

Living Laboratory Study Visit Report



Norway 2018

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

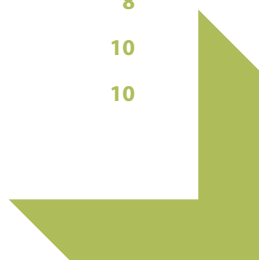
by Newry Mourne & Down District Council and Mourne Heritage Trust with Hordaland County Council

Norway Living Laboratory Study Visit Report: A Practitioners Perspective, 9 - 14 September, 2018

PT1.3 Sharing Path Management Knowledge: Report 4 of 4

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Chapter 1

Introduction

From 9th to 14th September 2018, ASCENT partners, Newry, Mourne and Down District Council, their sub partner, Mourne Heritage Trust, from Northern Ireland, visited Odda, Norway to work with ASCENT partner, Hordaland County Council. The purpose was to review challenges faced by Hordaland County Council in managing upland areas for tourism, and to allow partners to both share practical path management knowledge and skills, and discuss approaches to land management based on common issues working towards a common goal.

Chapter 2

Trolltunga Site Visit

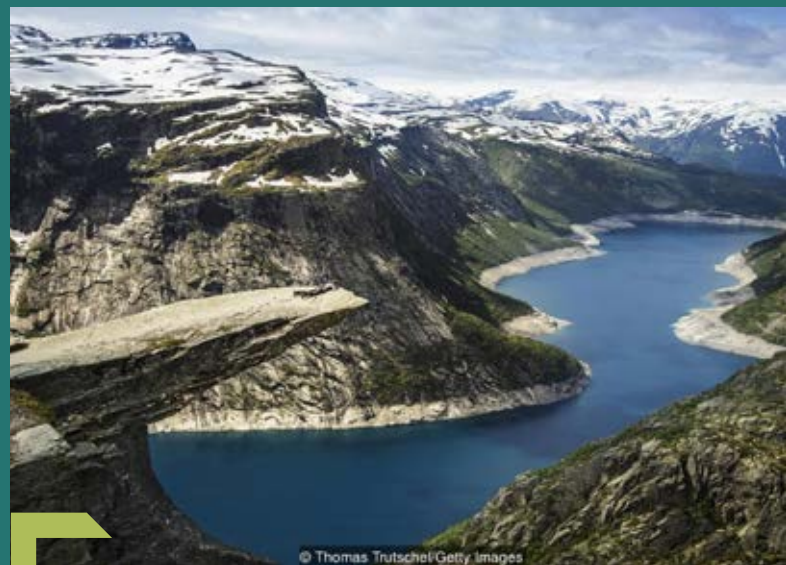
ASCENT partners first visited Trolltunga ASCENT project site on 10th September 2018. Trolltunga is a rock formation situated about 1,100 metres above sea level in the municipality of Odda in Hordaland County, Norway. The unique outcrop juts horizontally out from the mountain into free air about 700 metres above the north side of the lake Ringedalsvatnet. The site has become highly popularised within recent years, with an increase from 900 visitors in 2009 to 88,000 in 2018 in what many consider a 'wave of social media-fuelled tourism'. The increasing number of visitors undertaking this challenging hike has become a growing cause for concern, particularly after the death of a 24-year-old student in 2015 after falling from the sheer cliff while attempting to pose for a photo.

The question of safety has therefore become a prominent issue for this site for land managers. The hike to Trolltunga is highly challenging, requiring specialist mountain gear and preparation for climate extremes. The hike from the parking area to Trolltunga and back is a 27-kilometre round-trip in terrain with 580 metres of elevation gain, and takes approximately 10–12 hours, including breaks.

Many tourists find themselves unprepared to undertake the strenuous trip, often requiring the help of the mountain rescue service or local tour guides to escort them safely off the mountain. Inadequate clothing and equipment, lack of preparation (such as sufficient food and water) and insufficient fitness levels have been cited as the main causes of visitor injury. Moreover, Norway's arctic climate has presented further danger for inexperienced travellers, such as the incident in June 2015 when a woman fell through a snow drift into a river crevasse after attempting to refill her water bottle from dripping snow melt.

