Magazine of the Scottish Wild Land Group

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Magazine of the Scottish Wild Land Group

The Glen Etive hydro schemes

Hilltracks Campaign: A busy year

How wildness is lost: 250 years of attrition

Winter 2018/19

WILD LAND NEWS Issue 94

Magazine of the Scottish Wild Land Group

SWLG

www.swlg.org.uk admin@swlg.org.uk 8 Cleveden Road Glasgow G12 0NT Registered Charity No.: SC004014

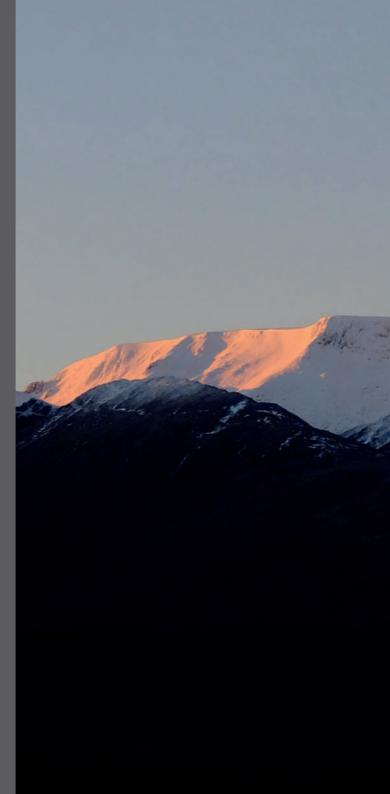
SWLG Co-ordinator Beryl Leatherland Membership Secretary Grant Cornwallis Treasurer Tim Ambrose

WLN Editor

James Fenton james@swlg.org.uk Please send in contributions. Individual articles do not necessarily reflect the views of the SWLG Steering Team.

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Front cover: Beinn Dòrain, by James Fenton Left: Aonach Mor, by James Fenton James Fenton

Editorial

More glum news from Wester Ross. The Highland Council has approved the conversion of Loch a'Bhraoin into a reservoir. This three-mile long loch goes from the southern end of the Destitution Road (the Fain) westwards towards Sgurr Dubh and Mullach Coire Mhic Fhearchair into the heart of Wild Land Area 28. An area which includes the remote Letterewe and Fisherfield Forests.

There will now be an ugly drawdown zone around the loch during dry spells, yet another sign of human intrusion into our remaining wild areas.

More glum news from Wester Ross

The landscape assessment of this hydro project is weak. 'Drawdown' is only mentioned twice in the whole report: "a small longer term effect is considered possible ... as a result of drawdown around the loch," but this "would not result in any significant long term effect to landscape character." Someone asleep on the job? How long will it be before the Lochan Fada/Loch Maree hydroscheme is resurrected?



The other glum news is that the Loch Gaineamhach hydroscheme into the heart of the Torridon mountains south of Badachro has been resubmitted. This will result in continuing encroachment into the core area of Wild Land Area 27 as described in the last issue of *Wild Land News*.

Although we objected to the earlier scheme before it was withdrawn, we missed the deadline for consultation for this new scheme. For the Loch a'Bhraoin scheme, we did get in a late objection, but obviously to no avail ... attrition of wild land continues apace.

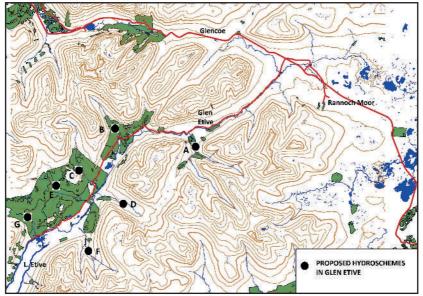
We are conscious that many developments which could damage wild land will be slipping through the net. It would be helpful if members could keep their ears to the ground and also look at the online planning portals of local authorities. If you come across any potentially damaging applications, please let us know so that we can respond timeously.

Glen of Sorrows: The Glen Etive hydro schemes

The Gaelic legend *Deirdre of the Sorrows* is partly set in the Etive hills and, as the name suggests, it doesn't end well. Another story is unfolding that could have another unhappy ending following the planning applications submitted in June 2018 to The Highland Council for seven hydro power schemes, together making up 'The Glen Etive Hydro Project.'

These are all 'run of river' schemes on tributaries of the River Etive along a 12 km stretch, with each comprising one or more 'intake structures' or dams, 'penstock' or buried pipeline and powerhouse – together with access tracks, bridges and borrow pits. These are (with planning reference):

- A Allt a' Chaorainn 18/02742
- B Allt Fhaolain 18/02740 (now 18/05439)
- C Allt Charnan 18/02738
- D Allt Ceitlein 18/02739
- E Allt nan Gaoirean 18/03024
- F Allt Mheuran 18/02741 (now 18/05440)
- G Allt a' Bhioran 18/03026



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Despite being a necessary part of the project, the connections to the National Grid are not included in the planning applications or the environmental impact assessment reports.

