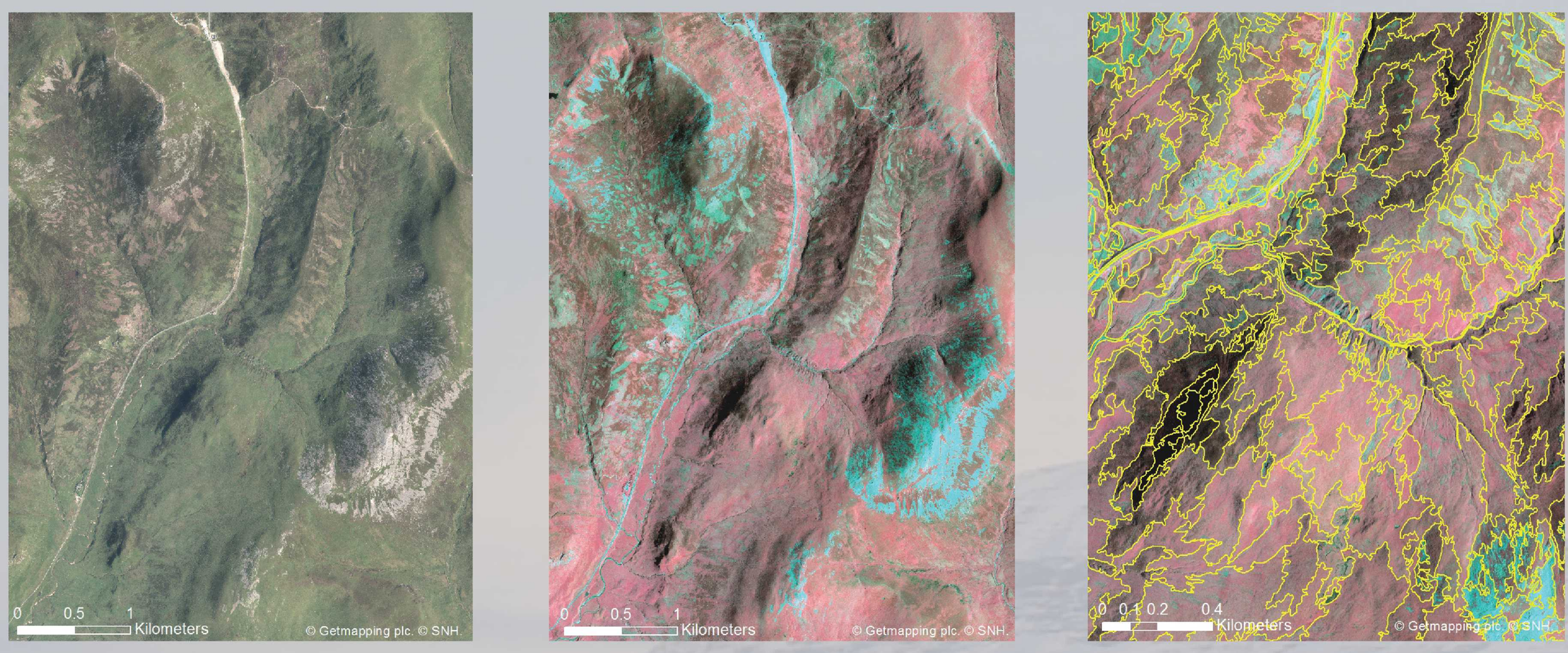
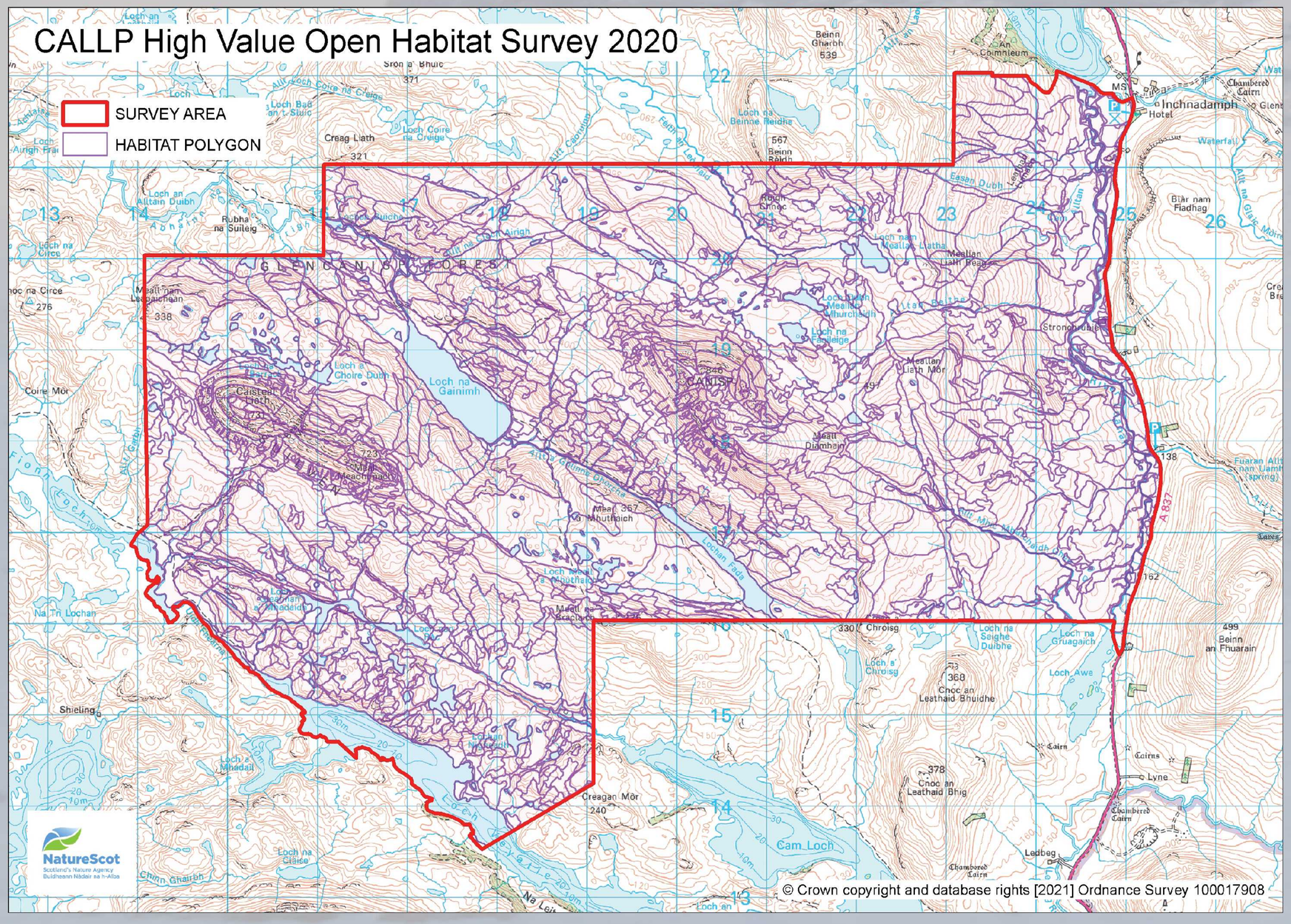
Coigach and Assynt Living Landscape Partnership (CALLP)
High Value Open Habitat Survey

