Scottish Borders Woodland Strategy Technical Advice Note (2012)

Scottish Borders Woodland Strategy
TECHNICAL ADVICE NOTE 2012
Analysis of Woodland Opportunities

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INTRODUCTION

How to use this document

This Technical advice note for the Scottish Borders Woodland Strategy (SBWS) 2005, is proposed to provide more guidance and description of the types of woodland and forest that the Woodland Strategy seeks to encourage, and the issues that need to be addressed when proposing planting schemes.

Background

A consultation exercise was carried out with stakeholders in early 2012. The consultation identified four main areas of significant change in policy, legislation and key drivers since the publication of the Scottish Borders Woodland Strategy in 2005. In particular, woodland expansion (Actions ECW1), and diversification and integration of the Scottish Borders Woodland Resource with other land uses (NDL2, LUD1, LUD2) were highlighted. This is reflected in the topics that were considered at a national level by the 'Woodland Expansion Advisory Group'. These also reflect a widely held aspiration to achieve a more integrated approach to land use in general, with water quality (River Basin Management Plans, action PEW1) and quantity (with a statutory focus on flood protection Action PEW2) and the climate change agenda to manage carbon emissions (Action EWC3) all taken into account.

Structure and Purpose

The Technical advice note is intended to guide land owners, agents and other interested stakeholders towards the development of better integrated, more sensitive planting proposals that consider economic and community impacts as well as the already established environmental impacts of schemes. This note has been prepared concurrently with the findings of the Woodland Expansion Advisory Group (June 2012) and the response of the Scottish Government (October 2012) and it should be read in the light of any further guidance which emerges as a result of that response.

The first part of the Technical advice note covers **'Issues to be Addressed and Anticipated Benefits'** and looks at the economic, social and environmental issues associated with the four categories of woodland defined by the Strategy. These four categories are described in the SBWS 2005 at page 52 and in Appendices I–V, sensitivity mapping i.e. areas where new planting may be defined as 'preferred', 'potential' or 'sensitive', for four different categories of potential woodland expansion namely:

- **Lowland / Upland Fringe Woodlands** – where new planting supplements the farmed landscape. – MAP 5 (Appendix II)
- **Upland / Upland Fringe Forest and Woodlands** – where new planting may become the dominant land use. – MAP 6 (Appendix III)
- **Native and Riparian Woodlands** – where new planting is intended to provide habitat connectivity, often associated with water courses. - MAP 7 (Appendix IV)
- **Urban Fringe / Community Woodlands** – where new planting is intended to provide a setting for development and access for public recreation. – MAP 8 (Appendix V)

The second part of the Technical advice note is a more detailed **'Regional Analysis of Woodland Opportunities'** that considers priorities for woodland management and expansion within each of the six geographic sub-regions defined by the Scottish Borders Landscape Character Assessment (1998) which forms the information base for landscape sub divisions used in the Scottish Borders Woodland Strategy – **see SBWS 2005 Map 4 Appendix 1a**. It describes six 'Regional Landscape Areas'. These descriptions have been extracted and can be read at the back of this document. (See Appendix A) The six defined Regional Landscape Areas are:

- Tweed Lowlands
- Lammermuir and Moorfoot Hills
- Central Southern Uplands
- Cheviot Hills
- Midland Valley
- Coastal Zone

As part of this assessment, the extent of each of the sensitivity assessments has been determined for each of the above Regional Landscape Areas. This analysis is presented as a table at Appendix B.

The assessment then describes, for each of the above regional landscape areas, the key characteristics, priority issues and priorities for woodland management and expansion in each of the above regions. It is intended that this text will:

- Provide a better understanding of the types of woodland and forest that are likely to further the aims of the Scottish Borders Woodland Strategy 2005.
- Demonstrate how economic and community issues, as well as environmental aspects, can be considered in relation to woodland expansion.
- Assist regulators in considering the suitability of applications for grant assistance for new planting and management of all woodlands.

Status

On approval, this Technical advice note will be promoted by the Council and Woodland Strategy Partners, to those seeking to undertake new planting schemes in the Scottish Borders. It will provide them with more guidance and description of the types of woodland and forest issues set out in the Woodland Strategy 2005 and will be used by the Council to inform its responses to formal woodland planting consultations from Forestry Commission Scotland.

Part 1: ISSUES TO BE ADDRESSED AND ANTICIPATED BENEFITS

Introduction

Scottish Borders Woodland Strategy 2005 contains the following vision statement:

"Trees, woodlands and forests will achieve their full potential as a natural resource, creating the environment that gives greatest benefit to the life and work of Borders people."

This part of the assessment identifies the potential issues that may need to be addressed as well as the benefits to the life and work of Borders people that are anticipated from each of the four categories of woodland defined in the 'Opportunities for Woodland Expansion' maps. In doing so, it is recognised that a general statement cannot anticipate all the potential outcomes for any given site.

It is also recognised that new planting of any kind has a very long time frame, of decades or more, and the effects of the planting will change over time as the woodland / forest matures. Anticipated changes over time are also indicated.

a) Lowland / Upland Fringe Woodlands – where new planting supplements the farmed landscape. – MAP 5 (Appendix II)

Issues to be addressed include:

- Good design and species selection that is appropriate to site conditions
- Appropriate access provision for management and recreational uses
- Maximise species diversity to avoid potential monocultures
- How best to encourage more mixed land uses and integration of farming and forestry activities
- Consider potential to produce biomass as a contribution to farm diversification
- Consider potential to secure or develop other uses, such as recreational uses, that will contribute to the local economy.

Anticipated benefits include:

- Potential source of timber and fuel wood and associated opportunities for biomass production
- Strengthen farming / forestry skills base
- Enhancement of the landscape
- Provide locations for rural recreation (e.g. walking, cycling)
- Shelter and shade to livestock and crops
- Potential benefits to catchment run-off and flood alleviation through moderation of peak and low water flows, increased percolation to ground water and reduction of sediment load and control of pollutants.
- Habitat for game species
- Habitat for wildlife and priority species
- Contribution to national carbon reduction and woodland expansion targets

Changes over time:

- Benefits should gradually increase as woodland develops.
- Timber and fuel harvesting potential may be forgotten.

b) Upland / Upland Fringe Forest and Woodlands – where new large scale planting may become the dominant land use. – MAP 6 (Appendix III)

Issues to be addressed include:

- Scale and mass of large scale planting makes good design / adherence to UK Forestry Standard guidelines imperative. Re-structuring of mid 20th century planting schemes is required to achieve compliance with modern standards.
- Ground cultivation – minimise ground disturbance to that which is essential for effective establishment of trees, reflecting good silvicultural and current best practice and appropriate relevant guidelines. Aim to maintain or improve water runoff characteristics and carbon storage and increase long term tree stability. and minimise visual impact.
- Consider effects on local employment and the wider local economy from the change of land use. Identify opportunities to create / safeguard local jobs / opportunities to use local workforce and develop local skills in forestry work.
- Consider opportunities for associated assets such as buildings within the site that have potential to provide diversification and contribute to the local economy and provide employment including opportunities for new units and other rural enterprises.
- Consider potential to secure or develop other uses, such as recreational uses, that will contribute to the local economy.
- Distance between forest gate and expected processor / pressures on local road network and the associated potential adverse effects on other road users and public perceptions of community safety. Identify proposed timber extraction route for new planting schemes and any expected works required to provide the necessary transport infrastructure..
- Maximise opportunities for species diversity to reduce extent of monoculture and widen the timber resource base so that local processors may benefit e.g. by producing timber for local construction.
- Where there are large areas of unplanted open ground, the design should seek to make these available for other productive uses to assist an integrated approach to land use.
- Developing integrated land use solutions for agriculture and forestry in marginal hill farming areas in order to maximise employment generated by both farming and forestry.
- Ensure that the community has been engaged with the development of the proposal so that any local issues are identified.
- Maintaining integrated habitat networks protecting both priority open habitats (e.g. blanket bog, upland heath) and wooded networks (e.g. native woodland fragments) and the species depending on these habitats.

- Appropriate access provision for recreational uses

Anticipated benefits include:

- Production of timber and fuel resources that will contribute to the rural economy
- Potential opportunities to add value to local economy by carrying out some processing close to source forest
- Enhancement of the landscape - where well designed
- Provide locations for rural recreation (e.g. walking, cycling)
- Potential benefits, where well designed, to catchment run-off and flood alleviation through moderation of peak and low water flows, increased percolation to ground water and reduction of sediment load and control of pollutants.
- Creation of new habitats for wildlife and priority species (e.g. red squirrel)
- Contribution to national carbon reduction and woodland expansion targets

Changes over time:

- Timber production starts to come on stream after 40 years with regular cycles of harvesting and re-planting thereafter. This has implications for delayed impact on local road systems and the landscape.
- Delay between planting and first harvest means period of inactivity. Seek opportunities to phase harvesting so that demand for labour is more evenly distributed over time.
- Re-structuring and variable growth rates, and the influence of disturbances such as fire and windblow, all lead to gradual re-shaping and breaking up of original uniform planting pattern with general increase in structural diversity of forest leading to landscape and biodiversity improvements.

c) Native and Riparian Woodlands – where new planting is intended to provide habitat connectivity, often associated with water courses. - MAP 7 (Appendix IV)

Issues to be addressed include:

- Good design and species selection that is appropriate to site conditions
- Appropriate access provision for management and recreational uses
- Ensuring woodland planting helps protect and enhance local water quality
- Consider how best to encourage more mixed land uses and integration of farming and forestry activities

Additional issues to be addressed where large scale new planting of native woodland may become the dominant land use:

- Avoidance of deep ploughing to maintain or improve water runoff characteristics / potential disturbance of peat rich soils
- Consider effects on local employment and the wider local economy from the change of land use. Identify opportunities to create / safeguard local jobs / opportunities to use local workforce and develop local skills in forestry work.

- Consider opportunities for associated assets such as buildings within the site that have potential to provide diversification and contribute to the local economy and provide employment including opportunities for new units and other rural enterprises.
- Consider potential to secure or develop other uses, such as recreational uses, that will contribute to the local economy.
- Provide evidence that the applicant has engaged with the community so that any local issues are identified.
- Maintaining integrated habitat networks protecting priority open habitats (e.g. blanket bog, upland heath) and species depending on these habitats.

Anticipated benefits include:

- Development of new high quality wildlife habitat particularly where isolated woodland habitats are re-connected to help develop an integrated habitat network.
- Protection of water bodies, especially SAC / SSSI designated, where a buffering woodland strip will protect a water course from livestock.
- Delay of surface water catchment run-off and flood alleviation through moderation of peak and low water flows, increased percolation to groundwater and reduction of sediment load and control of pollutants.
- Enhancement of the landscape
- Potential shelter and shade to livestock and crops
- Some potential as source of timber and fuel wood.
- Habitat for wildlife and priority species
- Habitat for game species
- Contribution to national carbon reduction and woodland expansion targets

Changes over time:

- Need to manage herbivore grazing / browsing pressures to enable ongoing regeneration.
- Development of associated woodland ground flora leading to increasing habitat diversity

d) Urban Fringe / Community Woodlands – where new planting is intended to provide a setting for development and access for public recreation. – MAP 8 (Appendix V)

Issues to be addressed include:

- Good design and species selection that is appropriate to site conditions
- Appropriate access provision for management and recreational uses
- Specific opportunities or requirements for the linked communities
- Provide evidence that the applicant has engaged with the community so that any local issues are identified.
- Consider potential to secure or develop other uses, such as recreational uses, that will contribute to the local economy.

Anticipated benefits include:

- Enhancement of the setting of the urban environment including emerging green networks
- Location for informal public recreation leading to a variety of health benefits
- Potential screening effects
- Habitat for wildlife
- Forms a buffer between urban and rural areas with potential reduction in urban / rural conflicts e.g. dogs and livestock
- Potential shelter and shade for livestock and crops
- Some potential as a source of timber and fuel wood.
- Delay of surface water catchment run-off and flood alleviation through moderation of peak and low water flows, increased percolation to groundwater and reduction of sediment load and control of pollutants.
- Contribution to national carbon reduction and woodland expansion targets

Changes over time:

- Increased risk of failure as individual trees reach senescent stage with implications for more management of tree risk.

e) Adaptation to Climate Change – A General Issue for all Woodland Expansion

The need for adaptation to threatened climate change and the key role that forestry has in responding to this is a major area of policy development that has occurred since the adoption of the Scottish Borders Woodland Strategy in 2005.