Since the 1950s, the Mountain Code or 'Fjellvettreglene' campaign has encouraged the people of Norway to have a healthy and respectful relationship with nature, and has become a crucial part of Norwegian culture. It includes points such as: planning your trip, reporting wherever you go, bringing necessary equipment to assist yourself and others, always knowing where you are, seeking

shelter if necessary and feeling no shame in turning around. This culture has meant that the challenges now faced by land managers due to increasing visitor numbers are fairly new and slowly increasing, as more people unfamiliar with hiking safety and etiquette strive to visit Norway's peaks. Visitor safety, vandalism, littering, and habitat damage are now becoming causes for concern.



2.1

Trolltunga Path Work

ASCENT partners discussed the role of access infrastructure as a means of mitigating the ill-effects of increased tourism at Trolltunga. Partners experienced and discussed the recent path maintenance and upgrade at a visit to the site.

Trolltunga is managed by Odda municipality, through a non-profit organisation called Trolltunga AS Ltd. This organisation manages the site and generates income through maintaining car parks and visitor facilities, with all profits going towards site management. The site path repairs were contracted by Trolltunga AS Ltd and carried out by Hordaland County Council, which has an ongoing agreement to cover work related to ground activities on the site. Path works were funded through both ASCENT and through site parking fees.

The key aim for the path was to provide a clear route to navigate visitors from Odda car park to Trolltunga, in a bid to reduce the impact of visitor footfall on the surrounding habitat.

The majority of the work was completed by scraping thin layers of vegetation and top soil from the surface bedrock, which provided a clear, robust path through many kilometres of the walk. The work was primarily carried out by using a 15-tonne walking excavator that, surprisingly, had limited scraping impact on the rocks. The size of rocks that had been moved were evidence of the capabilities of the excavator and the driver. However, it was evident that this approach may result in over-engineering of the route, and could lead to issues that are not apparent now (e.g., that can only be remedied by using the large excavator again). However, this method was beneficial in a number of ways. It was quick to complete within the seasonal constraints of the area, i.e., a small window of opportunity lasting only a few months due to the weather. Also, the exposed rock surface was not susceptible to footfall erosion and the line of the path was easily navigated by inexperienced visitors.



However, this method also displayed limitations. During the site visit, the ASCENT team attempted to mitigate apparent problems with the current Trolltunga path network by using hand tools. It was found that, as the path was the bedrock surface, further infrastructure, such as drainage features, or gradient management, were very difficult to install. In many areas this proved to be problematic as water along stretches of the path surface had caused erosion to either side of the path, where visitors had stepped to avoid puddles. This has the potential to become increasingly problematic in the future, as the restrictive nature of the bedrock path will mean that path repair may require line changes, or additional water management either side of the path. Another path management method implemented at Trolltunga – and throughout Norway – is the use of stone waypoints as a means of highlighting the route to visitors. Norwegian Trekking Association’s ‘red T’ way marker design, is also used consistently across the country to highlight routes. The combination of these methods served to keep travellers on route to Trolltunga, particularly in areas where path work was difficult to implement, such as large areas of bare bedrock.

However, it was explained that the purpose of the way markers wasn’t particularly clear to all travellers; clearly highlighting the mixed abilities of visitors attracted to the site. It was noted by ASCENT partners that many visitors relied more on following other travellers to Trolltunga rather than on following way markers. This showcased a possible issue as travellers may find themselves following equally uncertain visitors, which may lead to problems for both parties.

Steeper parts of the route were comprised of granite stone steps, which were effective in keeping travellers within the path line. It was noted, however, that more could be done to landscape the staircase in order to blend the work back into the surrounding area.



Knowledge Sharing Activity 1

Trolltunga

On 11th September, ASCENT project partners from Norway and Northern Ireland engaged in a path work activity in order to share knowledge and experience of path work techniques. This gave partners time to discuss practical management issues on the Trolltunga site. This included the seasonal constraints of management, as path work is restricted to summer months, accessibility, cost constraints and the direct management of work on site. These problems are common amongst all project partners and demonstrate a clear need for shared problem-solving exercises.

