No 100

Orkney landscape character assessment

Land Use Consultants

1998

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PREFACE

This report forms part of the National Programme of Landscape Character Assessment, which is being carried out by Scottish Natural Heritage in partnership with local authorities and other agencies.

The National Programme aims to improve our knowledge and understanding of the contribution that landscape makes to the natural heritage of Scotland.

This study was commissioned by Scottish Natural Heritage (SNH). It provides a detailed assessment of the landscape character of Orkney; considers the likely pressures and opportunities for change in the landscape; assesses the sensitivity of the landscape to change; and includes guidelines indicating how landscape character may be conserved, enhanced or restructured as appropriate.

The report will be of interest to all those concerned with land management and landscape change. More specifically, it is intended to provide the landscape context for SNH staff responding to planning and land use related casework. SNH also hopes that the information it contains will be of use to Orkney Islands Council (OIC) in the production of its development plan.

The views contained within this report represent those of the consultants and do not necessarily reflect the policies and views of the sponsors.

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PART ONE: INTRODUCTION

1. SCOPE OF THE REPORT

INTRODUCTION

1.1. The landscape character assessment of Orkney was carried out in two phases: the first in 1994 and the second in 1996. The first phase studied Hoy and West Mainland; the second examined East Mainland and the outer islands which include Westray, Papa Westray, Eday, North Ronaldsay, Sanday, Stronsay, Rousay, Egilsay, Shapinsay, Burray, South Ronaldsay and Flotta. Phase 1 and Phase 2 of the assessment have now been combined into this one report. The studies were commissioned by Scottish Natural Heritage (SNH) as part of its National Programme of Landscape Character Assessment. The assessment was carried out as a partnership project between SNH and Orkney Islands Council.

THE BRIEF

1.2. The objectives for the study were as follows:

- the production of a detailed landscape character assessment;
- the provision of information about landscape character for use in developing guidance by planning authorities, SNH staff and others, for development planning, development control, landscape design and countryside management;
- an assessment of the likely pressures and opportunities for change in the landscape and an assessment of the landscape's sensitivity to change;
- production of guidelines indicating how landscape character may be conserved, enhanced or restored as appropriate.

FORMAT OF THE REPORT

1.3. This report has been produced in four parts which comprise the following:

Part One: introduces the report, describes its format and the methodology used in carrying out the assessment.

Part Two: provides background information on the formation and shaping of the landscape and its characteristic features.

Part Three: examines the nature of recent changes in the landscape, and assesses future trends and potential threats to landscape character. From this assessment, it develops general guidelines for planning and management that are broadly applicable to the whole of Orkney.

Part Four: describes and assesses the landscape character of Orkney. It classifies the landscape by character type, and provides island character area descriptions for inhabited islands. This classification identifies both general and area specific sensitivities or requirements for planning and management.


N
1
10
KILOMETRES
PAPA WESTRAY
NORTH RONALDSAY
PIEROWALL
WESTRAY
SANDAY
KETTLETOFT
ROUSAY
EDAY
EYNHALLOW
EGILSAY
WYRE
WHITEHALL VILLAGE
STRONSAY
SHAPINSAY
BALFOUR
FINSTOWN
KIRKWALL
STROMNESS
MAINLAND
GRAEMSAY
ATLANTIC OCEAN
ST MARY'S
BURRAY
HOY
FLOTTA
ST MARGARET'S HOPE
LYNESS
LONGHOPE
SOUTH RONALDSAY
Context
Town
Village
Nucleated Hamlet
A road
B road
Minor road

Figure 1

2. THE STUDY AREA

2.1. The Orkney Islands archipelago is separated from the Scottish mainland by the Pentland Firth. There are approximately 70 Orkney Islands, 15 of which constitute the main inhabited land areas. (See Figure 1, page 3). The islands occupy an area of approximately 1,000 square kilometres but are dispersed over an area that measures 85 kilometres from south to north, and 37 kilometres east to west.

2.2. The islands have predominantly low and gentle relief, the smooth contours of which are emphasised by the general lack of trees and woodland cover. This landscape, though windswept, supports large areas of productive pastures and some arable farming. The highest areas (generally below 270m except on Hoy) are characterised by their heather moorland cover which contrasts with the pastoral greens of the lower ground. The most dramatic topography is found around Orkney's coastline where spectacular cliffs of up to 300m exist on the western seaboard. In contrast, many of the lowest areas appear drowned by shallow lochs and bays, sealing the union between land and sea.

2.3. The climate and topography of the islands have proved amenable to settlement and productive agriculture since prehistoric times. The legacy of past generations is evident in the rich archaeology of the Orkney landscape. Some of these artefacts have remained upstanding and even prominent, while much rich material remains buried.

2.4. Unlike many other Scottish islands, the scenic variety of Orkney is not immediately apparent. However, this initial perception changes as the subtleties and secrets of the landscape are discovered. This necessitates that the landscape assessment must be sensitively tuned to the patterns of the landscape and be based on a sound understanding of its evolution. This sensitivity is fundamental to the methodology of assessment employed for this study area, as described below.

3. METHODOLOGY OF ASSESSMENT

INTRODUCTION

3.1. The basic principles behind landscape assessment are set out in two key documents which represent the SNH and Countryside Commission thinking on the subject. These are: *Landscape assessment, principles and practice* (Land Use Consultants, 1991) and *Landscape assessment guidance* (Countryside Commission, 1993). These provide the basic methodology which must be tailored to suit the needs of individual sites and of different clients.

ORKNEY LANDSCAPE ASSESSMENT

3.2. To meet the particular needs of the Orkney study, the landscape assessment must:

(i) provide a landscape classification and description based on understanding and assessing the physical, ecological and cultural influences and their interaction in creating the character of the Orkney landscape. This is done through identifying generic landscape types, and geographically specific landscape character areas;

(ii) consider issues relating to change in the landscape;

(iii) provide guidance of value to the SNH and Orkney Islands Council, including:

- general management strategies for the major elements of change in the landscape. This should provide the planning/management background for proposed further landscape studies of other islands in the Orkney archipelago;
- detailed planning and management guidelines specific to each named landscape character area or island character area.

LANDSCAPE CLASSIFICATION AND DESCRIPTION

3.3. A fundamental part of landscape assessment is establishing the appropriate scale of study and a hierarchical framework which can provide the context for future assessment work in the same or in adjacent areas. This study identifies the following:

(i) **the regional character area:** the large scale geographically defined area which generates a distinct identity recognisable at national and regional levels;

(ii) **landscape character types:** tracts of countryside which have a unity of character due to particular combinations of landform and landcover, and a consistent and distinct pattern of constituent elements. Landscape character types are identifiable on a number of criteria including form, scale, patterns of use and features of ecological importance. They are generic and are capable of being found anywhere within the regional character area. However, they do not adequately reflect the cultural aspects of the landscape or identify locally distinct features or characteristics. This is done at the more detailed level of assessment of Landscape Character Areas and particularly for Island Character Areas within this study. The landscape types classification, therefore, provides only a general framework for more detailed analysis as described below;

(iii) **landscape character areas:** the geographically specific location within landscape types. Assessment at this scale allows local variations and specific features to be identified. It also provides the basis for more site specific management/planning guidance;

(iv) **island character areas:** in this study, the individual islands have developed distinct identities and characters; for this reason, they are defined and described as landscape units, each comprising several landscape types and areas.

3.4. In order to arrive at this classification three main tasks were carried out. The first was the collation of a range of background information including Ordnance Survey, geological, soil and landcover maps; aerial photographs; and information from relevant agencies such as SNH, Historic Scotland, Scottish Office Agriculture and Fisheries Department (SOAFD), the Forestry Authority, and Orkney Enterprise. The local planning authority was consulted on a broad range of planning issues including development pressures, landscape change, structure plan and potential local plan policies. These and other appropriate groups were consulted about the nature of change in the area. Other reference sources included relevant published and unpublished material relating to Orkney's landscape, archive material, local studies collections, and the result of a public consultation exercise which Orkney Islands Council Department of Planning and Museums undertook. The Orkney Room in Kirkwall Library provided an extensive amount of information on local history and detailed historical changes in land use. The considerable archaeological and nature conservation resources of Orkney were reviewed at a very broad level with assistance from SNH staff and the Orkney Heritage Society. This process sought to acquire an understanding of how these resources contributed to the character of today's landscape.

3.5. The second main task was the preparation of base maps and overlays which defined the basis for field survey. The map overlay process was aimed at helping to understand the relationship between landform and landcover patterns, which is a key determinant of landscape type. The maps and overlays were prepared prior to the field surveys, and this involved:

(i) Preparing base map information including simple overlays of geology, topography and landcover using existing mapped information at 1:50,000 scale;

(ii) Combining map overlays, the use of aerial photographs and of 1:25,000 maps to produce a first draft of landscape types and areas. This provided the basis for the field survey stage.

3.6. The third task in the landscape classification process was the field survey itself. This was organised to ensure that a comprehensive record of the Orkney landscape was taken within the time and budgetary resources. It involved field surveys by a combination of car, ferry and cycle, in order to obtain access to and views of the majority of the county's land area. This enabled sufficiently detailed field assessment upon which the landscape descriptions and classifications are based. The field survey stage comprised the following:

(i) Preliminary site visits to parts of Mainland as a familiarisation process and to obtain an introduction from Orkney Islands Council and SNH staff to typical management and planning issues. This process helped to plan the more detailed field surveys.

(ii) Detailed field survey involving observation, annotations and notes while travelling through the area, plus the selection of a series of survey points to give good coverage of the range of variation within the landscape. In total, 78 formal viewpoints were selected. These were generally from good vantage points which allowed clear views over the surrounding countryside. At each of these survey points the following procedure was followed:

- the survey point was marked on OS 1:50,000 maps, with the direction in which the survey was taken;
- a description of the landscape was written, under the headings of landform/topography, land use/cover, colours, features, scale, and sensitivities, with comments on perception of the landscape using a series of adjectives;
- a series of photographs was taken;
- quick illustrative sketches of the landscape were made, to record particular characteristics.

In addition to this, field notes were taken and maps annotated while travelling through the field. This record was particularly useful in illustrating visual relationships between different landscape character areas, and the location of visual horizons.

3.7. The descriptions of the landscape were the most important part of the survey procedure. The survey identified the extent and characteristic features of landscape types and areas to help to identify landscape management issues, in particular where obvious declines, changes and threats were present. The condition or health, likely longevity and the nature of management practices were logged during the field surveys as an essential stage in identifying the sensitivities of the different landscape character areas.

3.8. Dr. Raymond Lamb, Orkney Heritage Society and County Archaeologist, accompanied several of the field survey trips. He interpreted key aspects of Orkney's ancient and historic development.

3.9. On completion of the field survey, the data were collated and analysed. The map overlays, associated field maps and field assessment sheets were reviewed to identify landscape types and areas. The boundaries of these were then drawn, based on field notes, map annotations and map information. Each landscape character type and area was described, mapped and given a name, reflecting the key characteristics of the landscape.

ANALYSIS OF CHANGE

3.10. Identifying past, present and potential future changes in the landscape and their contribution to landscape character is central to a consideration of planning and management requirements. In order to analyse past and present change, comparison of historic and recent maps, aerial photographs, and photographs from the Orkney Island Council's photographic archive were used, with additional information from published reports, research reports held by SNH, and from discussions with those familiar with the area, and from observations during field survey work.

3.11. Judgements about future prospects for change were based on discussions with Orkney Islands Council and with other agencies and groups, as well as on our own observations and judgements. The aim was to identify changes which were likely to adversely or beneficially affect the particular character or qualities of the area as a whole and of different landscape character areas, and to indicate the way in which these changes might be influenced through planning policies and/or management mechanisms. The main issues of relevance were development pressure, agricultural change, abandonment and landscape dereliction, tourism and visitor pressure, and protection of the archaeological and natural heritage.

STRATEGIES AND GUIDANCE

3.12. For each landscape type, an assessment of general management requirements was made. This was supplemented by more specific guidance for landscape character areas and island character areas. The strategic guidance makes recommendations for the appropriate emphasis for the planning and management of the landscape in the following terms:

(i) conservation of existing character and of particular features which contribute to this character;

(ii) enhancement by restoration of character where the changes identified meant that the character was being lost;

(iii) enhancement by creation of new landscapes where character and quality had either declined so far, or other circumstances were such, that there was scope for major change.

3.13. The strategic guidance described above is supported by practical guidelines for landscape character areas, and relates to a range of pertinent issues including:

(i) aspects of agricultural management;

(ii) development control issues, including housing, farm diversification, tourism and recreation, and energy development;

(iii) treatment of infrastructure proposals;

(iv) the monitoring and management of archaeological and natural heritage.

3.14. The development of strategies and guidelines for planning and management drew on the findings of the perceptions study undertaken by Orkney Islands Council (1994), and on the stated views of officers within SNH, Orkney Islands Council, Royal Society for the Protection of Birds (RSPB), Historic Scotland, Orkney Heritage Society, Scottish Office Agriculture And Fisheries Department (SOAFD), and Orkney Enterprise.

PART TWO: BACKGROUND

4. THE EVOLUTION OF THE ORKNEY LANDSCAPE

INTRODUCTION

4.1. The character of all landscapes reflects their evolution. The physical processes that create and shape the landforms provide the foundation for colonisation by plants, animals and humans, which in turn modify their environment in tune with the prevailing climatic and social conditions. These changes leave legacies that often affect countless future generations and which can become inherent characteristics of the landscape. This chapter summarises the evolution of the Orkney landscape by examining the two main influences: physical and cultural.

PHYSICAL INFLUENCES

Solid geology

4.2. (See Figure 2, page 15). The foundation rocks of Orkney are a mixture of granite, gneiss and schists, which formed part of the Caledonian mountain chain 400 million years ago. These rocks originally enclosed the Lake Orkney basin which became the focus for the deposition of debris eroded from the higher surrounding regions. This sediment formed the Old Red Sandstone of north and east Scotland, which largely obscured the basement rocks of the Orkney basin. There are, however, small areas where the basement complex outcrops in the form of inliers within larger areas of sandstone deposits. The largest such site within the Orkney Islands is to the north and west of Stromness; smaller outcrops are at Yesnaby and on Graemsay. These represent remnants of a north-westerly orientated range of hills, the influence of which is still reflected in the local topography. The dominant basement rock type is a pink foliated granite which has been extensively quarried in the Stromness area for use as building material both in and around the town.

4.3. At the time of Old Red Sandstone deposition, around 380 million years ago, Britain lay in equatorial latitudes where the climate was dry and hot. This resulted in the formation of deserts along the fringes of Lake Orkney. Climatic changes caused the depth and extent of the lake to alter. Muds and sands were deposited in the lake and, over millions of years, fish were fossilised in the lake bed. Subsequent tectonic activity caused these sediments to become folded and faulted creating ranges of hills. This activity also initiated lava flows from volcanic vents into sills and dykes. The hills created were subject to millions of years of erosion and partial submergence by the sea. The islands of Orkney represent the higher remnants of these hills, left exposed after the submergence of lower landscapes by the rises in sea level.

4.4. With the exception of the small outcrops of the basement complex the Orkney Islands, therefore, consist almost entirely of gently inclined sedimentary rocks of middle and upper Old Red Sandstone age. The middle Old Red Sandstone falls into two major groups. The lower group comprising Stromness flags and Rousay flags is the dominant type through much of the area, on Mainland, Rousay, Stronsay, Shapinsay, Westray and Sanday. These rocks comprise sequences of thinly bedded grey and black siltstones and mudstones with alternating thin beds of sandstones. These flags vary in colour from pale to dark browns and greys. The upper group (Eday beds) comprises the lower, middle and upper Eday sandstone, and is generally confined to the North Isles and parts of East Mainland, although it is also present along the North Scapa and Brims Risa faults.

4.5. Beds ascribed to the upper Old Red Sandstone are confined to the Island of Hoy where they form up to 1000 metres of red, pink, and yellow sandstone with subordinate bands of marl. They are underlain by a variable thickness of basalt lava and tuff which rest on an irregular bed of middle Old Red Sandstone.

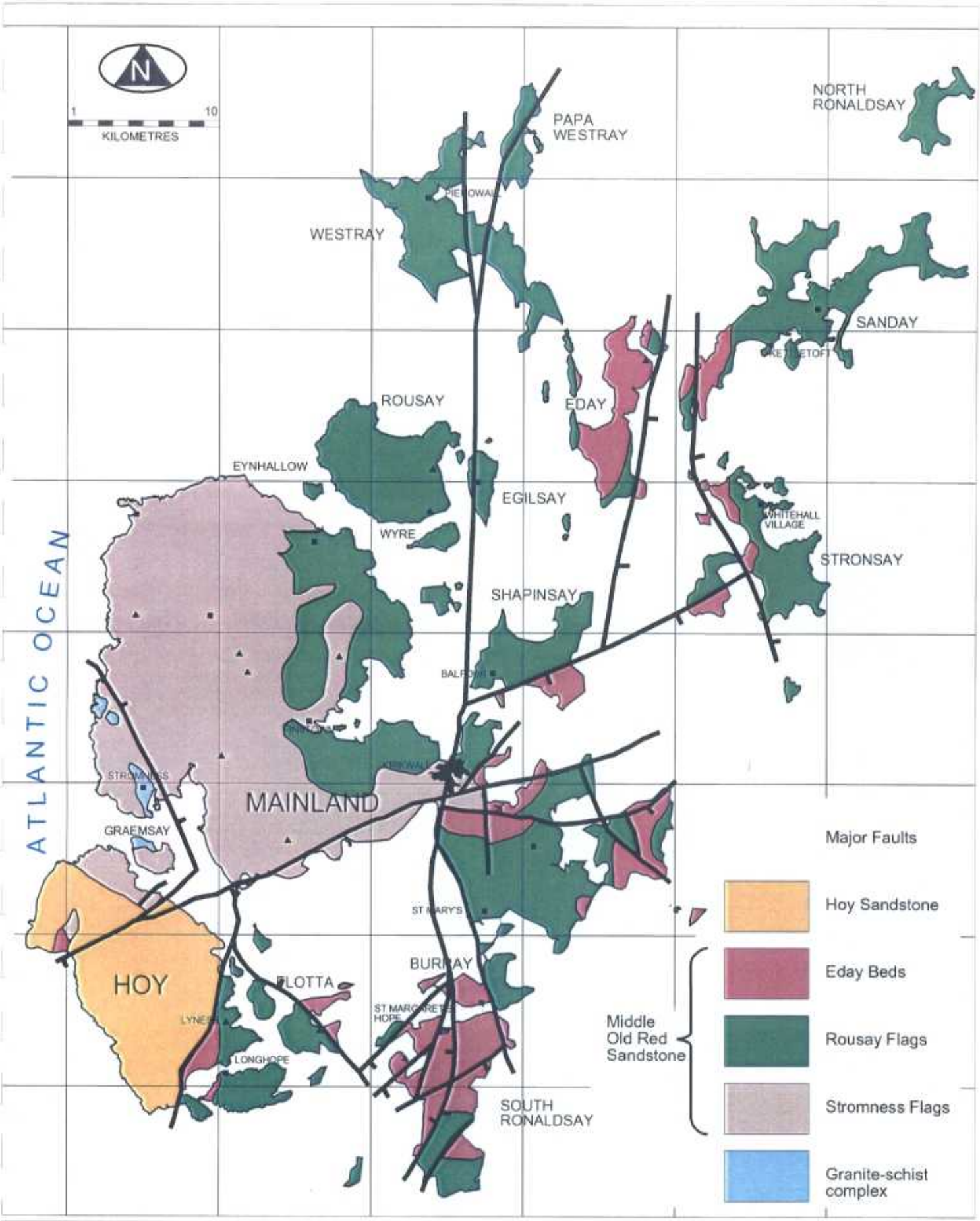
4.6. The Old Red Sandstones of Orkney are generally folded in open sinuous lines which contribute to the rounded gentle topography. Tight folds with steep inclined strata are of limited extent. The principal folds have a north/north-westerly trend which is reflected in the alignment of the main loch basins and hill ridges.

