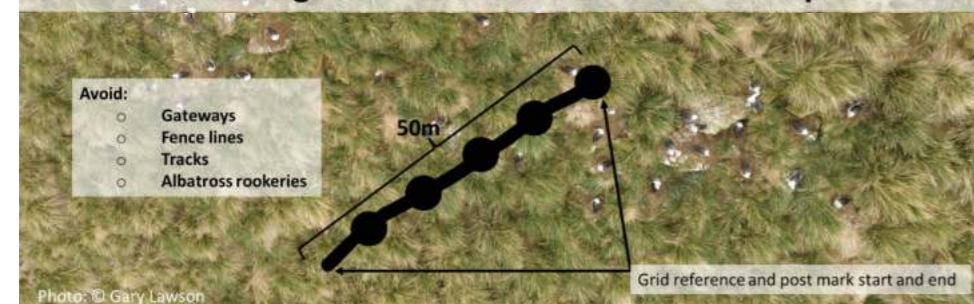


Figure 1: the survey method combines transects with 5 spot surveys. The first task is to complete the bird survey to avoid disturbance and then the vegetation surveys can be completed on the return walk. The survey is designed to be quick while providing meaningful indicators to assess habitat health. NOTE: take a calculator to determine averages.

The first survey acts as a baseline. Further surveys can be carried out every year, biennially or every five years to capture negative, positive or no change trends. More regular repeat surveys will note negative changes faster, allowing us to quickly enact measures to prevent further degradation.

What are we looking for?

To assess the value of a survey site the method scores a range of factors. To simplify scoring it utilises indicator species, whose presence and high score will cover other associated species (e.g. bluegrass & cinnamon grass indicate that many other flower species, possibly your favourite, will also be present and their score reflects this, without having to identify and score this wider range of plants) and also proxy indicators like sward height as a surrogate for soil moisture and soil litter.

1 Bird survey

The bird survey is a timed 5-minute survey along the 50m transect. The small birds have been aggregated to reduce identification issues making the survey a simple measure of bird activity. The final score is based on the number of birds recorded. The main exceptions are: snipe which are easy to identify and act as a proxy for ground wetness; and the reverse-scoring of feral domestic geese where known absence scores positively.

2 Plant surveys

Plants can be identified and recorded anywhere along the 50 metre line however 5 additional stops have been included every 10 metres where more detailed plant surveys take place over a 2-metre squared area. Some plants are grouped to avoid identification issues and are given a single average score if one or more of the species are present.

3 Vegetation cover – average across 5 sampled points

This is a measure of unvegetated bare ground (figure 2– overleaf) and is a visual assessment at each of the five stops. This measure provides an understanding of vegetation cover and acts as a proxy indicator for soil moisture, erosion potential and carbon loss as well as an assessment of vegetation health. Categories range from 80 to 100% bare ground (scores –100), to below 5% bare ground (scores 5 – the only positive score in this category). If ground cover is made up only of negative scoring plant species it is unlikely to score worse than the 80 to 100% bare ground category

4 Sward height – average across 5 sampled points

Sward height is measured as the functional height of the vegetation and is an approximate indicator for the site's soil moisture (figure 3). There are 3 categories: between 0 and 19cm (scores 0), between 20 to 29cm (scores 5) and above 30cm (scores 10) – a nice healthy wetland! Five measurements need to be taken, one at each of the stops and the average sward height is recorded for scoring. If tussac grass, boxwood or fachine are present an extra score of 5 can be recorded for the following: 5 fachine plants above 75cm; 5 boxwood plants above 120cm; 5 tussac plants above 100cm.



Figure 3: sward height is measured to the height the vegetation naturally rests at, as opposed to the full length of the grass blades, as this is the functional height of sward.

5 Presence of freshwater

Any freshwater (pond/stream/river) within 30 metres of the survey site scores 10.

