1 Extent of native woodland on former open hill areas

2 Ecological condition of peatland and non-woodland habitats

3 Diversity and structure of Corrour forest

4 Health of freshwater environment

5 Health of keystone and indicator species

Corrour
Ecosystem Health Indicators Dashboard

1

Extent of native woodland on former open hill areas

Ecosystem Health Indicators

Overview

Tree seedling quadrats

40 plots
100m^2 each

Trees species: birch & rowan

Natural regeneration at Forestry Grant Scheme areas

3 areas fenced on the open hill in 2020

Tree species: downy birch, rowan & willow

Monitoring plot size **100**m^2

Open hill regeneration transects

Most common species
Eared willow 145 trees

Over **77** Trees per ha in altitude range of over 600m

Open hill survey at Old Corrour

survey area
3.4ha

Tree seedling quadrats

Seedling density per ha

— All trees
— Above vegetation height

No. trees per ha: 0, 1000, 2000, 3000, 4000, 5000
Years: 2008, 2010, 2012, 2014, 2016, 2018, 2020, 2022
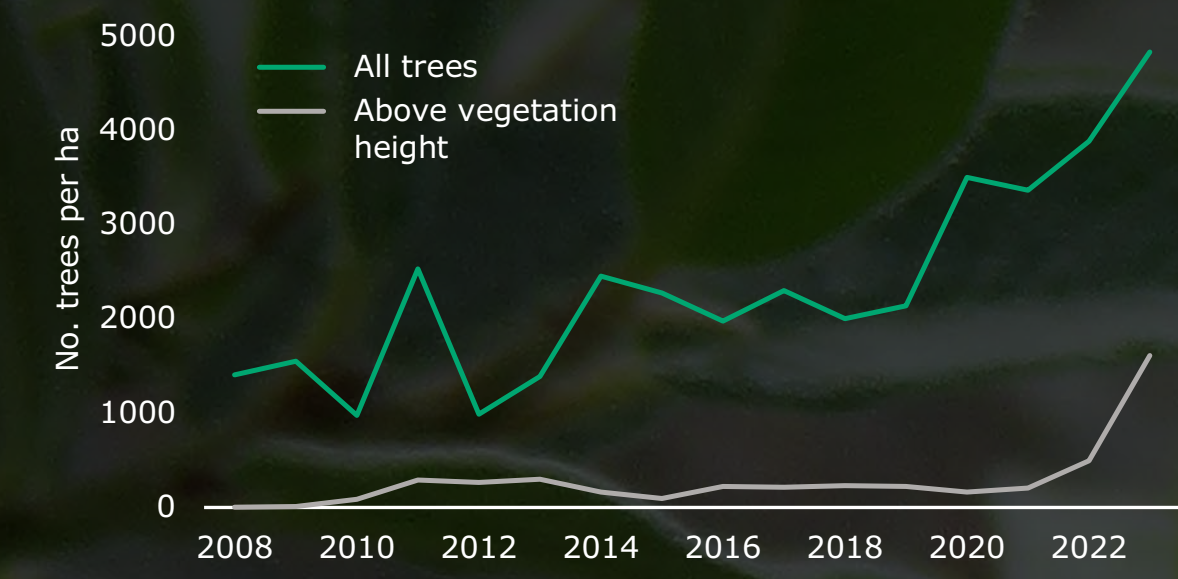
Mean marked tree heights in relation to browsing

■ Height
--- Browsing

Height (cm): 0, 10, 20, 30, 40, 50
% trees browsed: 0, 10, 20, 30, 40, 50, 60, 70, 80
Years: 2008, 2010, 2012, 2014, 2016, 2018, 2020, 2022
Error bars = ± 1 Standard Error
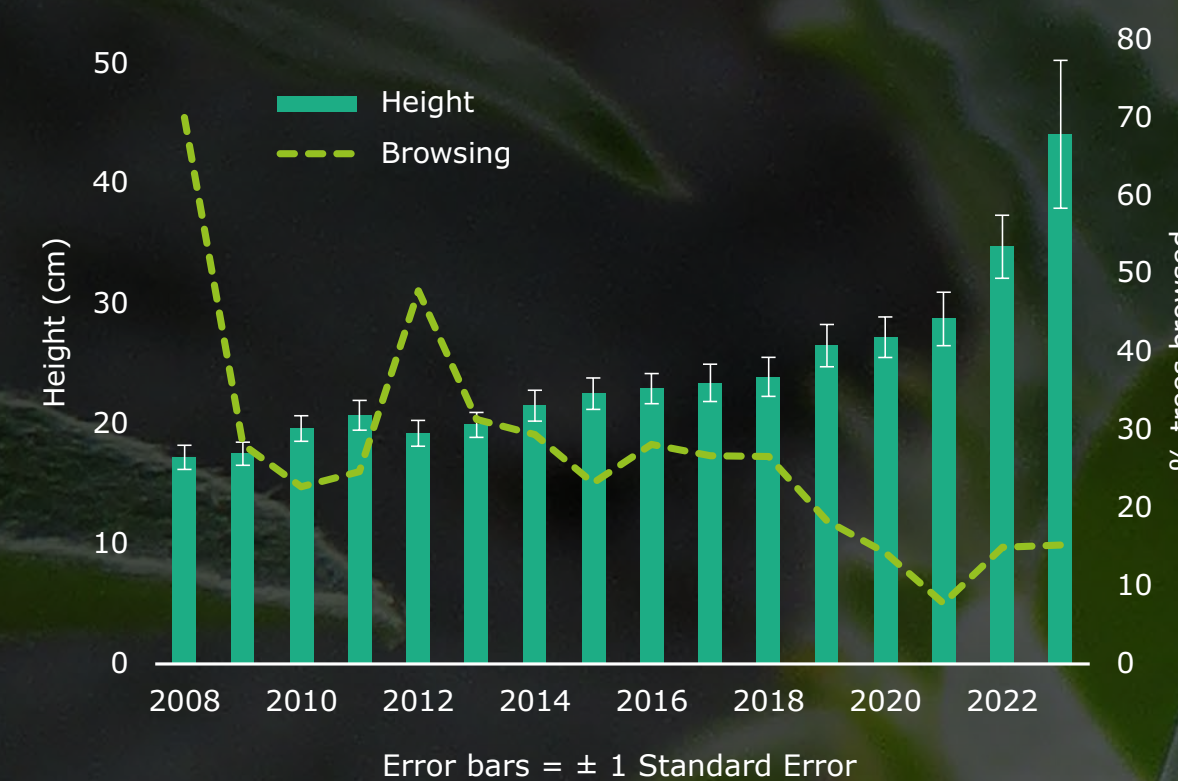
Target = Increasing