4.7. The nature of folds and faults of the Old Red Sandstone is best appreciated around the coast, where cliffs and rock platforms expose the details of jointing patterns, inclines and faultline movements. More importantly, these features influence the rate and form of coastal erosion and thereby determine to a great extent the coastal geomorphology.

4.8. Faulting has been influential in the structural pattern of Orkney and in the disposition of various rock groups. The largest and most important of these are the North Scapa fault, the East Scapa fault, and the Brims Risa fault. Once again, the principal orientation of faultlines is north to north-west; faults adjacent to one another generally exhibit the same direction of downthrow, which is predominantly eastwards. From the differential in bed thickness, it appears that faults were active during and possibly before the deposition of the middle Old Red Sandstone Eday beds.

4.9. A number of small volcanic vents have been recorded, principally on Hoy, South Ronaldsay, and East Mainland. Some of these are closely connected with dykes, suggesting a generic association. Some of the vents contain breccia composed entirely of sedimentary rock and these resemble the breccia vents of east Shetland. These are generally difficult to discern in the landscape due to the mantle of till that covers the bedrock.

4.10. The rocks of Orkney, in particular the regularly bedded flagstones, have provided a source of first class building masonry which has been utilised since prehistoric times. Its natural splitting qualities (into slabs and blocks) has enabled and encouraged the construction of remarkable buildings by primitive inhabitants of the islands, many of which remain today. This versatile indigenous resource has been used to the present day for walls, roofing slabs, floor flags and stone fences. Its use in such a comprehensive manner helps to create a strong relationship between human activity and the inherent physical structure of the islands.



Solid Geology

Figure 2

Drift geology

4.11. The solid geology of the Orkney Islands was modified by glacial action during various Quaternary ice ages, the last of which reached its maximum extent around 18,000 years ago. Several studies indicate that ice streamed eastwards from eastern Sutherland and was then deflected north-westwards over Caithness and Orkney by contact with the Scandinavian ice sheet. After the retreat of these ice sheets local glaciers lingered for some time in the valleys and corries of Hoy and parts of Mainland, evidence of which can be seen in the form of moraines and other landforms. Over much of the Orkney archipelago the main effects of ice movement were to smooth out the pre-existing topography and to deposit vast quantities of glacial till boulder clay. Before glaciation, in areas where the rock is in flagstone form, the hillsides were probably terraced by small rocky escarpments with scree at their base. In most areas the passage of ice has filled the terraces with boulder clay and removed projecting rocks, leaving behind only indistinct ledges. However, a number of distinct topographic features have also been created by glaciation. Hoy displays many classic landforms of glacial erosion and deposition. North Hoy, the only part of Orkney to have supported local glaciers, has well developed corries on the east and west slopes of Ward Hill and on the north west slope of Cuilags. The two glens on either side of Ward Hill, which converge to form the wide valley at Rackwick, have been considerably modified by valley glaciers. On the south of Rousay, and in the higher parts of Westray, ice scouring emphasised terracing in contrast to the smoothing effects elsewhere.

4.12. Glacial boulder clays and moraines associated with the most recent stage of Quaternary glaciation almost exclusively account for the drift geology of Mainland. The boulder clay of Orkney, which is largely confined to the low ground, is exposed in many coastal sections where it ranges in thickness from 3 to 10 metres. It generally consists of red or purple sandy clay with abundant polished and striated boulders. In eastern and many northern exposures the matrix is composed of material largely derived from the marls and sandstones of the Eday beds, and it also contains shell fragments incorporated from marine deposits which the ice crossed offshore. Traced westward across West Mainland and Westray, the red is gradually replaced by browns, yellow, and greys as the proportion of comminuted rock derived from the Rousay and Stromness flags increases. The distribution of boulders in the till shows that the principal ice movement was in a north westerly direction. Most boulders and smaller stones in the till consist of local material. Erratic boulders carried by the ice into the study area are relatively rare. Most igneous and metamorphic erratics can be matched with rocks outcropping in Sutherland, although some are of Scandinavian origin.

4.13. Glacial deposition and fluvio-glacial activity created many landform features in Orkney. The corries and glaciated valleys of Hoy contain morainic mounds. Hummocky moraines also occur on Hoy on the hillside south east of Rackwick and in the valley of the Forse Burn. Morainic mounds are found in the valley leading west from Finstown (Mainland) and in the northern part of Mainland, near Harray and Evie. These may be the deposits left by lobes of ice which, during a stage in the de-glaciation, re-advanced westward and south westward from the iced filled bays and straits up the valleys of West Mainland. Fluvio-glacial

deposits have been recorded in western Hoy, where spreads of sand and gravel occupy the floor of the valleys north of Rackwick.

4.14. Significant deposits of peat, laid down in post glacial times are also found across Orkney, the largest areas being those covering the eastern hills of the West Mainland and the greater part of central Hoy, with large deposits also in Rousay and Eday. Most peat is of the blanket type which ranges from less than 50 cm to 1m in thickness. Basin bogs are of relatively small extent.

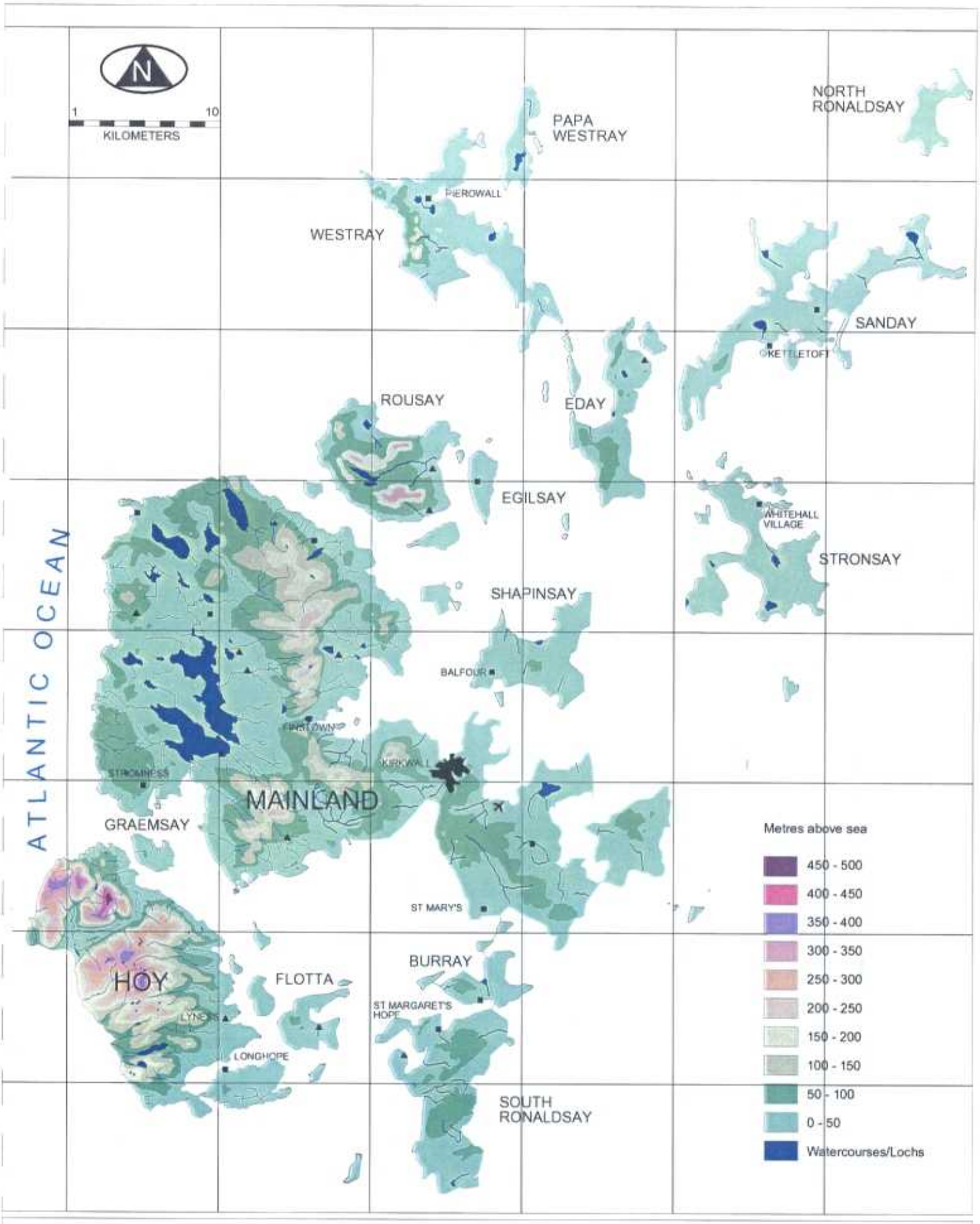
4.15. Recent drift deposits consist of windblown sand and alluvium. The development of bays through sea level fluctuations, coastal erosion and subsequent deposition has caused the build up of sands blown inland by the prevailing westerly winds. These sands are found around many of the more open shallow bays, for example, the bays of Birsay and Skaill (Mainland), Rackwick and Moaness (Hoy), Bow in Burray, and considerable areas of Sanday, Westray and North Ronaldsay. The sand consists principally of fine shell fragments and tends to have a high pH. High level storm beaches occur in some exposed western shores, for example, in Westray and Rousay.

Hydrology

4.16. (See Figure 3, page 19). Water is an important feature of the landscapes of Orkney and it has influenced, and continues to influence, the physical form of the land. Following the last Ice Age temperatures rose, melting ice caps and raising the sea level. The land around Orkney was flooded, creating a group of islands. As the sea level rose deeper valleys were also submerged, leaving only the old hill tops and high ground standing clear of the sea as numerous islands. The sea level stabilised about 6,000 years ago, but Orkney continues to submerge very slowly. Evidence for the gradual submergence of Orkney into the sea in post glacial times is afforded by the absence of raised beaches, the presence in many bays of peat beds below the high water mark, and the existence at sea level of lochs with fresh water deposits. The submersion of Orkney has been such that river systems were severely truncated, with only small streams now remaining.

4.17. The rise of sea level since the last glaciation is responsible for the "drowned" topography of Orkney. The submergence of the land, coupled with frequent strong winds and the erosive force of the sea in the area, has been responsible for rapid marine erosion along the exposed coasts, particularly along the west coasts of Hoy and Mainland, which has produced the impressive cliffs with their geos, gloups, natural arches, and stacks. The most famous stack is the Old Man of Hoy. The submergence of the landscape has also created the distinctive coastal valleys or 'voes'.

4.18. The rising sea during the postglacial period has also reworked sediments in the offshore zone and these have been moved onshore to create the sands that now form the popular beaches such as Waulkmilll and Skaill. Baymouth bars, known locally as ayres, have been created by longshore drift, forming small enclosed lochs, known as ouses, at the coast,.



Topography and Hydrology

Figure 3

4.19. There is very little in the way of fluvial erosion in Orkney at the present day. The loch basins act as receptacles for most of the runoff in West Mainland. The tidal nature of the main lochs of Harray and Stenness provides an outlet for excess water during periods of heavy rain. Elsewhere on the islands small burns and ditches carry runoff to the sea down coastal inclines, into small bays or through coastal basins. In Hoy the discharge of water is more dramatic, particularly where streams terminate as waterfalls down the high cliffs of the north and west coasts of the island. Generally, however, the small streams on Orkney do not make a significant landscape impact, and the inland lochs and coastline are the most notable water features.

Topography

4.20. Orkney's topography is generally low lying with smooth relief. The highest areas reach over 200m, but the majority of the archipelago is below 100m, with significant areas below 30m (see Figure 3, page 19).

4.21. The relief of West Mainland is generally in the form of a basin tilted up at the north and east. Hill land, generally below 200m, forms a gently sloping rim with the flat land associated with the lochs of Harray and Stenness and the smaller lochs of Boardhouse, Hundland and Swannay forming the basin floor. The hill land of the West Mainland is generally smoothly undulating, with locally steep relief associated with the larger hills, e.g. Wideford Hill, Costa Hill, and the ridges around Settiscarth and Stenness. East Mainland and South Ronaldsay reach heights of over 80, but lack strong relief. The highest areas are smoothly domed hills, for example Warthill on East Mainland and Ward Hill on South Ronaldsay. East Mainland also has an extensive plateau ridge which constitutes the main high ground. Tankerness and Deerness are both comparatively low, with smooth and undulating topography.

4.22. Hoy has higher and more dramatic topography than the rest of Orkney, with heights in the north of the island frequently over 300 or 400m. Ward Hill, which at 479m is the highest point in the Orkney archipelago, is located on Hoy. Central and southern Hoy are slightly lower and more undulating than the north, although much land remains over 200m. Along the west coast this height is expressed in Hoy's awe-inspiring cliffs which reach over 300m high in the north of the island, reducing gradually towards the south. Although lower in height, the slopes of Rousay rising steeply from the sea create a similarly dramatic effect. This effect is enhanced by clearly visible terracing on the slopes which creates a distinctive profile from distant vantage points. The extent of Rousay's hill land makes it somewhat distinct from the other North Isles and more closely related to the moorlands of West Mainland in terms of topography. Eday and Westray contain large areas of land above 50m. Although this land is much lower than on Hoy, Rousay, or the hills of Mainland, they appear high relative to the surrounding land and sea.

4.23. In contrast to the above the islands of Sanday, North Ronaldsay and Stronsay are very low (below 50m) with no significant hill forms. In these landscapes sand dune systems and man-made earthworks, for example farm mounds and Treb dykes (pre Norse land divisions which remain as low broad ridges), are the most significant topographic features.

Soils

4.24. The variation in soil types in Orkney is very much dependant upon the parent material: Old Red Sandstone, boulder clay, peat, blown sand, fluvio-glacial deposits, or a basement inlier of metamorphic or igneous rock, depending upon the location. The main influence that soil has on the landscape is in the vegetation, landcover and land uses which subsequently result.

4.25. The vast majority of lowland West Mainland is covered by soils whose parent materials are greyish brown drifts derived from the Middle Old Red Sandstone series flagstones and sandstones. The soils are dominated by poorly drained non calcareous gleys (accounting for 40% of the Orkney and North East Caithness area) and peat (covering 20% of the area). 15% of the area is covered by brown forest soils and a further 12% is peaty gleys. The gleys are generally surface water gleys in which the downward movement of water is hindered. The brown forest soils develop on the more strongly sloping land and are often characterised by hardened horizons. The brown forest soils and non-calcareous gleys are capable of supporting arable crops and permanent grass, and peaty gleys can support some grasslands. In some coastal areas, particularly the western seaboard of Mainland, Rousay and Westray, the drift geology has obviously been affected by the sea to create saline gleys and gley rankers, capable of supporting only a limited range of coastal grasses and sea plantain.

4.26. On the lower slopes of the hills in Mainland, and the higher ground of the western Mainland coast, Rousay and Eday, there is an abundance of peaty component soils which are barely capable of supporting any vegetation other than an Atlantic heather moor. The higher hilly areas of central Mainland and Hoy have a blanket peat covering which is not conducive to improved vegetation.

4.27. Most of northern and western Hoy is covered with a soil derived from drifts from the upper Old Red Sandstone age. These soils are mostly peaty podzols and gleys which can support heather moor and blanket bog. On the highest peaks, and extending down to about 275m, are alpine and subalpine soils which support a vegetation of alpine lichen heath, mountain grassland and upland blanket bog.

4.28. Various other soil types are present in the study area but are not as widely distributed as those mentioned above. They mostly reflect local variations in the underlying drift geology which are illustrated in the examples below. At the coast around Billia Croo and to the west of Stromness the basement complex surfaces and the soils (peaty gleys and podzols), are derived from a parent group of Old Red Sandstone age mixed with some granites and schist. On the west side of Swanbister bay, there is a small area of alluvial soils upon which a range of natural grasses can survive, along with swamp rush pastures and sedge mires. Shelly sands occur in some bays and coastal areas, most extensively in Sanday and in some parts of Westray, North Ronaldsay, Mainland and South Ronaldsay. The shell sand has produced calcareous soils and gleys capable of supporting dune or machair plant communities. Several different soil types occur at Rackwick including peaty podzols derived from fluvio-glacial sands and gravels from upper Old Red Sandstones. There is also a small deposit of soil derived from basaltic rock drift, which is capable of supporting herb rich Atlantic heather moor.