The applications generated many objections from organisations and individuals that can be viewed on The Council's website. The SWI G letter, also available to read on our website. made it clear that we are 'generally in favour of renewable energy schemes' but recognised that 'there is a case for objecting to all of them due to their probable combined adverse cumulative impacts' on wild land qualities. However, objections were restricted to the three schemes to the south of the River Etive that lie within the Loch Etive Mountains

Wild Land Area (WLA), with comments made on the proximity of the proposed Allt Fhaolain powerhouse to the Inbhirfhaolain climbing hut.

The John Muir Trust also objected to the three scheme in the WLA as did Mountaineering Scotland with the Munro Society and Grampian Club objecting to others. The Scottish Canoe Association objected to four of the schemes on the tributaries of the River Etive that are 'often paddled'.

Although SNH wanted additional information on two of the schemes before providing their final advice, they considered the proposals would only have a 'localised' impact on the WLA and 'will not affect the experience of wildness or result in



New Highland landscapes: tracks associated with a hydro scheme in west Glen Quoich, south of Glen Shiel. Photo Jane Meek

New Highland landscapes: tracks associated with a hydro scheme in Coire Buidhe, above Loch Creran. Photo James Fenton



significant effects on the wider appreciation of the WLA or the qualities of the area'.

The schemes all lie within the Ben Nevis & Glencoe National Scenic Area, but the SNH view on the impact on the NSA was even more emphatic stating that the proposal 'will not have an adverse effect on the integrity of the NSA or the special qualities for which it has been designated'.

Responding to the objections and concerns, the applicant submitted Supplements to the Environmental Impact Assessments at the end of November with the changes made to schemes **B** and **F** requiring the original planning applications to be withdrawn and new applications made. This triggered a further consultation period which expired on 6 January, and to which SWLG responded with a renewed objection. The supplementary information to the planning applications responds to specific points made by the Council, SEPA and SNH providing further information and clarification: a phased construction schedule to manage traffic and reduce the 'cumulative impact'; the existing two wire pole mounted transmission line will be 'upgraded to accommodate a new 3 wire grid connection' but with no pylon details given; 'on demand system' to maintain flows for canoeing secured by a legal agreement; reinstatement and restoration proposals including construction methods for 'excavated tracks': access for hill walkers; and borrow pit details. The siting of some intakes, access tracks and powerhouses have been amended with the more significant changes to the Allt Fhaolainn and Allt Mheuran schemes resulting in new applications being submitted.

The applications generated many objections Although the clarification given in the supplementary information is to be welcomed, it does beg the question why much of it wasn't included in the original applications. The haphazard listing of the published documents and drawings also makes it difficult to assess what's proposed and it almost feels this is a deliberate ploy by the applicant, although the Council may also be at fault when uploading these.

A few months ago I viewed the sites for the proposed hydro schemes and felt that the impact would not be as great as initially feared with more buildings and development along the Glen, such as a prominent telecommunications mast, and larger forestry plantations to the west of the River Etive than I remembered. The intakes are also located between the 100 metres and 190 metres contour, lower than some other schemes currently being considered with those for the Benmore Farm scheme at a height of 450 metres and the four Lochaber Hydro schemes all between 330 and 430 metres.

Nevertheless, it's not for nothing Glen Etive is designated a NSA with three of the proposed hydro schemes also in a WIA and the other four clearly visible from it and a judgement has to be made if the disruption and industrialisation of the Glen is an acceptable price to pay to keep the lights on. There are of course alternatives with the 6.5MW total generating capacity of the seven schemes equivalent to that from a single offshore wind turbine – not that these also do not have a significant environmental impact!



New Highland landscapes: tracks associated with a hydro scheme on the Auch Estate, north of Tyndrum. Photo Jane Meek

Hilltracks campaign update

As SWLG members will be aware, we are major participants in the Scottish Environment LINK Hilltracks Campaign. I described the long historical background to this in the Autumn 2016 issue of this magazine (Issue 89), which is available on the SWLG website.

Since 2013 we have been focussing on the tracks which can be built without planning permission, *i.e.* come under General Permitted Development. So we have not included in the campaign the numerous ones requiring full planning permission, such as those associated with hydro schemes, wind farms or transmission lines: any improvements in that arena would require a different set of "asks" (this is not to say that we ignore them – far from it – and we continue to respond as far as we are able to new development proposals of concern).

As a result of our efforts and the publication of our earlier report *Track Changes*, a new Order came into effect in December 2014 so that landowners have now to submit a Prior Notification to their local authority for consideration before they embark on such works; in theory at least, the authority can intervene to some extent, although for various reasons it is difficult for them to refuse a track and we have never encountered this happening. We monitored the implementation and the effectiveness of the 2014 Order by weekly scrutiny of development proposals in 11 local authorities and the two National Parks. We did this by collecting material and case histories via a team of diligent and valued volunteers, and also from members of the public (including some SWLG



The Charr to Edindocher track north of Glen Dye. Photo Beryl Leatherland

Exposed, cracking and collapsing peat beside the track illustrated on page 9. Photos Beryl Leatherland



members) who have sent us material as a result of our various online campaign activities.