Natural regeneration at Forestry Grant Scheme areas

Trees per ha

Monitoring frequency: 2 years

Sron Nan Gall
Garbh Chnapan
Cosaig

■ 2020 ■ 2022

No. trees: 0, 250, 500, 750, 1000, 1250, 1500, 1750, 2000, 2250

Mean tree height

Height (cm): 0, 10, 20, 30, 40, 50, 60
Cosaig   Garbh Chnapan   Sron Nan Gall
Error bars = ± 1 Standard Error
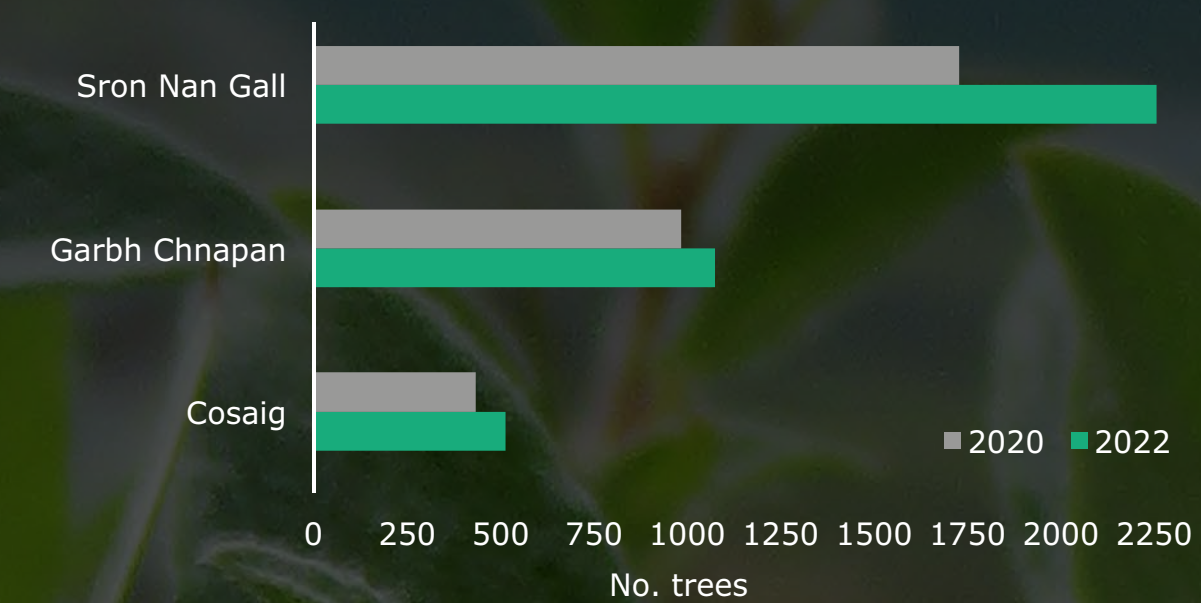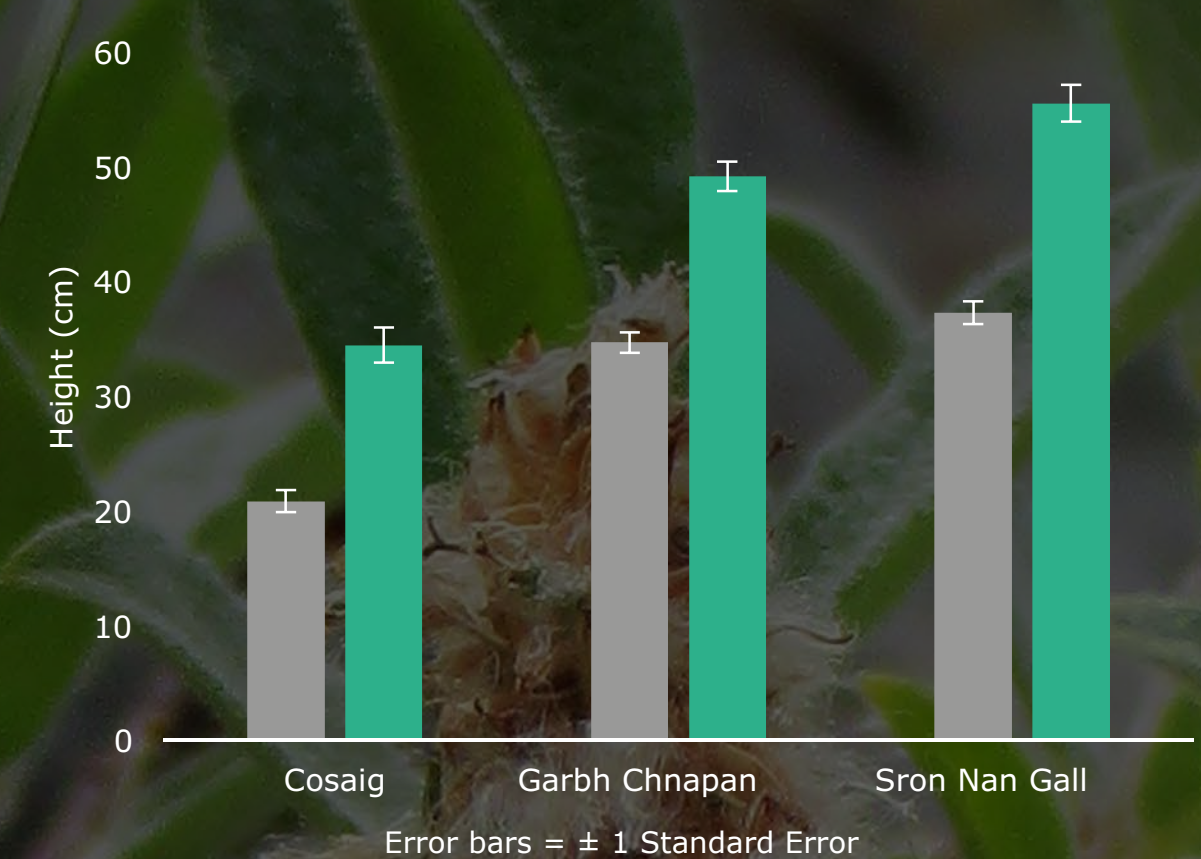
Target = Increasing

Open hill regeneration transects

Trees per ha

Monitoring frequency: 3 years

Allt Coire na Cosaig (418-637m)
Meall Chaorach (449-739m)
Fion Toman (410-621m)
Strath Ossian West (444-471m)
Creagan an Amair (437-499m)

No. trees: 0, 100, 200, 300, 400, 500, 600, 700, 800

Trees per ha (by habitat)

Bog/mire
Wet heath
Dry heath
Calcareous grassland
Acid grassland

No. trees: 0, 100, 200, 300, 400, 500, 600, 700, 800

Mean tree height by species

Height (cm): 0, 2, 4, 6, 8, 10, 12, 14, 16, 18
Rowan   Creeping willow   Eared willow
Error bars = ± 1 Standard Error

Target = Increasing

Open hill survey at Old Corrour

2019: 171 trees

Monitoring frequency: 4 years

Dwarf birch
Rowan
Downy birch
Willow
Sitka spruce
Juniper
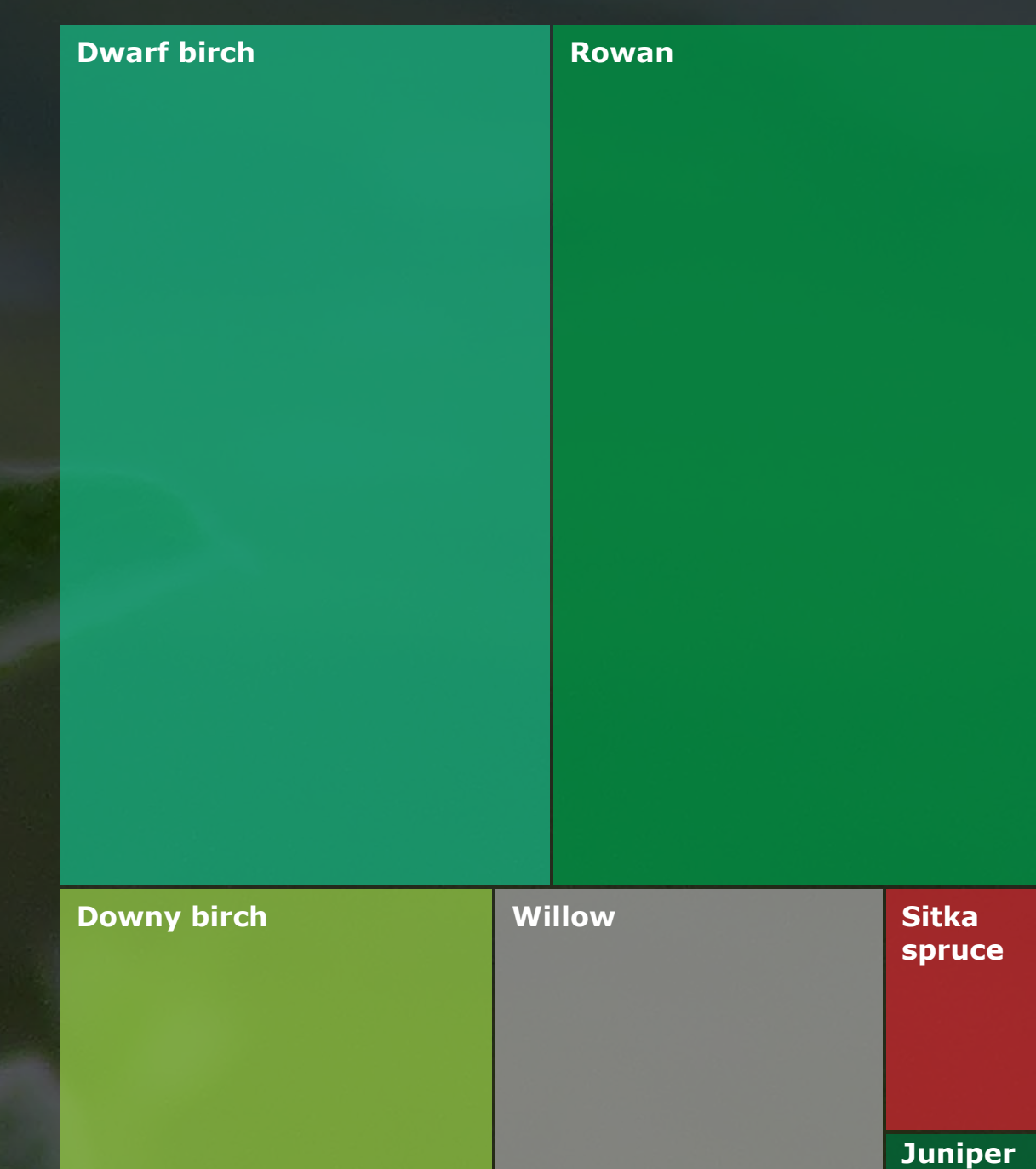
Target = Increasing (except Sitka)

2

Ecological condition of peatland and non-woodland habitats
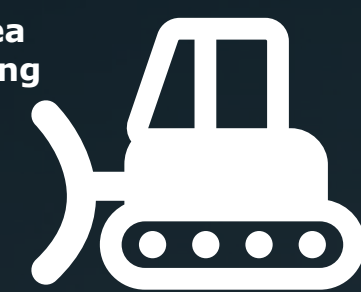
Ecosystem Health Indicators