Climate

4.29. Climatic factors have influenced the shape of Orkney's landscape through time, from the weathering of surrounding sandstone massifs which have formed the predominant geology of the islands, to the severe climatic deterioration which brought northern Britain under the erosive and depositional influences of ice sheets and glaciers. Climatic influences have helped shape the cultural history of the islands, by determining the capacity for agriculture, the form of buildings and the patterns of settlement. Climate continues to have considerable influence on the landscape of Orkney today.

4.30. The climate of the Orkney Islands is governed by three factors: the intimate relationship with the sea; the open landscape; and the high latitude. Orkney's location and island status ensure that water is a very important aspect of the landscape. This geographical position also accounts for the gales which frequently batter the islands. Most Atlantic depressions cross Britain on a south west to north east path, taking them just west and north of Orkney. These depressions bring strong winds which are unimpeded as they cross the sea, building up very high velocities and carrying salt spray. The impact, the sounds and the taste of the winds are, therefore, essential parts of the Orkney landscape, influencing land use capabilities and building styles. Orkney's few trees reflect the impact of the wind in their sheared and contorted forms. The low lying nature of much of the landscape, particularly in the northern islands, emphasises the windswept character of the islands.

4.31. The winds often pick up heat and moisture from the warm ocean water associated with the northern part of the Gulf Stream. This gives rise to the frequent cloud cover and fine persistent rain, but the annual rainfall remains relatively low. This has been attributed to the generally low relief of the islands and the effect of lying in the rain shadow of north west Sutherland. The maritime influence of the Gulf Stream brings mild conditions to the islands, keeping winter temperatures above the norm for Orkney's latitude, and holding summer temperatures down to a cool average of 15° C. The growing season in Orkney lasts for between 5 or 6 months, and although it remains marginal for corn crops, the risk of early or late frosts is relatively low. The high winds have a drying effect on the land preventing widespread waterlogging.

4.32. Salt, carried from the sea into the air or flung from the breaking waves as spray, exerts quite an important influence in the landscape. The smell and taste of salt in the air emphasises the very strong relationship with the sea. Along the coastal cliff tops salt resistant plants create a carpet of colour when in flower, and the browner appearance of Orkney's pasture in winter is influenced by salt burn. It is also believed that the presence of sea salt in the air contributes to the lack of disease and general health of plants and animals. This, it is believed, is partly responsible for Orkney's reputation for high quality livestock and farm produce.

4.33. Orkney's latitude determines a seasonal cycle of contrasts, particularly in the duration and qualities of daylight. The long days of summer and short days of winter influence the behaviour of plants and animals. The summers support intense activity to compensate for the winters. The quality of light and dynamics of cloud patterns above Orkney's horizons also become essential factors in how the landscape is experienced.

CULTURAL INFLUENCES

Neolithic 4,000BC - 2,200BC

4.34. Orkney is extraordinary for the quantity and quality of its archaeology, and this extends to the number of monuments of all periods that are open to the public. It is also unusual because it is possible to view monuments in something akin to the landscape in which they were created, for Orkney always has been relatively treeless. The distribution of sites varies greatly across the islands and reflects the differences in geography and cultural history.

4.35. The interaction between physical and cultural forces is clearly demonstrated in Orkney, where human settlement and continuous occupation can be dated back to 3,700BC. Physical factors such as soils and climate influenced human activity, as did the availability of plants and animals, and the early Orcadians began the process of adapting to and modifying the environment in their building, farming, domestic and ritual practices. The following paragraphs outline briefly the influence of human cultures in the Orkney landscapes.

4.36. At present, the earliest evidence of human presence in the Orkney Islands dates to the early Neolithic, around the middle of the 4th millennium BC. People are thought to have moved from mainland Scotland, bringing livestock and grain. The abundant easily worked stone was used in the construction of dwellings and monuments by Neolithic and later inhabitants. These remain to this day as some of Europe's most outstanding archaeological sites. The houses at the Knap of Howar on Papa Westray represent the oldest upstanding houses in Europe, dating to 3,600BC or earlier. The stone furniture within the late Neolithic site at Skara Brae is particularly well preserved, presenting a vivid impression of how people lived in their houses. Most recently, excavations at Barnhouse near the Stones of Stenness have revealed the plough-damaged remains of a large, late Neolithic village.

4.37. Two distinct types of pottery from settlements and other monuments have been identified; they are termed Unstan Ware and Grooved Ware. It has been suggested that this pottery signifies two different groups of people inhabiting Orkney, although recently the two types have been found together at Poole, Sanday, with Unstan Ware pre-dating Grooved Ware. Environmental evidence demonstrates the climate in Neolithic Orkney to have been slightly warmer than today, and that subsistence included exploitation of the seas as well as farming.

4.38. Chambered tombs, which played a part in Neolithic burial rites, are numerous in Orkney. These large mounds are prominent features of the landscape, and many of the tombs can be visited. The finest example of Neolithic building skills can be seen in the tomb of Maes Howe. This tomb is situated close to two henges, the Stones of Stenness and the Ring of Brodgar which, surrounded by other funerary and ceremonial monuments, provide a focus of interest in the rich archaeological heritage.

Bronze Age 2,200BC - 700BC

4.39. The Brodgar/Stenness area continued to be a focus of ritual in the Bronze Age, and many of the Bronze Age burial mounds are situated around the henges. The Bronze Age is characterised by a change from group or multiple burials in tombs to single burials. Many of the burials are cremations, placed in small stone coffins or cists, which were then covered by an earthen mound or cairn. Hundreds of these burial mounds are still evident across Orkney, although many have been destroyed by recent ploughing. Recent excavations have shown that extensive flat cemeteries can survive around burial mounds.

4.40. The change from the use of stone to bronze for tools and weapons is not as apparent in Orkney as in other parts of Britain, as very few bronze objects have been recovered. Evidence for Bronze Age settlement is more elusive than that from the Neolithic and it would appear that people were living in smaller farmsteads. Evidence, from the northern isles in particular, of field boundaries and land division demonstrates maximum use was being made of the land, and it is due to this intense use that many areas are poor land today. Tree cover was reduced further still during the Bronze Age, and it is thought that it was during the latter part of these times that blanket peat started to form.

4.41. Piles of burnt stones called burnt mounds are almost as frequent as burial mounds in Orkney. These mounds are thought to have resulted from cooking or heating of water for saunas. Upon excavation, some of these have been dated to the later Bronze Age.

Iron Age 700BC - AD400

4.42. Substantial stone built roundhouses dating from the earlier part of the first millennium BC have been excavated on Mainland and at Pierowall, Westray. It is thought these were the precursors to the brochs which are huge stone towers peculiar to Scotland and found mostly in western and northern Scotland. Generally, these towers were circular, dry stone structures of 11m to 15m diameter with walls 4m to 5m thick. The thickness of the walls allowed the towers to be built to considerable heights. The tallest surviving broch is in Mousa in Shetland standing 13m tall, although it was originally taller.

4.43. Brochs are sometimes surrounded by fortified villages, such as those at Gurness and Midhowe, Rousay. This indicates a change in society from the more dispersed settlement of the Bronze Age. The defensive nature of the brochs could indicate a preoccupation with control of land, perhaps triggered by less land being usable through climatic deterioration and the growth of peat.

4.44. Although the Orkney Islands were known to the Romans, Roman occupation did not advance this far north. Shards of Roman pottery have been found at broch sites and indicate a movement of goods through trade or contact.

Pictish Period C. AD300 - 900

4.45. Debate surrounds the dating for the commencement of a 'Pictish period' and the origins of the Picts. The Picts are, however, accepted to be the descendants of indigenous Iron Age tribes given a new name. Orkney was within the Pictish cultural orbit by the beginning of the 7th century and was administratively absorbed into the Pictish Kingdom by the early 8th century, which at that time had its power centre in Tayside, and was the strongest political force in northern Britain.

4.46. Pictish houses have been found on multi-period sites such as Skaill in Deerness, the Broch of Gurness and a wheel house on the Calf of Eday. Eight symbol stones have been recovered from Orkney. Little is known of pagan religion or ritual, or burials, which appear to be within long and short cists. The single most influential development in Orkney in Pictish times was the introduction of Christianity. The remains of chapels symbolically situated on broch mounds are a visible reminder of this period.

Norse Rule

4.47. As an aristocracy ruling an indigenous population, the beginnings of Norse rule are hard to see archaeologically. The *'Orkneyinga Saga'*, compiled in the early 13th century (see Taylor[ed],1938), concerns events of the previous century. It paints a vivid picture of some of the most powerful men in the Norse world - the Orkney earls. Upstanding remains of churches, monasteries and even a castle can be visited at St. Magnus Cathedral, Kirkwall, Orphir, Egilsay, Birsay, Tuquoy in Westray, Eynhallow and Wyre. High status settlements of the Norse period are being destroyed by coastal erosion at Tuquoy in Westray and Pool, Sanday. Distinctive features of medieval origin are the farm mounds of Sanday and North Ronaldsay. These are artificial hills built up by successive generations as the site for large farmsteads. Many of these are occupied by active farms and constitute significant features in the otherwise flat landscapes.

4.48. The origins of almost all existing place names are derived from Norwegian terms describing or connoting the status, size and location of the settlement. The easily recognised elements "Bu", "Bay", "Skaill", are well known to mark the farmsteads of especially high status. They are invariably sited in prime positions. Large estates typically generated outset settlements - "umbesetts" surrounding them, which were inhabited by a dependant population.

4.49. It is during this period, and probably not before the13th century, that the modern parish system was put into place, after the Christian hiatus of the Viking period.

Land Tenure and Historical Developments in Agriculture

4.50. In parts of Orkney, the remains of medieval field systems and land tenure can be seen in the form of turf head dykes. The form of the historic landscape in Orkney is complicated. It is thought that in pre-enclosure times the tunship would have been a small unit comprising houses each with some private land, one or more blocks of communally held land in runrig, a share of outfield grazing, and shore resources.

4.51. The traditional system of land tenure in Orkney, "Udal law", differs in some respects from that in the rest of Scotland, and has a Norse origin. Udal inheritance rejected primogeniture and shared out property among all the sons. This led to excessive fragmentation of holdings in some districts.

4.52. This fragmentation of agricultural holdings over the years was further encouraged by 18th and 19th century mercantile landlords, who were pleased to exploit a large pool of low paid dependant labour in their development of the kelping and fishing industries. The ownership of adjacent land in Orkney commonly extends down to the low tide mark, allowing landlords greater control of the total available resources. The kelping industry left many backshores marked by groups of circular burning pits, and the practice of tangle gathering, nowadays for the chemical industry, continues to mark such areas with elaborately improvised drystone and driftwood structures.

Scottish Feudal Rule

4.53. Orkney was ruled from Norway until 1468 when it was made part of the dowry of Margaret, daughter of Christian I of Norway for her marriage to James III of Scotland. Both Orkney and Shetland were annexed to the Crown of Scotland in that year.

4.54. In 1560 the Reformation reached Scotland with the result that landed property was redistributed, stripping the assets of the old landowners. The Crown estates in Orkney and Shetland were gifted to Lord Robert Stewart by his half-sister Mary, Queen of Scots. He later became Sheriff Principal of the islands, using his powers to raise rents and taxes and control trade through licensing. He was succeeded by his son Patrick in 1593 who carried his powers further, enforcing labour for quarrying to supply his private building projects including the Earl's Palace in Kirkwall.

4.55. In the mid to late 17th century, a Cromwellian garrison was stationed in Kirkwall, occupying the town. By 1750, the title Earldom of Orkney had lost all connection with the islands since from 1696 neither the holder of the title nor his descendants had had any association with the islands. Around the middle of the 18th century, some small industry had been introduced - linen and yarn manufacturing and kelp-burning. Through the latter, large estate owners made much money from seaweed prepared into solid kelp which was shipped southwards for glass and soap manufacture. The landowners coerced their tenants into kelp manufacture by leasing cultivated land at very high rents, forcing tenants to seek additional employment. The main alternatives to working the land were provided by the Hudson Bay Company, whaling and fishing fleets. The former had a supply and recruiting station in Stromness from which young men were recruited to work on trading posts in Canada.

19th and 20th Century Agricultural Changes

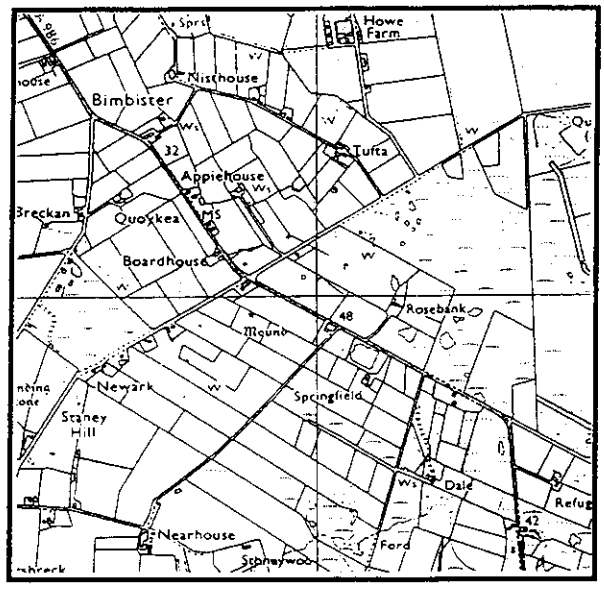
4.56. At the beginning of the 19th century, subsistence agriculture prevailed: oats and bere were grown on better land but the land itself was divided under the runrig system of unfenced strips. The kelp industry was profitable while the superior Mediterranean product was unavailable due to the French wars and, for as long as it could be harvested from the Orkney shores by crofters or tenant farmers, the landowners (who reaped the profits) had little incentive to modernise the agricultural sector. The kelp trade collapsed with the defeat of Napoleon and with the establishment, in 1823 in Glasgow, of the Leblanc process for cheap synthetic soda-making. This left the lairds little option but to make more money from their land by increasing efficiency and productivity.

4.57. Farming from the 12th to early 18th centuries was largely on strips of land or 'rigs'. This system was removed in the 18th century but the field patterns remained and it was not until the mid 19th century that large scale consolidation took place. (Figure 4, page 31, illustrates a range of field patterns that can be found today on Mainland). The modern landscape of rectilinear fields mainly derives from this period of rearrangement, brought about by the influence on estate owners of new ideas from mainland Britain. It was also at this time that many of the old house groupings were broken up and new settlement patterns created in relation to the consolidated farm units. Many Orkney houses date from this period.

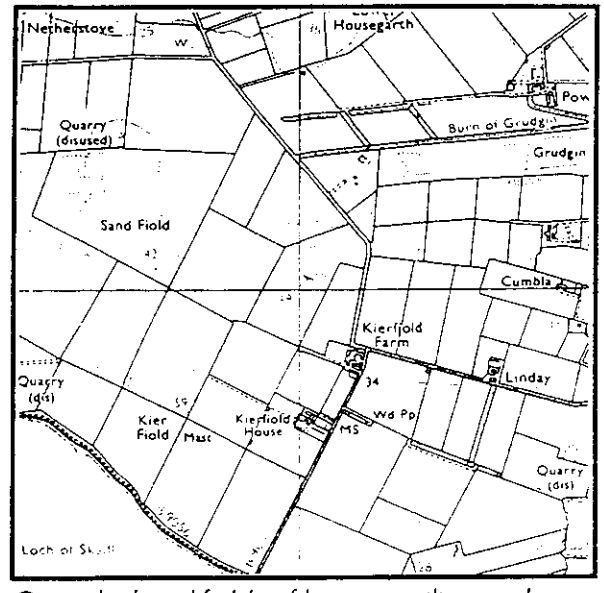
4.58. The invention of steamships and their subsequent use for commercial haulage was the key technological innovation which made possible the change from mixed subsistence farming to specialised store cattle production. The introduction of steamships opened up the markets of mainland Britain and facilitated the importation of materials such as coal and machinery. This encouraged and enabled investment in agriculture and, consequently, the agricultural landscapes of Orkney were modernised and altered on a large scale by both existing and new landlords. Several used wealth generated in England and Scotland and the colonies to finance ambitious land improvement and house building schemes. One of the most successful of these landlords was Major Balfour, who bought Shapinsay in 1782 and proceeded to make vast improvements through enclosure, cultivation of new lands, and rotational cultivation. More generally, when the kelp industry collapsed in the 1830s, land owners sought new means of making profit from their land, and pursued agricultural improvement with vigour. Far-sighted land owners provided their tenants with longer leases giving them the incentive of greater security to undertake long term improvements. Widespread enclosure took place, new ploughs were introduced, and new types of seed and livestock were tried. By the late 19th century, the arable acreage in Orkney had increased but it was livestock that became the basis of the new found prosperity in agriculture.

4.59. In the late 19th century, the Crofter Act was passed which gave crofters security of tenure, made this tenure heritable, and kept rents to a fair level. In Orkney this set the scene for the break up of estates after the 1914-1918 war when so many Orcadians had amassed savings through local war - related employment. The end of the war was followed by a depression in agricultural prices. Many crofts were, therefore, sold and the process of widespread owner occupation amongst Orkney farmers began. Since then, further amalgamation of farms has taken place and fields have been enlarged. Between the 1st and 2nd World Wars, the number of livestock on Orkney increased dramatically with sheep numbers more than doubling and cattle increasing by nearly one third. Further improvement of livestock has created the high quality breeds which now characterise Orkney farming, leading to Orkney's reputation as producer of fine quality beef, sheep and eggs. The efficiency of the new farming was enhanced by better communications, for example, road building which began after the Orkney Road Act of 1857.

