THURSO SOUTH SUBSTATION
THURSO, CAITHNESS, HIGHLANDS, SCOTLAND
SCOTTISH AND SOUTHERN ELECTRICITY NETWORKS

BIG Biodiversity Challenge Award Category: Pollinator

Project overview

Thurso 275/132/33 kV substation is part of a larger development to reinforce the electricity transmission network allowing connection of renewable generation projects in the north of Scotland. It is located close to the A9 7 miles south of Thurso. Consent was granted in 2013 and construction completed in late 2017.

What were the biodiversity conditions on site, prior to the enhancement?

The site was previously used for grazing and the ecological report stated that the area was low in plant diversity and of low ecological value. Phase I surveys did not identify any particular species of note and the surrounding area has few areas of wildflowers. The trees in the area are non-native conifers primarily planted as a shelter belts, which were maintained as part of the development. The planning permission required tree planting to screen the substations and a generic wild flower mix was specified. The objective of the initial planting scheme was principally to provide landscape mitigation.

What were the reasons behind this project ?

As a responsible developer, our developments have a minimal impact on the local communities and environments. During project construction it was recognised that changes to the consented landscape plan species mixes would present an opportunity to enhance local biodiversity. After consulting local wildlife experts changes to the landscape plan were made to benefit the Great Yellow Bumblebee, a rare endemic species found only in the Northern Scotland. The substation site would also complement other efforts to create pollinator habitats in the wider area. The project aligns with the SSE sustainability strategy and our goal of working towards biodiversity net gain.

Great Yellow Bumblebee: David Wood

What were the biodiversity measures taken?

In providing ecological enhancements the Bumblebee Conservation Trust (BCT) BCT provided tailored advice and guidance to benefit the rare Great yellow bumblebee by supporting SSEN and the contractor in restoring and creating high quality habitat. This included;

- Hydro seeding of10ha of flower-rich grassy meadows with different flowering plants in Caithness, such as bird's-foot trefoil, red clover and knapweed.
- Enhanced tree planting with native broadleaves including species which provide important early season nectar such as willow.
- A SUDS pond planted with wetland vegetation which already supports amphibians.
- Small bare areas of ground and rock piles using reused material on south facing slopes to allow nesting and hibernation habitat.
- Toolbox talks and identification materials available on site to engage the whole project team at an early stage.
- Plans for long term monitoring of the wildflowers and the pollinators on site by volunteers.
- Ongoing contact with the BCT to allow for adaptive management if required.
- Agreement with local landowner for grazing to ensure maintenance of the sward.
- Helps support the aims of the 'Thurso: Gateway to the Great Yellow' BCT project.
- Work compliments the Highland and Caithness Biodiversity Action Plans (Great yellow bumblebee and other pollinators).
- Supports the aims of The Pollinator Strategy for Scotland.

The creation of the meadows, a SUDS pond and the areas of broadleaf planting have created a wider diversity of habitats on the site and with contribute to a biodiversity enhancement.

Site in 2015 during early earth works.

Site in 2018 in the first growing season after reinstatement.

Further information

After construction of the platform screening bunds, formed with suitable won material they were dressed with top soil, also from site. Turves were retained where possible to retain local seed. In Summer 2017 hydro seeding took place using a local experienced contractor. Tree planting followed in the winter. Enhancements were monitored during installation by environmental staff. The meadows are in the first growing season and monthly inspections are carried out to check on growth. Inspections suggest that wild flowers are growing better on less exposed south facing slopes. As the land is owned by SHE Transmission we have the opportunity to take a long term view. The BIG Challenge acted as a good way to get all the project staff interested in biodiversity and raise the issue of the plight of pollinators. Advice from local experts, in this case the BCT, was essential to ensure the enhancement complemented other enhancements in the wider area and benefited the local community.

The project is used as a good example of helping pollinators both externally via local and national media and internally to highlight opportunities. It was mentioned in SSEs annual Biodiversity Report and industry Environmental Discretionary Reward. Also, the project has helped drive forward our objective of working towards biodiversity net gain assessments for all our projects.

Thurso planting plan

Project Team

- Scottish Hydro Electric Transmission plc / Balfour Beatty
- Northern Ecological Services
- Bumblebee Conservation Trust

What was the motivation for carrying out the enhancement?

The motivation of SSEN and the contractor's project team was to help a threatened local endemic species. It also fits in well with the company's Sustainability goals. For a relatively small and inexpensive amendment to existing plans there is a potential for a large benefit to the Great Yellow bumblebee and other pollinators, as well as the local community. Feedback from the BCT suggested that the project "will add to the excellent work being done by the communities of Caithness and beyond to sustain our vitally important pollinators."

Growing flower meadow in early 2018