Overview

Peatland restoration

Restoration management (reprofiling and rewetting using a digger) has been actioned at four sites on the open hill

an area totalling 459.1 ha

Herbivore Impact Assessment across all open hill habitat types

NVC survey was carried out in 2018

330

HIA plots, spread evenly across the open hill, and within seven habitats

Condition of habitat monitoring plots

Number of plots: **34** blanket bog
48 dwarf shrub

Set up using the protocol in the **Best Practice Guides** on Habitat Impact Assessment

bpg

Area of rare habitats of conservation interest

Tall herbs, Calcareous grassland and Snowbeds cover approximately

135 ha

across the open ground of the Corrour Estate

Tall herb habitat condition

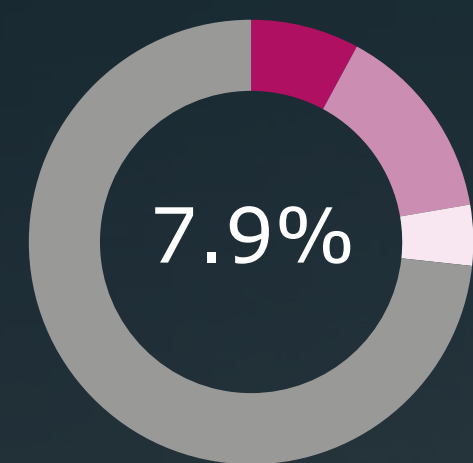**New monitoring** set up in Strath Ossian in 2021

Transects running downhill from the cliffs spaced 30m apart

Peatland restoration

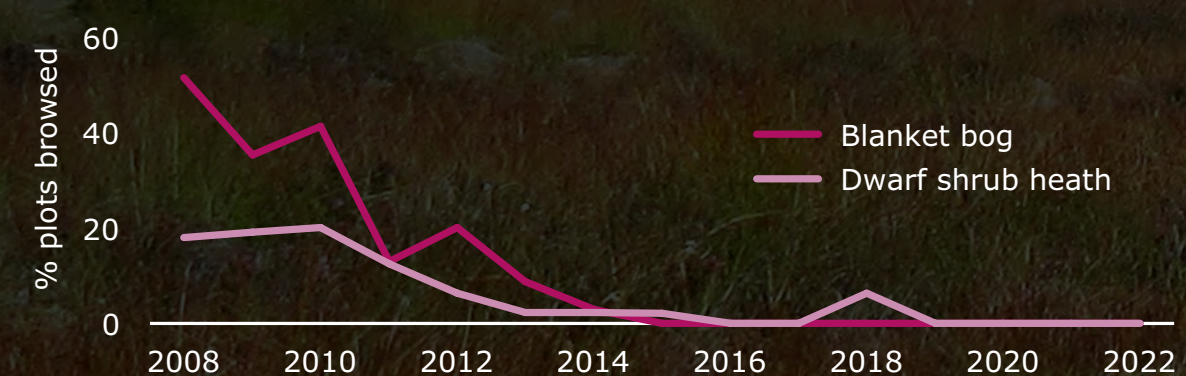### Total area for peatland restoration = 5814.7ha

- Restoration management actioned
- Feasibility study completed, restoration pending
- Feasibility study completed, restoration not currently planned
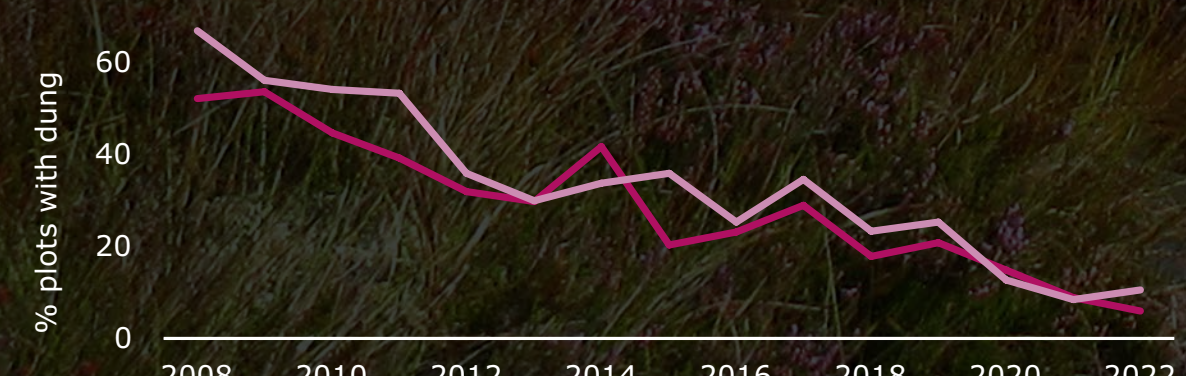- Not in restoration management