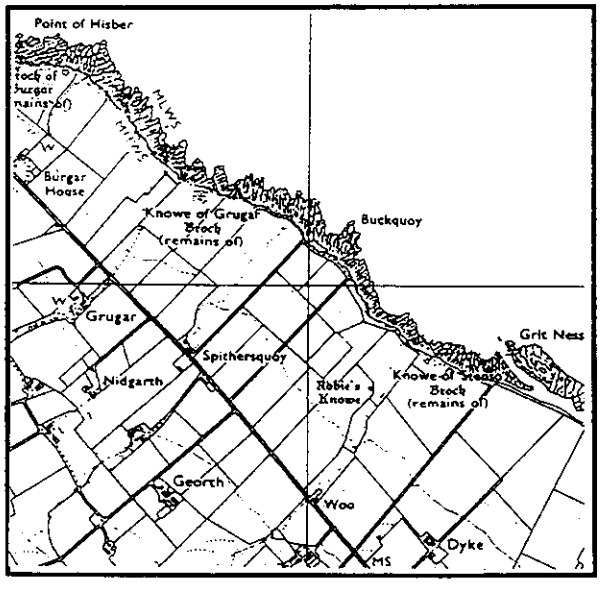
4.60. The two World Wars had a significant impact on the culture of Orkney and its landscape. The dramatic increase in population during wartime as troops were stationed in the islands, allowed the mixing of people from different backgrounds, and enriched the cultural history of the islands. The structures built to accommodate the troops and to serve the military purpose have left a poignant physical legacy in the form of their ghostly contemporary ruins. Ploughing of hill land in the Second World War removed many skyline Bronze Age burial mounds, replacing the heather with grass.



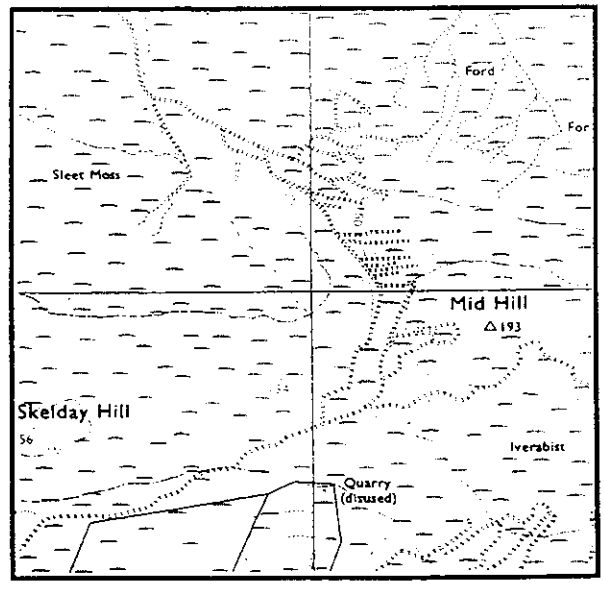
Relics of Udal strips, Harray.



Consolodated fields of large rectilinear shape.



Orientation of fields to the coast.



Peat cuttings on moorland.

Field Patterns

Figure 4

5. KEY FEATURES IN THE ORKNEY LANDSCAPE

INTRODUCTION

5.1. The Orkney landscape is generally of an open rolling nature in which character changes are subtle. This openness does, however, allow features of the landscape to be easily visible and, often, to exert extensive visual impacts. The relative lack of diversity in types and numbers of features is partly compensated, therefore, by the enhanced role they play. This chapter seeks to identify and describe a short list of features which are particularly distinctive and essential contributors to the character of Orkney as a whole and its constituent landscape types. Figure 5, page 35, shows the land cover of the Orkney Islands.

FEATURES OF THE AGRICULTURAL LANDSCAPE

5.2. Agriculture is the most pervasive way in which humans have managed and influenced the landscape of Orkney. Approximately 60% of the total land area is farmland. This comprises improved grassland (c.60%), rough grassland (c.35%), and arable crops (c.5%). The remainder of the land area is mostly moorland, but also includes development areas, coastal areas and lowland nature reserves.

5.3. The agricultural economy is based on rearing livestock and dairy cattle, principally for the production of Orkney beef and dairy products. There are currently c.30,000 beef cattle in Orkney compared with 50,000 within Highland Region. A significant number of sheep are also reared for the production of lamb and wool.

5.4. Crops in Orkney include seed potatoes, barley and oats. Recently, new crops have been introduced, such as kale and oil seed rape which adds blocks of vivid yellow to the summer scene.

5.5. The most distinctive feature of the agricultural landscape is its improved pasture. The continuity of fields and the tapestry of greens with yellows and ochres is a dominant image. Low sunlight often exaggerates the colours and textures of these fields. Spring grass growth in particular can appear as a vivid green blanket. The continuity of improved pastures, although characteristic, is occasionally monotonous, especially where the fields are large, have fences rather than dykes as boundaries, and lack other elements of diversity.

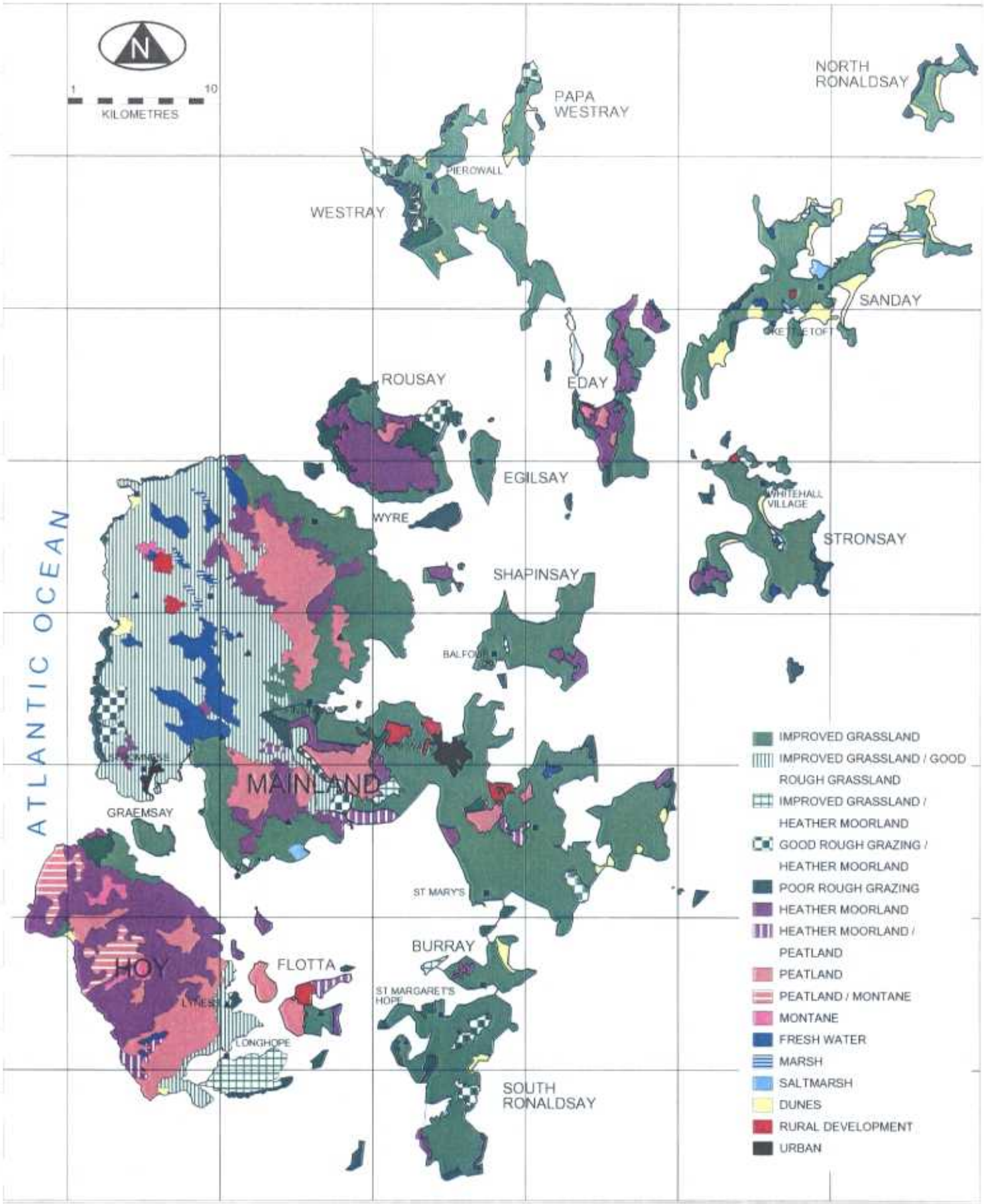
5.6. Drystone dyke field boundaries are not extensive (see Figure 6, page 37) but, where present, they make a considerable contribution to this landscape of soft green plains. They add clear definition to fields by their contrasting lines of strong shadows or the reflected colours of the stone. They also emphasise the changes in relief and add a dynamic element to the landscape Around large farms and houses, such as Melsetter (Hoy), Trumland (Rousay) and Balfour Castle (Shapinsay), there is often a distinct pattern of large fields enclosed by well maintained dykes. These tend to be well constructed from fine slabs and often include an attractive cope. Estate landscapes which have clearly been planned exhibit strong grid iron patterns which are emphasised by walls. Shapinsay is a very good example of this. Outwith estate land, or that associated with large farms, stone dykes tend to be less geometric in layout and rougher in construction. A distinctive variation to the rubble built dykes is the stone flag fence. These fences, which use the local flagstones where practical, are scarce. Nevertheless, they are locally significant features which exemplify the versatility of the local stone. In some areas where enclosures are fenced, stone fence posts are used. This occurs, for example, on Tankerness in East Mainland and creates some variety in the otherwise general monotony of fenced pasture.

5.7. The amalgamation of farm units has led to the creation of larger fields and the use of fences as field boundaries. The unobtrusive nature of post and wire fences diminishes the visual effect of field boundaries and exaggerates the extent of green pastures. This contrasts with fields that are more clearly defined by walled enclosures, although uncut field edges occasionally provide a visual framework and add diversity. In parts of the North Isles and Burray, narrow strips have been left uncultivated between fields, creating a feature similar to uncut field margins.

5.8. Traditional images of Orkney, portrayed rows of small 'bee-hive' shaped hay stacks and fields covered with 'stooks' of barley. These have been rare sights for much of Orkney since the introduction of mechanical baling. North Ronaldsay retains these images through the continuation of more traditional, less intensive farming methods. Here, stooks are commonly used and (old) traditional binders are still in use (as they are in other parts of the North Isles). Hen huts, hay stacks and small cultivated plots for vegetables are also characteristic of North Ronaldsay. A more ubiquitous contemporary sight throughout Orkney is the use of black plastic-covered silage rolls, stacked or waiting to be collected in the fields.

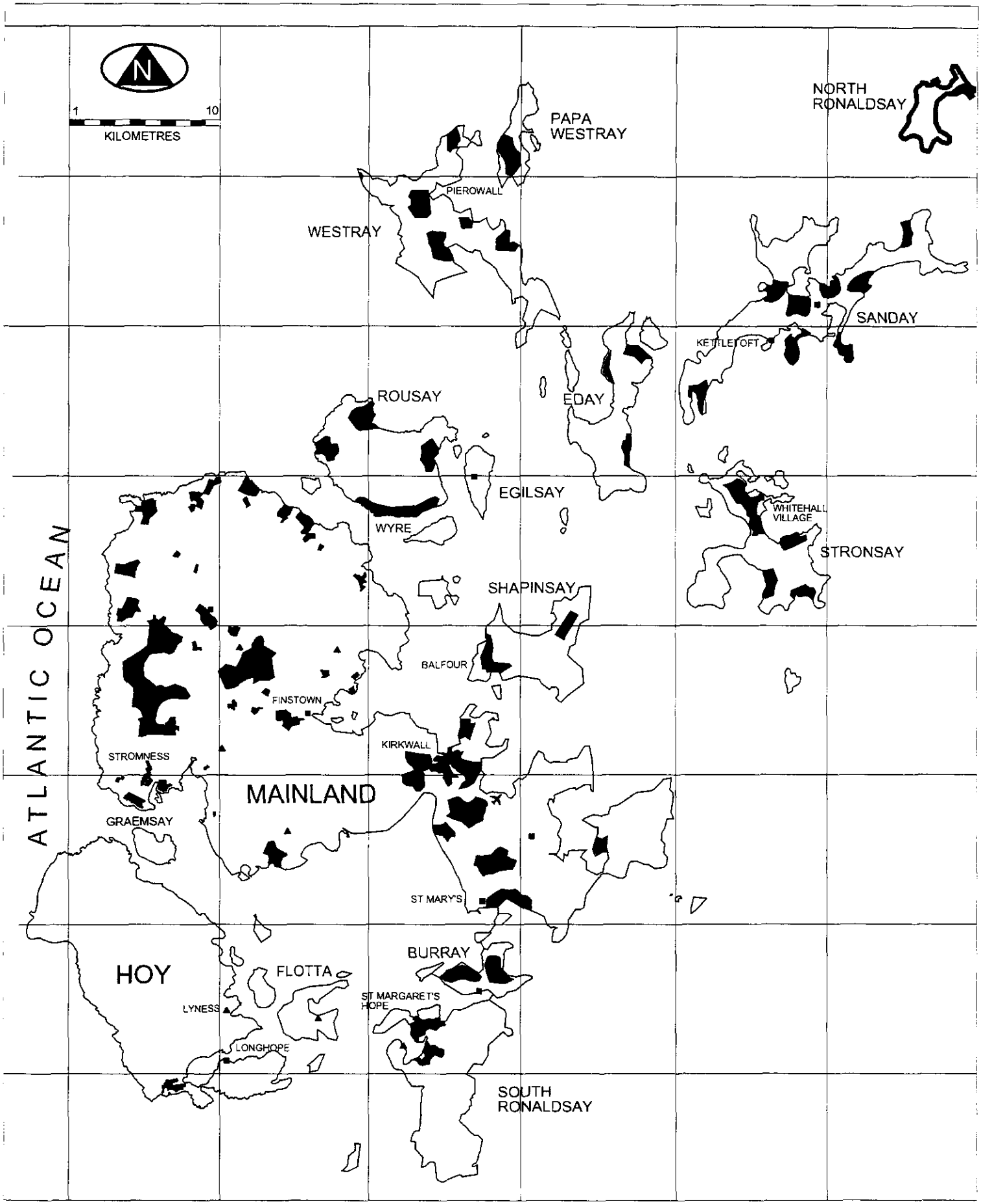
5.9. The dependence of Orkney's agricultural economy on intensive livestock rearing is reflected in the contribution made by these animals to the character of the landscape. Cattle in particular create distinctive images: their numbers, size and vitality are immediately evident, especially during the long hours of summer grazing. The black cattle are the traditional breed and add a distinct character to the areas where they graze. The herding responses to the weather are also characterful in this pastoral landscape. Attempts to gain maximum shelter from the wind and rain create memorable sights of cattle facing the same direction over extensive areas.

5.10. Buildings of the agricultural landscape are important features which are discussed in the "Built Heritage" section (paragraphs 5.18 to 5.30). 'Modern' farmsteads (i.e. those of the last 100 years or so) have often been built on the remains of medieval farm sites in Sanday and North Ronaldsay, creating distinctive farm mounds in the landscape.



Land Cover

Figure 5



Main Areas of Dry Stone Walls

Figure 6

Trees and woodland

5.11. The scarcity of trees in Orkney is well known. However, trees and woodlands are more numerous than many visitors expect. Nevertheless, trees and woodlands are not extensive or dominant features in the landscape as a whole. It is partly this rarity that makes Orkney's trees and woodlands stand out as singular and sometimes landmark features in contrast to the smooth topography of rolling hills and pastures.

5.12. Coniferous forestry is presently of a limited extent in Orkney. The main plantations are three small experimental blocks in north Hoy and a screen belt at Lyness. These demonstrate that the growth of coniferous forestry may be feasible but that the effects of wind and salt would most probably prejudice commercial viability. The Forestry Commission's assessment of Orkney indicates that the potential for commercial forests is extremely limited and that smaller scale farm woodlands are likely to be more appropriate. Not surprisingly, the areas most amenable to woodland planting are on the east sides of those islands which have significant relief to provide some shelter on the east and north-east facing slopes. The east sides of Hoy, Mainland, Rousay and South Ronaldsay contain the most favourable areas for woodland growth. Generally, pines have been the most successful conifers used in the experimental plots, being able to withstand wind and salt burn to a greater extent that other species. In the broader landscape, mature pines can be seen within shelter planting on farms.

5.13. The most visually significant trees in Orkney are sycamores. These constitute the main town trees (although whitebeams are also successful) and are the trees most frequently used as screens around farmsteads and country houses. The more sheltered environment of towns has allowed trees to grow to large sizes and to make considerable contributions to the quality of the townscape, i.e. creating a comfortable and welcoming character in which buildings and trees complement each other. Trees are particularly important features in Stromness, Finstown, Kirkwall and St. Margaret's Hope.

5.14. Some of the largest plantations in Orkney originated in the 19th century and relate to the properties of large estate owners. These plantations were generally dominated by broadleaves, including sycamore, planted in close proximity to the country house, castle or the home farm. The largest of these plantations is at Balfour on Shapinsay, where it creates the backdrop for Balfour Castle and provides shelter for the walled garden. Other notable estate woodlands include Berstane, east of Kirkwall; Binscarth, west of Finstown; Trumland House and Westness Farm on Rousay; Melsetter House on Hoy; and Carrick House on Eday. The last is interesting in that it illustrates the experimental use of mixed broadleaves and conifers.

5.15. The effects of the wind are mostly clearly displayed in the growth habits of all trees in Orkney. Prevailing and funnelled winds 'shear' the trees into characteristic wedge shapes. In compensation, branching patterns are dense and adopt contorted forms. This endows mature trees with distinctive and often attractive silhouettes. While in leaf, the salt winds often 'burn' the foliage causing it to brown and shrivel long before autumn. The result is contrasting aspects on the lee and windward sides of trees.

5.16. Early clearance of native woodlands followed by relatively poor climatic conditions and intensive grazing has resulted in the scarce distribution of *natural and semi-natural* woodlands. These are represented by limited areas of scrub woodland typically remaining in the more sheltered and inaccessible gullies. The most significant is at Berriedale in Hoy. Recently, scrub woodland planting has been introduced by the RSPB to improve the diversity of habitats on their reserves. This planting, particularly in the more visible wetland areas, is already making a contribution to the local landscape character.

5.17. The Orcadians' search for wind and salt tolerant trees and shrubs has resulted in a well - used shortlist of exotic plants which appear to thrive in these harsh conditions. Shrubs commonly used include *Hebe* spp., *Rosa rugosa* var., Griselinia litoralis, *Pittosporum* spp., and *Ribes sanguineum.* These grow to become large shrubs and effective wind breaks. Consequently, they are common features in and around gardens throughout Orkney and occasionally provide a curious contrast with the wind sheared and browned trees and native shrub vegetation.