Scottish Government has developed its policy on climate change and its 'Forests and Forestry Sector Action Plan' is particularly relevant in relation to this Woodland Strategy. http://www.scotland.gov.uk/Topics/Environment/climatechange/scotlands-action/adaptation/AdaptationFramework/SAP/Forests

There have also been recent changes in the UK Forestry Standard and the introduction of the Woodland Carbon Code which can be considered in further detail at: http://www.forestry.gov.uk/climatechange

It is recommended that a calculation be made for all significant new planting schemes in Scottish Borders on their potential effects in terms of the Woodland Carbon Code and that this information be considered as part of the overall assessment of the scheme.

http://www.forestry.gov.uk/forestry/infd-84hl57

Part 2: REGIONAL ANALYSIS OF WOODLAND OPPORTUNITIES

TWEED LOWLANDS

Overview

Location and Key Characteristics

The lowlands form the heartland of the River Tweed Basin centred on the rich agricultural lands of the Berwickshire Merse. The land is predominantly below the 200m contour and includes the towns of Duns, Coldstream, Kelso and St Boswells. Land capability for forestry maps indicate a high proportion of land in classes F1, F2 and F3 indicating good flexibility for the growth and management of tree crops with the potential to grow a wide range of conifer and broadleaved species.

Existing Woodland Cover

Existing woodland cover is below 8% of total land area reflecting the dominance of agriculture as the principal land use and well below the Scottish Borders average of around 18%. Existing woodland cover is largely comprised of policy woodlands and designed landscapes on established estates with some riparian woodlands, farm woodlands and field boundary trees in association with hedgerows. There is very little native woodland mostly associated with steep banks beside water courses.

Priority Issues

Priority issues for woodland and forests in this area include:

- Increasing the contribution that woodland and forests make to the agricultural economy through expansion of appropriate woodland types and more active management of farm woodlands.
- Maintaining the distinctive character of this area but using new planting and woodland management to improve the setting of towns and villages.
- Reversing habitat fragmentation by developing integrated habitat networks building from existing woodland cores within the river valleys and linking existing woodlands across the area.
- Contributing to climate change adaptation, particularly in terms of sustainable flood management, urban climate regulation and slope stability.
- Contributing to Solway-Tweed river basin management plan objectives by the control of diffuse pollution.
- Contributing to tourism and recreation opportunities particularly in and around settlements and along river valleys.
- Contributing to local economic development by creating environments that support investment in the principal towns.
- Consider opportunities for growing quality hardwood timber.

Priorities for Woodland Management and Expansion

Priorities for woodland management and expansion in this area include:

Existing Cover

- Management of field boundary trees, farm woodlands, riparian woodlands, policy woodlands and woodlands around towns.
- More productive management of farm woodlands.
- Encourage the protection, enhancement and expansion of existing woodlands, particularly those that make a significant contribution to the landscape and environment around settlements.
- Explore opportunities for provision of greater formal public access within woodlands in this area.

Potential for Woodland Expansion – woodland types

IFS analysis indicates that 80,500ha or 98% of this area falls within the 'preferred' category for 'Lowland/Upland Fringe' Woodlands (SBWS Map 5) where woodland cover is a supplement to the farmed landscape. 43,500ha or 53% of the area is classed as preferred for native type woodlands based largely on the lowland river network. Only 1,350ha or 1.6% is classed as 'sensitive' for any category of woodland. In terms of opportunities for Urban Fringe / Community Woodlands (SBWS Map 8), the area has 104,000ha or 13% in the 'preferred' category. None of the area is classed as 'preferred' or 'potential' for large scale upland type afforestation (SBWS Map 6).

(Generally water quality in the whole Tweed catchment is classed as 'Moderate' to 'Good'. However, the Scottish Environmental Protection Agency have provide a stream classification status, as at 2009, that indicates the water quality of most streams in this area as only 'Moderate' reflecting the higher nutrient inputs from adjoining farmland and the generally eutrophic character of lowland water courses. There is potential for suitable riparian planting to improve water quality).

Priorities for new woodlands in this area include:

- Expansion of appropriate farm woodlands where these can contribute to farm diversification or enhancement of existing agricultural activity such as shelterbelts.
- Some potential for energy woodland on any areas of lower quality land.
- Expansion of mixed woodlands associated with areas of settlements particularly where these expand or enhance existing woodland cover in these areas.
- Creation of new native woodland to expand forest habitat networks along and between river valleys by linking existing fragmented native woodland cover.
- Native and riparian woodland creation in those areas identified as beneficial in Solway-Tweed river basin management plan and Flood Risk Management plans.

LAMMERMUIR AND MOORFOOT HILLS

Overview

Location and Key Charactersitics

The Lammermuir and Moorfoot Hills form the northern arm of the crescent of uplands which surround the Tweed basin. Geology is dominated by old resistant sedimentary rocks and the landform is relatively smooth plateaux interrupted by steep sided valleys. Plateau tops are open and characterised by peaty soils, moorland and unimproved grassland. Most of the forest cover is located on the better drained valley slopes particularly in the southern Moorfoots adjacent to the Tweed Valley. Land capability for forestry varies widely from F3 land in some valleys through to F7 on hill tops where land is unsuitable for tree crops. Much of the hill land is classed as F5 and F6 indicating severe limitations and limited flexibility for tree crops based on spruce, pine, larch and upland broadleaves. The uplands are primarily managed as grouse moor and contain internationally important blanket bog habitat in the Moorfoots.

Existing Woodland Cover

Existing woodland cover is around 12.5% of land area i.e. below the Borders average of 18%. Woodland cover consists mainly of conifer plantations on the southern hill slopes with farm woodland, shelterbelts and over mature hedgerow trees a characteristic of the farmed valleys. There is very limited native woodland cover restricted to small remnants on steeper slopes.

Priority Issues

Priority issues for woodland and forests in this area include:

- Reversing habitat fragmentation by developing integrated habitat networks building from existing woodland cores within the river valleys linking these where possible to restructuring of existing conifer plantations in the hills.
- Pressures on existing woodland cover from wind farm development and the importance of securing appropriate compensatory planting where woodland removal takes place.
- Restructuring and enhancement of existing productive forests, with associated opportunities to diversify timber production in favour of local processors as well as enhancing their biodiversity, recreational and landscape benefits leading to an increase in the proportion of broadleaves and non spruce conifers.
- High peat content of some soils needs to be conserved with implied restrictions on woodland expansion and management.

Priorities for Woodland Management and Expansion

Priorities for woodland management and expansion in this area include:

Existing Cover

- Encourage more effective and proactive management of existing native and mixed woodlands within the river valleys.

- Ensuring that any reductions in the extent of woodland resulting from development are fully compensated within Scottish Borders.
- Retention of existing areas of productive conifer plantation but restructuring to include a higher proportion of open ground and a greater diversity of tree species, including more broadleaves and more 'non spruce' conifers, to achieve a better landscape fit and provide a more diversified and sustainable supply of durable timbers for local niche markets e.g. in construction.
- Potential restoration of high value biodiversity sites within forest environments and protection of blanket bog and other peatland habitat.