7.9%

Target = 100% restored

Condition of habitat monitoring plots

Heather browsing

% plots browsed

- Blanket bog
- Dwarf shrub heath

2008 2010 2012 2014 2016 2018 2020 2022

Deer dung

% plots with dung

60
40
20
0

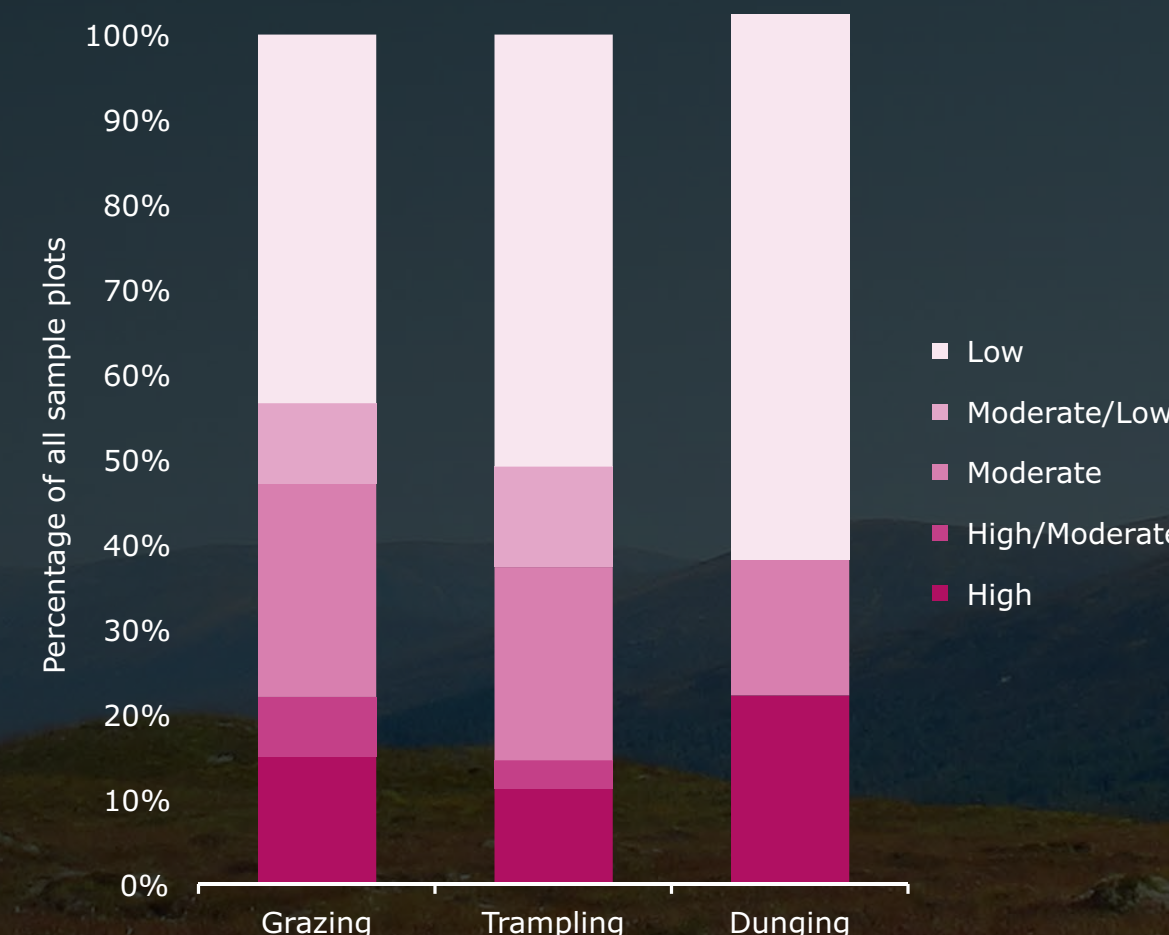2008 2010 2012 2014 2016 2018 2020 2022

Target = Stable or improving

Herbivore Impact Assessment across all open hill habitat types

Herbivore Impact Assessment across all open hill habitat types (2018)
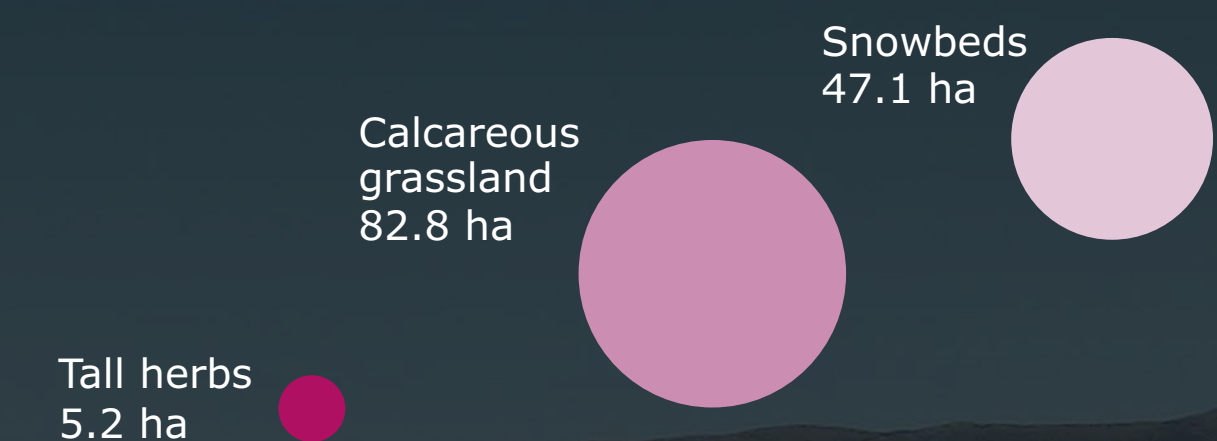
Monitoring frequency: 5 years

Percentage of all sample plots

100%
90%
80%
70%
60%
50%
40%
30%
20%
10%
0%

Grazing   Trampling   Dunging

- Low
- Moderate/Low
- Moderate
- High/Moderate
- High

Target = 90% low impact

Area of rare habitats of conservation interest (2018 NVC survey)

2018 NVC survey

Monitoring frequency: 10+ years

Snowbeds 47.1 ha

Calcareous grassland 82.8 ha

Tall herbs 5.2 ha

Target = Stable or increasing

Tall herb habitat condition

Strath Ossian tall herb habitat condition

Mean % plot cover
60
50
40
30
20
10
0

Mean no. species
6
5
4
3
2
1
0

- Target
- % tall herb cover (2021)

Error bars = ± 1 Standard Error

Target = transition to tall herb habitat

3

Diversity and structure of Corrour forest

Ecosystem Health Indicators

Overview

Peat restoration area

Total area for peatland restoration in Corrour forest =

621 ha

...of which 33% (155 ha) has had tree clearance and rewetting works completed

Peat restoration vegetation monitoring

40 %

of Area A cleared by mechanical whole-tree mulching

Inverlair Planted Woods on Ancient Woodland sites (PAWS)

Existing mature native broadleaves (NBL) =

20 %

PAWS area at Inverlair:

65.95 ha

Long Term Forest Plan

Non native conifers include areas being managed for biodiversity/ long term mature woodland cover e.g. Norway spruce to benefit red squirrel and Lodgepole Pine for black grouse edge woodland. Total area = 3816 ha
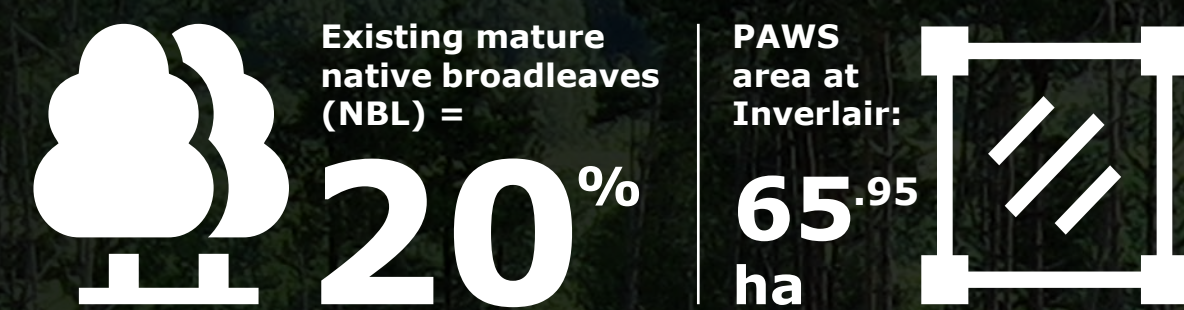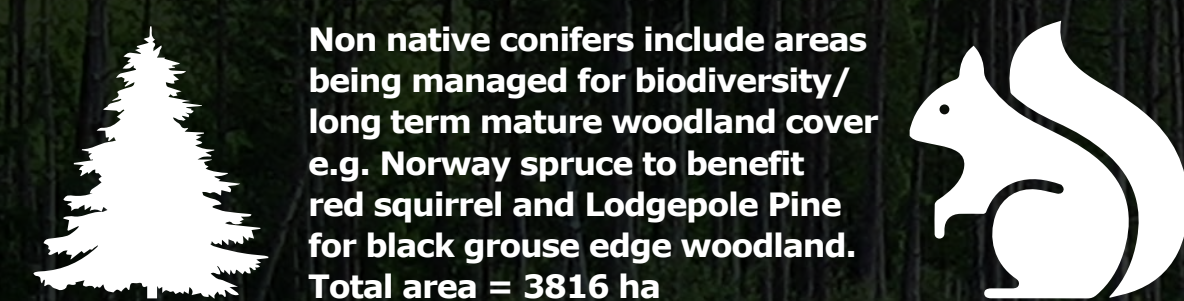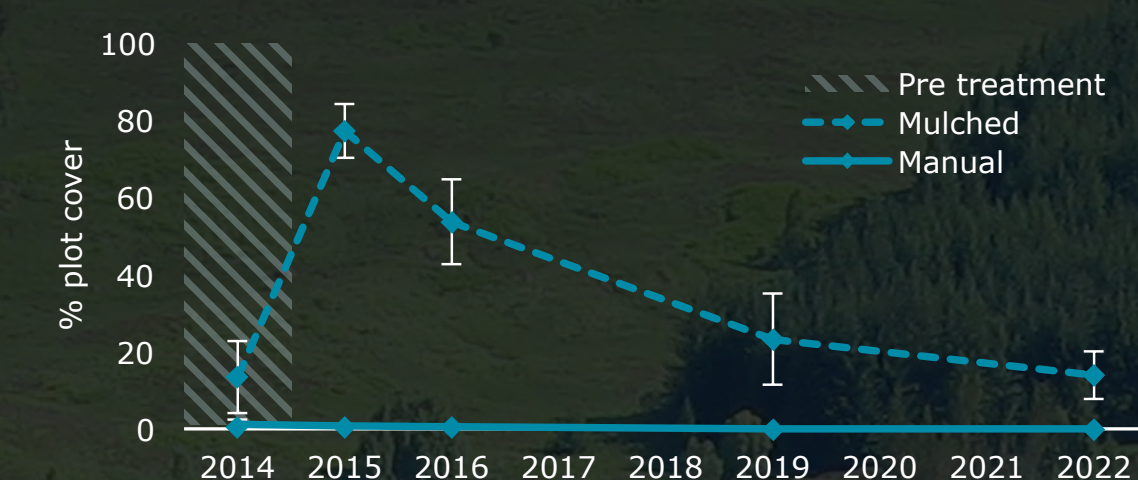
Peat restoration area

Peatland restoration area = 621ha

- Tree clearance and rewetting works completed
- Tree clearance completed
- Tree clearance planned for 2023
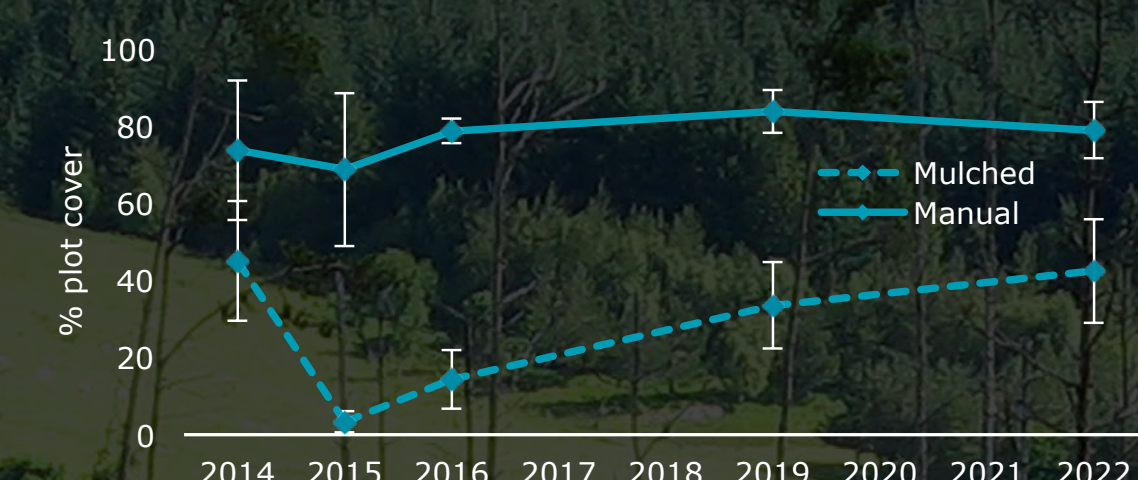- Feasibility study complete