Built heritage

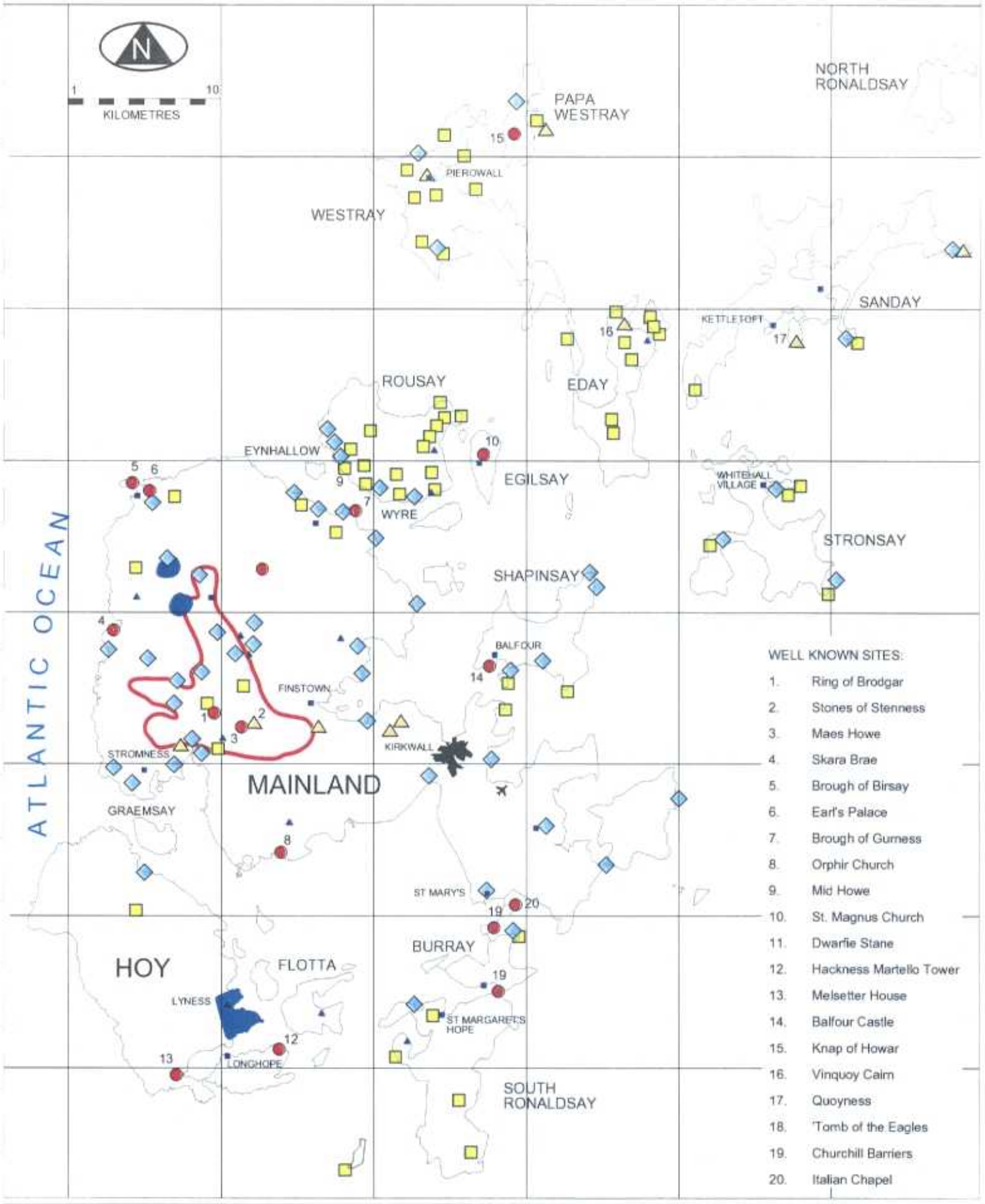
5.18. Orkney has a wealth of built heritage features, reflected in the designation of over 300 scheduled monuments, 31 properties in state care, and the numerous listed buildings (see Figure 7, page 43). There is a long history of building from stone in the Orkney Islands. The earliest inhabitants found the local stone to be readily accessible and easily worked. It was consequently used to build settlements, bury their dead, and denote or enhance a ritual site. The enduring nature of these structures as a result of the material and the method of construction has left a particularly rich archaeological legacy. This legacy reinforces relationships between recent and historic cultures and clearly indicates how lifestyles have been intimately connected to the cycles of nature. Most of the archaeological heritage is buried. However, where structures such as brochs or monuments stand tall in the surrounding landscape, or have been dug free of their encasing, grassy mounds, they become notable features and a very powerful connection with history and the elements is generated. The ancient ritual landscape around the Lochs of Harray and Stenness contains a remarkable assemblage of stone circles, standing stones, chambered cairns and tumuli, clearly visible and legible in the landscape. These engender mysticism and create the evocative silhouette images so often used to represent Orkney on postcards and book covers. The remnants of some excavated prehistoric domestic structures are less obtrusive but equally fascinating. The Stone Age settlements of Skara Brae and the Knap of Howar demonstrate a style of living not far removed from the inbye - outbye houses built thousands of years later. Indeed, the complexity and precision displayed in some of the prehistoric structures was not surpassed until the medieval period.

5.19. It is possible to establish in general terms the relationship between built legacy of prehistory and the landscape of Orkney. Chambered tombs were frequently sited on holms and small islands and are often positioned next to the sea. Not all, however, have been sited solely with prominence as an aim, as some are located at the foot of hills or unobtrusively on slopes. The remaining Bronze Age barrow sites were frequently located on hill summits, on shoulders and false summits and are consequently fairly prominent features in the landscape. In flatter locations, large groups of cairns were placed near the sea as on Sanday, North Ronaldsay and Papa Westray. Bronze Age burial mounds also occur on holms and small islands and are often close to chambered cairns and henges from earlier periods. Prehistoric settlements were widespread, although the best preserved sites have been discovered through coastal erosion. The favoured location for settlement, from evidence gathered, appears to have been south facing slopes close to either fresh or salt water. Burnt mounds are invariably positioned next to fresh water, usually a burn, and are in low lying locations without concern for prominence of the monument. These are generally the same scale as burial mounds, but are characterised by dense fired stones when uncovered.

5.20. Orkney has a number of religious and secular remains from the 12th century onwards. These include the Round Church, Orphir and the prominent St. Magnus Church on Egilsay. The most famous is probably St. Magnus' Cathedral in Kirkwall, a magnificent red sandstone structure, the oldest parts of which are over 800 years old. Whilst the Cathedral has been progressively extended and maintained over the centuries, two other notable Renaissance palaces suffered during periods of conflict and now stand as ruins. These are the Earl's Palace in Birsay and Bishop's Palace in Kirkwall.

5.21. The longhouse style of construction, which persisted since Viking times, comprised a divided core area for both the family and livestock, to which further extensions were added, creating long houses. They frequently had a kiln for drying grain at one end, a necessity in such an uncertain climate. These traditional farm buildings were constructed with low eaves, mostly of a single storey with thick masonry walls and small window openings. Roofs were covered with thin flagstones laid as square or as large overlapping wedge shapes. Weighted thatch or turf was traditionally used, but few retain this roof covering today. These solid, squat forms were designed in response to the elements and technical limitations. From the Norse period onwards, traditional techniques led to the general use of 13 feet as the internal width - this being the maximum span economically achievable with the type of timber generally available. The continuity of the longhouse tradition and the appropriateness of drystone construction to subsequent alteration or repair make it very difficult to precisely date Orkney vernacular architecture. The longhouse, which allowed simple extensions and modifications, is evident at Norse settlement sites such as the Brough of Birsay. The influence of this form can be seen throughout Orkney today. Wealthier homes from the 18th and 19th centuries more frequently adopted one and a half or two storey forms with simple formal elevations generally comprising gable chimneys, deeply recessed doors and windows, few dormers and four pane windows of small size. The 'ink pot' house, an imported form generally used in manses, is an interesting building design employed at a number of locations. It has centrally positioned fireplaces and chimneys which form the core of the house. The result is a distinctive formal elevation of two storeys with a pyramidal roof whose apex is one or two large chimney stacks.

5.22. A number of fine water mills can still be seen in the Orkney landscape. These were built in areas which had sufficient topographic relief to provide an adequate flow of water in the burns to drive the mill wheels. The water mills proved to be more reliable than wind powered mills which suffered in the ferocity of Orkney's gales. The water mills were largely used to grind grain and represent the legacy of more intensive arable cultivation. A small number of mills were also used in textile production. The most significant mills include: Tormiston, Finstown, Kirbister, Voy, Rango, Suckquoy and Graemeshall on Mainland; Saviskaill Mill on Rousay; and Elwick Mill on Shapinsay. At the time of writing, with the function of Boardhouse Mill in abeyance, none of these fine structures function as mills; most lie derelict or are partially used for storage. In a number of cases, however, mills have been restored and converted into large residences or visitor centres, for example, Tormiston Mill near Maes Howe. All the mill buildings that remain are grand buildings and important landmark features in the countryside. Their design demonstrates how large buildings can be integrated in the Orkney landscape.



Archaeology

- Maes HoweType Tombs
- Stalled and Related Tombs
- Brochs
- Limit of viewshed of'Golden Triangle'
- Other Ancient Monuments and Historic Buildings.
- Military Heritage Areas

Figure 7

5.23. In the flatter parts of Mainland, and on the other islands, wind power was tried from necessity in a few locations. Windmills were built with a stone base on which a timber housing and the sails were mounted. These no longer function and only the stone base remains as a squat tower. Wind power was also used on a domestic scale. Small sails were driven from stone turrets attached to the dwelling house, as at Sangar on Westray. Wind driven machinery employed maritime technology in the use of canvas sails. Archive photographs illustrate how fitting this appeared in the Orkney landscape.

5.24. The history of Orkney's land tenure, described in Chapter 4.0, explains the presence of country houses that were once the properties of landlords and wealthy entrepreneurs. In their attempts at architectural sophistication and grandeur these provide a contrast with the squat and utilitarian farmsteads. The country houses and castles of Balfour (Shapinsay), Melsetter (Hoy), Tankerness, Skaill, Woodwick, Clestrain and Breckness (Mainland), Trumland House (Rousay), and Carrick House (Eday) are examples of these residences. Some were used primarily in summer, the winter residences being in the towns of Kirkwall or Stromness or even further afield. Unlike their counterparts in mainland Scotland these houses generally do not have extensive or significant designed landscapes, with the exceptions of Balfour Castle and Melsetter House. However, the designed landscapes around the estate houses, by providing almost all the established rural woodlands in Orkney, are a significant landscape element within the county. The cores of estates are recognisable by the presence of rectilinear drystone dykes, gateways or lodges, small shelter woodlands and walled gardens, as well as home farms or even designed villages. The location of these houses displays a desire for views of the coast, access to the shore for boats and to the road network. One or two of the houses are manifestations of the Scots Baronial style. Many of the 19th century grand houses were successfully occupied only by their builder's generation: their upkeep in the Orkney climate has proved to be an onerous obligation for contemporary owners. Several are, therefore, only partially occupied and some are searching for other uses such as visitor centres or hotels.

5.25. During the British-American wars, a series of stone towers ('martello towers') was constructed along the coastline to defend against potential American privateers. There are two in North and South Walls, each built to house a nine man garrison. Their design, incorporating ventilation and fresh water supply, reflects architectural and engineering expertise of a very simple, yet effective nature. Still in current use are Orkney's lighthouses and beacons, marking potentially dangerous promontories and aiding navigation through and around the islands. Two of the earliest lighthouses in Britain were built to prevent ship losses in Orkney's northern waters, and they are still operational. All the lighthouses are elegant structures and prominent landmarks with their livery of white, or white with black stripes. The most notable are, however, at Start Point, Sanday; Noup Head, Westray; Dennis Ness, North Ronaldsay; Papa Stronsay; the Brough of Birsay; Point of Oxan, Graemsay; Cantick Head, South Walls; and at Rose Ness, East Mainland. Another coastal tower is the Kitchener Memorial at Marwick Head, built after Lord Kitchener's ship the *Hampshire* was sunk, allegedly by a German mine, off the coast of West Mainland in 1916. The memorial is a square castellated tower which is a prominent feature on the skyline above the cliffs of Marwick Head.

5.26. Orkney's strategic location, with a large deep water harbour commanding the Northern Approach into the North Sea, ensured that a strong and important military presence was to be stationed in the islands. This influence is still evident in the built heritage. In 1914 the main naval base of the British Navy was in Scapa Flow. In 1919 the German Grand Fleet was captured and escorted to the Flow where it was interned. Rather than surrender, the Fleet was scuttled on the bed of Scapa Flow. Several ships were salvaged, but some hulks remain. In the Second World War, the British Navy was again stationed at Scapa Flow to contain German naval activity and protect North Atlantic routes to the USA and Russia. This strategic function demanded extensive military development in Orkney. This was concentrated around Lyness and Rinnigill on Hoy where the ruins of military buildings are widespread, creating a distinctive character and atmosphere of ghostly abandonment. Many concrete and brick structures remain, appearing alien in construction compared to the remainder of Orkney. Arguably the most significant features from this period are the Churchill Barriers: concrete block causeways that link the South Isles to the Mainland and close the eastern passages into Scapa Flow. In conjunction with the Barriers, coastal defence structures were built to guard the remaining passages into Scapa Flow. These comprise concrete gun emplacements and grey searchlight towers with projecting flat roofs and slot windows, and they are most visible when approaching the islands by ferry. Air defences were also developed, using flat areas of Mainland for fighter and bomber aerodromes. Airstrips were developed at Twatt, Skeabrae and on the site of the present Kirkwall Airport. Only the last is still in use: the other sites retain the remains of buildings and air raid bunkers, largely overgrown and desolate.

5.27. Orkney's traditionally dispersed patterns of settlement determine that the built heritage is widely distributed. Inland, there are a few small villages and nucleated settlements with loose urban qualities. The main settlements are, not surprisingly, harbour towns and villages which have developed around sheltered bays where advantage has been taken of deep, calm water for shipping, communication and a range of maritime industries. The main towns are Kirkwall and Stromness on the Mainland. The other islands have less significant 'urban' centres, the most cohesive being St. Margaret's Hope on South Ronaldsay; Burray Village; Pierowall on Westray; Whitehall on Stronsay; and Balfour on Shapinsay.

5.28. The harbour towns and villages are generally densely developed with houses tightly packed around the bay, seeking to maximise access to the sea. Their development has often been concentric as later developments were forced to locate inland behind the main road and harbour frontage. In some cases the *raison d'être* for the village has gone and many of the houses are becoming ruinous, for example at Whitehall on Stronsay.

5.29. Much has been written on the townscape qualities of Kirkwall and Stromness and it is not the purpose of this assessment to re-examine these urban landscapes. However, their contribution to the broader landscape of Orkney is pertinent. Kirkwall, the county town of the Orkney Isles, is a significant urban centre. Its central focus is the splendid medieval Cathedral of St. Magnus, which rightly dominates the town and constitutes a major landmark from its hinterland and from approaches by sea. The older and central part of the town has well defined streets and vennels which harbour Orkney's tallest trees. The main orientation of roads is towards the harbour; however, this was originally determined by the presence of the Peerie Sea, along the eastern side of which the town developed. Kirkwall originally occupied the lower ground at the "waist" of Mainland. Until this century, only a few isolated developments occupied sites on the higher ground and to the south east. Of these, the Highland Park Distillery is most significant, illustrating how massive industrial buildings were given quality and style by the Victorian gentry from Speyside. In fairly recent times Kirkwall has expanded considerably, occupying the majority of the hillside to the south east and coalescing with older peripheral developments such as the Distillery and Lynn House.

5.30. Stromness in West Mainland is an exemplary harbour town which displays extraordinary control of space, views, access and shelter, through the orientation, scale and permeability of buildings along its historic spine. Linklater[1] described Stromness as *"a little town of singular charm. It meanders, it straggles, in a single narrow street under the steep shelter of Brinkie's Brae, that guards it against westerly gales, and on its seaward side many of its houses thrust their gables into the bay and instead of domestic gardens have the privilege of a small pier or jetty".* Indeed, the town was built to serve maritime trade and to a degree turns its back on Mainland, as reflected in its relatively poor accessibility from inland. Stromness is subject to stronger topographical constraints than Kirkwall and has expanded to a lesser extent. The expansion at Stromness has been more linear in nature but it has also claimed flatter ground on the eastern side of Hamnavoe.

(1) Orkney and Shetland, 5th edition, 1990, Hale (Reprinted by permission of the Peters Fraser & Dunlop Group Ltd.)

Natural heritage

5.31. The underlying geology of Orkney represents an extension of that found in Caithness, and this is reflected in the affinities of the fauna and flora. This influence is important in the North Isles, where the underlying Eday beds and Rousay flags are particularly mineral-rich. The ice age modified the landform and tended to isolate the influence of the ground rock through the deposition of boulder clays and glacial till. The climate is described as hyperoceanic, producing a cool and moist equitable climate, very much exposed to the severity of the Atlantic weather systems and salt-laden winds. These factors combine to provide the basic, abiotic conditions that have both encouraged and discouraged elements of the biological diversity now found in Orkney. Being an island group, there tends to be fewer species represented in Orkney compared to the mainland, although this is more apparent for some groups than for more mobile groups such as birds.

5.32. Early human inhabitants of Orkney had a deep knowledge and intricate relationship with the natural resource. However, scientific study of the biological diversity did not begin until the late 17th century and it was not until the late 18th, and through the 19th, century that Orkney's natural history became well understood and documented. Thanks to the long tradition of naturalists and the modern day recorders, there is a large body of data on the frequency and distribution of most of the biological groups; plants and birds are notably well studied, although other groups, such as various invertebrates, are less well known. Recent reviews (for example Goodier, 1975 and Berry, 1985), provide valuable accounts and descriptions of the natural resource of Orkney and these are supplemented by a number of more recent studies and surveys by various interested bodies (e.g. SNH, RSPB) and many individual Orkney natural historians.