Continuing landscape damage

We continued to be concerned at the level of environmental damage resulting from poorly constructed tracks and the associated inadequate regulation. Tracks have penetrated into National Parks, Wild Land Areas and Sites of Special Scientific Interest. Old stalker's routes and historical hill routes have been 'upgraded' and 'repaired' in the quest for easier access into the hills, mostly it seems for sporting use. Unlike the full planning system, with permitted development there is no procedure for members of the public to submit comments to planning authorities, even where there are potential problems with individual tracks. This can be seen as undemocratic and clearly runs counter to the Scottish Government's claim that they want to see increased public engagement in the planning system. In addition, there are loopholes in the system and, as we expected, these are frequently exploited. It is evident



that despite claimed agricultural purposes to justify them, many tracks are built for stalking and grouse shooting access, for which full planning applications should be submitted.

Changing Tracks

Our findings were collated and published in September 2018 in our latest evidenced report *Changing Tracks*, compiled with great thoroughness by Mel Nicoll and funded by the Scottish Mountaineering Trust, the BMC Access and Conservation Fund, LINK and our members.

The report was launched with a full media and PR campaign and we are grateful to Ramblers Scotland who arranged for their very talented Danny Carden to spend time on this. Copies were sent to relevant politicians and others, including those that could be considered to be opponents of what we are trying to achieve and with whom we have nevertheless engaged. Gratifyingly, there was a lot of media interest: press, social, broadcast and published. Helen Todd of Ramblers Scotland and I, as convenors of the



campaign, were interviewed for the Out of Doors programme at a Cairngorms National Park location on a really wet and windy day, and listeners were updated in a subsequent programme.

We recognised, however, that a stand-alone campaign was unlikely to achieve the profile and traction necessary to prompt re-evaluation of the legal framework involved, especially when there were other pressing demands on politicians. We needed a strong hook to latch onto to help further our aims. An opportunity arose in the form of the deeply flawed Planning Bill that has been progressing for several months, well behind schedule, through the Scottish Parliament.

Planning Bill review

We lobbied extensively last summer and autumn and enlisted the knowledgeable support of Andy Wightman MSP who tabled an amendment (one of over 300) to the Bill at Stage 2. The amendment aimed to prevent vehicle tracks being built without planning permission on any land used for field sports and also to require a planning application for all tracks intended to be built in National Parks. SSSIs and Historic Battlefields. We also gained support from other MSPs, but at Stage 2 only the members on the Local Government and Communities Committee (LGCC) have a vote. I attended the 31st October debate in Holyrood and despite Andy making a very reasonable and persuasive case for his amendment and giving some excellent background, the voting went on party lines, 5:2 against. It was very heartening to see the plethora of strongly supportive, and often indignant, comments on social media and popular blog sites that ensued, demonstrating strong public interest in the issue. Cameron McNeish wrote a robust

We continue to be concerned about the damage from poorly constructed tracks article questioning the current government on this issue.

The profile of the Hilltracks Campaign must be maintained While the unfavourable vote was a disappointment, it was not unexpected and we continue, undaunted, to Stage 3 of the debate, which we expect sometime this spring. At that stage, there will be debates and voting involving all MSPs, so we need to do even more lobbying and consolidation of our support – ever conscious that those not in sympathy with our aims will of course be doing exactly the same.

We originally set out to monitor both forestry and agricultural track proposals submitted to local authorities. In practice the majority of tracks of concern have been those with a claimed agricultural use; there were fewer problems with forestry tracks. That is not to say that such track proposals are uniformly acceptable and sometimes we have had concerns over the quality of some prior notifications we have seen. At least the forestry industry has its own guidance on forest roads, there is much more regulation and public accountability of forestry than there is of field sports, and we reckoned that the recent Forestry Strategy consultation would offer an alternative route and some opportunity to address these issues separately.

Grouse moor review

During a long-running campaign it is essential to be alert for opportunities. We therefore wrote to the Cabinet Secretary (Roseanna Cunningham) and asked, with supporting reasons, for tracks to be included in the scope of the grouse moor review which was set up last year under the chairmanship of Professor Werrity. This review arose from the widespread adverse publicity from illegal raptor persecution associated with some estates. We received a sympathetic



A badly constructed track below Ben Sgulaird, showing water erosion. Photo James Fenton

Gully erosion beside a track below Ben Sgulaird. Photo James Fenton



but open-ended response and in fact they have not been included as an issue, despite their adverse landscape impact. I have spoken briefly to Professor Werrity but he has to work to the restricted brief prescribed by government. During a LINK ministerial meeting I drew this omission to the attention of the new Environment Minister Mairi Gougeon soon after her appointment, but to no avail.