33%
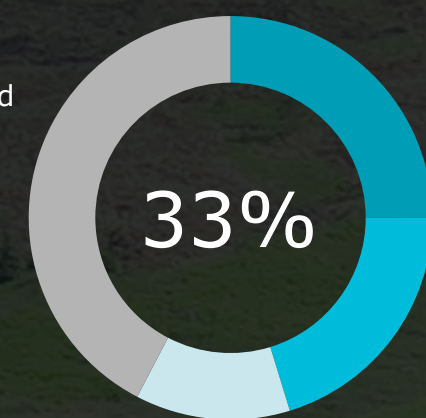
Target = 100% restored

Peat restoration vegetation monitoring
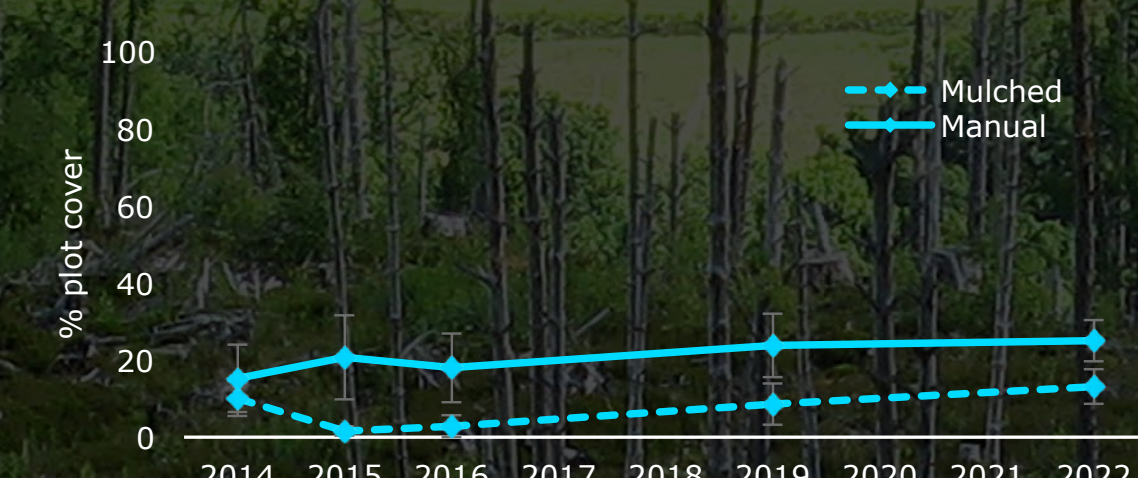
Unvegetated plot cover

% plot cover (y-axis: 0–100)
x-axis: 2014 2015 2016 2017 2018 2019 2020 2021 2022

Pre treatment
Mulched
Manual

Target = Decreasing or stable

Sphagnum moss cover

% plot cover (y-axis: 0–100)
x-axis: 2014 2015 2016 2017 2018 2019 2020 2021 2022

Mulched
Manual

Cottongrass cover

% plot cover (y-axis: 0–100)
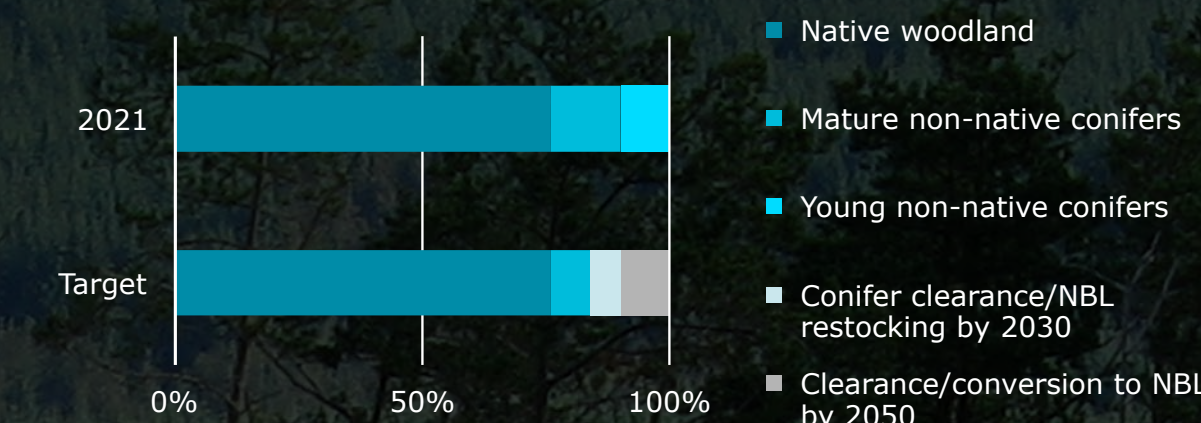x-axis: 2014 2015 2016 2017 2018 2019 2020 2021 2022

Mulched
Manual

Error bars = ± 1 Standard Error

Target = Increasing or stable

Inverlair Planted Woods on Ancient Woodland sites (PAWS)

Inverlair PAWS

2021
Target

0% 50% 100%

- Native woodland
- Mature non-native conifers
- Young non-native conifers
- Conifer clearance/NBL restocking by 2030
- Clearance/conversion to NBL by 2050

Target = 76% native woodland

Long Term Forest Plan data

Forest Components: Woodland

Scots Pine
Native Broadleaves
Non Native Conifers

Area (ha): 0 500 1000 1500 2000 2500 3000

■ 2012
■ 2022
◣ 2042

Forest Components: Other

Area (ha): 0 100 200 300 400 500 600 700 800

Felled, Open Ground, Non Woodland Habitat, Infrastructure, Lochs/Ponds

■ 2012
■ 2022
◣ 2042
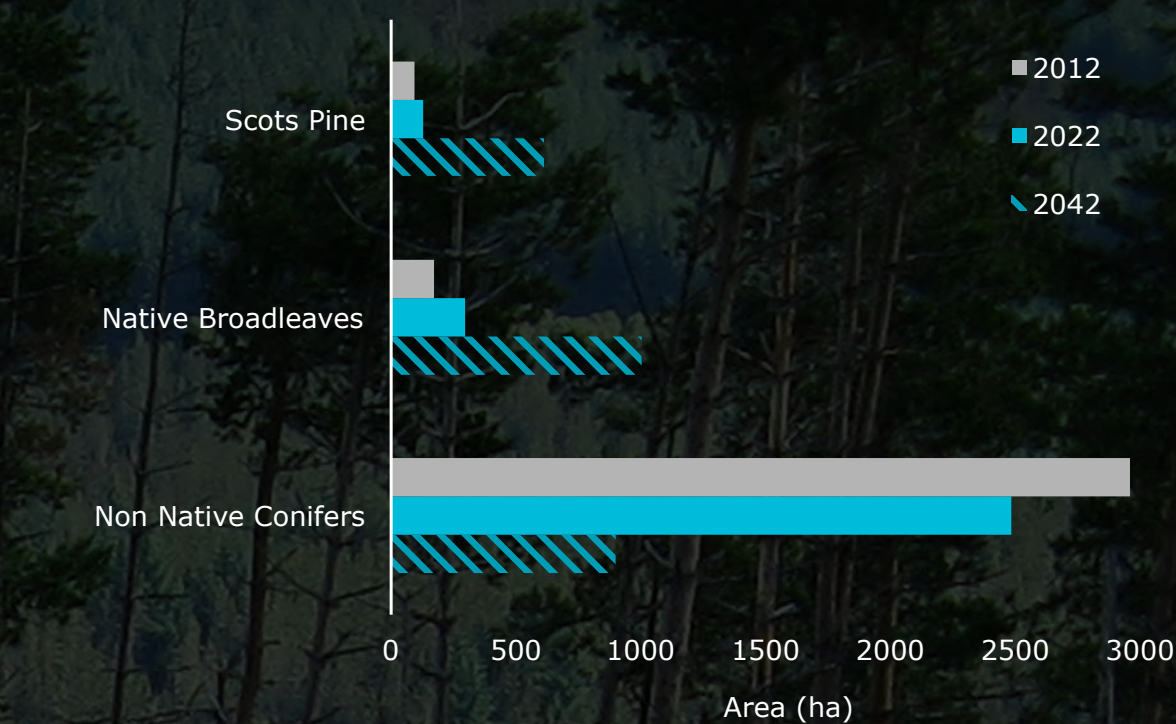
Target = 1616 ha Native tree species