The CALLP High Value Open Habitat Survey was a joint venture between the Assynt Foundation, NatureScot and the Scottish Wildlife Trust. About 60 square kilometres of a remote part of Glencanisp estate around Suilven and Canisp were surveyed. That's about a quarter of the size of Edinburgh or five times bigger than Heathrow airport! The Glencanisp estate (along with Drumrunie estate) is owned and managed by the Assynt Foundation.

An interesting aspect of this survey is that it was done from the air. High resolution aerial photographs of the area, like the one on the left below, were looked at by a computer programme that can identify very subtle variations in colour and texture, especially when looked at in infra-red light (middle photo below). It was thought these variations might be caused by different plants growing on the ground.



The images above are (from left to right) an aerial photo, the same photo in infra-red and part of the same photo with lines drawn round the variations. The map below shows the number of different areas (called polygons) where variations were seen in colour and texture. There are 2200 of them!



Many things can cause different plants to grow in different areas just like in your garden at home. Things like:

- whether the ground allows water to drain away easily. Some plants like the ground to be wet which is handy in the North West Highlands!
- what the soil is like. Most of the soils on the Glencanisp estate are **acidic** like the ericaceous soil you might use in a garden to grow certain plants. There are however some areas where the geology changes and the soils are more nutrient rich.
- which way the ground is facing, which is called the aspect. You might have noticed in your garden that different plants prefer north facing or south facing places.
- whether there are a lot of other plants growing in the same place. Some plants like a lot of light and die if they are in the shade. The opposite happens too; you might have noticed that some plants prefer to grow in the shade, like bluebells or wild garlic in a wood.

All of these subtle variations mean that the types of plants growing can vary a lot from place to place. A habitat is a place where organisms - plants and animals - live. Different habitats are made up of different communities of plants and animals. Examples are woodland, moorland and lochs. There can be differences between the plants that grow in these broad types of habitat so you get for example, birch woodland or oak woodland where there are lots of those types of tree.

In order to check what caused the variations in colour and texture in the photographs, two surveyors visited the area in 2020 and recorded the actual vegetation that was growing in each polygon and so confirmed the habitat. They then made sure that each area with the same variations in colour and texture on the map was always the same habitat. This is called **ground truthing**.

What they found is that the Glencanisp estate has a large number of important habitats that are rare globally.

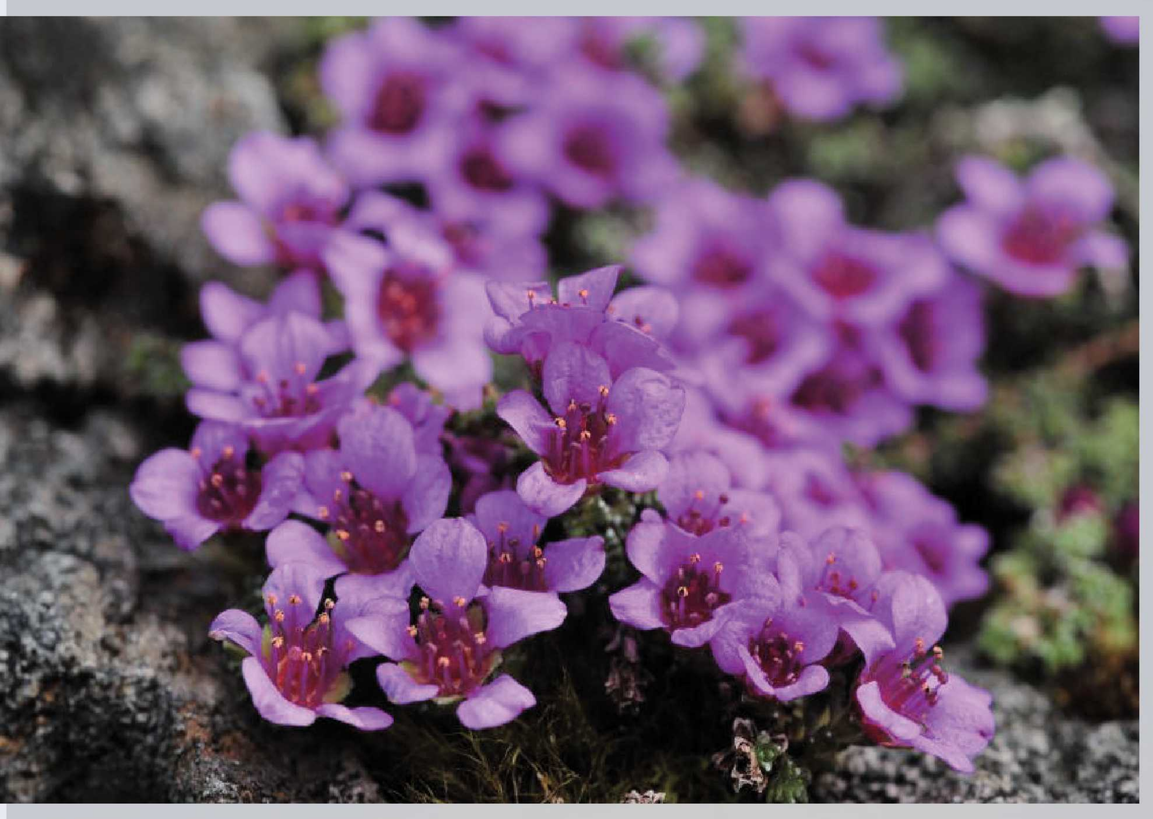
By far and away the most common habitat is **wet heath**. You might think of this habitat as 'boggy' as it can sometimes be wet underfoot. **Blanket bog** is the next most common and it really is boggy! Both habitats look similar and even have a lot of the same plants growing on them but there are some important differences. The easiest difference to see is a plant called **cross leaved heath** which grows on wet heath but not blanket bogs. Blanket bog is so wet that dead plants can't rot. This means there is a gradual build up of dead plants that can eventually form peat. Some bogs are several metres deep and have been there for over 4000 years.

