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# Living Laboratory Study Visit Report

The ASCENT Site

# **Norwegian Study visit to Slieve Donard & Slieve Gullion,** Northern Ireland

## T1.3 Sharing Path Management Knowledge, Exchange of Experience and Learning, T2.2 Upskilling & Toolkits

by Hordaland County Council with Newry Mourne and Down District Council and Mourne Heritage trust

ASCENT
Promoting Sustainable Access to Uplands & Natural Environments

Northern Periphery and Arctic Programme 2014–2020

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# Visit to ASCENT partner NMDDC/MHT by Norwegian Study Group from: Trolltunga, Voss Resort, Bergen Træ- og Skogplantningsselskap, HCC and Heathland Centre at Lygra: Living Laboratory Study Visit Report 20 - 21 August

## Report study trip to Mournes, Northern Ireland

ASCENT Norway group including:
Mr Eivind Børve, Trolltunga AS
Mr Norvald Olsen, Trolltunga AS
Mr Øystein Rosendahl Simonsen, Bergen Træ- og Skogplantningsselskap (BTS)
Mr Tor Schei Hellesnes, Voss Resort
Ms Torhild Kvingedal, Lyngheisenteret Heathland centre
Ms Marta Rongved Dixon, Hordaland County Council

**Purpose of the trip:**

- A return visit by the Trolltunga team following the Mournes team visit to Odda/Trolltunga in September 2018, with a particular emphasis on machine work for the Trolltunga practitioners
- Further develop ideas and exchange of knowledge and skills for the Heathland centre particularly in the fields of working with wool as a building material, the use of controlled heathland burning as a fire preventative measure and to allow winter grazing for animals
- Compare practises for stone work with BTS sharing their experience of using Nepalese Sherpa builders to create large scale stone stairs
- Create a regional network in Hordaland for the mutual exchange of ideas, support and skills
- For the project managers in Norway and Ireland to discuss opportunities for future cooperation

1) **Machine work at Carricklittle**

The two team members from Trolltunga were able to join NMDDC/MHT staff and contractors for two days' work with a 5 tonne excavator. The relationship between the machine driver and the site manager, in this instance the Area Ranger was particularly noted. While the machine driver has excellent skills and competence, the site manager provides the framework for the contractor's work and directs the machine driver accordingly. Much care is taken to make the worked area good with revegetation and careful positioning with stones and landscaping. To Norwegian eyes, the process seems slower and more careful than the Trolltunga might be used to and the reasons behind these different styles of work was discussed. Norwegian salaries are high and the cost per man hour are consequently higher in Norway, which naturally places particular emphasis on tempo. The Trolltunga path in particular also has a very short seasonal window where work is possibly, which means that time is always of the essence. Interestingly, there appears to be a difference in the public's expectation when it comes to acceptance of a site left with clear marks following work (in Norway) or the need to spend extra time and care in planting and making sure a the worked area appear as natural as possible following work (Mournes). Also, the thin layer of soil combined with the altitude at Trolltunga makes it less likely that plants and turf moved from one spot to another will survive. (See appendix 1 for photos)

2) **Sheep wool path construction on Slieve Gullion**

At Slieve Gullion, work has been contracted out to McGowan Ltd with the specification that no synthetic materials were to be used in the path construction. A section of path over a boggy area was to be the site for a sheep wool trial and the Norway team was able to join in this work.
An aggregate pit was dug on site and sheep wool was carried to the site. A section of path was prepared by raking the top layer of peat to the edges to allow the turf edges to be peeled back and subsequently elevated. A good layer of wool was spread along the ground and three layers of aggregate was placed on top, creating a bevel shape. Larger stones were spread out along the wool and along the edges. The aggregate was stomped hard and gently raked to level out any remaining larger stones. Meanwhile, turf sections were cut from the nearby area and transported to the path. These were placed along the path edges to create a more defined edge and to lead the hiker along the desired line. Plants from along the path were repositioned in order to create a natural look. The path was slightly bouncy at the end of the work session, this is expected to firm up as rain filters through the wool and the aggregate settles.

The wool technique is unusual for the Norway team and sheep wool, particularly from the ancient breeds/wild sheep is a problem for many farmers as it has very little attraction for the manufacturing industry or for knitting yarn. Finding a natural alternative to geotextiles which can also provide local farmers with extra income is certainly of interest. It was also discussed on site that another advantage in using wool over a textile is that the wool allows the positioning of stone thresholds along the path without the need for cutting the textile. This means that the positioning of the thresholds can be determined at the end of the build when the path is finished and the practitioner can see where the threshold should be placed for optimum effect. (See appendix 1 for photos)

**3) Branch and aggregate technique at Glen River**

In a woodland area along the Glen River, erosion has caused the branches of the pines to be exposed. This is damaging to the trees, causes further erosion by allowing water to run along existing hollows and also constitutes a slipping and tripping hazard for walkers. To create a natural looking, sustainable path a selection of branches in various shapes were cut, dried and stripped of bark ahead of the living lab. Holes were drilled – approx. 2 cm diameter holes for wooden pegs and approx. 6 mm holes for metal spikes. The branches were placed along the path and fixed to the ground using yew wooden pegs and metal spikes. Care was taken to use the natural curve of the wood to mimic the root system one might see along the forest floor, forming organic looking shallow steps. The steps were filled in with aggregate and planting and rocks were used to create a natural finish. The result is a solid but natural looking path that fits in with the environment and is comfortable for hikers.