Potential of expansion – woodland types

The IFS analysis indicates that around 27,000ha or 25% of this area is 'preferred' for larger scale upland / upland fringe woodland, mostly located on F4 and F5 upland fringe land along the southern margins of the Lammermuirs. However, much of this land is improved pasture for livestock production and large scale new planting is not anticipated. 38,000ha or 36% of land area is classed as sensitive for large scale planting.

In terms of new native woodland 48,000ha or 45% of land area is classed as 'preferred' with 11,000ha or 10% of land area classed as 'sensitive'. This area being mostly composed of the peatlands of the Moorfoots Hills SSSI.

The priorities for new woodlands in this area include:

- There is potential for lowland / upland fringe farm type woodlands with 53% of land area classed as 'preferred' and also some potential for urban fringe woodlands with the 5% of land area indicated as 'preferred' for this type.
- There is potential for native woodland expansion to contribute to integrated habitat networks linking existing woodlands along river valleys and tributaries to benefit priority species e.g. black grouse. Also expansion of such woodlands where they can create effective linkages to isolated areas of coniferous woodland.
- There is potential for additional coniferous forest on the margins of the plateau moorland, subject to retaining a reasonable balance of open ground and forest and avoiding significant fragmentation of existing open habitats. Such woodland should be focussed towards: Improving the landscape impact of existing forests; improving connectivity of woodland habitats; creating more effective linkages between existing productive woodlands to facilitate more effective timber transport routes.
- Where larger scale planting is proposed, the associated loss of hill farming land, particularly in bye land, timber transport pressures, community and economic impacts have been expressed as concerns in some areas. New, large scale woodland proposals that involve loss of farming activity should demonstrate that the issues identified in Part 1 have been considered. Focus should be on well balanced integrated proposals to meet economic and social as well as environmental objectives.
- Potential for mixed woodland expansion associated with agricultural activity in the upland fringe. Such woodlands should be focussed towards diversification of

existing land management activity within the farmed environment rather than significant scale conversion to woodlands. Improvements in landscape fit and biodiversity should also be a significant focus of such expansion.

- Opportunities for native and riparian woodland to contribute to natural flood management linked to the Galashiels Flood Protection Scheme and the Eddleston Water river restoration project.
- Potential for native and riparian woodland to contribute to the control of diffuse pollution especially in the Eye Water catchment and Whiteadder catchments, priority catchments in the Scotland and Solway-Tweed river basin management plans.

CENTRAL SOUTHERN UPLANDS

Overview

Location and Key Characteristics

A major area of high ground extending from the Southern Uplands fault and the deep valley of the middle Tweed south and east along the watersheds of the Clyde and Solway. This is the geological heart of the Southern Uplands with old hard rocks smoothed by glacial action but in the higher parts of Tweedsmuir including more sculpted shapes of corries, ridges and U-shaped valleys. The climate is harsh, wet and generally cool and vegetation is dominated by heather moorland, rough acid grassland and existing coniferous forest. Ribbons of better land penetrate into the hills along the valleys of Tweed, Yarrow, Ettrick and Teviot. Historically this is the area of the 'Ettrick Forest', a former royal hunting forest. At its margins, lie the settlements of Peebles, Galashiels, Selkirk and Hawick.

Land capability for forestry maps indicate a high proportion of land in classes F5 and F6 indicating severe limitations and limited flexibility for tree crops based on spruce, pine, larch and upland broadleaves. Better F4 land is restricted to the bottoms of the river valleys. There is also a substantial area classed as F7 centred on the hill summits and above the limits for productive forestry.

Existing Woodland Cover

Existing woodland cover is a little under 41,000ha which, at around 22% of land area is a little above the Borders average of 18%. Woodland cover consists mainly of conifer forest, particularly spruce forest, centred on Craik and parts of the upper river valleys. Most of this forest is less than 80 years old. There are some farm shelterbelts and hedgerow trees in the farmed valleys. There is limited native woodland cover found as small remnants on steeper slopes usually near water courses.

Priority Issues

Priority issues for woodland and forests in this area include:

- Pressures for new planting on marginal farmland with associated concerns of reduction in economic activity and population loss associated with the former land use.

- Need to capture greater contribution to Scottish Borders economy through 'added value' timber processing where possible.
- Need to ensure best practice in forest design to avoid adverse effects on landscape and consequent impacts on tourism.
- Key hub for access and recreation focussed on the Tweed Valley forests.
- Lack of diversity and maturity of existing conifer forest, of plantation origin, indicating the need for restructuring and enhancement with opportunities to enhance landscape fit, biodiversity value and recreational use.
- Strains on road network as first rotation timber harvests from existing forests are extracted.
- Pressures on existing woodland cover from wind farm development and the importance of securing appropriate compensatory planting where woodland removal takes place.
- Reversing habitat fragmentation of native woodland remnants.
- High peat content of some soils needs to be conserved with implied restrictions on woodland expansion and management.

Priorities for Woodland Management and Expansion

Priorities for woodland management and expansion in this area include:

Existing Cover

- Restructuring of existing conifer forests to increase age and species diversity and improve landscape fit including more open ground and a greater diversity of tree species, including more upland type broadleaves and more 'non spruce' conifers, where conditions allow, to achieve a better landscape fit and provide a more diversified and sustainable supply of durable timbers for local niche markets e.g. in construction.
- Encourage more effective and proactive management of existing native and mixed farm woodlands within the river valleys.
- Potential restoration of high value biodiversity sites within the forest environment.

Potential for expansion – woodland / forest types

IFS analysis indicates around 34,000ha or 19% of land area classed as 'preferred' for larger scale upland type new planting with 76,000ha or 42% classed as 'sensitive'. At 86,000ha or 48% of land area classed as 'preferred', this area has the highest potential for new native woodlands in the Borders. 29% of land area is also classed as 'preferred' for mixed lowland / upland fringe farm type woodlands with 11,000ha or 6% classed as 'preferred' for urban fringe type woodlands.

The priorities for new woodlands in this area include:

- Potential for new native woodland expansion to contribute to integrated habitat networks linking existing woodlands along river valleys and tributaries and in those areas identified as beneficial in Solway-Tweed River Basin Management

Plan and Flood Risk Management plans. There is also potential for new native woodlands as part of larger scale ecological restoration schemes in some areas.