6 Non-native mammals

The presence or absence of these should be based on existing knowledge. If the survey site is known to be free of grazing animals (sheep, cattle, goats, guanaco, horses, reindeer), cats, rats and mice as well as rabbits and hares then a score of 5 can be recorded for each group. If the survey site is known to hold foxes then a negative score of -5 should be recorded.

7 Final score

The final score for the survey is the total sum of all groups and will fit the location into categories ranging from very good to very poor (figure 4).

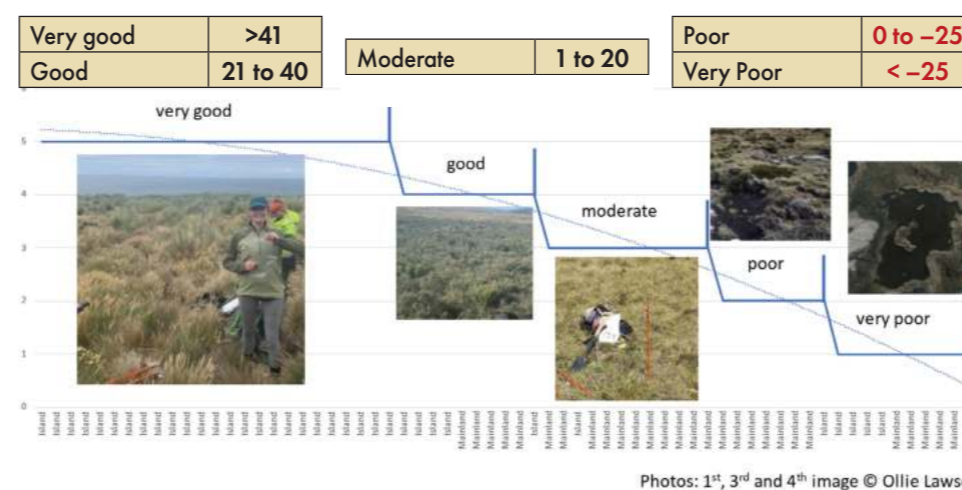


Figure 4: the scores are classed to reflect habitat condition ranging from high quality bluegrass habitats on offshore islands (left) to areas of extensive bare peat such as at Cape Pembroke (right).

By evaluating habitats we can get a clear idea of the condition of our peat-wetlands and therefore the state of the Falkland Islands terrestrial ecosystem. From this we will be able to pinpoint areas for restoration, before they get to the final stages of erosion, allowing effective protection of high-value conservation areas. We hope the Habitat Assessment will become a common value by which we manage our land across the Falkland Islands.

1 Bird Species – 50m linear survey over 5 minutes

Bird Species		Score
All small native birds including Falkland thrush, Falkland grass wren, dark-faced ground tyrant, black-chinned siskin, white-bridled finch, Falklands pipit (not shown), long-tailed meadow lark	1 - 5 birds	2
	6-10 birds	5
	11-20 birds	7
	> 20 birds	10
Magellanic snipe		5
Survey site free of domestic geese		2
TOTAL		