The Mourne Heritage Trust's upland path repair team demonstrated techniques currently used on the Slieve Gullion and Slieve Donard sites in Northern Ireland. This involved utilising materials in situ and practical hand techniques, which provided a cost-effective strategy for path maintenance. Costs can be further reduced by utilising volunteers, who can receive 'payment in kind', such as skill development, increased employability and opportunities for social engagement.

The path section chosen for the activity was approximately 1 mile/1.6km away from the last accessible Trolltunga car park. The section of path was on a gentle slope (approximately 15% gradient) and was comprised of loose rock scree and stone grit, which had been placed there during path work operations conducted a year prior to the site visit.

The key challenges noted on the path were the 4 metres width of the path, necessary to carry the large number of tourists along the correct route, as well as the significant amount of drainage needed to keep surface water, which was flowing from the hillside above the trail, off the path.

The work was completed by the use of hand tools, mainly crescent hoes, spades and pinch bars, and involved manipulating native stone and aggregate in situ to form path infrastructure.

The techniques demonstrated commonly-used path work methods, showcasing the capacity for using on-site materials and low-impact hand work to achieve sustainable path structures. A cross drain was built near the source of a heavy flow of surface water, which came from snow melt and rainfall running from the steep hillside above onto the path below. Water was channelled into the cross drain to prevent washout of path materials and to encourage users to stay on the path. Approximately 30 metres further up the path, above the cross drain, and on a steeper gradient, control measures were demonstrated, using stone steps to replace a gravel ramp to allow walkers to traverse the steeper area more easily, and also to prevent material loss from washout.



Chapter 3

Site Visit to Ski Centre at Seljustøl

On 12th September, partners viewed management of trails at Seljustøl ski arena. Issues included use of timber boardwalks, and significant snow melt and water management issues. Partners discussed possible stone-pitching techniques that could be used to repair heavily-eroded steep paths in the woodland.

Knowledge Sharing Activity 2

Sheep's Wool Demonstration

On 13th September, a demonstration of sheep wool path technique was organised at Buerdalen for local farmers and community activists, as well as representatives from Bergens Skog-og Træplantningsselskap (Bergen's forest and tree planting community), Bergen og Hordaland Turlag (outdoor recreation association), the Norwegian Trekking Association, Visit Hardangerfjord (tourism body) and Torhild Kvingedal, Director of Lygra Heathland Centre, Nordhordland.



The aim of the demonstration was to showcase a traditional method of path construction across peatland or soft ground, developed from ancient road engineering and construction methods. The sheep fleece helps to provide a firm base and 'float' the path over saturated areas. This reduces the amount of excavation and aggregate required compared with excavation to a hard base and infilling with large quantities of stone. The sheep's wool prevents aggregate loss and subsidence and the subsequent disappearance of the path, resulting in a stable and durable path.

Sheep wool is a natural alternative to geotextiles, potentially providing a new market for local farmers' wool, since in Norway and other countries it is sometimes a waste product due to its low market value. Combining the agricultural and environmental sectors has become an increasingly important goal for achieving food security, sustainable land management and environmental conservation. This technique therefore demonstrated the ASCENT project's positive contribution towards these goals.

Chapter 4

Knowledge Sharing Seminar

On the evening of 13th September, a knowledge sharing seminar was arranged by the Hordaland County Council with ASCENT project partners and Norwegian stakeholders. After a brief welcome by study trip coordinator, Marta Rongved Dixon, the seminar covered several topics, which led to attendees engaging in discussion.

Partners from the ASCENT project in Newry, Mourne and Down recapped on the benefits of using sheep's wool as building material for paths in wet areas, particularly as an environmentally-sustainable substitute for geotextile. The team also made reference to upcoming path work planned for Slieve Gullion, and talked about how this was going to be carried out by McGowan Ltd in the summer of 2019.