- Potential for new coniferous forest subject to retaining a reasonable balance of open ground habitats and forest and avoiding significant fragmentation of existing open habitats. Such woodlands should be focused towards: improving the landscape fit of existing adjacent plantations; improving connectivity of woodland habitats; creating more effective linkages between existing productive woodlands to facilitate more effective timber transport routes.
- Where larger scale planting is proposed, the associated loss of hill farming land, particularly in bye land, timber transport pressures, community and economic impacts have been expressed as concerns in some areas e.g. Ettrick Valley. New, large scale woodland proposals that involve loss of farming activity should demonstrate that the issues identified in Part 1 have been considered. Focus should be on well balanced integrated proposals to meet economic and social as well as environmental objectives.

Potential for mixed woodland expansion associated with agricultural activity in valleys. Such woodlands should be focussed towards diversification of existing land management activity within the farmed environment rather than significant scale conversion to woodlands. Improvements in landscape fit and biodiversity value should also be a significant focus of such expansion.

- Opportunities for native and riparian and other woodland to contribute to natural flood management linked to the Selkirk and Hawick Flood Protection Schemes.
- Opportunities for new native woodland and other mixed woodland to enhance the green network, focussed on the Tweed valley, of the emerging Local Development Plan.

CHEVIOT HILLS

Overview

Location and Key Characteristics

The north facing slopes of a ridge of high ground that forms the national border between Kirk Yetholm and Liddesdale. The area has a distinctive geology dominated by volcanic rock with sedimentary types towards the south west. The volcanic rocks produce distinctive conical hills and spurs. Landcover is predominantly heather moorland and acid grassland with coniferous forest predominant west of Carter Bar. The cool wet upland climate becomes relatively warm and dry towards the lower northern fringes. Some of the best preserved prehistoric landscapes in Britain survive on the upper slopes of the Cheviots.

Land capability for forestry is mostly F5 and F6 indicating severe limitations on flexibility for tree crops but there is some F4 and even F3 land along the lower northern margins.

Existing Woodland Cover

Existing woodland cover at over 21,000ha or nearly 29% of land area is the highest in Scottish Borders (average of 18%). Woodland cover consists mainly of conifer forest, particularly spruce forest, centred on Wauchope and parts of the upper river valleys, most of which is less than 80 years old. There are some farm shelterbelts and hedgerow trees in the farmed valleys with policy woodlands on some river valley estates. There is limited native woodland cover found as small remnants on steeper slopes and associated with water courses but including nationally and regionally important areas e.g. Jed Water woodlands and upland oakwoods in Liddesdale.

Priority Issues

Priority issues for woodland and forests in this area include:

- Need to capture greater contribution to Scottish Borders economy through 'added value' timber processing where possible.
- Need to ensure best practice in forest design to avoid adverse effects on landscape and consequent impacts on tourism.
- Lack of diversity and maturity of existing conifer forest, of plantation origin, indicating the need for restructuring and enhancement with opportunities to enhance landscape fit, biodiversity value and recreational use.
- Reversing habitat fragmentation of native woodland remnants particularly along water courses linking, where possible, to restructuring of existing conifer forests.
- Protection of important cultural heritage sites in the Cheviot Hills.
- High peat content of some soils needs to be conserved with implied restrictions on woodland expansion and management.

Priorities for Woodland Management and Expansion

Priorities for woodland management and expansion in this area include:

Existing Cover

- Retention of existing areas of productive conifer plantation but restructuring to include a higher proportion of open ground and a greater diversity of tree species, including more broadleaves and more 'non spruce' conifers, to achieve a better landscape fit and provide a sustainable supply of durable timbers for local niche markets i.e. in construction.
- Encourage more effective and proactive management of existing native and mixed woodlands within the river valleys.

Potential for expansion – woodland / forest types

IFS analysis indicates nearly 26,000ha or 34% of land area is classed as 'preferred' for larger scale upland type forest with nearly 22,000ha or 29% of land area classed as 'sensitive'. Nearly 38,000ha comprising half of the total area is classed as 'preferred' for native type woodland planting. The area also has 31,000ha or 41% of land area classed as 'preferred' for lowland / upland fringe farm type woodland but only 2,700ha or less than 4% of land area suitable for urban type woodland.

Priorities for new woodlands in this area include:

- Potential for new native woodland expansion to contribute to integrated habitat networks linking existing woodlands along river valleys and tributaries and in those areas identified as beneficial in Solway-Tweed River Basin Management Plan and Flood Risk Management Plans.
- Some potential for new coniferous forest subject to retaining a reasonable balance of open ground habitats and forest and avoiding significant fragmentation of existing open habitats. Such woodlands should be focused towards: improving the landscape fit of existing adjacent plantations; improving connectivity of woodland habitats; creating more effective linkages between existing productive woodlands to facilitate more effective timber transport routes.
- Where larger scale planting is proposed, the associated loss of hill farming land, particularly in bye land, timber transport pressures, community and economic impacts have been expressed as concerns in some areas. New, large scale woodland proposals that involve loss of farming activity should demonstrate that the issues identified in Part 1 have been considered. Focus should be on well balanced integrated proposals to meet economic and social as well as environmental objectives.
- Potential for mixed woodland expansion associated with agricultural activity in valleys. Such woodlands should be focussed towards diversification of existing land management activity within the farmed environment rather than significant scale conversion to woodlands. Improvements in landscape fit and biodiversity value should also be a significant focus of such expansion.

MIDLAND VALLEY

Overview

Location and Key Characteristics

Centred on the area around West Linton, this area is part of the central lowland valley to the north of the Southern Uplands fault. Geologically it consists of two areas, a broad flat valley and an area of sandstones and lavas forming the higher ground at the western end of the Pentland Hills.

Existing Woodland Cover

At only 1400ha or 10%, woodland cover is well below the Borders average of 18%. Existing woodland cover largely consists of farm shelterbelts with some conifer plantations on higher ground and some very limited policy type woodland around former estates. There is very little native woodland.

In terms of land capability for forestry, the midland valley itself is mostly F5 (limited flexibility) with some F4 (moderate flexibility) land to the south of West Linton. In the Pentlands the capability is either F6 (very limited) or F7 (unsuitable).

Priority Issues

Priority issues for woodland and forests in this area include:

- Maintaining the distinctive character of this area but using new planting and woodland management to improve the setting of towns and villages.
- Reversing habitat fragmentation by developing integrated habitat networks building from existing woodland cores within the river valleys and linking existing woodlands across the area.
- Increasing the contribution that woodland and forests make to the agricultural economy through expansion of appropriate woodland types and more active management of farm woodlands.
- High peat content of some soils, including lowland raised bog, with implications for woodland expansion and management.