Drying of the branches: To dry the branches ahead of use, the branches were left outside for a couple of months to loosen the bark for easier removal. To remove the bark, both a razor hoe and a power washer was used to see what would work the best. The logs were then air dried for long enough to the moisture content to come down to under 30% before the branches were treated with wood preservative in a vacuum kiln. An alternative method of drying the branches was placing branches on the smouldering remains of a fire. This worked really well in driving out the moisture content and this method may have wood preservative effects as well.

The teams discussed the option of the use of a charcoal kiln or similar would give more control over the drying out of the branches. (See appendix 1 for photos)

**Reflections on both types of work:**

Both the branch and aggregate and the wool technique require a reasonable amount of manpower in order to work efficiently. Having access to the aggregate in the right spot from the start, rather than having to move it to the site from the nearby road, would make the work easier and quicker. It was also discussed that drilling the holes through the logs on site rather than in advance might be advantageous as this would allow the workers to place the holes to avoid bedrock or roots whilst still making the branches fit the terrain. As the practitioners become more used to each technique, the work would progress faster and smart solutions for bringing material to the site and which tools are the best suited to the job would manifest.

At the same time, both types of work lend themselves particularly well to working with unskilled labour such as volunteers, for instance students. Both wool and the branch and aggregate techniques involve varied tasks and engages the practitioners' creative side. One or two skilled mentors can feasibly oversee and guide a larger group of students, who can experience a range of actions required for each task (placing of branches/wool, digging and carrying aggregate, planting). Both types of technique results in a section of path which is an instant improvement over the starting point and which brings a sense of personal achievement for the worker.

It is interesting to note the different teams' preference to work with "their own tools" or tools they are used to. Both during the living lab visit to Norway and the living lab visit to the Mournes, the visiting team used the local team's tools and in both case each team was convinced that their own tools would have been better for the job. Tools, techniques and expertise have clearly developed to suit individual materials, ground conditions and personal preference.

**4) Heathland management visit**

A separate programme was arranged for Torhild Kvingedal from the Heathland Centre at Lygra (www.lyngheisenteret.no), who visited Ben Crom reservoir with Matthew Bushby from Mournes Heritage Trust. The Heathland Centre is an information centre focused on preserving knowledge

of the management of coastal heathlands. The Norwegian heathland managed by the Heathland Centre is preserved through traditional methods including burning and grazing by wild sheep. At Ben Crom, Torhild Kvingedal met with John McEvoy and Seamus Murphy (Mourne Heritage Trust and conservation grazers with Dexter and Galloway cattle), Therese Hamill (Newry, Mourne and Down District Council), Patrick Lynch and student (National Trust), Hans Visser (Fingal County Council) and Darren McLoughlin (Irish Rare Breeds society), who all travelled up for the day. This connection is particularly interesting as it represents one of the by-products of ASCENT. Heathland management was not part of Norway's main objectives for ASCENT but in the course of the project and through the Living laboratory visits it became apparent that this was an area closely linked to path management, and where the partners from Northern Ireland and Norway found a particularly valuable arena for mutual exchange of experience and knowledge. The burning of heather as it is practised in Norway has fallen out of use in Ireland and as a result, heather grows high and represent a fire hazard as climate change causes more wild fires. Local farmers' need to diversify following Brexit was also behind their interest in the use of ancient breeds for year-round grazing and the Heathland Centre has experience with this.

5) **Skype meeting with all ASCENT partners to discuss ASCENT legacy**

In order to discuss how the legacy from ASCENT can be kept alive after the end of the project period, project managers from NMDDC, MHT and HCC were joined by Lead Partner Rosita Mahony from Donegal CC as well as overseas partners via Skype. All partners are keen to maintain the network and the connections that have been established and it is hoped that new venues for cooperation can be found. In addition to the objectives and indicators delivered through ASCENT, the close ties that have been established have revealed new areas where the partners' interests and needs for further development align.