This was then followed by a summary of the volunteer path teams established in Northern Ireland, and the contribution this has made to path repair. In particular, the audience discussed methods of volunteer recruitment, and noted the challenges in attracting wider demographics (such as young people and women) into their volunteer teams. The Mourne Heritage Trust's Upland Path Team discussed several volunteer initiatives – such as the Youth Ranger scheme and path work for team building schemes that have been successful in introducing path work to different types of people.

Erling Birkeland from Bergen Skog-og Træplantningsselskap delivered a presentation based on mitigating the increasing popularity of Norway's upland areas by employing members of the Himalaya Sherpa community to deliver path work projects. This was demonstrated by the example of Sherpas creating a stairway to Mount Ulriken, Bergen. Erling referenced the benefits of utilising the skills and experience of the Sherpa community during their off-season and noted the mutual benefits and improved relations that have arisen due to this new scheme. The mutually-beneficial arrangement allows the Sherpa community to earn a wage several times larger than what they would earn at home, whilst simultaneously utilising their specialised knowledge to create sustainable paths.

Helene Ødven from the Norwegian Trekking Association spoke about the history of the Trekking Association, and about their efforts to encourage the safe and sustainable use of upland areas in Norway by way of instilling the notion of Fjellvettreglene over the years. She also spoke of the significant volunteer involvement, which has allowed Norway's system of cabins, cairns, trails and red 'T's to be created and maintained for hikers to enjoy. The work of the Norwegian Trekking Association provided an interesting case study of how to facilitate visitor experience and activities in upland areas.

Lastly, Hans Jørgen Andersen from Visit Hardangerfjord delivered a presentation on the tourism strategies delivered by Visit Hardangerfjord, including the use of Trolltunga as a tourist incentive. Hans demonstrated that marketing Norway with pictures of the iconic site was a highly successful strategy, with Trolltunga becoming an increasingly popular 'bucket list' item for many tourists. This is reflected in the tourism numbers for the area. After welcoming just 1,000 tourists in the whole of 2010, in 2017, Trolltunga greeted 1,800 visitors in one day alone. This is economically important for the Odda community, which has struggled with job losses and depopulation. However, Hans outlined the need to educate visitors more thoroughly in order to improve safety in mountainous areas, in addition to improving safety procedures in order to mitigate visitor safety issues as they arise.



Chapter 5

Conclusion

The issues noted and faced within the Odda region of Norway demonstrated recurrent themes shared by all project partners. Issues of increased use, conservation pressures and visitor safety concerns all reflect changing global patterns on upland use and experience-driven tourism. In particular, the role of social media – especially Facebook and Instagram – has proven to substantially influence people’s behaviour as tourists.

Trolltunga’s tourism marketing strategy, which is now based on the use of pictures of the iconic area, has significantly increased visitation to the area. The challenge for land managers in the area is how to mitigate the negative impacts of this tourism rise on the landscape, culture ecology and visitor safety.

The Trolltunga path work project demonstrated the necessity of careful planning and management. The commitment to a bedrock path led to some concerns regarding path management and mitigating drainage and erosion issues. However, it is also clear that seasonal restraints and funding restrictions limited the type of work applicable to the area. The use of sheep’s wool in other areas may prove to be a novel means of improving agri-environmental schemes in the country by providing a new industry for local landowners to tap into.

The knowledge sharing seminar proved to be a useful opportunity to share knowledge and experience across a wide group of land managers and land users. In particular, the use of the Himalayan Sherpa Community to build paths in Bergen, and the Norwegian Trekking Association’s commitment to improving visitor use of mountainous areas, demonstrated promising steps forward for Norway.

Chapter 6

Further Information

The above information was gained and interpreted through ASCENT project documentation conducted by the Mourne Heritage Trust (MHT) on behalf of Newry, Mourne and Down District Council. Video interviews and further visit documentation linking to this report are available by contacting Matthew Bushby at matthew.bushby@mourne.co.uk, or by contacting our offices at Silent Valley Gate Lodge, 74 Head Road, Kilkeel, Co. Down, Northern Ireland, BT344PU, 028417 65489.

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