

Croagh Patrick Pilgrims' Path restoration

Consideration of potential impacts on the Croagh Patrick pNHA and Clew Bay Complex SAC

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Introduction

Visitor pressure on Croagh Patrick has, over a period of many years, caused degradation of habitats and erosion in the area of the Pilgrims' Path. As a means of addressing these issues and conserving the mountain's natural and cultural heritage, a programme of sensitive path works are proposed for the original line of the pilgrims' path on Croagh Patrick. These are designed to provide a single clear route up the mountain and thereby reduce erosion and trampling of vegetation. As part of the programme, extensive areas of damaged habitats will be treated with landscaping techniques to provide conditions for regeneration and restoration of vegetation ecologically appropriate to the site. There are a set of specifications and plans that show the proposed works, which are designed to minimise impact on the environment rather than facilitate recreation. All work will follow the Helping the Hills principles developed by Mountaineering Ireland and the standards set out in the Upland Pathwork Manual (UPAG, 2015).

Croagh Patrick is a proposed Natural Heritage Area (pNHA) and is also close the Clew Bay Complex Special Area of Conservation (SAC). As such is it appropriate to consider the potential impacts of the path works and evaluate whether any further assessment of potential impacts is required.

Context

The Clew Bay Complex SAC is designated for the following features:

- Mudflats and sandflats not covered by seawater at low tide [1140]
- Coastal lagoons [1150]
- Large shallow inlets and bays [1160]
- Annual vegetation of drift lines [1210]
- Perennial vegetation of stony banks [1220]
- Atlantic salt meadows (*Glauco-Puccinellietalia maritimae*) [1330]
- Embryonic shifting dunes [2110]
- Shifting dunes along the shoreline with *Ammophila arenaria* (white dunes) [2120]
- Machairs [21A0]
- Old sessile oak woods with *Ilex* and *Blechnum* in the British Isles [91A0]
- *Vertigo geyeri* (Geyer's Whorl Snail) [1013]
- *Lutra lutra* (Otter) [1355]
- *Phoca vitulina* (Harbour Seal) [1365]

The site is designated as a Special Area of Conservation under the EU Habitats Directive (Directive 92/443/EEC). Article 6(3) of this Directive sets out the requirement for an assessment of the implication of any plan or project which will have a significant impact on a designated site (known as 'an appropriate assessment'). If a project or plan has the potential to have a significant impact on an SAC, then a screening process to determine whether an appropriate assessment is necessary should take place. As Croagh Patrick is close to, but not within the Clew Bay Complex SAC, it is unlikely to have an impact on the SAC. However, its proximity to the SAC means that it is prudent to consider whether or not the proposed path repairs have the potential to have any impact on the SAC. If the repairs are considered to have the potential to have a significant impact, then an appropriate assessment screening process should be undertaken.

Croagh Patrick is also a pNHA and whilst this status does not carry any statutory requirements, Mayo County Council's objective 'to protect, enhance, conserve and, where appropriate restore pNHAs (Natural Heritage Objective NH-01)' recognises the environmental value of the site and as such it is good practice to consider the extent of any environmental impacts from the path repairs.

Clew Bay Complex SAC

Potential impacts on qualifying features

The Clew Bay Complex SAC is designated for a range of features. Many of these are discrete areas of vegetation and / or geological features. As the Croagh Patrick path repairs will not be taking place within or immediately adjacent to these discrete areas, they are not considered to have the potential to have an impact. However, as some habitats can be interconnected, these features are still considered to establish whether or not there is any direct connection or input from Croagh Patrick.

For mammal and invertebrate species, there is the potential for them to move into habitat areas outside the SAC and therefore the impact of the path works on the relevant habitats is considered.

Mudflats and sandflats not covered by seawater at low tide [1140]

These are geomorphological habitat features, which are not dependent on the upstream catchment. There are not within or adjacent to the path repair area and therefore they will not be affected by the proposed work.