The profile of the campaign must be maintained and this has been helped by a parliamentary question from Andy Wightman to the Environment Minister asking why hilltracks had been omitted from the Werrity review. He received a typical ministerial non-answer, but at least the issue was raised in the Chamber. We have subsequently written to Roseanna Cunningham to express our concern about the Government's position and await a reply. As part of our efforts to seek wider coalition partners, we have been in discussions with the Revive campaign which launched a report recently on issues around intensive grouse moor management – Andy Wightman was one of the authors. One of their key issues relating to grouse moors is the damage caused by tracks, so it is useful to share information and materials.

Next steps

Our planning application monitoring effort has been reduced but continues across the Cairngorms National Park and the five local authorities where we have encountered the most cases. This activity still reveals cases of concern and we are reliant on our long standing monitors for their persistence in finding these. Members of the public continue to send us material including enquiries about the occasional track that is built where not even a prior

Monitoring reveals that there are still cases of concern notification has been submitted. We follow these up with the local authority, although sadly, although planning departments say they intend to use enforcement action, they generally resort to retrospective planning permission.

What are our next steps? We are busy preparing for Stage 3 of the Planning Bill. Early in 2019, once we have some firm dates for Stage 3, we will appeal directly for help from our members and others via our websites so please look out for alerts at www.swlg.org.uk. If any of you as our members are prepared to directly support the campaign and speak with their local MSP at a clinic or contact them (and/or any other MSPs) by email we should be delighted to assist as such direct contact is very effective.

2019 will be the sixth year of our work on this campaign for Helen

and me, and we aim to make further progress on this major landscape issue.

The LINK report can be read at: http://www.scotlink.org/wp/files/Cha nging-Tracks_LINK_Hilltracks_Report. pdf

Some press articles following the Stage 2 debate are:

https://www.walkhighlands.co.uk/ne ws/hill-tracks-why-is-the-snpgovernment-blockingprogress/0018783/

https://www.tgomagazine.co.uk/new s/andy-wightmans-bid-to-controldamaging-hill-tracks-blocked-bymsps/

https://www.thenational.scot/news/ 17211557.abuse-of-path-loopholefor-grouse-shooting-threatens-ourlandscape/



Obituary: David Batty 1944-2018



SWLG Member and President of the Munro Society, David Batty, died on November 20th whilst descending from Dugland in the Carsphairn Hills. The height given for that hill is 1995 feet (608.0 m) and a prominence of 151 feet (41.0 m). To qualify as a 'Donald' a mountain in the Scottish Lowlands must have a height of 2000 feet and a prominence of over 100 feet. David had been one of a small party who were measuring the height of this hill. He was a co author of the Munro Society's Book 'Scaling the Heights', an account of 'measuring the mountains'. But there was much more to David then just measuring and ticking off hills. He had a real affinity and love of the mountains and wild land.

Though born in England, David's family moved to Scotland when he was a schoolboy. He finished his schooling in Glasgow before having a very successful business career. He qualified as an accountant then joined Babcock and Wilcox, eventually becoming finance director. He was involved in the merger with, and subsequent buyout, of Thorn EMI, setting up the company Rosyth Royal Dockyard PLC.

During the period David describes as his 'Student Years' (1963 -1967), when he was gualifying as an accountant, he became 'a reasonably active hill walker'. However, his busy professional career restricted his activities and his record show that by 1989 he had only climbed 44 Munros, although there were many repeats and non-Munros. He set himself the target of completing the Munros by his 50th birthday and achieved this on 11th June 1994 on Meall nan Tarmachan. In July 2007 he joined the Munro Society playing a key role within the Society. He served as Treasurer, Secretary, and Vice President before becoming the President in April 2018.

Much of David's work is not credited. He has played a key role in the Munro Society's 'Mountain Reporting Project'. The published reports, which can be viewed on the Societies web site, are anonymous. (See: www.themunrosociety.com/mount ain-reporting). David has contributed many of these. His

The Scottish mountains have lost a great friend



reports benefit from his extensive knowledge of flora and fauna, mountain issues and his skills as a photographer. Extracts from two contrasting reports by him follow.

The first is of 'Windy Standard' a hill located close to Dugland. He ascended this hill on 29/04/2014 and his reflections on the day state "the day was marred by the presence of wind farms, extensive uniform non-native pine plantations, a dreadful ATV track across the hillside servicing a radio mast, considerable litter at the start and a truly appalling rubbish tip at around 450 metres which included asbestos. All amounting to quite the worst denigration of a mountain landscape I have ever seen in 50 years walking the hills." The two photographs of his shown on this page back up his views.