4

Health of freshwater environment

Ecosystem Health Indicators

Overview

Corrour forest water quality

A total of

20,420

individual aquatic macroinvertebrates were recorded from 229 samples in the period 2015-2022

Open hill water quality

Both rivers classified as

Excellent

in the SEPA river classification

The most common group was **mayflies** (Ephemeroptera), with a total of 747 individuals
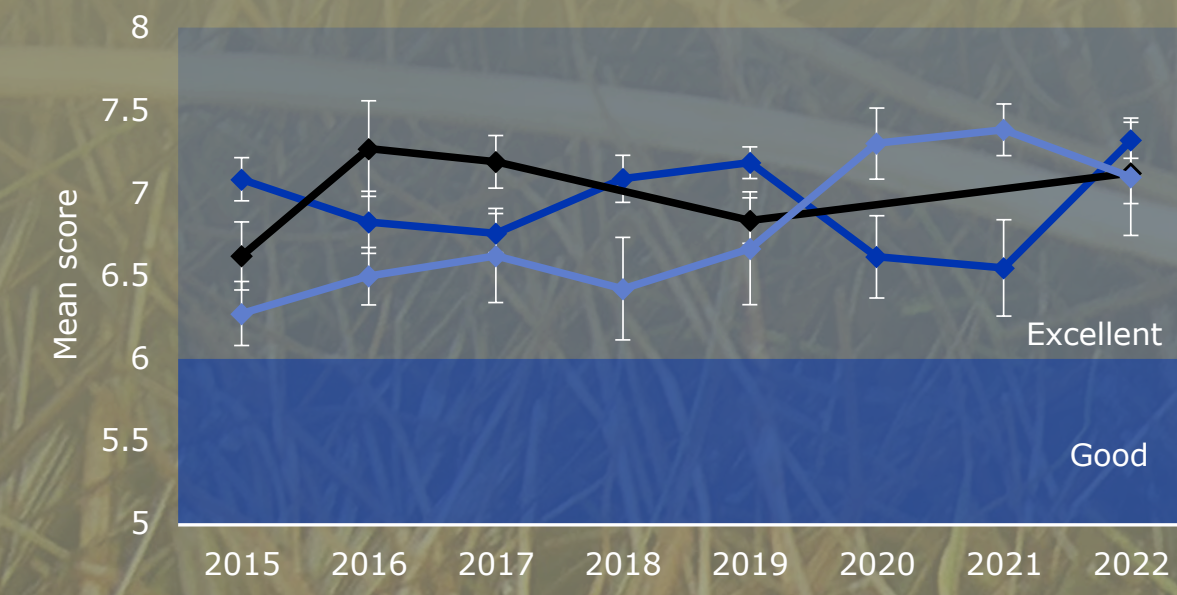
Electrofishing

8 individual sampling sites in Corrour forest

6 individual sampling sites on the open hill

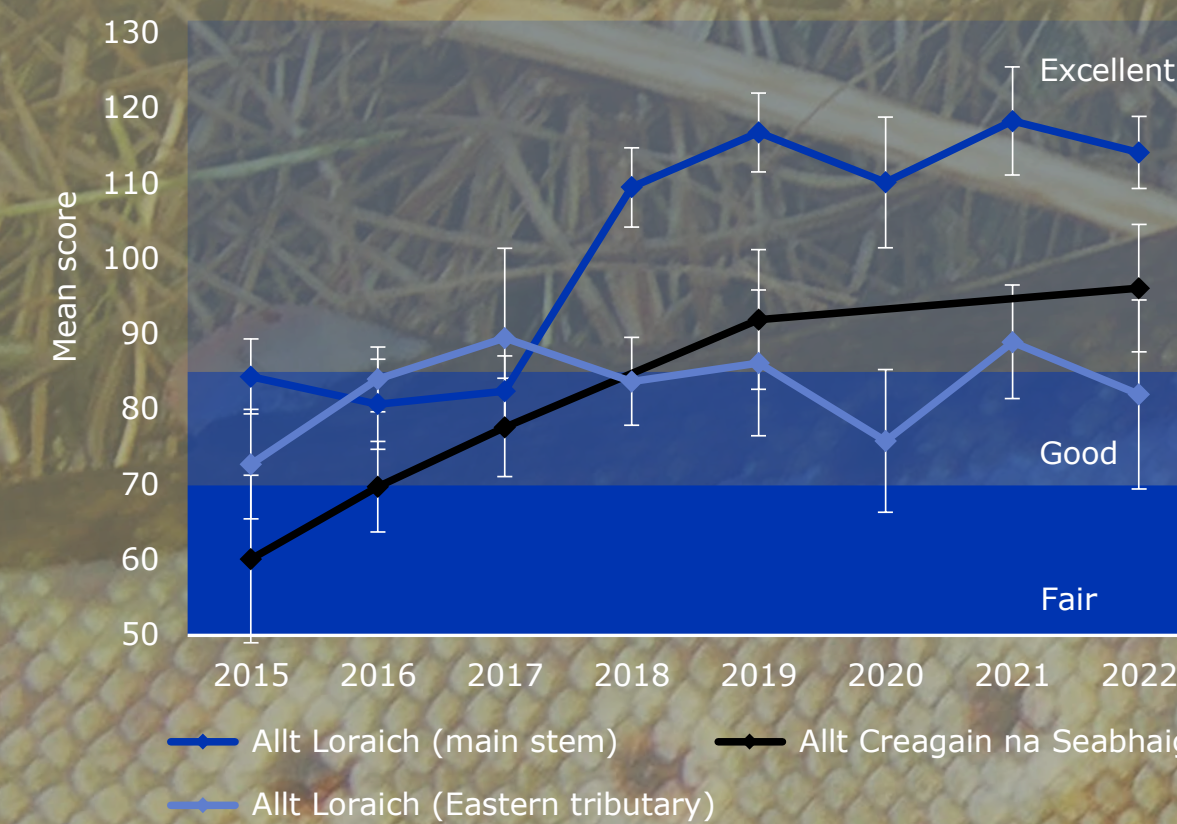Densities of brown trout were compared to National Fisheries Classification Scheme Grades

Corrour forest water quality
(evaluated by macroinvertebrates)

Average Score per Taxon (ASPT) water quality index

Biological Monitoring Working Party (BMWP) water quality index

Allt Loraich (main stem) — Allt Creagain na Seabhaig
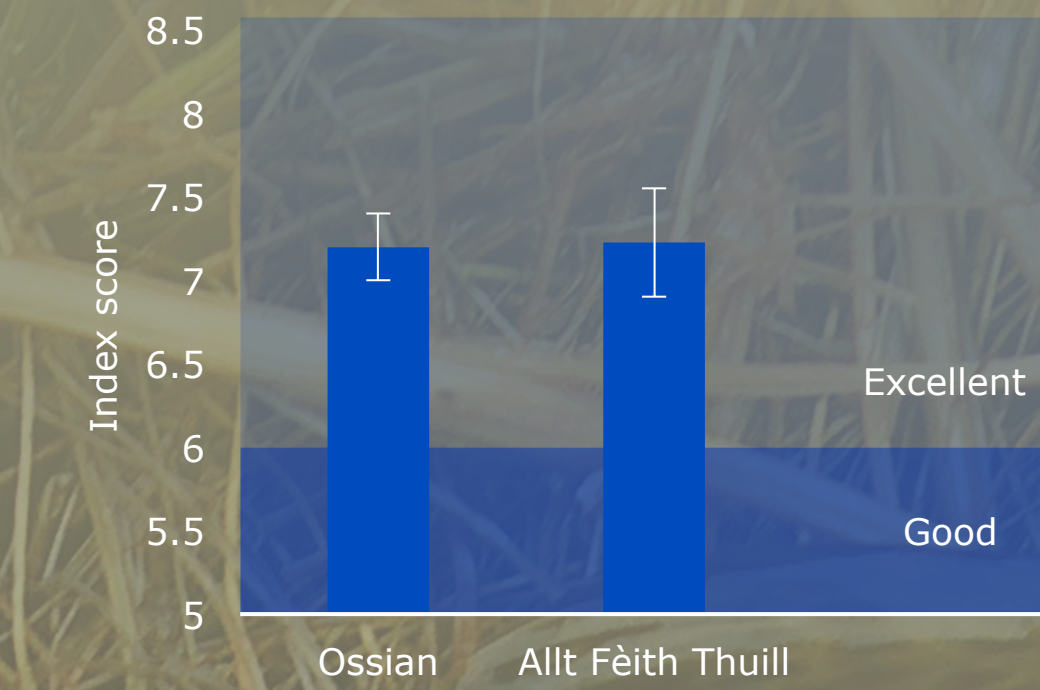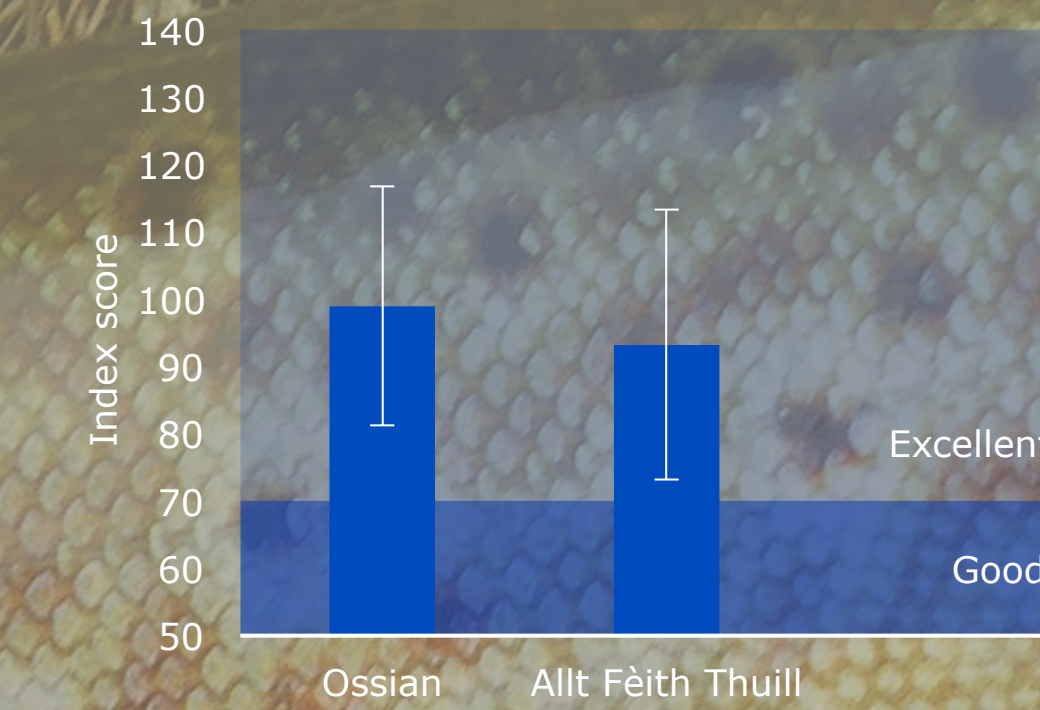Allt Loraich (Eastern tributary)