5.33. Most environmental or ecological studies of Orkney tend to discuss the landscape in three or four main zones:

- the coastal habitats (sometimes including the maritime heath);
- the lowland marginal habitats of the agricultural areas, including wetlands;
- the upland moorlands and montane habitats.

Within each of the main zones, from the botanical perspective, a number of different vegetation types occur; some have recently been classified into National Vegetation Communities (NVC). The diversity of flora and fauna is a result both of physical differences between islands (the blown shell sand on Sanday compared to the peat and moorland of Hoy and Rousay, etc.), and differences in human management of the land (compare the low intensity of farming of North Ronaldsay with more intensive production on Mainland).

5.34. The coastline is extensive and immensely varied, and the often dramatic cliffs are of great ornithological and geological interest. The botanical diversity is also high, although the main associated habitats are often restricted in local scale, e.g. beaches, sand dunes (machair), and saltmarshes. Links and dune communities occur fairly commonly along Orkney's coastline, with the best developed sequence of communities on the south east shores of Sanday. A diverse range of flora, invertebrates and birds is associated with this habitat. The vegetation of exposed cliffs and headlands is influenced by salt spray with the maritime communities occurring in a clear zonal sequence. The maritime-influenced vegetation can extend a good way inland from the exposed cliff tops, grading from cliff-top herbaceous swards to maritime heath. It supports some of the most interesting and rich botanical diversity in Orkney, and a number of important birds such as skuas and terns are also to be found here.

5.35. Much of the smooth, gently undulating landscape of Orkney is cultivated or under permanent pasture. Natural or semi-natural rough grassland is not extensive and is confined largely to hill slopes where widespread improvement is precluded by the topography. Acid bent-fescue grassland is found on the more freely drained soils, and white bent grassland on the less well drained soils. The lowland agricultural areas support a complex diversity of often very different habitat types ranging from relic lowland heaths and basin mires or other wetland types, to human-influenced rough pastures, local scrub or plantations, old quarries, peat-cuttings and roadside verges. These mixed lowland marginal habitats subsequently support a diverse range of plant species and provide a valuable resource for wildlife. The diversity of plant communities within agricultural areas is very much related to how the land is managed. The improved pastures of Mainland tend to show poor diversity, whereas the less intensive agriculture of some of the islands, and the retention of rough field margins, has encouraged greater diversity.

5.36. Large rivers are absent from Orkney although there are burns, most of which have been artificially straightened in the lowlands, which have their source in the upland areas. There are a number of lochs with large areas of open water, although they tend to be shallow. They are important features of the landscape and often have considerable ornithological interest. For example, Mill Loch on Eday, a SSSI, is of national importance for breeding red-throated-divers. Botanical interest of the lochs also appears to be high, although the emergent marginal vegetation is often poorly expressed. The large lochs of Stenness and Harray are of special note for their gradation from saline to fresh water and are important for the over-wintering of wildfowl. The lowland water courses and open water bodies tend to be influenced by nutrients from the agricultural land. At present there are some problems of eutrophication and algal blooms, which may become more serious.

5.37. The upland zone can be a somewhat arbitrary category as vegetation normally considered upland in the rest of Britain can occur down to sea level in Orkney. However, the zone occurs on higher, uncultivated hillsides and is characterised by heath and moorland vegetation types generally dominated by heathers, grasses, sedges and rushes, with often diverse bryophyte and lichen associates.

5.38. Moorland communities are common on the hilly areas of Mainland, Hoy, Rousay, Eday and Westray. The widespread occurrence and frequency of heather can impart a superficial uniformity on much of the upland zone, but this masks the diverse species associates making up the various vegetation types. Steeper slopes on shallow peats or mineral soils support drier heath communities such as Northern Atlantic heather moor and these grade to blanket bog vegetation in poorly drained areas and the high altitude vegetation of Hoy, where alpine species are present and features such as terracing, wind stripes and fellfield are recorded.

5.39. Blanket bog occurs on the shallower slopes and hill plateaux of West Mainland, Hoy and Rousay, and is apparently of fairly recent origin. Human influence is linked to its formation, although climate change is presumably an important factor. The thick peat depositions have become an important fuel source for local inhabitants. Extensive peat cuttings are to be found, although many have undergone revegetation. Other associate mire vegetation types also occur. The flushed peaty slopes, basins and alluvial channels carry a wide range of swamp, rush and sedge dominated vegetation. Common cotton-grass (*Eriophorum angustifolium*) bogs, and flushes dominated by common sedge (*Carex nigra*), occur on upland acid peats and peaty gleys. Nutrient-rich gleys and flushed peats are colonised by mires with bog rush (*Schoenus* spp.), and on the soils of lowland alluvial basins tall herb grassland and mires are found.

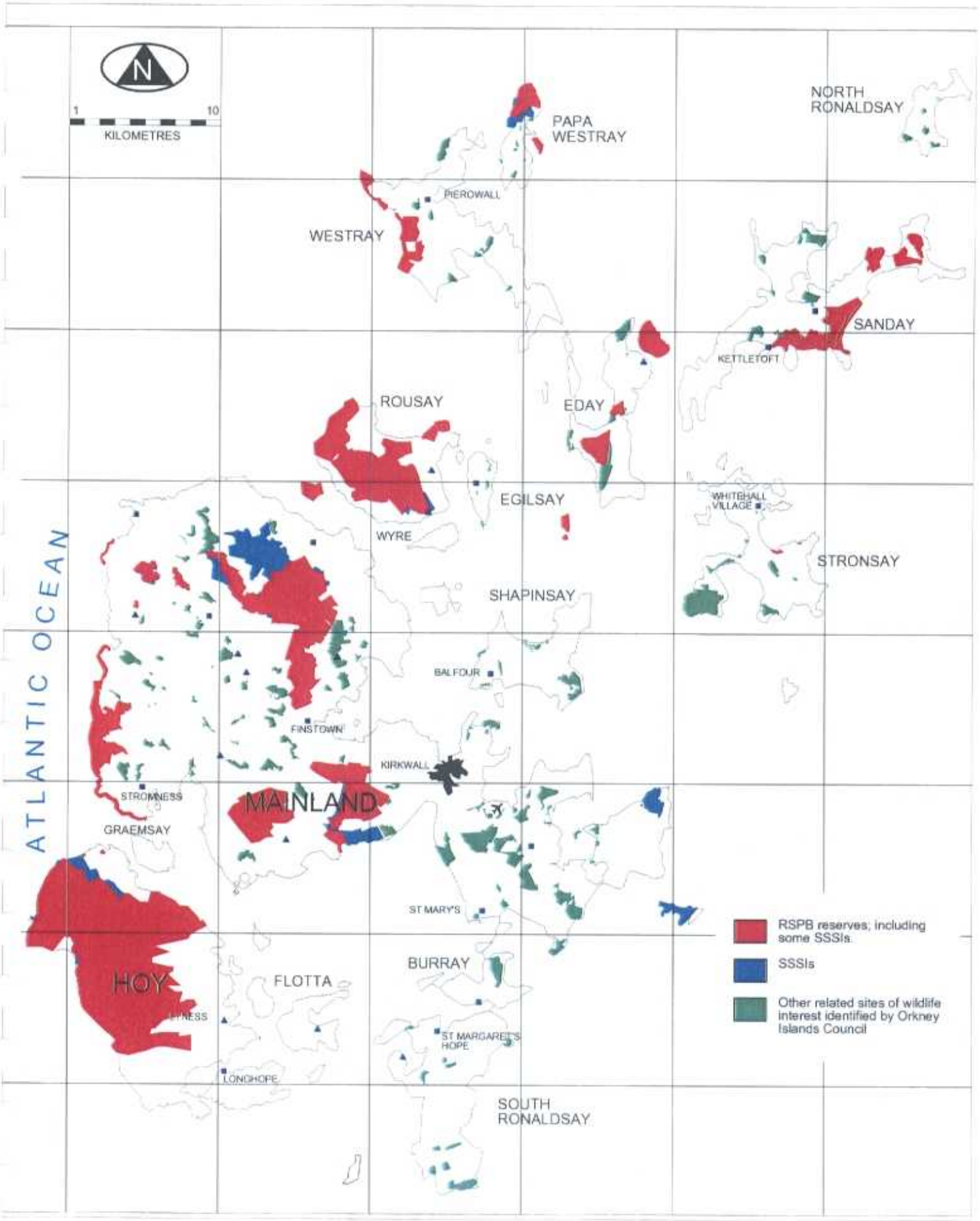
5.40. The upland zone also supports the few relic areas of the scrub or woodland that is considered to have covered much of prehistoric Orkney. There are, however, locally larger areas of open vegetation (usually in steeper valleys), supporting tall herbs and ferns, which are normally associated with a woody cover.

5.41. The natural heritage of Orkney has been recognised in the designation of over 30 Sites of Special Scientific Interest (SSSIs) throughout the Orkney Islands, and bird reserves such as the Loons in Mainland, the RSPB Hoy reserve, Trumland (Rousay) and North Hill (Papa Westray). (See Figure 8, page 51). There is much ornithological interest throughout the islands. North Ronaldsay is particularly important for the migratory birds which visit the island; there are interesting sea bird colonies in southern Stronsay and in many coastal cliff areas; and the moorlands are important breeding sites for birds of prey such as hen harriers and short eared owls. The corncrake population of Rousay and Egilsay is beginning to re-establish itself as a result of late hay cutting under the Corncrake Scheme. Many of the more remote island coastlines are important sites for breeding seals. Eynhallow Island SSSI is a breeding site for common seals, and grey seals breed on the coasts of the Calf of Eday, Farray and Stronsay.

5.42. A significant proportion of the land area within the Orkney Islands has been designated as the West Mainland and North Hoy National Scenic Area. Orkney Islands Council and SNH have the statutory responsibility to safeguard this designated area.

5.43. The importance of light and the changing seasons in the landscape has been highlighted previously. This is particularly evident in the seasonal changes in flora which affect the colours and textures of the landscape. The following paragraphs describe some of the main contributions to Orkney's seasonal colours made by the characteristic plant communities.

5.44. The heaths and moorlands, dark and brown in general appearance, are transformed into reds and oranges as the seasons progress. Ling heather (*Calluna vulgaris*) is abundant, flowering pale pink between July and September. Bell heather (*Erica cinerea*), which flowers a deeper reddish purple between July and August, is more limited in its distribution to drier heaths and steep slopes. Cotton-grasses (*Eriophorum* spp.) are common on bog areas, with their white heads distinct in the summer. Deer grass (*Trichophorum cespitosum*) with its orange shoots in the autumn is very distinct in the wet moorland areas, as is cotton grass which is also orange in autumn.



SSSIs and Nature Conservation Sites

Figure 8

5.45. Orkney's maritime heath is herb rich, with coloured carpets from spring to early autumn. The principal areas of this heathland are at Yesnaby and Mull Head on Mainland, and on north Rousay, Westray, and Papa Westray. Thrift (*Armeria maritima maritima*) is very common, flowering with pink heads from April through to October. Birds-foot-trefoil (*Lotus corniculatus*) has yellow flowers from June to August, and spring squill (*Scilla verna*) has blue flowers in May. Grass-of-Parnassus (*Parnassia palustris*) adds white to the carpet of flowers in late spring and summer. The rare Scottish primrose (*Primula scotica*) is also found in these areas, where the tiny purple flowers appear in late spring to late summer. Much of the remaining maritime heath vegetation is of sedges, grasses and heather. These tend to be very short and create texture in the landscape.

5.46. On lowland marshes and wetlands, reeds or rushes often dominate. Rushy pastures usually include colourful herbs such as buttercups (*Ranunculus* spp.) and marsh marigold (*Caltha palustrus*) within them. Meadow-sweet (*Filipendula ulmaria*) flowers a creamy white colour in July, and flag irises (*Iris germanica*) appear yellow in June. Other areas of short sedge include herb-rich grass fens with orchids appearing colourful in early to mid Summer. Black bog rush (*Schoenus nigricans*) appears grey in flushes, often with moor grass (*Molinia caerulea)*, while bog asphodel (*Narthecium ossifragum*) creates localised patches of yellow-orange as it flowers in flushes.

5.47. Much of the semi-natural vegetation in Orkney has montane characteristics, even at low altitudes. The most distinctive of these in terms of seasonal colouring is the bearberry (*Arctostaphylos* spp.*)* heath which adds a bright red to the moorland foliage of Hoy and Rousay in autumn.

5.48. Trees are few in number, but shrubs such as willow (*Salix* spp.) can be found locally along burn sides. Gorse (*Ulex europaeus*) is also prominent in localised patches, dark green throughout the year with distinct golden yellow flowers in the spring. Gullies, most notably in Hoy and in parts of the West Mainland hills, are characterised by patterned heather (*Calluna* spp., *Erica* spp.), blaeberry (*Vaccinium myrtillus*), ferns and wood-rush (*Luzula* spp.).

Quarrying/mineral extraction

5.49. The thick mantle of boulder clay over much of Mainland, parts of the North Isles and South Ronaldsay was obviously a constraint to the process of winning stone. Small quarry groupings on knolls and ridges, for example Greeny Hill near Dounby, West Mainland, provide a good indication of where a thin till cover coincides with bedrock that is of masonry quality or possibly usable for fertiliser production. These small abandoned quarries are mostly overgrown or partially infilled. Their presence is often signified by locally disturbed landforms, spoil heaps, depressions, flooded quarry holes and disused quarry tracks. The majority of these are unobtrusive compared to the large operational quarries (and adjacent legacy of extensive quarrying) at Finstown (Heddle Limestone Quarry) and at nearby Cursiter where sandstone is quarried.

5.50. The moorlands of Mainland, Hoy, Eday and Rousay have extensive peat cover which has been a valuable source of fuel for generations of Orcadians. The traditional method of peat cutting involves cutting a trench by hand and progressively taking peat from the face of the trench to its full depth. In this way, the face of the cut moves slowly backwards leaving a strip of apparently sunken ground over which the live heather sods are reinstated. The visual effect of this process is the creation of distinct black lines; the worked areas show as different colours reflecting the vegetation's response to modified growing conditions. This image is synonymous with many peatland areas accepted for its slow and partly self repairing nature. It is a characteristic feature of the more accessible areas of moorland in the study area. This accessibility also allows extraction by machinery on a commercial/semi-commercial basis, particularly on Mainland. This process does not allow reinstatement and consequently creates broad scars in the moorland which are becoming increasingly damaging and constitute negative features in the moorland landscape. A number of planning permissions have been approved, or are pending, for sand extraction in coastal areas. This is particularly the case in parts of Mainland, South Ronaldsay, Burray, Westray and Sanday. The best areas for extraction often coincide with dune systems which are important ecologically, or may be covering sites of archaeological interest.

Lochs and reservoirs

5.51. The number and extent of lochs within Orkney's island landscapes is a somewhat unusual characteristic that emphasises the flooded nature of archipelago. Within West Mainland, in particular, the large loch basins provide both a physical and symbolic relationship between the land and sea. For those living outwith the coastal fringe, the lochs provide a dynamic focus to views, they mirror the sky, bringing the landscape, sea and sky closer together. In addition, they provide water for drinking and, historically, for driving mill machinery. The lochs have always been a plentiful source of fish, and this is now appreciated by local and visiting anglers.

5.52. On the smaller islands lochs are not so extensive as on West Mainland, but are nevertheless important features, particularly as sources of fresh water and for wildlife. A common characteristic is their absence of marginal scrub vegetation which emphasises the flooded appearance of the landscape. Many of the island lochs are close to the coast in low ground behind bays or formed as 'ouses', trapped behind sand bars locally known as 'ayres'. Hoy and Rousay are distinguished by their higher inland water bodies cradled within heathy valleys and on peat covered plateaux.

Coastline

5.53. The sea is so important to the physical and cultural landscapes of Orkney that the meeting of land and sea at the coast, and the features that are formed, become key elements in the landscape. Along the western coast in particular, the land meets the sea in a cliff rampart that has been shaped by the relentless action of Atlantic waves. The arches, stacks, geos and gloups created are renowned features and essential contributors to Orkney's identity and perception. The lower lying coastal features such as tilted flags, sand dunes and sandy bays lack the drama of the high cliffs, but are appreciated for recreation and their general accessibility.

5.54. As discussed earlier, the coastline also contains a wealth of built and natural heritage interest. Many prehistoric remains such as cairns and brochs are characteristic features of the coast. Latterly, the construction of lighthouses, beacons, and coastal defence structures has added to the number of coastal landmarks. For sea birds the cliffs and adjacent heaths are prime nesting sites, and Orkney consequently boasts some of Europe's major sea bird colonies. The call and sight of these birds is a pervasive aspect of the Orkney landscape.

Archaeological Heritage Features: e.g. prehistoric settlements.

Archaeological Heritage Features: e.g. ritual and funerary structures.

Archaeological Heritage Features: e.g. Brochs.

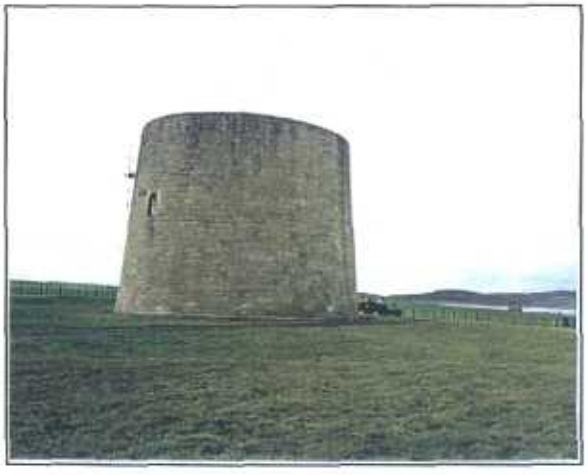
Traditional Orkney Longhouses, many in ruins.

Redundant Grain Mills on main watercourses.

Isolated Island Chapels.

Mansion houses of former estate landlords (Melsetter House).

Large Cattle Farms, many with modern overwintering sheds.



Martello Tower coastal defences of the Napoleonic Wars.

Derelict Military Structures of World War II.

Farm Mounds - typical of Sanday and North Ronaldsay.

Modern residential development in the countryside.

KEY FEATURES

PLATE 2

Localised drystone walls around large farms and on unstable sand landscapes. Occasional stone slab fence.