Coastal lagoons [1150]

These are geomorphological habitat features, which are not dependent on the upstream catchment. There are not within or adjacent to the path repair area and therefore they will not be affected by the proposed work.

Large shallow inlets and bays [1160]

These are geomorphological habitat features, which are not dependent on the upstream catchment. There are not within or adjacent to the path repair area and therefore they will not be affected by the proposed work.

Annual vegetation of drift lines [1210]

This is a vegetation habitat which is not within, adjacent or connected to the path repair area and therefore will not be affected by the proposed work.

Perennial vegetation of stony banks [1220]

This is a vegetation habitat which is not within, adjacent or connected to the path repair area and therefore will not be affected by the proposed work.

Atlantic salt meadows (*Glauco-Puccinellietalia maritimae*) [1330]

This is a vegetation habitat which is not within, adjacent or connected to the path repair area and therefore will not be affected by the proposed work.

Embryonic shifting dunes [2110]

These habitats have developed from coastal processes which are not dependent on land-based changes and therefore will not be affected by the proposed work.

Shifting dunes along the shoreline with *Ammophila arenaria* (white dunes) [2120]

These habitats have developed from coastal processes which are not dependent on land-based changes and therefore will not be affected by the proposed work.

Machairs [21A0]

This is a vegetation habitat which is not within, adjacent or connected to the path repair area and therefore will not be affected by the proposed work.

Old sessile oak woods with *Ilex* and *Blechnum* in the British Isles [91A0]

This is a vegetation habitat which is not within, adjacent or connected to the path repair area and therefore will not be affected by the proposed work.

***Vertigo geyeri* (Geyer's Whorl Snail) [1013]**

This species favours alkaline conditions (e.g. limestone) meaning that the acidic vegetation types found on Croagh Patrick (quartzite) are unlikely to support a population of this mollusc. It will therefore not be affected by the proposed work.

***Lutra lutra* (Otter) [1355]**

Otters use aquatic habitats and improvement of water quality through improved surface drainage will potentially improve some aquatic habitats. This restoration of degraded habitats may expand the foraging space for otter and therefore the path repairs have the potential to have a positive impact on this qualifying feature.

***Phoca vitulina* (Harbour Seal) [1365]**

This is a marine mammal, which will not travel inland and will therefore not be affected by proposals

Potential impacts on Croagh Patrick pNHA

The following information sets out the potential impacts of the work on the Croagh Patrick pNHA (as identified in consultation with NPWS). It also sets out any proposed mitigation actions to avoid impacts. It should be noted that all path works will be supervised or undertaken by an experienced upland path worker who will have site-specific training in understanding ecological processes and sensitivities.

Direct loss of habitat by the footprint of the proposed works and from any borrow pits developed onsite to source material

The existing zone of recreational impact is approximately 6.5 ha (based on site survey and aerial photography). Within this zone of impact, damage to siliceous dry heath (HH1), wet heath (HH3) and montane heath (HH4) habitats has already occurred in the form of trampling and ground erosion. The proposed path repairs will take place entirely within this damaged zone. As part of the repairs, habitat restoration will take place, involving translocation of locally occurring plants and supplementary planting of locally grown species found on Croagh Patrick. Over a period of 10-20 years, this is expected to lead to a restoration of 5.7ha of siliceous dry heath (HH1), wet heath (HH3) and montane heath (HH4) habitat. The

remaining 0.8 ha will be a repaired path with hard surfacing utilising materials found on Croagh Patrick, or of similar geochemical characteristics. With the improved visitor management arrangements, there is expected to be a reduction in off-path traffic, further reducing the pressure on habitats near to the path.

Donor stone collection sites will be identified and agreed with shareholders and NPWS to avoid sensitive areas of vegetation. Donor sites will be carefully monitored by visual inspection and before / after photography to ensure that removal of stone has no landscape impact and retains the character of each site.