In contrast on 22nd June 2017 David climbed Ruadh Stac Mor and A'Mhaighdean. His report reads: "This was an excellent trip to accompany a TMS member on compleation of her final two Munros of her third round. The weather was much better than forecast but this walk would be best in clear weather as the photo opportunities are excellent. There are good paths/tracks for a lot of the way. The sense of remoteness is great, particularly when dropping off A'Mhaighdean into upper Gleann na Muice. The views are outstanding throughout the walk. One to savour." Two of the photographs he took on this walk are shown on the next page.

Some idea of his work can be taken from the heading of his 'Blog' which makes up the first couple of pages of the Society's December Newsletter, which was with the printer at the time of his death. It reads "David Batty has had a busy few months. An exhibition, a dinner, hydro schemes, book publishing, an injured stag and an injured owl to contend with, and, oh yes, just a few hills climbed in his rapidly diminishing spare time."

The exhibition mentioned is 'The Munro Legacy' exhibition which will run at Perth's AK Bell Library from 5th March 2019 and then at the Dundee Mountain Film Festival in November. The SWLG have provided David with some material it is hoped will be included.



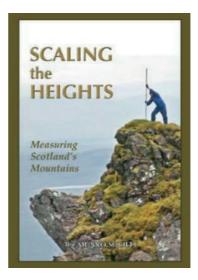


The Scottish Mountains have lost a great friend.

The Munro Society's *Scaling the Heights* was published in 2018. David Batty was a member of the editorial team and wrote the chapter 'Members' Reflections of the Future Heightings'.

For information on obtaining the book please e-mail: info@themunrosociety.com

The blog referred to above can be read here : www.themunrosociety.com/assets/ uploads/files/Newsletter%2044%20 Dec18%20pp1-3.pdf



Beinn Lair, Meall Mheinidh, Beinn Airigh Char, Fionn Loch, Dubh Loch from A'Mhaighdean

How wildness is lost: 250 years of encroachment into the hills

This article illustrates in rough chronological order the main changes to the Highland landscape over the centuries. It considers only the wild, uncultivated land, not the settlements and the land around where signs of human impact would always have been high, as shown in the picture below.

Up until the 1800s there would have been summer shielings distant from the settlements in the areas of better grazing, but it is unlikely their presence would have dramatically altered the surrounding landscape. Nowadays the signs of the small shieling buildings are slowly disappearing, reclaimed by nature. Roads were absent before the military roads of the 1700s.

Before the Highland Clearances and the era of Victorian shooting estates, the land was not managed as such although it was used for grazing, hunting and peat cutting and, where present and near habitation, the exploitation of woods.

A naturally wild landscape

Landscapes where the vegetation pattern is determined by natural processes (*i.e.* is not designed by humans) and where infrastructure is absent can be termed natural landscapes. Where such landscapes



This article considers the land beyond the areas of settlement, *i.e.* the unenclosed hill land as shown here above Achiltibuie.

are still found in the Highlands they represent some of the most natural remaining in Europe – although they are becoming increasingly rare.

"The next day I travelled over an exceeding high mountain, called mount Skeene ... and withall. a most familiar mist embraced me round. that I could not see thrice my length any way : withall, it yielded so friendly a deaw, that it did moisten thorow my clothes ; where the old proverb of a Scottish miste was verified, in wetting me to the skinne. Up and downe. I think this hill is six miles, the way so uneven, stony, and full of bogges, guagmires, and long heath, that a dogge with three legs will outrunne a horse with four ..."

Taylor, The Water Poet, in 1618 on Mount Keen (939m)

"As I stood at the height of the road and gazed down on its strange course both ways, I could not help rejoicing that there was at least one place where railways, canals, and steamers and all these devices for sinking hills and raising valleys, and introducing man and levels, and destroying solitude and nature, would for ever be set at defiance."

Lord Cockburn at the Rest and Be Thankful in 1838



The Highlands: a natural and wild landscape. Beinn Dearg, Ross-shire.

"When cross-country droving in Scotland on an appreciable scale first began, and for many a year thereafter, a great part of the Highland and upland areas of the country was common land, or at the least land which, while nominally owned by the local chieftain, was in fact unused and uncared for."

A R B Haldane The Drove Roads of Scotland, 1952

"Settlement in the western Highlands and Islands was mainly confined to very limited areas because of the challenging constraints of geology, climate and geography. Therefore, when modern visitors contemplate hills and glens which are empty of people, they should not assume they were inhabited in the past. Or that their present silence and loneliness were necessarily the consequence of later clearance and emigration."

> Tom Devine The Scottish Clearances, 2018



Traditional peat cutting in Wester Ross.



Over the millennia, removal of peat has transformed the landscape. This picture in Shetland.



Signs of old peat cuttings are visible throughout the Highlands, here at Inverasdale.

PEAT CUTTINGS

Period: For thousands of years, but the practice is now dying out

Extent: Throughout Scotland

Reversibility: Irreversible (although peat will regrow over thousands of years)

Peat has always been the main fuel of Scotland. Peat cutting, together with creation of inbye land, probably caused the greatest landscape change throughout the earlier centuries.