Localised stone slab field boundaries

Kelp drying structures on island shores.

Small wind deformed Sycamore woodlands around isolated houses, mansions and farmsteads.

Semi-natural woodland and scrub in gullies.

Peat cutting in moorland areas.

PART THREE: CHANGES IN THE LANDSCAPE

The processes of research, survey and consultation have allowed us to identify a number of forces for change in the landscapes of Orkney. These forces for change are largely the consequence of economic development pressures; the policies of public bodies and the local authority (Orkney Islands Council, OIC); and socio-economic features of island communities. Some of these changes are clearly evident in the landscape, while others are more subtle. It is largely possible to predict what the pressure for future changes will be, and this allows proactive steps to be taken in the forms of strategic planning and management. This section of the report examines these changes in general terms and considers potentially appropriate planning and land management directions.

Part Four examines the issues of change and landscape sensitivity in relation to specific landscape types and island units. Specific guidelines are, therefore, included within this part of the report (Part Four).

6. LAND USE CHANGES

BACKGROUND

6.1. Over the course of history, agriculture has been the main human influence to shape Orkney's landscape. It has affected the pattern of settlement, landcover, wildlife, colours and textures and activities in the landscape. Agricultural practice continues to change, reflecting current technology and market forces, but also subsidies from the various government controlled agricultural bodies. Throughout Orkney a number of general trends in land use change can be identified. However, there are a number of local variations within the archipelago determined by a combination of the following factors: history of land tenure; accessibility; local soil conditions; and social history. The nature of these local variations is examined in Part Four for each island and by landscape character type. The general land use changes are described below.

6.2. Since 1940, there has been a gradual shift from arable to pasture fields, and the traditional hay has been largely replaced by silage. Cattle and sheep numbers increased steadily between 1940 and 1960, while horses, pigs and poultry declined.

6.3. Arable farming continues on a smaller scale (approximately 4,000 hectares), with fields of spring barley, oats, seed potatoes and turnips breaking up the dominance of improved grasslands. New crops such as oil seed rape have been introduced where the financial incentive is there to do so. This crop has a particularly vivid landscape impact when in flower, creating bright yellow patches within the predominantly green landscape.

6.4. Many of the changes in agricultural policy and also in land tenure have been reflected in the landscape. For example, support for increased production was reflected in the 'reclamation' of moorland for use as pasture. This contrasts with the need, recognised now, to curb production and use agriculture as a countryside management tool to increase the diversity of wildlife, and conserve and enhance the landscape.

6.5. Significant areas have proven to be difficult marginal farmland and through a combination of poor management, lack of investment and inadequate manpower, have become abandoned or semi-derelict. This is most common in the North Isles, where a number of factors relating to peripherality, the introduction of mechanism in farming, and subsequent decrease in labour required have contributed to accelerated depopulation and hence further marginalisation of the agricultural sector, and of certain landscapes. This is being addressed now through a number of initiatives to diversify local economies, for example fish farming, tourism, and commercial exploitation of local resources such as peat and sand. These land uses often introduce new elements into the island landscapes.

AGRICULTURE TODAY

Introduction

6.6. Agriculture in Orkney predominantly involves cattle for beef or dairying, and sheep rearing. There are around 30,000 head of cattle on the islands, a number which has remained stable in recent years. After the Second World War, agricultural policy aimed to increase production through guaranteed prices for certain foodstuffs. Subsequently, with overproduction and the environmental effects which resulted, agricultural policy in the last decade or so has sought to redress this balance, encouraging a less intensive approach with greater environmental benefits to be gained. The effects of earlier agricultural grants for draining wetlands and re-seeding moorland are evident in the landscape. The fact that at least some of this improvement was very marginal and entirely dependent on grants and subsidy is clear in the moorland areas where previously improved pasture has now been allowed to revert to moorland. In a very few cases continued re-seeding is supported by grants. Meanwhile, the finite resource of archaeological sites has been damaged.

Recent Trends

6.7. In very general terms, agriculture in Orkney has followed national trends where these have been policy or support-driven, although it has not been overly affected by the introduction of new voluntary schemes to influence farm management. The improvement of hill pastures is one example in which policy support made this a viable option, before withdrawal of support put an end to this as a widespread feature of farm management. The process of amalgamation of farm units is another national trend which Orkney has followed, as is the large degree of owner-occupied farm units.

6.8. Changes in livestock farming, and in particular the over-wintering of cattle, have resulted in a number of significant changes in the agricultural landscape. Many of the traditional stone buildings are unsuited to modern farming practices. Consequently, many old stone farm buildings have been abandoned or are used in a semi-ruined state. The contemporary farmsteads generally consist of new or modified farm houses with one or more large barns, and adjacent slurry tanks and silage hoppers. These represent developments of considerable scale, many of which lack the sympathetic relationship with the landscape of the vernacular buildings they replace.

6.9. Hay-making is now in decline with much more silage being produced. The landscape impact of this change has been a decline in hay rolls, haystacks and stooks, and an increase in the more evident silos and black bagged silage rolls. This change has also resulted in a decline in corncrake populations. This bird with its distinctive call has traditionally been a feature of crofting landscapes but, with the exception of special management areas, its numbers are now in decline.

6.10. Incremental improvements to farm land, particularly in field corners and 'rougher' wetter areas, is another factor which threatens the diversity of wildlife in farmed landscapes. These 'improvements' could be viewed as a tidying operation by farmers, rather than a desire to put every last area into production, but the effect is to remove areas which are often of wildlife interest, and which provide diversity in these broad pastoral landscapes.

Field Boundaries

6.11. Drystone walls, flagstone fences and stone post fences are distinctive features where they occur. However, their upkeep is costly or extremely time consuming, and consequently there has been a general decline in the extent and condition of walls within the agricultural landscape. Certain roadside walls were demolished during road widening works and stone has been reused for repairs and new building in many areas. Post and wire fences are now widely used for livestock control. These are less significant landscape features which lack the solidity, colour, textures, and shading effects of wall boundaries. In areas without dry stone walls there is evidence of field amalgamation. This has altered the scale and diversity of field patterns and the juxtaposition of colours and textures.

Archaeological Sites

6.12. Orkney's agricultural landscapes have a proliferation of registered archaeological sites (over 2,500 for the whole of Orkney). The most significant, and certainly the most visible, are located within the pastoral and arable areas and are, therefore, subject to the effects of grazing livestock and occasional or regular ploughing. Archaeological sites have, of course, endured such treatment for generations. However, unwitting or accidental damage could still occur to both known and as yet undiscovered monuments. Nowadays heavy machinery makes the accidental damage or removal of archaeological sites cost effective or even unnoticeable, whereas in previous times it was easier to avoid attempting to cultivate many such sites. As essential features of the Orkney landscape, any measures which threatened the removal of or damage to archaeological sites would also be detrimental to landscape character. Conversely, integrated farm management could potentially enhance the context of many archaeological sites. A related issue is the rapid loss of coastal archaeological sites due to coast erosion. Several sites of regional and national importance are currently being lost without detailed surveys or formal monitoring procedures having taken place.

Agricultural Policy

6.13. In 1986 the Agricultural Development Programme for the Scottish Islands was launched by the EC. This was a five year programme under which the marginality of farming in the Scottish Islands (including Orkney) was to be addressed, largely through grant-aided improvements to infrastructure. Land improvement works such as draining and re-seeding attracted grant rates of 60% or more. A range of grants was also available for farm buildings, roads, etc. The programme has been responsible for widespread changes in the landscape including, most notably, the introduction of green pastures into the moorland fringe, extensive fencing patterns, and large farm buildings. This has also been responsible for the cultivation of some machair areas and their enclosure as improved grassland.

6.14. Most of the Orkney Islands fall within the Less Favoured Areas (LFA) for agriculture in the EC. Farmers within this area are given additional compensatory payments over and above the general level of price support. These payments (Hill Livestock Compensatory Allowances or HLCAs) are paid per head of qualifying stock, and are intended to make farmers in the LFA more competitive with their lowland counterparts. Recently the HLCA payments have been cut, compensated for in part by an increase in other premia for livestock. Unlike many other parts of Scotland, any decline in hill farming on Orkney is not heightened by the presence of forestry interests. In many hill areas of mainland Scotland, forestry is the only viable alternative land use, and afforestation has brought a distinct change to these upland landscapes. However, on Orkney, minor changes in policy could result in quite significant changes to farming and to the landscape.

6.15. The most significant changes in response to agricultural policy have been seen in Mainland and the larger isles where accessibility to markets, existing farm size, and profitability have promoted the widespread uptake of grants. In the remoter North Isles the more marginal, generally smaller farms have benefited less from grant incentives and, consequently, the signs of agricultural improvements are less extensive. Many farms operate a low intensity method of farming, some have been poorly managed or abandoned. Increasing mechanisation and other aspects of modern farming have led to a decrease in labour requirements. This, coupled with population decline in the North Isles, has paradoxically made parts of the agricultural sector of these islands more marginal. The decline of island farms, and occasionally the lack of family succession, has brought several farms onto the market since 1940. These have allowed the expansion of neighbouring farms or have been purchased by 'incomers'. The results have been a mix of experimental land uses, highly productive farms, and farm failures.

6.16. The main threat to the continuation of farming as the primary influence in shaping the contemporary landscape is any future declines in subsidies for production; and in the costs of transporting livestock and produce which could be prohibitive if they were to rise, or if ferry subsidies were not to be reinstated. This could seriously damage the competitiveness of Orkney produce. Serious decline in agriculture would remove many of the mechanisms for countryside management within farming. This may have some beneficial effects on wildlife by allowing the creation of more diverse habitats. However, widespread agricultural decline would radically alter the essential character of Orkney as a managed agricultural landscape.

6.17. The designation of Environmentally Sensitive Areas (ESAs) was introduced into Scottish Agricultural Legislation in 1986. Under this scheme ESAs are designated by the Secretary of State in consultation with SNH in areas where the countryside may be protected and enhanced by encouraging farmers and crofters to follow conservation oriented farming policies. Participation in the scheme once an area has been designated is entirely voluntary, with payments made to farmers who agree to protect existing wildlife, landscape and archaeological features. Additional payments are available to those who manage their land to enhance or extend key landscape or wildlife features.

6.18. A campaign to have Orkney designated as an ESA, headed by the RSPB, won much support amongst conservationists and the Orkney Island Council, but the islands failed to be designated in the most recent (and final) round of ESA designations. The Structure Plan recommends to the Secretary of State that Orkney receives some similar designation in the future.

6.19. Government policies at present are aimed at maintaining current stock levels, and encouraging diversification and extensification. A number of conservation-oriented schemes, or schemes that incorporate a conservation element, are therefore available to farmers and crofters in Orkney which may affect the future direction of their land management.

6.20. The Crofting Counties Agricultural Grant Scheme is administered on behalf of the Secretary of State by the Crofters Commission. It is available to those who work a croft, or a holding of generally less than 30 hectares, in the former crofting counties and whose economic status is similar to that of a crofter. Grants are available for some improvements to land and buildings, and for features such as shelterbelt planting, road improvements and small bridges. The operation has to be justified on agricultural grounds, but grant may not be paid on work which might damage the environment.

6.21. Agricultural schemes such as the Farm Woodland Premium Scheme (FWPS) and Farm Conservation Grant Scheme (FCGS) are designed specifically to bring wider issues and benefits into farm management. The FWPS may be used to plant pockets of trees on farmland which can add diversity to the landscape, and under the FCGS, a number of works such as repair to stone walls may be grant aided.

6.22. Scottish Natural Heritage (SNH) has set up a number of schemes, for example grants for the preparation of farm conservation plans, open to anyone farming or owning farmland in Orkney. Grants are also available from SNH to help land owners and managers to improve the appearance and wildlife value of their land. Grants and management agreements for land owners may also be made by Historic Scotland for the management and conservation of ancient monuments.

6.23. The schemes outlined above are aimed at conservation-oriented farming, which seeks to protect features of heritage interest and generally limit overall productivity in favour of habitat diversity. There is, understandably, some resistance to this approach from farms that have striven to be productive and efficient. Nevertheless, it is inevitable that current agricultural policy will result in gradual changes to farm landscapes which should be particularly noticeable in the areas that are currently intensively farmed, for example, Harray and Shapinsay. Farms that are well managed and already operate a low intensity approach (for example, North Ronaldsay) should receive additional support through the above schemes, which may increase their long term viability. Overall, the application of these schemes will require careful management to ensure that conservation-oriented changes do not prejudice the traditional character of Orkney's renowned agricultural landscape.

Forestry and Woodlands

6.24. The results from experimental plantations on North Hoy suggest that the commercial potential for forestry is extremely limited in Orkney due to the damaging and growth-retarding effects of strong salt-laden winds and the potential conflicts with grazing interests. Although trees do grow, and to considerable size, growth rates are comparatively slow and the malformation of trees as a result of the wind does not provide an ideal timber product.

6.25. Interest in and support for small scale woodland planting has, however, been more significant, indicating that the distribution of trees and woodlands over Orkney is likely to increase gradually in future years. The Forestry Authority expect the main types of woodland expansion to be small scale and predominantly deciduous, serving as screens, shelterbelts and for nature conservation. The Forestry Authority provides advice on request to farmers considering planting schemes. Many proposals, however, rely heavily on sycamore (*Acer pseudoplatanus*), whitebeam (*Sorbus aria*) and lodge-pole pine (*Pinus contorta*) to achieve maximum screening effect rather than nature conservation benefits. In certain locations, even these hardy exotics would struggle to gain any appreciable height. The low exposed islands of Sanday, North Ronaldsay and Stronsay are notably devoid of trees and it is likely that only scrub could be established in these environments.

6.26. The RSPB and other conservation groups have planted indigenous trees on their reserves. This generally includes pioneer scrub species such as willow (*Salix* spp.), birch (*Betula* spp.) and rowan (*Sorbus aucuparia*). This has been carefully undertaken with regard to achieve maximum wildlife benefits.

6.27. There is little evidence to date of farm woodland planting of rough ground and wetland patches. This, however, is a common problem elsewhere in Scotland where less productive ground has become the target for woodland planting at the expense of small but valuable wildlife habitats. This may be a potential problem and pressure for change in the future that should be anticipated in management guidelines, policies and responses to grant applications. Farming and Wildlife Advisory Group (FWAG) guidance documents provide excellent and concise advice to farmers on how to improve the nature conservation value of their farms.

6.28. The changes to the Orkney landscape through woodland planting are, however, likely to be incremental and ultimately not of a scale that could radically change the character of the Orkney landscapes. For the most part, woodland planting could be of positive benefit to the landscape if sympathetically located and designed. Small woodlands could eventually provide useful screens to new (and older) developments; could introduce visual and seasonal diversity into the extensive pastoral areas; and could provide useful shelter and new wildlife habitats. Undoubtedly, the effects of wind shear would soon mould any new woodlands into shapes that are appropriate in the Orkney landscape. This too must be considered in the assessment of future changes.

6.29. Another dimension to future changes is the potential loss of mature trees in towns, on farms and around old estates. Some of these were planted over 150 years ago and are now important landscape features. Their loss would be immediately noticeable and probably have a widespread effect.

Fish Farming

6.30. Fish farming, predominantly for salmon and some shellfish, has developed in Orkney over the last 20 years. Significant growth of this industry occurred in the 1980s and it is now of considerable importance to Orkney's economy. Fish farm developments have been constrained to an extent by the limited number of sheltered sites with deep water. Many of the bays around the North Isles have insufficient depth for cage culture and so have remained free of these developments. Where they have occurred, the fish farms have introduced sets of cages, round and rectangular, into accessible bays, and occasionally into disused flooded quarries. Ancillary buildings and compounds have also been developed close to the shore. These developments have modified a number of coastal landscapes and are visually intrusive in a number of locations. The main visual impacts are, however, generated by the onshore components which tend to occupy prominent sites and are of a basic nature. The Orkney Islands Structure Plan (Orkney Islands Council, 1994) anticipates modest growth in the fish farming industry, with diversification in the finfish market. It is possible, therefore, that more coastal landscapes will be affected by this form of development or subject to development applications.

LAND USE CHANGES: KEY LANDSCAPE ISSUES

6.31. Key landscape related issues to be addressed by planning and management guidelines are as follows:

- Despite the lack of grant incentives to reclaim and 'improve' rough ground, incremental small scale reclamation of wet and rough areas continues to remove diversity in the landscape and may threaten nature conservation interest.
- Through farm amalgamation and field enlargement, patterns in the landscape have been simplified, becoming bland and monotonous in places.
- In more marginal areas, particularly in some North Isles, farm abandonment or reduced management has left an air of dereliction and general decline.
- The abandonment of very many traditional stone built homesteads and farm buildings is a commonplace image which is detrimental to the quality and character of most landscape types.
- Changes in livestock farming have resulted in the development of large farm complexes which can be highly obtrusive in the open landscape.
- The growth of the fish farming industry has resulted in the introduction of fish farm cages in many deep sheltered bays and the development of intrusive ancillary buildings on-shore.
- The remaining drystone dykes and flagstone fences are falling into increasing states of disrepair, generating an air of decline and diminishing the quality of the landscape.
- Some machair grasslands require management to conserve their ecological and landscape diversity.
- In the absence of an integrated management approach, both known and undiscovered archaeological sites may be disturbed by agricultural activity.
- A number of coastal archaeological sites are being rapidly lost to coast erosion without prior survey or adequate monitoring.
- Small-scale woodland planting for shelter, screening and nature conservation is likely to increase and could have a positive impact on the landscape if sensitively located and designed.
- Farm woodland planting proposals may require careful consideration to prevent displacement of wetland or other semi-natural habitats.
- Mature and older trees may soon be lost from the Orkney landscape thereby removing important landmark features.
- Rabbits have an adverse effect on machair grasslands, and on all earthwork ancient monuments. They can also adversely affect any attempt to grow trees.

GENERAL PLANNING AND MANAGEMENT GUIDELINES

6.32. Orkney's landscapes demand an integrated approach to management and planning that can adequately address the interests of the farmers; the requirements for nature conservation; and the requirements for archaeological research, protection and interpretation. These are inextricably related and should, therefore, be considered simultaneously and not as separate interests.