Error bars = ± 1 Standard Error

Target = Stable

Open hill water quality 2020 baseline
(evaluated by macroinvertebrates)

Average Score per Taxon (ASPT) water quality score

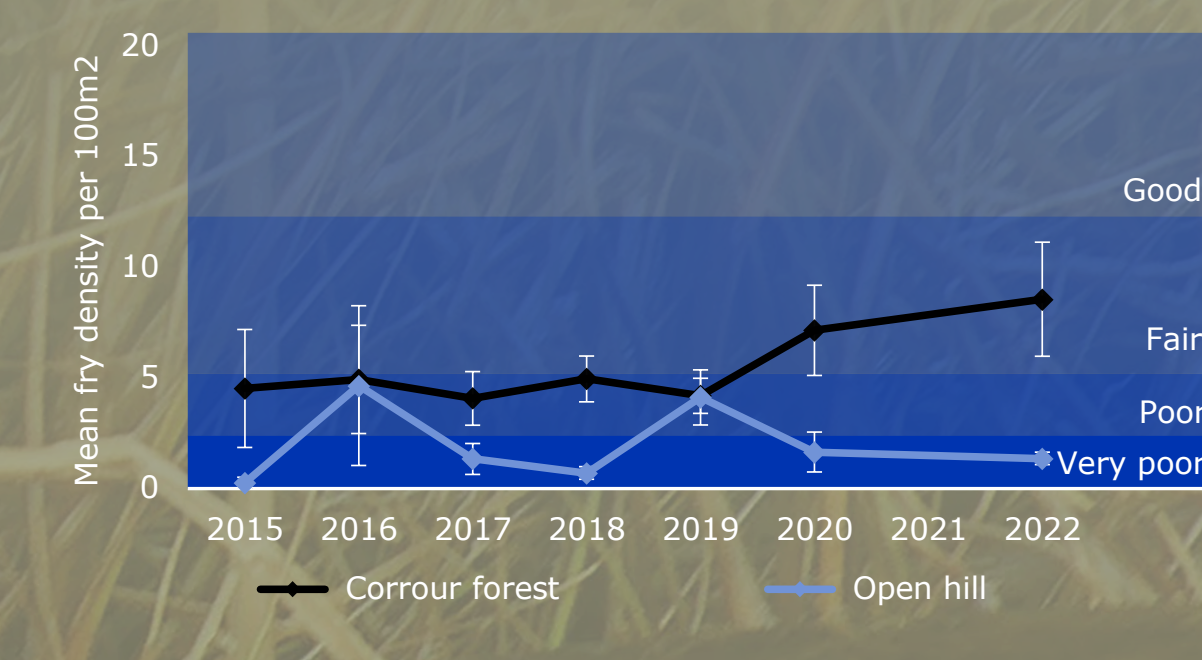**Biological Monitoring Working Party (BMWP) water quality index**
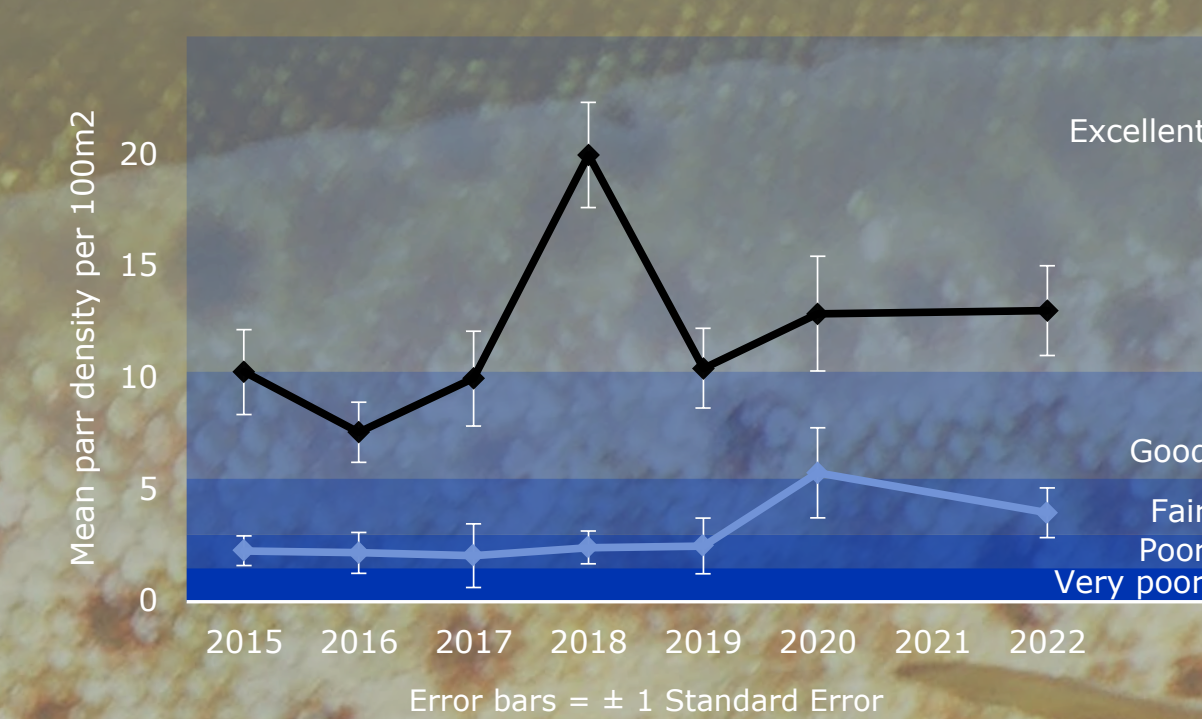