Once all the peat near settlements was used up, the people had to travel further and further to win peat. In extreme cases, such as the island of Eriskay, all the peat was exhausted and people were reduced to removing and burning turf, resulting in exposure of bedrock in some places.

Hence much of the flatter land near to existing and earlier settlements consists of land which once was peat-covered. Peat growth may eventually resume, but the process takes thousands of years.



The Wade bridge at Daviot.



Road bridges old and new at Dunbeath.



Kyle of Lochalsh station. This line terminated at Stromeferry in 1870, when the line was opened, and was extended to Kyle in 1897 – which at that time had only half a dozen houses.

ROADS & RAILWAYS

Period: From 1725 onwards

Extent: Throughout the Highlands

Reversibility: Early roads tended to follow the landforms and, when unused, tend to merge back into the landscape. Modern roads with significant landform modification are to all intents and purposes irreversible

Before the building of the first military roads by General Wade, which began in 1725, the mountainous areas of the Highlands were road-less. For most of history, the sea was the main highway. It was only possible for wheeled vehicles to traverse the Highlands after the completion of the road network supervised by Thomas Telford in the early 19th century.

During the Victorian era, the coming of the railways opened up the Highlands to mass visitation.

The development of the road and rail infrastructure in the previously trackless uplands was an essential prerequisite of the subsequent development of the Highlands – which, inevitably, accelerated the loss of wildness.



The remains of a Victorian fence in the Monadhliath, built to separate sheep farms.



The Beinn Eighe ring fence built to exclude deer to allow woodland development.



A modern stock fence below Beinn Chapull in Argyll.

FENCING

Period: From the 18th century onwards

Extent: Throughout the hills and moors

Reversibility: The process is reversible in that the fences can be removed, although experience todate suggests most will remain in situ even when redundant

As the shieling system (transhumance) died out, first dykes and then fences were built to keep stock out of the inbye land.

Compartmentalisation of the wider landscape began with the erection of fences and dykes as sheep-farm boundaries in the 18th century. These often went over the summits of the hills at over 900 metres altitude. Their remains are still visible today.

Compartmentalisation of the remaining wild areas through fencing remains widespread today. This can be to manage grazing, separate landholdings, protect woodland or for road safety. Particularly common nowadays are long lengths of high deer fencing surrounding new woodland/forestry schemes.

Roadside fencing also subdivides the area: for example, roadside deer fencing from Garve to Loch Maree in effect separates off the northwest Highlands.



Sron na Larig Lodge shooting Lodge in the Monadhliath (recently demolished).



Rotational burning of heather moorland above Corgarff to encourage red grouse.



Stripes of burnt heather above Glen Clunie.

VICTORIAN & LATER SHOOTING ESTATES

Period: 19th century

Extent: Throughout the Highlands

Reversibility: Buildings can be removed but access tracks are likely to remain. The pattern of muirburn for grouse is reversible in that if burning ceases the heather stands will recover to full height

Although there have been castles and strongholds in the Highlands since Pictish times (brochs), these were largely coastal or in the larger straths. The creation of the Victorian shooting estates caused access tracks and shooting lodges to be built in the heart of the mountains. Before this period the areas would have been road-less. Where the glens and straths were inhabited, there would have been turf houses and smaller shieling huts.

Management of moorland for grouse through rotational heather burning has resulted in an unnatural patchwork pattern on the hills and moors. Although such burning has been carried out since at least the 19th century, it has probably increased in intensity in recent decades.



A spruce plantation on heather moorland above Strathnairn, with extensive plantations in the background.



Ground preparation for tree planting causes major landscape change. Top: mounding above Inveralligin. Bottom: ploughing a whole hillside on Dava Moor.



A new native woodland plantation above Loch Bad an Sgalaig in Wester Ross.

FORESTRY PLANTATIONS

Period: From the 1750s; major expansion post-1919; recent expansion of native wood plantations from 2000

Extent: Throughout

Reversibility: Irreversible (through soil changes, including ground preparation)

The adding of trees to the landscape is the greatest cause of landscape change in the Highlands. The ecological conditions of the area are such that woodland would naturally be of restricted distribution (less than 10% land cover), with the landscape of hills and moors largely open as would be expected in this, the oligocratic phase, of an interglacial.

'Improving' estate owners started creating plantations in the 1750s, although these were at first of limited extent. The process accelerated rapidly following the creation of the Forestry Commission in 1919, when there was government policy to create a strategic reserve of timber. In some areas whole upland farms were planted.

The commercial forests which have transformed the landscape consist primarily of non-native conifers, with Sitka spruce now the main species planted.



The Ben Cruachan dam.



The drawdown zone around Loch Cluanie when water levels are low.



A modern Highland landscape north of Loch Tay showing a hydro pipe, tailings from a hydro tunnel and commercial forestry plantations.