Priorities for Woodland Management and Expansion

Priorities for woodland management and expansion in this area include:

Existing cover

- Management of field boundary trees, farm woodlands, riparian woodlands, policy woodlands and woodlands around towns.
- More productive management of farm woodlands.
- Encourage the protection, enhancement and expansion of existing woodlands, particularly those that make a significant contribution to the landscape and environment around settlements.
- Potential restoration of high value biodiversity sites currently within the woodland environment.

Potential for Woodland Expansion – woodland types

IFS analysis indicates that 8,000ha or 56% of land area is classed as ‘preferred’ for larger scale upland type planting with 5,500ha or 39% classed as ‘sensitive’. However, much of this land is in agricultural use and large scale new planting is not anticipated. 9,600ha or 68% of land area is also classed as ‘preferred’ for lowland / upland fringe farm type planting. The area also has 6,000ha or 42% classed ‘preferred’ for native type woodland and just under 1000ha or 7% classed as ‘preferred’ for urban fringe type planting.

Priorities for new woodlands in this area include:

- Expansion of appropriate farm woodlands where these can contribute to farm diversification or enhancement of existing agricultural activity such as shelterbelts.
- Some potential for energy woodland on areas of lower quality land.
- Expansion of mixed woodlands associated with areas of settlements particularly where these expand or enhance existing woodland cover in these areas.

- Creation of new native woodland to expand habitat networks especially along water courses.
- New woodland creation of appropriate types in those areas identified as beneficial in Solway-Tweed River Basin Management Plan and Flood Risk Management plans.

COASTAL ZONE

Overview

Location and Key Characteristics

From Cockburnspath south to Lamberton Moor, the influence of proximity to the sea dominates the character of the landscape. The area coincides with the eastern extremity of hard sediments where the Lammermuir uplands meet the sea. There are also bands of softer rocks where narrow, deeply incised valleys or deans have formed. The coastline itself is formed by a series of rugged cliffs. Landcover is varied and includes patches of heather moorland on higher outcrops with rolling pastures and arable fields. The area includes the small settlements of Cockburnspath, Coldingham and Eyemouth.

Existing Woodland Cover

At only 875ha or 9%, woodland cover is well below the Borders average of 18%. Blocks and shelterbelts of coniferous woodland are visually prominent and there are nationally and regionally important remnants of native woodland in the narrow deans.

In terms of land capability for forestry, the coastal zone is very varied with F5 (limited flexibility) on the higher coastal moorlands with some F4 (moderate flexibility) land to the south towards Coldingham and even some F3 (good flexibility) around Coldingham itself and towards Eyemouth.

Priority Issues

Priority issues for woodland and forests in this area include:

- Pressures on existing woodland cover from wind farm development and the importance of securing appropriate compensatory planting where woodland removal takes place.
- Maintaining landscape and recreational importance of the coastal area.
- Areas of cultural heritage importance particularly around Coldingham.
- Restructuring and enhancement of existing productive forest with opportunities to enhance their biodiversity and recreational benefits and landscape fit.
- Potential for native woodland expansion in the deans and along water courses.

Priorities for Woodland Management and Expansion

Priorities for woodland management and expansion in this area include:

Existing cover

- Encourage more effective and proactive management of existing native and mixed woodlands.
- Ensure that any reductions in the extent of woodland cover resulting from development are fully compensated within Scottish Borders.
- Retention of existing areas of productive conifer plantation but restructuring to include a higher proportion of open ground and a greater diversity of tree species, including more broadleaves and more 'non spruce' conifers, to achieve a better landscape fit and provide a sustainable supply of durable timbers for local niche markets i.e. in construction.

Potential for woodland expansion – woodland types

IFS analysis indicates that none of this area is classed as either 'preferred' or 'potential' for larger scale upland type afforestation. A little under 9,000ha or 93% is zoned as preferred' for lowland / upland fringe farm type woodland. 5,000ha or 53% is classed as 'preferred' for native type woodland and 2,300ha or 24% is 'preferred' for urban fringe type.

The priorities for new woodlands in this area include:

- There is potential for native woodland expansion from existing core areas including coastal deans and along water courses generally to develop the habitat network.
- Potential to develop new farm woodlands for shelter and where these can contribute to farm diversification or enhancement.
- Expansion of mixed woodlands associated with areas of settlements particularly where these expand or enhance existing woodland cover.
- New woodland creation of appropriate types on those areas identified as beneficial in the Scotland River Basin Management Plan and Flood Risk Management plans.

Part 3: Extract from Borders Landscape Character Assessment (1998), Ash Consulting

REGIONAL LANDSCAPE AREAS

Six distinct landscape areas have been identified at the broadest, regional scale. (See also SBWS Appendix 1a - Map 4). The areas are:

- **Tweed Lowlands**
- **Lammermuir and Moorfoot Hills;**
- **Central Southern Uplands;**
- **Cheviot Hills;**
- **Midland Valley;**
- **Coastal Zone.**

Their chief distinguishing characteristics are outlined briefly below.

TWEED LOWLANDS

The lowlands which form the heartland of the River Tweed Basin have long been identified as a distinct regional unit centred on the rich agricultural lands of the Berwickshire Merse. For the purposes of this study, they are distinguished primarily by relief, the boundary corresponding in the main with the line of the 600' contour. This in turn reflects the dominant causative factor of their overall character, namely their solid geology, for the low ground is largely coincident with the outcrop of the carboniferous sedimentary rocks, which were originally laid down in a structural basin ringed by a horseshoe of older, more resistant rock. The more detailed landforms of today characterised typically by elongated drumlins and ridges, in turn reflect the influence this fundamental distinction has had on the process of glaciation, for the lowlands became a region dominated by deposition of a thick mantle of till.

On their margins, the arable lowlands begin to merge with the fringes of the higher ground, carrying a characteristic landcover of grassland types. These margins also include a series of outcrops of harder igneous rock, giving more diverse and rugged landform including distinct ridges and vales, and isolated, well-defined hills.

The low elevation and easterly location of this region, sheltered from the prevailing weather systems, have given a generally benign climate of relatively low rainfall and high sunshine, albeit with some exposure to the colder easterly airflows. The soils derived from the till, although relatively fine-textured, due to the low rainfall levels do not suffer unduly from the problems of excess moisture and gleying, so that overall the highest grades of land class (2 and 3) are concentrated in this zone.

The dominant land use is arable, and the area has by now a long tradition of rich agriculture founded on the wide range of cropping possibilities and complementary regime of livestock rearing and fattening.