6) **A reflection on the Living Laboratory method**

The living laboratory visits and workshops that have been carried out have highlighted the added value of a partnership where not only management, but also practitioners meet and work side by side. In this way, trust is established and a greater tolerance for learning, teaching and investigating mutually beneficial practises and methods. During every visits, new solutions to common problems have appeared through the question and answer approach. As the hosting organisation has taught the visitors about their own landscape and explained the rationale behind their own techniques, comparisons were made and new ideas floated. Seeing the techniques and physically help implement them provides a greater confidence that the technique can be replicated at home and all Norwegian participants were keen to try out the sheep wool and branch and aggregate techniques at their own sites.

**7) Building a regional network**

During ASCENT, the Trolltunga team has benefited from the contacts built through the project partnership. While it is hoped and expected that this network will continue past the project end date, it became clear that a local/regional network would be a considerable benefit. The Trolltunga team are already connected to a nationwide network in Norway through the Norwegian Scenic Hike project but as this network meets only once per year and the members are spread throughout the country, this does not allow for many possibilities for meeting regularly or visiting each other's sites. Travelling together from Bergen to the Mournes and working together on the trails allowed the four organisations to exchange experiences and discuss issues that are of mutual interest to all. The participants have asked Hordaland county council to help facilitate a continuation of this type of local/regional network, which should also include other organisations at home within Hordaland and our neighbouring county. Going forward after ASCENT, this will be a key area for HCC within the framework of the new organisation of Vestland County following the merger between HCC and Sogn og Fjordane County Council on 1st January 2020.

| Date | Activity | Time | Arrive back at Burrendale Hotel | NMDDC/MHT | Norwegian team |
|---|---|---|---|---|---|
| **Monday 19 August** | Travel to NI and arrive at Burrendale Hotel, Newcastle | | | | All |
| **Tuesday 20 August** | Path work using 5 tonne excavator at Carricklittle in the Eastern Mournes | 9.00am departure from hotel | 4.30pm | Dave Farnan<br>Damien McKenna (Contractor) | Eivind Børve<br>Norvald Olsen |
| **Tuesday 20 August** | Sheep wool path construction on Slieve Gullion | 9.00am departure from hotel | 4.30pm | Phil Savage<br>Andrew Baird<br>Matthew Bushby<br>Darren Rice<br>Therese Hamill | Øystein Simonsen<br>Tor Schei Hellesnes<br>Torhild Kvingedal<br>Marta Rongved Dixon |
| **Tuesday 20 August** | Skype meeting on ASCENT legacy planning | 6.00pm meeting in hotel | | Matthew Bushby<br>Darren Rice<br>Rosita Mahoney DDC | Marta Rongved Dixon |
| **Tuesday 20 August** | Evening – free time | | | | |
| **Wednesday 21 August** | Path work using 5 tonne excavator at Carricklittle in the Eastern Mournes | 9.00am departure from hotel | 4.30pm | Dave Farnan<br>Damien McKenna (Contractor) | Eivind Børve<br>Norvald Olsen |
| **Wednesday 21 August** | Branch and aggregate path work at the Glen River, Slieve Donard | 9.00am departure from hotel | 4.30pm | Phil Savage<br>Andrew Baird | Øystein Simonsen<br>Tor Schei Hellesnes |
| **Wednesday 21 August** | Visit to sites where livestock has been used as a landscape management tool including a National Trust site at Bloody Bridge and NI Water site at Silent Valley | 8.40am departure from hotel | 4.30pm | Matthew Bushby<br>John McEvoy<br>Therese Hamill<br><br>Patrick Lynch (NT)<br>Hans Visser (Fingal CC)<br>Darren Mc Loughlin (Leitrim) | Torhild Kvingedal |
| **Wednesday 21 August** | Evening meal at Maghera Inn | 7.00pm | | all | All |
| **Thursday 22 August** | Travel back to Norway | | | | All |

# Living laboratory Mournes 20th-21st June 2019
# Appendix 1 – images from work carried out

Visit to ASCENT partner NMDDC/MHT by ASCENT Trolltunga, Voss Resort, Bergen Træ- og Skogplantningsselskap, HCC and Heathland Centre at Lygra

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# Sheep wool

1) Preparing the ground

2) Spreading out the wool

3) Aggegate pit at higher ground

4) Aggreate sled

5) Spreading aggregate on top

Videos available from
marta.dixon@hfk.no

# Branch and aggregate technique

1) Starting point. Erosion and roots

2) Placing the branches

3) Fitting branches and pegging them in with wood and metal

# Branch and aggregate cont.

4) Holes drilled for pegs

5) Pegging branches securely to the ground

6) The completed section

Videos available from
marta.dixon@hfk.no

# Heathland management

Heathland Centre visiting Ben Crom reservoir

ASCENT teams and Slieve Donard. Left to right:  Matthew Bushby, Øystein Simonsen, Torhild Kvingedal, Norvald Olsen, Dave Farnan, Andrew Baird, Marta Rongved Dixon, Tor Schei Hellesnes, Eivind Børve

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