Error bars = ± 1 Standard Error

Target = Stable or improving

Electrofishing

Trout fry FRS Fisheries Classification

Corrour forest — Open hill

Trout parr FRS Fisheries Classification

Error bars = ± 1 Standard Error

Target = Stable or improving

5

Health of keystone and indicator species

Overview

Annual grouse counts

38 lekking males in 2023

1200 red grouse 1km survey squares across the Estate

Red deer population dynamics

Helicopter counts carried out at the end of March

Total red deer population
3162 in 2006
161 in 2021

Annual grouse counts

Lekking male black grouse

No. males

2011 2013 2015 2017 2019 2021 2023
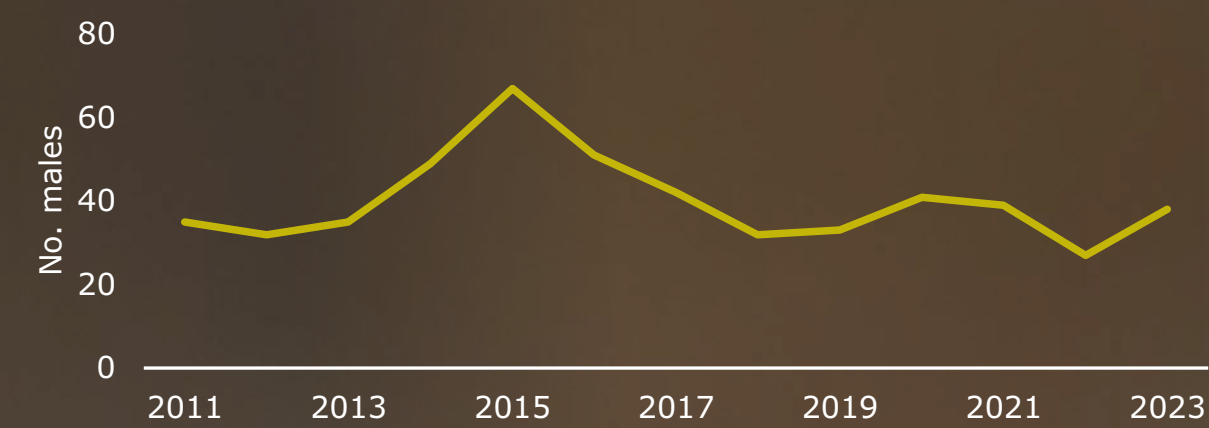
Total red grouse counted

No. grouse

— Spring adults
— Summer adults
— Summer young

2011 2013 2015 2017 2019 2021 2023
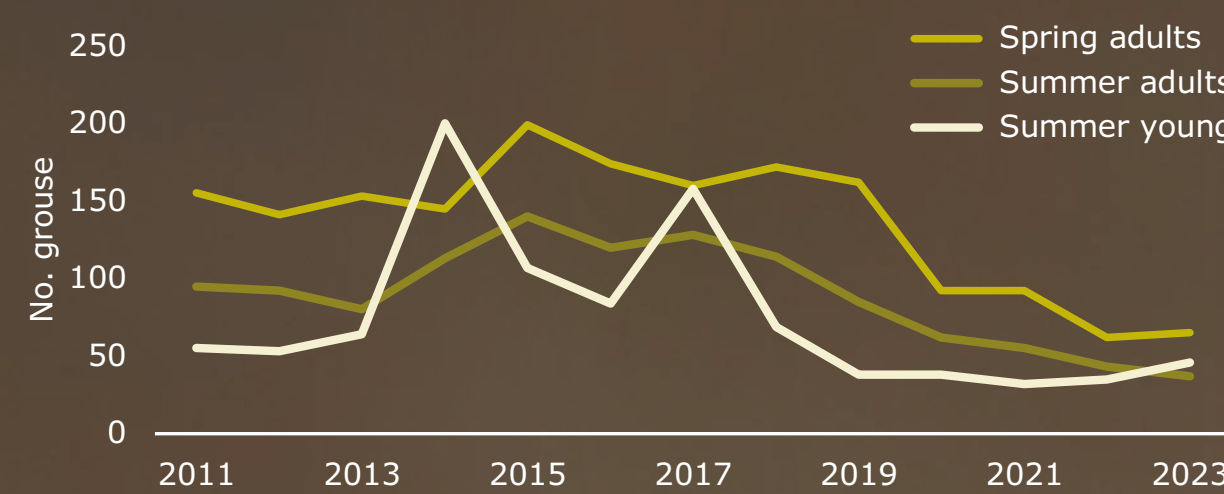
Target = Stable or improving

Red deer population dynamics

Open hill deer density

Deer per km^2

— Helicopter counts

2006 2008 2010 2012 2014 2016 2018 2020
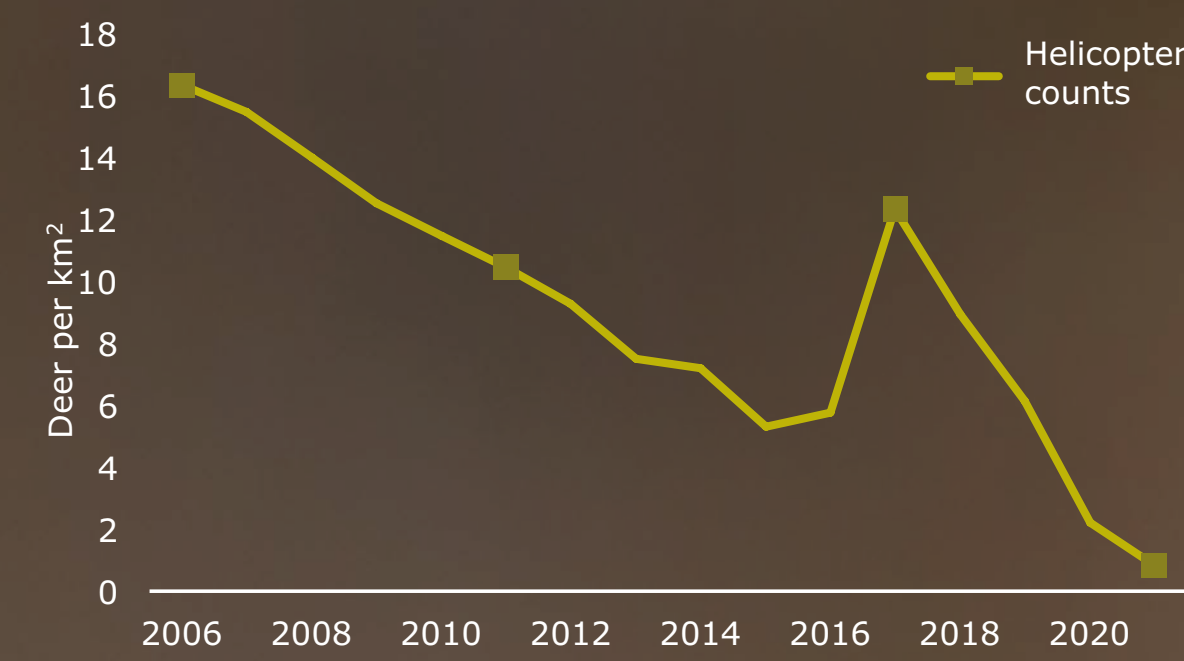
Overal cull totals and stag carcass weights

Total deer culled

Carcass weight (kg)

— Mean stag carcass weight
--- Cull total

2008 2010 2012 2014 2016 2018 2020 2022

Error bars = ± 1 Standard Error
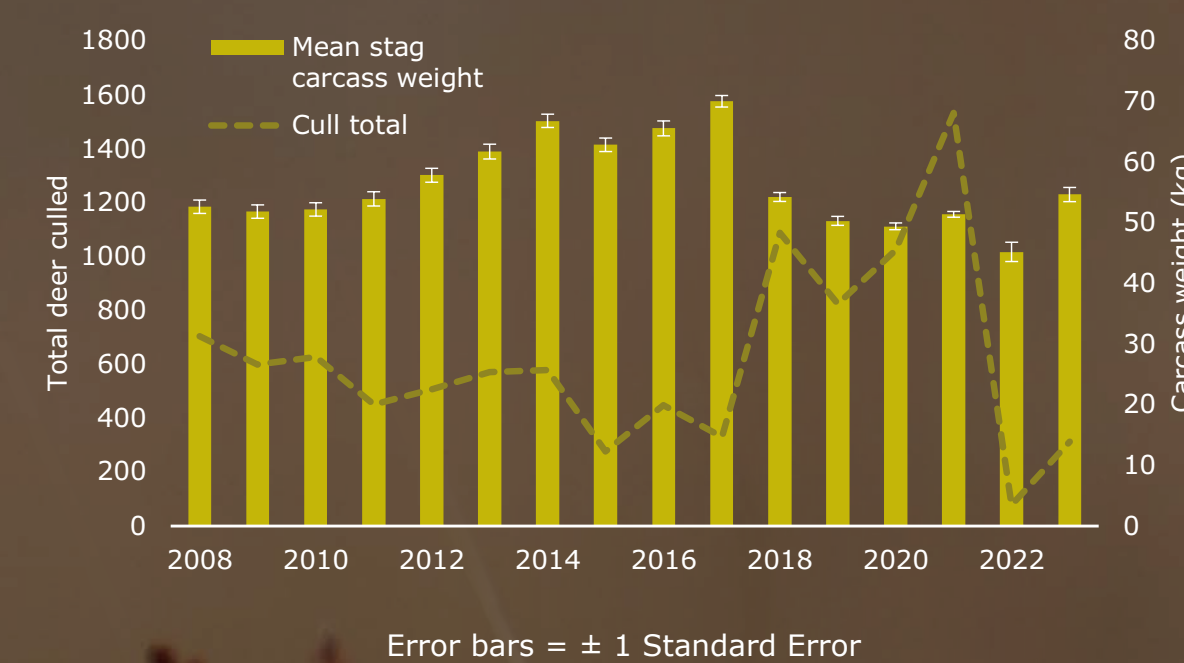
Target = Fluctuating at low densities