Black-chinned siskin



Falkland grass wren



male – White-bridled finch – female



Long-tailed meadowlark



Dark-faced ground-tyrant



Falkland thrush



Magellanic snipe

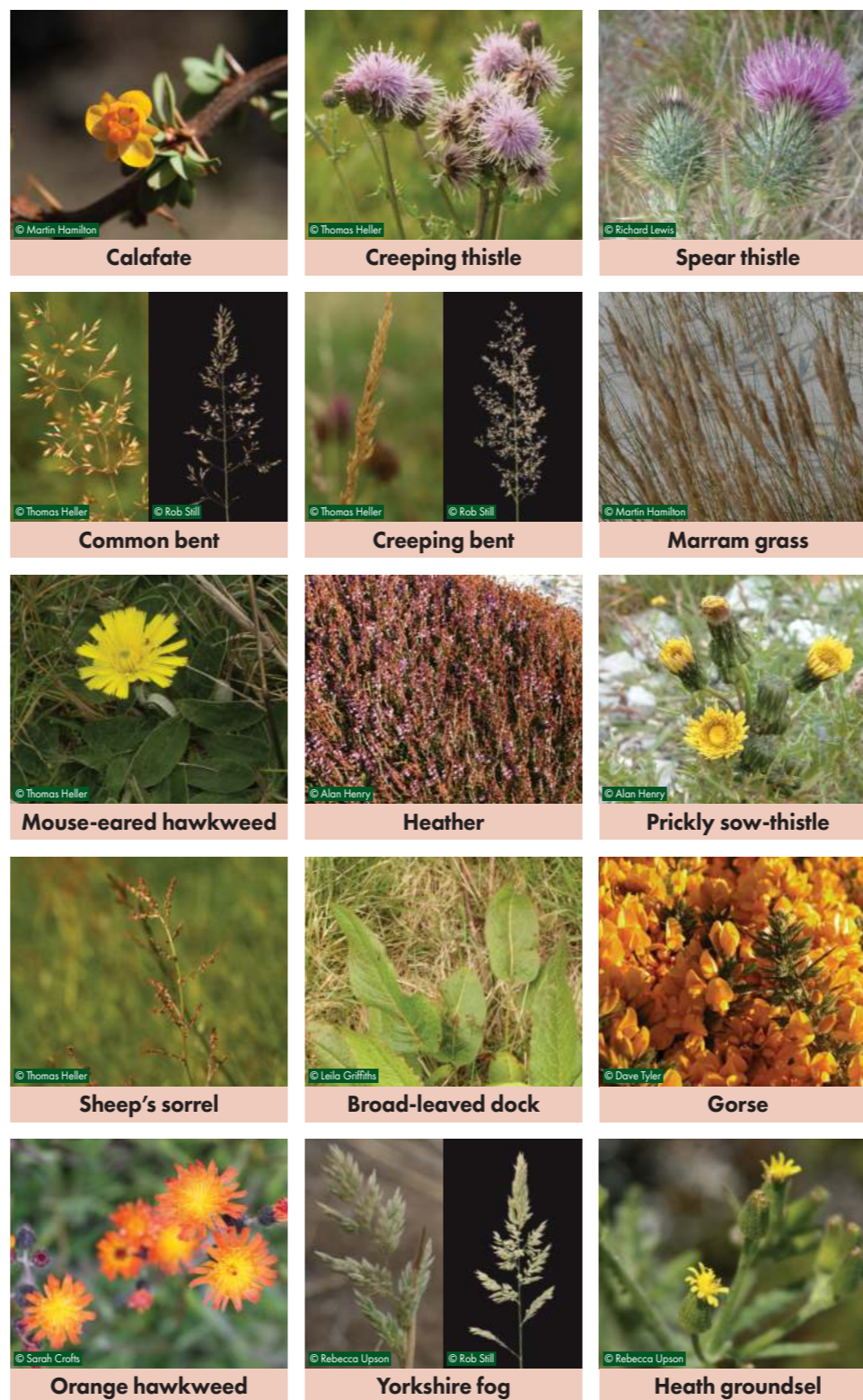
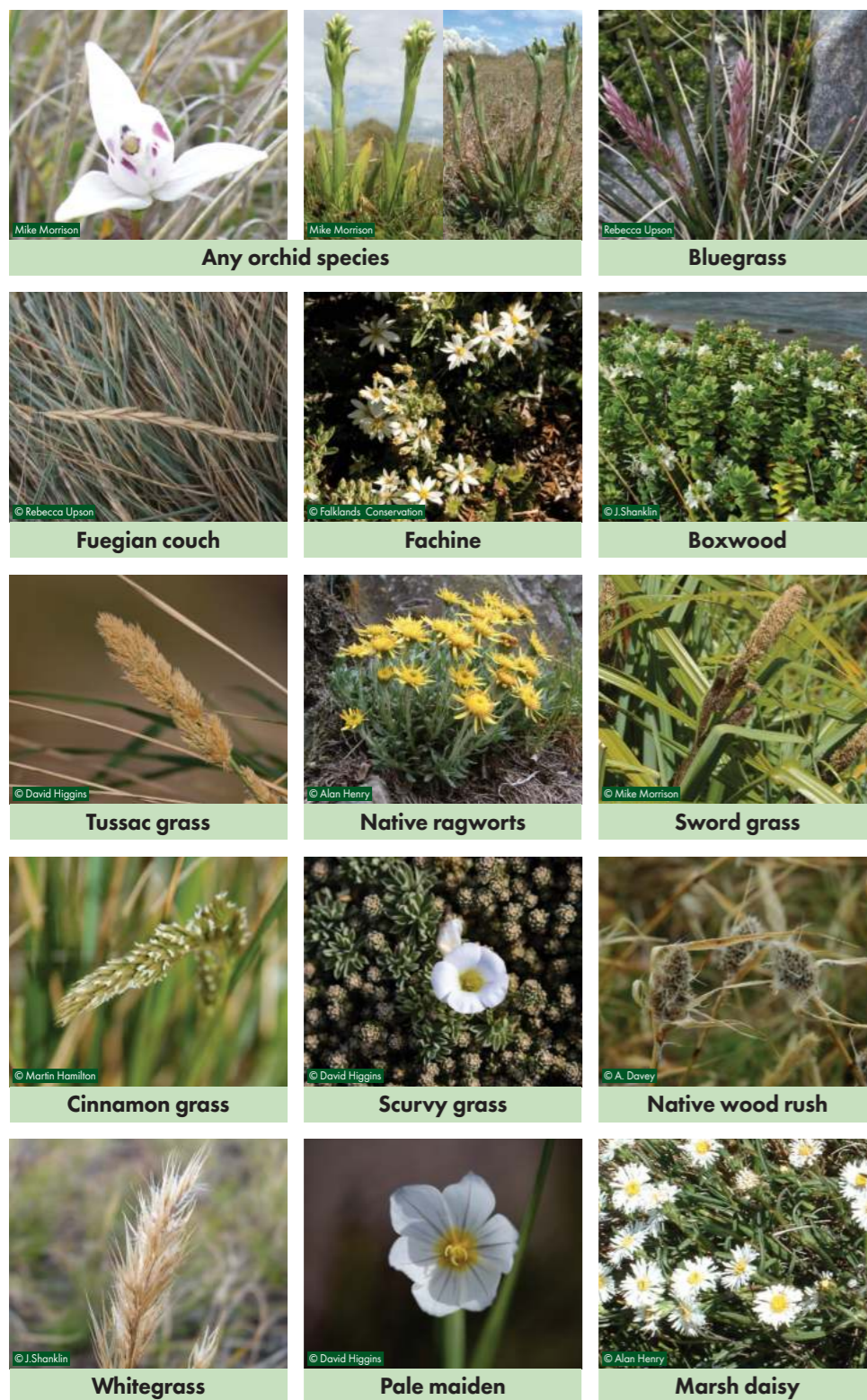
2 Plant Surveys – 5 spot surveys (e.g. of 2 × 2m)