From their earliest importance as a link in a series of routeways leading to the Midland valley via the coast, Lauderdale, and Clydesdale, the Tweed Lowlands came to be a

prized area of settlement in their own right. In turn Iron Age, Roman Medieval, and modern industrial-age settlement patterns have focused on a central node at the western edge of the lowlands where the Tweed and its chief tributaries debouch from the uplands. Further east, the agricultural heartland has gradually evolved a more dispersed pattern of scattered large farmsteads and villages centred on prosperous farming units, which have supported in the past the great medieval abbeys and the grand country mansions in the 18th and 19th centuries.

LAMMERMUIR AND MOORFOOT HILLS

The Lammermuir and Moorfoot Hills form the northern arm of the outer crescent of uplands which surround the Tweed Basin. Bounded to the north by the Southern Uplands fault, which separates them from the younger sediments of the Midland Valley, the geology is one of old resistant sedimentary rocks, dominated by greywackes and sandstones of Ordovician and Silurian age. This has been the chief determinant of their elevated relief and characteristic landform of relatively smooth plateaux interrupted by deeply dissected, steep-sided valleys.

The plateau tops are wild open country, characterised by peaty soils, moorland, and unimproved grassland. On the better drained slopes of the valley sides, permanent pastures predominate, with scattered major forestry plantations, particularly in the southern Moorfoots adjacent to the Tweed valley.

While there is widespread and abundant evidence of pre-Roman settlement on the plateau margins, probably reflecting in part a somewhat drier and warmer climate, today the pattern is more restricted, and is mainly confined to scattered farm building groups within the sheltered valleys.

CENTRAL SOUTHERN UPLANDS

From it northern boundary, defined by the line of the Southern Uplands fault, and separated form the Moorfoots by the deep valley of the middle Tweed, a major belt of high ground extends south along the main watershed with the Clyde and Solway, finally merging with the western extremity of the Cheviot ridge. This is the heart of the major geological region termed the Southern Uplands, and consists of the same old, hard Silurian and Ordovician sedimentary rocks, which underline the adjoining Moorfoots and Lammermuirs. Although they share with these areas the characteristic smooth slopes and, subdued, rolling landforms over most of their extent, the highest ground of the Tweedsmuir massif is differentiated by more sculpted shapes of corries; ridges and U-shaped valleys deriving from Pleistocene times, when it was an important centre of ice-gathering and dispersal.

The climate is harsh, wet and generally cool, and becomes cold on the highest summits, which constitute the most southerly area of late snow-lie in Scotland. The hills are dominated by heather moor and rough acid grassland, and there are extensive coniferous plantations, particularly in the upper Tweed valley and on the gentler plateaux further south of Craik and upper Teviotdale. Ribbons of improved grassland penetrate into the hills following the major valleys of the Tweed, Yarrow, Ettrick and Teviot.

There is a rich heritage of evidence of ancient settlement on the fringes of the upland valleys, together with Roman Military features, medieval bastle houses and tower houses, and more recent drove road routes outlined by impressive double drystone dykes.

CHEVIOT HILLS

The Cheviot Hills, which constitute a south-westerly trending ridge of high ground, with elevations up to 2000', extending along the English border between Kirk Yetholm and Liddesdale, are differentiated from the remainder of the upland areas in the Borders by a distinctive geology. This is dominated in part by volcanic rocks of Devonian age, which give way south and eastwards to a series of sedimentary rock types, including Carboniferous limestones and sandstones.

While the character of landform of the southern margins tends to merge imperceptibly with that of the adjoining plateaux, the volcanic rocks produce a distinctive landscape of conical or dome-shaped summits, which throw out well-defined spurs separated by steep sided river valleys and glacial meltwater channels. The characteristic landcover of this core area is a complex mosaic of heather moor and acid grassland, while to the west of Carter Bar the more gentle landforms are dominated by a cover of coniferous forest, the majority of which has been planted since the 1940s. The higher rides have a cool, wet climate, which becomes fairly warm and rather dry further northwards on the fringes of the Tweed lowlands.

Some of the best prehistoric landscapes in Britain survive on the upper slopes of the Cheviots, with traces of burial mounds, timber houses, and cultivation ridges. The valleys also reveal evidence of the region's strategic importance as a gateway from England dating from pre-Roman Times, and there are also remains of medieval agricultural systems and fortified houses.

Today, the rural population is more dispersed, mainly in scattered valley farmsteads, but with several large settlements. These include the twin villages of Kirk Yetholm, with their distinctive blend of Scottish and English-style vernacular architecture.

MIDLAND VALLEY

In the extreme north-west of the Region, centred on the area around West Linton, a fragment of the central lowland valley is isolated to the north of the Southern Uplands Fault. Geologically it consists of two separate features; a down-folded basin which is followed by the broad flat valley of the River North Esk, and the Devonian sandstones and lavas which from the higher ground at the western end of the Pentland Hills. The hill slopes of this part of the Pentlands are gentle, forming an undulating plateau more akin to the neighbouring Moorfoots than the more shapely summits which occur further north closer to Edinburgh. The characteristic landcover of the hills is moorland with blanket bog on the highest ground, and there are also scattered coniferous plantations. On the low ground, arable and permanent pasture predominate, with areas of rushy pasture and isolated pockets of basin mire vegetation.

Neolithic burial mounds and other prehistoric remains testify to the importance of this part of the Midland Valley, particularly as part of a route between the Lothians and Clydesdale via the Biggar Gap. The present day rural population distribution is dominated by the thriving small town of West Linton which has experienced rapid growth in recent decades.