Blanket bogs and wet heaths are very important because there are so many of them in Scotland but very few elsewhere in the world. Many plants and animals that live on them are rare. You might have heard about blanket bogs as they store a lot of carbon. We need to keep them healthy to make sure the carbon is not released in the form of greenhouse gases, like carbon dioxide. This would help to accelerate climate change which none of us want!

Both habitats can look a bit empty and perhaps bleak as you pass them but if you look closer you'll find a whole different story.

These plants are actually a moss that grows in wet areas and forms peat. It is called sphagnum moss. There are many different types of sphagnum moss of all shapes and colours. It can hold a lot of water as you will see if you squeeze a handful. Because it can hold so much liquid it was used as a filling for nappies and as a wound dressing.

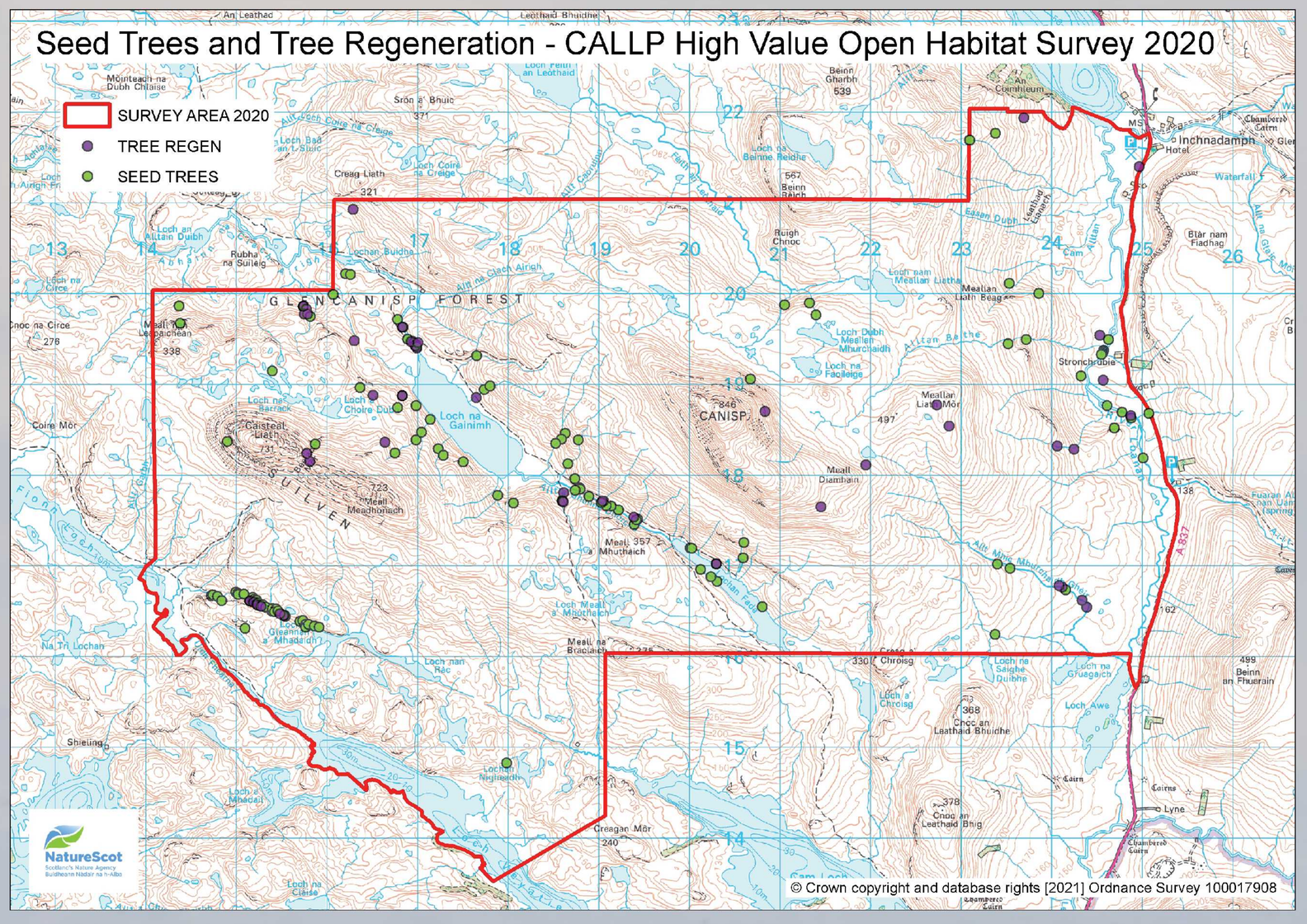
This plant is called sundew. It is carnivorous and catches insects like a flypaper. The shiny blobs on the end of the red stalks are a sweet sticky liquid that attracts insects looking for food. As insects wander over the plant to get to the food they become stuck in the liquid and are 'eaten'.



