Scottish Natural Heritage

TINTO HILLS
SITE OF SPECIAL SCIENTIFIC INTEREST

SITE MANAGEMENT STATEMENT

Site code: 1540

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Purpose

This is a public statement prepared by SNH for owners and occupiers of the SSSI. It outlines the reasons it is designated as an SSSI and provides guidance on how its special natural features should be conserved or enhanced. This Statement does not affect or form part of the statutory notification and does not remove the need to apply for consent for operations requiring consent.

We welcome your views on this statement.

Description of the site

Tinto Hills Site of Special Scientific Interest (SSSI), lying approximately 4 km south west of Thankerton, contains one of the finest examples of periglacial stone stripes in Scotland and supports a fine example of dry upland habitats, with good representation of subalpine, acidic dwarf-shrub heath and grassland.

The quaternary geology interest of the site is related to the effects of freezing and thawing on the surface of the land during the winter months. On Tinto this has produced a phenomenon known as patterned ground. Patterned ground is most often associated with landscapes in arctic areas such as the tundra of Northern Canada or Siberia. The patterned ground at Tinto Hill takes the form of stone stripes on the hillside, occurring on exposed, vegetation-free ground near the summit. Most patterned ground landforms in Scotland are relict features, which formed during the end of the last ice age around 15-10,000 years ago, when the land was subject to extreme freezing and thawing. However the stripes on Tinto Hill are unusual because they are actively forming at present, under non-glacial conditions and at quite a low altitude. They occur in other parts of Scotland such as the Cairngorms Plateau but the best example of active stone stripes in Scotland is on Tinto Hill. The site is a key locality for studying current periglacial processes. Also included is part of a subglacial meltwater drainage system, with meltwater channels, formed during the last ice age.

The condition of the geological feature is favourable, as the areas of bare ground appear to be stable due to little change to their size and distribution since 1946 as seen from aerial photographs. However, on comparison with recent photographic records

some of the stone stripe areas seem less obvious. Damage to them was noted due possibly to livestock or recreational activities. However footpaths and fencing now route walkers away from sensitive geological features.

The dry upland habitat types present within the site were once universal throughout much of south west Scotland but are now largely modified by grazing or lost to forestry. Of particular note is the comparatively large and unmodified extent of heather moorland within this site. The area has a characteristic upland flora that includes the alpine plants stiff sedge and mountain crowberry.

The upland assemblage, which includes subalpine dry heath and acid grassland, is in a favourable condition as the extent of the habitat has been maintained. Increases in the cover of dense stands of bracken would appear to be the main threat to the acid grassland on the lower slopes and this will need to be monitored and controlled accordingly. The main activities influencing the condition of the heath communities are grazing and muirburn.

The subalpine dry heath is considered to be unfavourable as there has been a decline in the extent of dense heather, some of which is now locally scattered in particular on the upper slopes of Green Hill and Lochlyock Hill. These scattered areas of heath are sensitive to high grazing levels. The vegetation structure due to disturbance from burning has also contributed to the feature's unfavourable condition. Large fires in 1996 occurred over sensitive areas; the steep slopes at Maurice's Cleuch and adjacent to Cleuch Burn. However, the vegetation composition including the cover and frequency of dwarf shrubs, bryophytes and lichens have been maintained.

Natural features of Tinto Hills SSSI	**Condition of feature** (date monitored)
Quaternary of Scotland	Favourable, Maintained (December 2001)
Upland assemblage	Favourable, Maintained (January 2005)
Subalpine dry heath	Unfavourable, Declining (January 2005)

View of Tinto Hills	View of stone stripes from Totherin Hill
	

Past and present management

The SSSI forms part of several farms, the main area being within St John's Kirk Estate, which is currently used for upland grazing. Low intensity stock rearing occurs on the site, predominantly by North Country Cheviot and Blackface sheep. Cattle with some rare breeds such as blue-grey and Luing also graze areas of the site and stock feeding occurs. Muirburn, swiping and bracken control are undertaken within parts of the site.

Most of the SSSI is under several management agreements some of which support positive management within the site. Other land management activities within the SSSI include recreation. Tinto Hill is a popular walk and is used for hill races. There are two main footpaths commonly used to ascend Tinto Hill and repairs have been carried out on the lowest section of the northern route with linear drains installed. Hang-gliding regularly takes place as does the shooting of game birds, mainly grouse and pheasant. Pest control is occasionally carried out mainly to control rabbits.

Objectives for Management (and key factors influencing the condition of natural features)

We wish to work with the owner and occupiers to protect the site and to maintain and where necessary enhance its features of special interest. SNH aims to carry out site survey, monitoring and research as appropriate to increase our knowledge and understanding of the site and its natural features and monitor the effectiveness of the management agreements.

1. **To maintain the condition and increase, where possible, the extent of the upland habitat and associated communities** by ensuring grazing is carried out at appropriate levels and muirburn is carried out following the muirburn code of good practice.

   Appropriate grazing regimes will require sufficient grazing to prevent dominance by more competitive grass species, but not so much grazing that the typical flowering plant species are unable to flower and set seed in reasonable abundance. The vegetation should continue to support key species such as stiff sedge and mountain crowberry. Grazing should be targeted where and when it will be most beneficial to the dry shrub heath. Grazing animals are attracted to the regrowth of young vegetation on recently burnt ground or swiped areas.

   Numerous, well-dispersed fires and swiping of significant areas away from footpaths and sheep tracks can help to spread out and dilute the impact of grazing.

2. **To avoid disturbance to the habitats through trampling by livestock** by locating feeding sites, where supplementary feeding of livestock is required, outwith the vicinity of young heather or close to newly burnt heather and moving the location of feeding sites frequently to avoid poaching and localised nutrient transfer.

3. **To control the spread of bracken** by undertaking bracken control where necessary.

   Extensive bracken patches can be removed by cutting, and other physical treatment (such as mowing and rolling) to weaken growth and reduce bracken patches. These methods would be appropriate methods of control where the spread of these species threatens to affect notable habitats by reducing botanical diversity. Fencing could also be constructed at appropriate locations to hold cattle on areas of bracken to trample it.

4. **To maintain and protect the physical and visual integrity of the geological landforms** by diverting recreational use, particularly hillwalking, scree running or mountain biking, away from the stone stripe areas. Access to the site should follow the Scottish Outdoor Access Code (SOAC).

Date last reviewed: 4 November 2008