THE ORIGINAL HYDRO-ELECTRIC SCHEMES

Period: 1895-1975

Extent: Throughout the Highlands

Reversibility: Irreversible owing to the volume of concrete and drawdown zones

Construction of the first large-scale hydro-electricity scheme in Britain began in 1895 at Foyers to provide power for aluminium smelting. Thereafter large scale schemes were constructed for smelters in Kinlochleven and Fort William.

With the formation of the North Scotland Hydro-Electric Board in 1943, an era of dam building began, so that by 1975 over half the catchments of the Highlands possessed large-scale hydro schemes.

Most of the easily exploitable catchments have now been developed, so that future hydroelectric schemes will be relatively small-scale.

The middle picture shows the bare rock which appears when reservoir levels are low.

Associated with the reservoirs are tracks, borrow-pits, tailings, pipes and power-houses. Most such schemes also have a network of smaller dams, channels and pipes to funnel water from the tributaries to the main reservoirs.



An area of improved pasture on Ashie Moor, south of Inverness



Pasture created out of the raised bog of Mòine Mhòr south of Kilmartin.



A ditch ploughed through blanket peat, a once common practice throughout the UK uplands to improve grazing (moor-gripping).

AGRICULTURAL IMPROVEMENT

Period: For thousands of years, with major expansion ca.1950-1970

Extent: Fringes of hills and moorland

Reversibility: Reversible in the long term: abandoned land can over time regain a natural vegetation cover. Ditching can be irreversible if it leads to erosion

Land has been taken in for agriculture for as long as there has been cropping of cereals, grass and vegetables. In the Highlands away from the east coast, the area of arable land has only ever been a very small percentage of the whole landscape. This is because, except in favoured low altitude areas, climate and soils preclude arable farming. It has been restricted to the vicinity of settlements, *i.e.* favoured coastal areas, and the floors of certain glens /straths.

Many of the level areas of raised beaches and the flat-bottoms of the glens and straths which are now agricultural land would originally have consisted of raised peat bogs. These have disappeared through peat cutting, drainage and agricultural improvement.

Grant-aid has resulted in extensive areas of moorland being converted to pasture, particularly in the 1950s and 1960s. It also resulted in patterns of moor grips (ditches) being ploughed even in remote areas distant from settlements.



Footpaths below the Northern Corries of the Cairngorms.



An eroding path above Bridge of Orchy.



An improved (repaired) path in Glen Coe.



FOOTPATHS AND ATV ROUTES

Period: 1800s onwards Extent: Throughout the Highlands Reversibility: Reversible (unless the

cause of major erosion)

Foot and pony paths into the high hills were first constructed on the sporting estates in the 1800s to provide access for stalkers and their ponies.

With the increase in hill-walking from the 1950s onwards, informal paths began to develop in the hills along the popular walking routes.

These paths often become eroded owing to the wet climate and peaty soils. Of necessity, many have been converted to constructed footpaths.

With the advent of all terrain vehicles (ATVs) in the 1960s, and more recently quadbikes, vehicles have increasingly been taken into the hills away from formal tracks. Their wheel marks are often visible on the vegetation and they can instigate erosion, particularly where the soils are soft and peaty (lower picture).

Tracks from from ATV vehicles above Inverasdale.



A hill track for grouse shooting in the Monadhliath.



A hill track for deer stalking in Coire Buidhe below Ben Sgulaird, Argyll.



A new track above Achnasheen.

HILL TRACKS

Period: Since Victorian times, but primarily in the 20th century and on to the present day

Extent: Throughout the Highlands

Reversibility: Irreversible

Tracks designed to facilitate vehicular access have been increasing in extent throughout the hills and moors, even into the remotest areas. There are now few places more than a mile or two from a track.

They have been built to provide access for farmers, estate workers, shooting clients and hydro-electric schemes. Additionally new commercial forestry plantations, windfarms and masts come with an associated networks of tracks. The construction of modern tracks, particularly those designed to take heavy construction traffic, can result in major importation of hardcore into the area.

Although it is theoretically possible to remove tracks and reinstate the original landform, this is an expensive operation and not always possible in rough and steep terrain.



Above Slochd.



Below Ben Cruachan.



Above Loch Cluanie.

PYLONS, TRANSMISSION LINES AND MASTS

Period: 1940s onwards (pylons); 1990s onwards (mobile phone masts)

Extent: Throughout, although phone masts are primarily along transport corridors

Reversibility: Reversible

Metal pylons came on the scene in the 1940s with the advent of the first large-scale hydro-electric schemes.

Additionally there are numerous power-lines throughout the Highlands carried by smaller wooden poles, again dating from the first hydro-electric power stations.

Although there have been communication masts on some hills since the middle years of the 20th century, the advent of the mobile phone has resulted in masts being built throughout the Highlands. These are generally along the major roads. Many masts have a constructed access track.