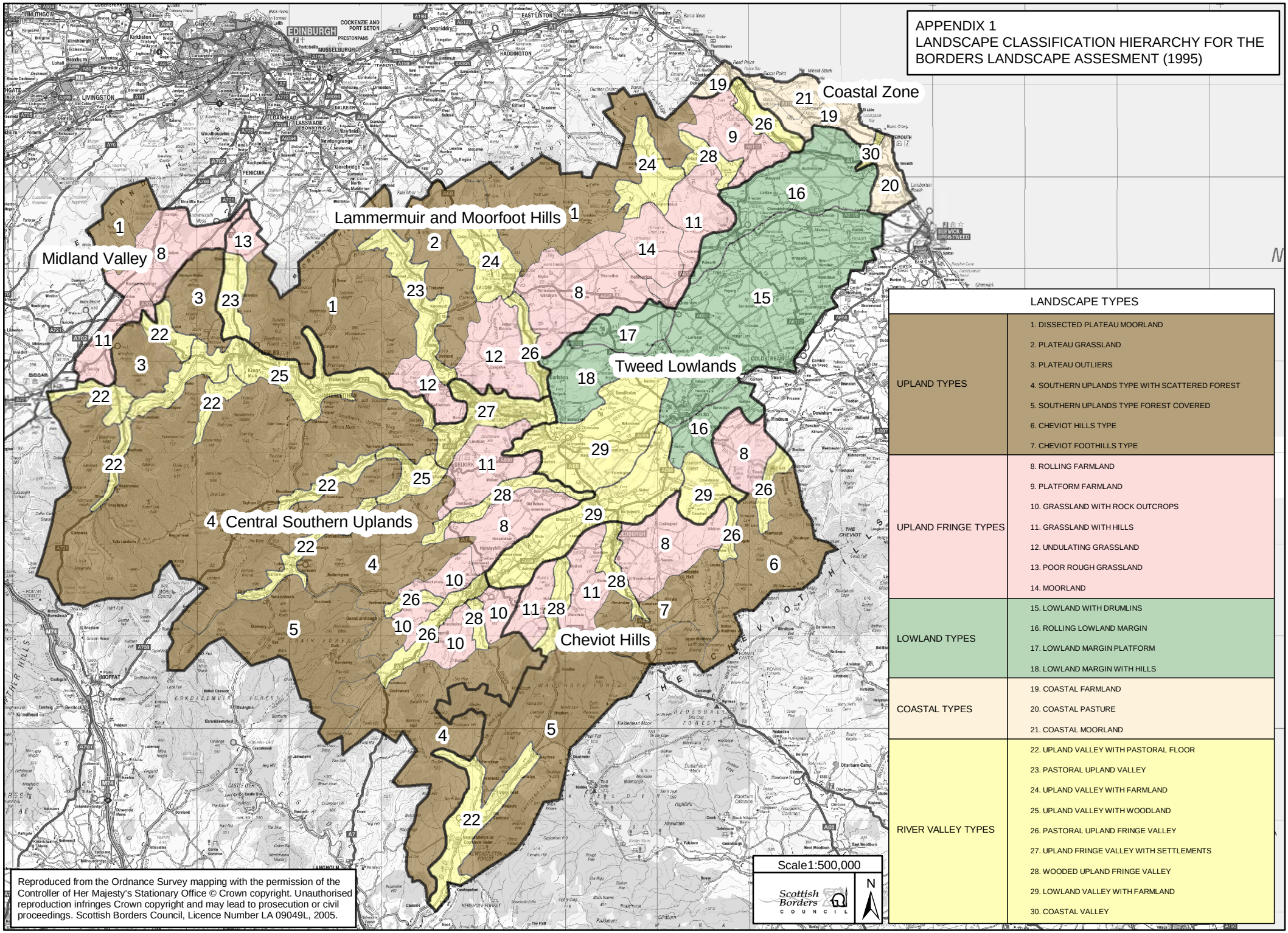
COASTAL ZONE

From Cockburnspath south to the Lamberton Moor, the influence of proximity to the sea dominates the character of the landscape to give a distinctive costal zone. The area coincides in the main with the eastern extremity of the main outcrop of Silurian and Ordovician sediments, where the continuation of the Lammermuir uplands meets the North Sea. These uplands are interrupted by bands of softer carboniferous and Old Red Sandstone rocks, on which have developed lower-lying belts of rolling country, dissected by narrow, deeply-incised valleys known locally as deans. The coastline itself is for the most part formed by a series of rugged cliffs carved into the strongly-folded sediments.

Landcover varies for heather moorland on the highest ground, to rolling pastures and arable fields enclosed by dry-stone dykes and wind-clipped hedgerows. Blocks and shelterbelts of coniferous woodland are prominent, as are area of gorse scrub which grow on rocky knolls and in the steeply-incised gullies and ravines. The ravines also harbour dense strips of broadleaved woodland. Everywhere the influence of exposure to the cold onshore winds is evident, from the location of the woodland, to the shape of the trees and hedgerows, and the siting of the building groups and settlements.

Since prehistoric times, the region's importance in commanding the coastal route between the lowlands of the Merse and the Lothians has been reflected in a series of fortified settlements. In the middle ages, Coldingham Priory became a centre of rich agricultural production, much of which was exported from Eyemouth, at that time also the principal port of the entire Berwickshire Merse. Other important modern population centres include the fishing and tourist villages of St Abbs and Burnmouth, while further inland, Ayton and Coldingham also serve the scatter of large farms which nestle in the sheltered folds of this essentially open landscape.

APPENDIX 1
LANDSCAPE CLASSIFICATION HIERARCHY FOR THE BORDERS LANDSCAPE ASSESMENT (1995)



LANDSCAPE TYPES	
UPLAND TYPES	1. DISSECTED PLATEAU MOORLAND
	2. PLATEAU GRASSLAND
	3. PLATEAU OUTLIERS
	4. SOUTHERN UPLANDS TYPE WITH SCATTERED FOREST
	5. SOUTHERN UPLANDS TYPE FOREST COVERED
	6. CHEVIOT HILLS TYPE
	7. CHEVIOT FOOTHILLS TYPE
UPLAND FRINGE TYPES	8. ROLLING FARMLAND
	9. PLATFORM FARMLAND
	10. GRASSLAND WITH ROCK OUTCROPS
	11. GRASSLAND WITH HILLS
	12. UNDULATING GRASSLAND
	13. POOR ROUGH GRASSLAND
	14. MOORLAND
LOWLAND TYPES	15. LOWLAND WITH DRUMLINS
	16. ROLLING LOWLAND MARGIN
	17. LOWLAND MARGIN PLATFORM
	18. LOWLAND MARGIN WITH HILLS
COASTAL TYPES	19. COASTAL FARMLAND
	20. COASTAL PASTURE
	21. COASTAL MOORLAND
RIVER VALLEY TYPES	22. UPLAND VALLEY WITH PASTORAL FLOOR
	23. PASTORAL UPLAND VALLEY
	24. UPLAND VALLEY WITH FARMLAND
	25. UPLAND VALLEY WITH WOODLAND
	26. PASTORAL UPLAND FRINGE VALLEY
	27. UPLAND FRINGE VALLEY WITH SETTLEMENTS
	28. WOODED UPLAND FRINGE VALLEY
	29. LOWLAND VALLEY WITH FARMLAND
	30. COASTAL VALLEY

REFERENCES:

"Borders Landscape Assessment" (1998), Ash Consulting

"Land Capability for Forestry: Sheet 7: South-East Scotland", The Macaulay Land Use Research Institute for the Forestry Commission

"Scottish Borders Woodland Strategy" (2005), Scottish Borders Council

"Overall Classification Status 2009" (map), Scottish Environmental Protection Agency (2011)

"Tweed Wetland Strategy" (2010), Tweed Forum