Borrow pits from within the damage zone are unlikely to have a negative impact on habitats, as these areas have already been damaged by erosion and trampling. However all borrow pits that are opened will have any surface vegetation stripped and stored, then replaced once materials have been won. Each borrow pit will be landscaped after use to minimise their visual impact. It is unlikely that borrow pits will be opened outside the existing damage zone, but the same process will be used and any tracking damage between the borrow pit and the path will be reinstated.

Damage/Destruction to adjacent habitats within the proposed Natural Heritage Area due to inappropriate site preparation and construction techniques

On the summit cone (above the First Station), all work will be done by hand to the specification within the proposals. The techniques are based on best practice and are in line with the Upland Pathworks Manual (UPAG 2015). Working by hand will ensure that there is no erosion or damage to the summit habitats by tracked vehicles.

There is scope to use mechanical excavators and power-barrows at lower altitude and a defined access route for the tracked machine(s) will be identified and agreed with shareholders prior to work beginning – this may be beyond the damage zone but a ‘single pass’ method for excavators will be used to prevent excessive tracking of machinery. Power barrow use will be kept to the minimum, selecting routes to avoid deep peat or where there is a risk of erosion.

Deterioration of the water quality in the proposed Natural Heritage Area and the surrounding environment resulting from pollution from poor surface water management during site preparation and construction, and post construction

Currently there is no management of loose sediment entering water courses around the damaged zone, resulting in sedimentation downstream. The designed drainage, path surfacing and landscaping will reduce the potential for sediment run-off with settlement ‘traps’ included where there is space. The realignment of the path at lower altitudes, away from the stream, will also reduce the scope for unmanaged surface water entering the water course.

During site construction, the following management measurements will be put in place to avoid the risk of sediment entering adjacent watercourses:

- No storage of unconsolidated materials will be allowed within 10m of a watercourse;
- Where excavation of unconsolidated materials is undertaken within 10m of a watercourse, silt traps (e.g. geotextile filters) will be placed downstream in the watercourse during excavations.

Deterioration of the water quality in the proposed Natural Heritage Area and the surrounding environment resulting from pollution from discharges from existing the waste water treatment systems associated with the pilgrim’s trail

This is an existing structure and treatment system, and not part of the proposals – it is not anticipated that there will be any attributable change to the discharge resulting from the proposed works.

Damage to habitats due to poor visitor management during site preparation and construction, and post construction

The current damage zone is more than 10m wide for the majority of the route, meaning that visitors can remain within the damage zone during repair work. Temporary signage and potentially barriers will be used to keep visitors safe and to minimise the potential for spread out onto the surrounding habitats. A clear and ongoing visitor management programme will help to raise awareness of the sensitivity of the site during and after the repairs.

On the summit cone, the selected route is not currently used by visitors, which means that repairs can take place without a diversion route. Once completed the current route will be reinstated to the corresponding habitat type (siliceous dry heath, wet heath or montane heath), through a variety of landscaping and ecological restoration techniques.

At lower altitudes, work can take place by hand without significant impact on the visitor experience (work has safely and successfully been undertaken on the Ben Nevis path, which has higher visitor numbers than Croagh Patrick). Where major events are planned (e.g. Reek Sunday) work sites will be made safe to allow visitors to use the main route.

Disturbance to local wildlife, during site preparation and construction, and post construction

Ground nesting birds are unlikely to nest in the damage zone due to visitor pressure and potential for disturbance during the nesting season. It is considered that there are no likely impacts to ground nesting birds from these proposals

Mammal species – any trenches that may be left overnight would require mammal escape ramps. Check for otter paths through area prior to work.

Conclusion

It can be seen that the proposed path works do not have the potential to have a significant impact on the qualifying features of the Clew Bay Complex SAC. No negative impacts are foreseen and one potential positive impact is highlighted. It is therefore not considered necessary to complete an appropriate assessment screening process.

The path repairs do have the potential to have an impact on the Croagh Patrick pNHA. However, a number of mitigation actions are proposed which will limit any impact. These include avoiding the use of machines in certain areas; using silt control techniques where necessary; careful visitor management and avoiding impacts on any resident wildlife.