The Nevis Range ski area.



The Cairngorms ski area.



The car park at Cairn Gorm.

DOWNHILL SKI DEVELOPMENT

Period: 1955-1990

Extent: Five localities

Reversibility: Most aspects potentially reversible

The first permanent ski tow was built in Glencoe in 1956, although skiing enthusiasts had being using Ben Lawers and other hills since the early 20th century. Work started on building the last ski centre, Nevis Range, in 1988.

The ski centres are at The Lecht, Cairn Gorm, Glencoe (Meall a'Bhuiridh). Nevis Range (Aonach Mor) and Glenshee. As well as uplift facilities, infrastructure includes car parks, buildings and snow fences.

Of necessity the ski centres are in mountain areas, and include the sixth highest mountain in Scotland (Cairn Gorm) and the eighth (Aonach Mor).



The Farr wind farm in the Monadhliath.



The Farr wind farm, with associated tracks.



The Carraig Gheal wind farm west of Loch Awe.

WIND FARMS

Period: 2005 onwards

Extent: Throughout, although not in National Parks and National Scenic Areas

Reversibility: The turbines are reversible (can be removed), but the concrete foundations, access tracks and borrow pits are in effect irreversible

Windfarms are a characteristic of the 21st century. The tall turbines are generally visible from multiple viewpoints although their visual impact is reversible in that they can be removed.

Their construction necessitates the creation of a network of access tracks, often of long distance. These require large volumes of hardcore as foundation, either won from local borrow pits or imported. Turbine foundations require considerable volumes of concrete (as did the original hydro-electric schemes). It is theoretically possible to remove the tracks, concrete foundations and imported hardcore to reinstate the original landform, but this is an expensive operation and probably not practical.



The new Glendoe pumped storage scheme. This shows the dam under construction to create a high altitude reservoir (over blanket peat).



A new scheme within the Wester Ross National Scenic Area.



One of the new run-of-river hydro schemes in Glen Falloch under construction, within the Loch Lomond and The Trossachs National Park.



A new run-of-river hydro scheme being built at Kingairloch.

NEW HYDRO-ELECTRIC SCHEMES

Period: 2000 onwards

Extent: Throughout the Highlands

Reversibility: Can be reversible or not

With the completion of the last of the major hydro-electric schemes in the 1970s, there was a lull in the construction of new ones. In recent years there has been a revival of interest. As most of the easily exploitable catchments have been developed, effort is now concentrated on pumped-storage schemes and smaller run-of-river schemes.

The top picture shows a dam being built over moorland to form the reservoir for a pumped-storage scheme. The lower pictures show new access tracks associated with the creation of small run-of-river schemes; other associated infrastructure will be a dam, pipe and small power-station.

Such run-of-river schemes are currently being built throughout the Highlands, including the remotest glens.

There are likely to be more of both types of scheme, particularly run-ofriver schemes. Currently pumped storage schemes are the only way to temporarily store electricity from renewable energy generation.



An Ordnance Survey trig point in the Monadhliath.



A burn on Jura which has been deepened to improve the fishing.



A scrape on a Monadhliath grouse moor built to encourage grouse.



A sign in the Cairngorms.

ACCUMULATION OF SMALL-SCALE STRUCTURES

Period: 1800s onwards
Extent: Throughout

Reversibility: Reversible

Shieling sites date back hundreds of years, but their signs on the landscape are slowly fading.

In the 1800s the Ordnance Survey began mapping the Highlands and constructed huts at high altitude near the main triangulation stations (Colby Camps), the remains of which are still visible in some places. Small triangulation pillars (trig points) are are a common sight on summits.

Landowners sometimes take diggers into the hills to restructure burns and rivers to improve fishing, particularly canalisation and the deepening of pools.

Grouse shooting estates can create lines of shooting butts and also dig pools for grouse.

Other structures include cairns, signposts, notice boards and footbridges.



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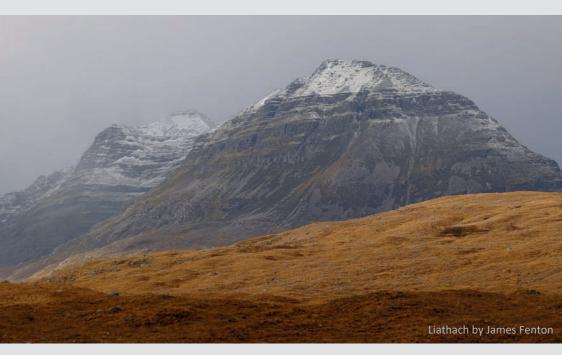
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Scottish Wild Land Group

Working to protect Scotland's species, environment and landscapes



The objects of the Group are:

(a) To promote the conservation of wild land in Scotland;

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(c) To promote and encourage the implementation of good planning policies;

(d)To co-operate with other bodies to promote the foregoing objects.

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