Most of the less common habitats they found are a bit drier. Often they occur on slopes where the water can run off easily (and maybe collect in the bog at the bottom). **Alpine heath** is a type of moorland habitat that is usually found high up in, for example, the Alps. It is found growing lower down in Scotland because it is so far north. You might have noticed you don't have to go too high up a hill here to get the same conditions as you would find on some European mountains.

This beautiful flower is called purple saxifrage. It grows high up in the Alps but can be found lower down on the dry slopes of Canisp and Suilven. If you travel further north, to the Arctic, it grows right down on the coast by the sea!

The habitat most obviously missing from Glencanisp is **woodland**. There are some trees in the surveyed area, mostly rowan, birch and willow. You can also find juniper on the higher ground. The surveyors mapped the position of trees that are mature enough to produce seed and any area of woodland regeneration that they found. You can see from the map below that the seed trees and regeneration are closely linked.



There was only one area that could be described as a wood. It is a birch woodland and was found in a gorge south of Suilven, protected from grazing animals by the steepness of the slopes around it. Assynt Foundation is keen to increase the number of trees on Glencanisp and allow the woods to join up to create a woodland 'network'.

Birch is known as a **'pioneer' species**. That means it often is the first tree to grow in an area. As the birch trees mature they provide shelter in which other types of tree, such as rowan, hazel, wild cherry, oak and ash, can grow. This kind of 'natural' woodland will support a wide variety of animals and other plants. It is possible to plant these trees but it is generally considered a more natural woodland is formed if trees are allowed to grow in the places that suit them best. This is called **natural regeneration**. Some of the issues involved and the decisions land managers have to make to allow woodlands to form naturally are considered in the panels opposite.

All together these different habitats make Glencanisp estate an important place for plants and animals. We hope that you will enjoy visiting them. Please follow the Scottish Outdoor Access Code and help us keep Glencanisp special.

If you would like to know more about the High Value Open Habitat Survey then please go to the CALLP website at www.coigach-assynt.org or the Assynt Foundation website at www.assyntfoundation.scot

Taing dhan A' Mhaoin-Dualchais Made possible with Heritage Fund
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