Positive scoring plants

Plant species	Score	Plant species	Score
Boxwood	10	Cinnamon grass	2
Sword grass	10	Scurvy grass	2
Any orchid species	6	Native wood rush	1
Fachine	5	Whitegrass	1
Bluegrass or Fuegian couch	5	Pale maiden	1
Tussac grass	5	Marsh daisy	1
Falklands native ragworts	4	TOTAL	

Negative scoring plants

Plant Species	Score	Plant Species	Score
Calafate	-20	Sheep's sorrel	-7
Any 'purple' thistle e.g. creeping thistle & spear thistle	-20	Docks (any dock species except native southern dock which is found only in coastal areas)	-7
Common or creeping bent	-10	Any gorse species	-5
Marram grass	-10	Orange hawkweed	-5
Mouse-eared hawkweed	-10	Yorkshire fog	-5
Heather	-7	Heath groundsel	-5
Any 'yellow' thistle e.g. prickly sow-thistle	-7	TOTAL	



3 Vegetation Cover – average across 5 sampled points

4 Sward height – average across 5 sampled points

5 Presence of freshwater

Vegetation cover	Score	Sward height	Score
80–100% bare soil	-100	0–19cm	0
50–79% bare soil	-25	20–29cm	5
25–49% bare soil	-10	> 30cm	10
6–24% bare soil	-5	Score extra if	
0 – 5% Bare soil	5	5 fachine >75cm	5
Standing or running freshwater	10	5 boxwood >120cm	5
		5 tussac grass > 100cm	5
		TOTAL	

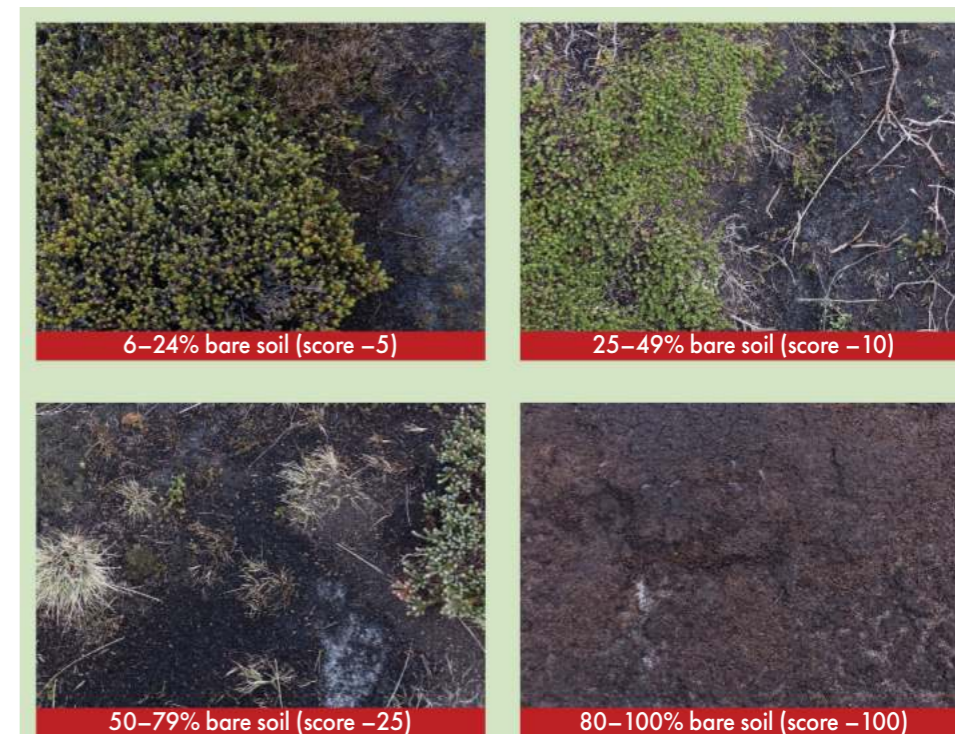


Figure 2: this shows some of the bare ground categories to help understand how this is assessed. This measure offers an understanding of vegetation cover and acts as a proxy indicator for soil moisture, erosion potential and carbon loss as well as an assessment of vegetation health.

6 Non-native mammals

Non-native mammals and grazers	Score
Survey site known to be rabbit and hare free	5
Survey site known to be rat and mouse free	5
Survey site known to be cat free	5
Survey site known to be free of grazing animals (including sheep, cattle, guanaco, reindeer, horses, goats)	5
Survey site known to have foxes	-5
TOTAL	

7 Final score

OVERALL TOTAL SCORE	
Location	Start Grid Reference
	End Grid Reference
Date	
Surveyor/s	
Stocking rate in livestock units per hectare (1 livestock unit = e.g. 10 sheep or 1 steer)	
Livestock species mix	