6.33. ESA status for Orkney could have achieved this objective through the farm conservation plan approach and the potential for conservation grants of appropriate scales to match the tasks required. The failure to be designated as an ESA has limited the potential for conservation management through the lack of available funding resources. Alternative designations such as 'Natural Heritage Area' or perhaps 'World Heritage Site' might provide adequate grant support for a comprehensive range of management works. In the absence of such management "umbrellas", planning and management of the Orkney landscape will have to target resources and influence management through encouragement and policies.

6.34. ***The following summary of guidelines indicate the general management requirements for the enhancement of the landscape:***

- ***Consider the prevention of further reclamation and improvement of pastures, particularly in upland fringe areas.***
- ***Encourage the retention of existing field boundary lines and field sizes in order to maintain a smaller-scale more diverse mosaic of field patterns and to preserve wildlife values associated with field margins and corners.***
- ***Support the retention of 'rougher' field margins, small wetlands and unimproved grasslands and, where possible, manage these positively for wildlife.***
- ***Support machair management schemes that maintain low intensity grazing and the use of organic fertiliser (for example, seaweed).***
- ***Support farm building conservation schemes and encourage re-use and new uses for such buildings. Discretionary grants related to the architectural quality and visual significance of buildings might also be appropriate;***
- ***In addition to Scottish Office Planning Advice Note (PAN) 39 (Scottish Office, 1993), design guidance and control of new farm buildings should be developed for the Orkney landscape;***

- *Guidelines for the siting and design of fish farms should be developed for Orkney. These might be developed in support of a 'Fish Farms Policy' within the forthcoming Local Plan.*

- *Encourage the repair and maintenance of the remaining drystone dykes and flagstone fences. Consider opportunities for extending walls in certain areas, particularly along main roads and where field patterns are poorly defined. Emphasis should be given to restoring walls which serve an essential functional need as well as representing important components of the local cultural heritage.*

- *Examine the potential for hedgerow establishment in more sheltered areas where fence-lines may be visually reinforced.*

- *Encourage further archaeological research, site investigations and monitoring throughout Orkney in order to acquire a fuller understanding of the pre-historic and historic landscape and to record sites undergoing erosion.*

- *Encourage the improved management of monuments.*

- *Encourage farm conservation schemes that preclude disturbance around monuments and that allow monuments to be viewed in a more sympathetic context, e.g. not dominated by fence lines or silage bales.*

- *Encourage farm woodland planting schemes that can provide useful tree screens and shelters, particularly around large farm complexes and isolated farmhouses.*

- *Encourage farm woodland planting of small to medium scale woodlands to improve the nature conservation values of farmland, avoiding disturbance of existing wildlife habitats.*

- *Encourage existing tree and woodland management schemes that could perpetuate tree cover in established areas.*

- *Encourage the implementation of the government's planning policy for archaeology NPPG 5 and PAN 42 (Scottish Office, 1994a & b).*

- *Implement measures to prevent damage from rabbits on machair grasslands and earthwork archaeological monuments.*

7. DEVELOPMENT PRESSURES AND CHANGES

INTRODUCTION

7.1. Throughout much of Orkney, the population has declined over the last century. Fewer people live and work the land, and some of Orkney's once thriving industries, such as herring and kelp, have almost disappeared. The decline in population received a temporary reprieve during the two World Wars, especially in the Second World War when thousands of military personnel and ancillary workers were based on the islands. After their departure the general trend of depopulation continued, more rapidly in the northern and more isolated islands.

7.2. Over the last 30 years the contrasts between the more isolated parts of Orkney and Mainland have become more pronounced. Immigration and pressure for development has generally accelerated on Mainland and some of the South Isles, while most of the North Isles still suffer from difficult communications; a general lack of new development and investment; and depopulation. In the more remote areas it is often this lack of development and investment that threatens to damage the character of the landscape, through its neglect and lack of management.

7.3. The recent development pressures have, therefore, been most significant in Mainland, particularly around the major towns of Kirkwall and Stromness, and in parishes within easy driving distances of them. The development of the oil terminal on Flotta has also generated demand for housing in Mainland and in the South Isles. However, development pressures are not all concentrated in Mainland and the South Isles. There are a number of common issues throughout the county and some relating specifically to the need to diversify the local economies of the North Isles. Some have already threatened local landscape character and others may do so in the future. There is a requirement, therefore, for these pressures and changes to be addressed by planning policies and guidelines. This may help to ensure that future developments make positive contributions to the character of the landscape.

7.4. The pressures that have had, and are likely to have, the greatest impacts on Orkney's landscape, include the following:

- building in the countryside and settlement expansion;
- abandonment and dereliction of buildings and structures;
- road developments;
- mineral, sand and aggregate extraction;
- utilities;
- tourism developments.

These generate a range of impacts which require consideration in the strategic planning and management of Orkney's countryside. These issues are described below.

Building in the countryside and settlement expansion

7.5. The impact in recent years of new building in the countryside (both residential and agricultural), coupled with the abandonment of traditional buildings, are perhaps the most significant of the development pressures in the Orkney landscape.

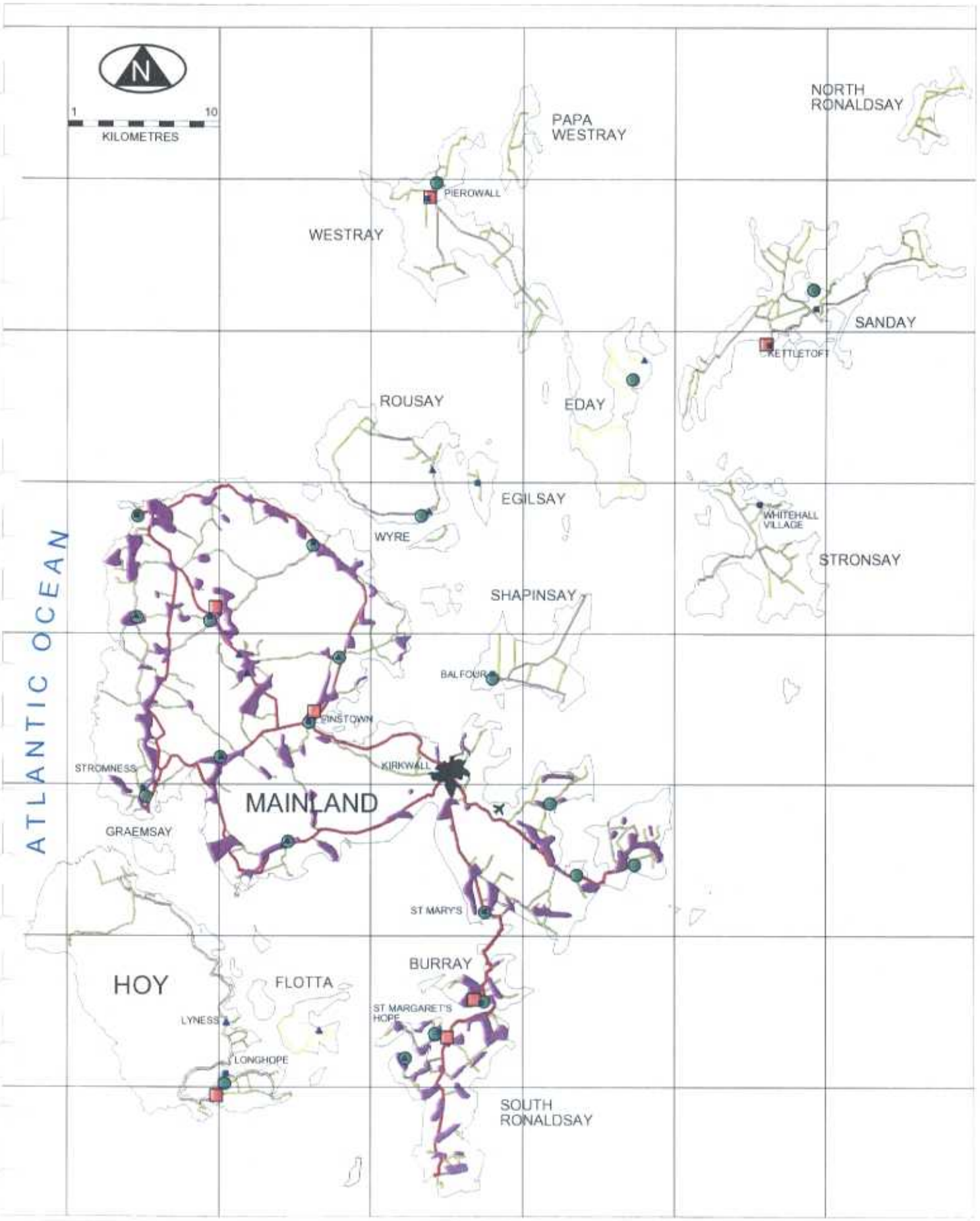
7.6. Orkney Islands Council Department of Development and Planning (previously the Department of Planning and Museums) has developed specific policies for housing in the Structure Plan (Orkney Islands Council, 1994) which, through strategic planning and development control, will influence the location and design of housing. There is a high demand for private housing within the Mainland area, and a large amount of the present housing stock is in poor repair, creating further pressures on the landscape. The increased numbers of incomers has also created further demand for housing.

7.7. Orkney Islands Council has estimated that a further 650 residential housing units will be required over the next 10 years. In selecting sites for development, a number of factors are considered: the local authority's policy regarding development, its policies regarding development control, and the capacity for the sites to be fully serviced in terms of water, power and sewerage. The Kirkwall area will accommodate most of this projected housing requirement (66% within the Kirkwall and St. Ola areas) but this still leaves a considerable shortfall of sites which may have to be found within the broader landscape.

7.8. The Council has adopted a general presumption in favour of development in established towns and villages, or in existing nucleated hamlets. This aims to create sustainable housing densities centred on a village or hamlet 'core', preventing urban sprawl or ribbon development. All the Council's housing policies demand development proposals in keeping with the surroundings, and which respect local building scales and character. (See Figure 9, page 77).

7.9. Orkney's tradition of dispersed settlement has also been acknowledged in the Council's policy for 'scattered low density housing'. This policy designates substantial areas of West Mainland and seeks to retain the general density of housing in their areas. This density relates to the historic distribution of small holdings and of crofts. The scattered low density housing policy seeks to achieve a similar distribution and sets a limit of three on the number of new houses allowed in one group. Despite the stated requirements of the Structure Plan, it appears that many new buildings have been constructed which fail to respect the local character and distribution of traditional buildings. Development plots accommodate three new buildings in close proximity, creating clusters of houses rather than the dispersed pattern intended. 'Kit' house construction is invariably used as the most economic form of building. Unfortunately, the 'kit' designs are commonplace or appear as 'out of place' Norwegian timber imports. Seldom can sympathetic designs be seen which are 'in keeping' with their surroundings.

7.10. Orkney Islands Council Structure Plan Policy on housing also includes encouragement for self-build in some areas, in order to meet housing demands and stimulate development in settlements other than Kirkwall. It is the Council's intention to provide serviced plots for self-build houses in Dounby, Finstown, St. Margaret's Hope, Pierowall, Longhope and Burray Village. However, experience to date of these self-build houses is that they appear less than sympathetic to the surrounding landscape in their form and use of materials.



Housing Policy Areas

All Mainland Orkney is considered a Restricted area except -

Scattered Low Density Areas

All other islands regarded in total as scattered low density areas except where statutory reserves exist.

P3 Housing

P4 Housing - Housing Expansion within town / village / hamlet boundaries.

Figure 9

7.11. Changes to the farming sector have left their mark in the landscape. Amalgamation of farms into larger units, and the accommodation of over-wintered cattle has led to the construction of huge over-wintering sheds, slurry tanks and silos. These often create a sprawling mass of development of varying ages and designs. The most harmonious of these developments have sought to create a unified appearance by controlling the orientation of buildings, the scale of individual bays, and the use of co-ordinating paintwork.

7.12. The consolidation of farm units is also partly responsible for the derelict appearance of many old long houses. Many of these are still in use for livestock, but their appearance is of unused buildings falling to ruin. Occasionally, the old farmsteads and longhouses have been renovated for residential or tourist use. These buildings are generally well below the standards required for modern accommodation and, consequently, renovation is a very expensive exercise. It is, therefore, a fairly rare occurrence, usually involving buildings that are close to services and main road access. The Council's encouragement for 'one for one' replacements of old buildings in the countryside has allowed continued occupation on established housing sites, but in many cases has seen the replacement of traditional stone buildings by contemporary buildings of inferior architectural quality which are less sympathetic to their landscape context.

7.13. Despite the occasional restoration project, the overriding image is of the incremental ruin and eventual loss of the characteristic buildings in the countryside coinciding with their replacement by buildings which fail to project the same sense of belonging, quality or durability.

7.14. The confinement of industrial development to, mainly, Kirkwall has lead to increased pressure for road developments, and for commuter traffic. Coupled with a dispersed housing policy, this has led increasingly to the "suburbanising" of large areas.

Abandonment and dereliction

7.15. As mentioned above, the abandonment of traditional buildings, their subsequent fall to ruin and the discontinuation of farming in certain remote areas, has had a detrimental effect on Orkney's landscape. In some areas only the buildings are abandoned and replaced, while agriculture continues. In the remoter islands (and parts thereof) this process is more extensive and the traditional character of the agricultural landscape is being eroded in certain areas.

Roads

7.16. Orkney Islands Council Roads Authority is responsible for all roads in Orkney included in the List of Public Highways. Many roads have already been improved and many newly surfaced. Historically, several roads were widened, a process that involved the removal of stone walls along one side of the road. It is often obvious where this occurred, as walls border one side of the road, while the other side is fenced. Improvements continue to be made, for example the bridge widening at Kirbister and the road widening on Sanday. While such improvements may be essential for communications, road safety and congestion, there is a possibility that certain road modifications could detract from the local character through the removal of landscape features such as walls, or through the increased traffic flows. Often, tarmac carriageway has been widened at the expense of the verge, creating dangerous conditions for walkers and some loss of habitat. Roads through the prehistoric landscapes and those appreciated for scenic drives, would require special consideration in the nature of 'improvements' to be made.

Minerals, sand and aggregate extraction

7.17. Quarrying has a long history on Orkney and its legacy can be seen in several locations and at various scales. It is probable that demands for building stone, aggregates, sand and gravel will continue and new extraction sites may be required. Orkney Islands Council has stated in its Structure Plan that careful control of commercial sand extraction is required and that proposals should be supported by an environmental assessment. Very recent experience has shown that exceptions in favour of development are often made. Prime target areas are likely to be the soft coasts which are readily accessible for haulage. The sand bays of Mainland and the South Isles are, therefore, favoured, as indicated by a recent application for sand extraction in Burray. Several of the North Isles have viable sand deposits which may become targets for sand extraction in the future. Several of the sand landscapes potentially affected are popular areas for residents and tourists and several contain particular values for nature conservation or archaeology. Proposals would, therefore, have to consider carefully the potential landscape impacts.

7.18. In terms of new quarries or mineral developments, the Council has stipulated that it will encourage such development, provided that it is of minimal environmental and archaeological impact, and the developer commits funds to reinstate the site during construction and after the operational phase. These stipulations and enforcement of Section 75 agreements* should ensure that landscape impacts are minimised. Where restoration to the original state is impossible it may be feasible to create new elements in the landscape, for example ponds or small lochs.

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* Refers to Section 75 of the Town & Country Planning (Scotland) Act 1997. (formerly known as Section 50 agreements)

7.19. In the upland areas, the main pressures for change appear to be from the mechanisation of peat cutting which strips the surface rather than works a cut face. This method prevents heath reinstatement during peat extraction and leaves large areas devoid of vegetation. The results are, therefore, unsightly and detrimental to wildlife. The use of improved machinery instead of hand cutting could be less sensitive to the sub-peat archaeology and it is possible, therefore, that unrecorded and irretrievable damage could in the future be done to prehistoric deposits and structures. A more trivial problem of a general nature is the use of brightly coloured fertiliser bags for collecting peats on the hill. Although only temporary, their vivid colours frequently jar in the wild exposure of the moorlands.

Utilities

7.20. In line with EC Regulations and to serve the practical needs of Orkney residents, a programme of improvements to public utilities is underway which involves upgrading the water supply, drainage, and waste disposal services. Each of these must respond to the physical constraints of the islands.

7.21. Water supply and drainage improvements have required and still require extensive new pipework and the construction of pumping or treatment stations at strategic locations. Developments in the recent past have introduced 'new' features into the landscape, for example, squared water reservoirs on hilltops in Mainland, and perhaps most noticeable is the water tower on Stronsay which is a landmark feature on this low island. Drainage improvements involve the separation of foul and surface water sewerage, and the construction of improved treatment facilities and new sea outfalls.

7.22. Orkney's waste management plan is considering options for waste disposal including recycling, exportation, and land tipping of spoil materials. The last has greatest potential for landscape impacts, although the Structure Plan requires tipping away from areas of conservation value.

7.23. Electricity has been brought to Orkney by the Hydro Board, and is evident in the 'hydro-poles' crossing the landscape. The Council is keen that renewable energy is encouraged, provided that the environmental impact of such development is minimised. The nature of landscape impacts will be determined by such factors as the scale of development, its location and integration within the landscape. This will require that detailed landscape assessment is used in the siting and design of these developments. Detailed landscape assessment is a component of environmental assessment which is often required for such development.

7.24. From many parts of Mainland, and elsewhere, the wind turbines of Burgar Hill and radio masts on other hill tops can be clearly seen. The large wind generator on Burgar Hill is currently being repaired with a view to recommissioning and stands as an important landmark in the landscape.

7.25. The development of further wind power is a possibility in Orkney. Turbines of the size of the main Burgar Hill tower can be very obtrusive and other such developments would require a thorough assessment of environmental impacts, most likely through a formal environmental assessment. The smaller sized turbines might be more easily accommodated in the landscape, but guidelines will be needed to ensure that the most important factors in each landscape type are addressed by proposals, and these proposals would also need to be thoroughly assessed for environmental impacts.

7.26. The landscape effect of vertical telecommunications structures is similar to that of the smaller wind turbines. The Structure Plan has stated requirements which must be met for proposed construction of radio masts and other telecommunications, which include that the structures should be not unduly obtrusive in regard to visual amenity. This should be widened to include threats to the integrity of landscape character.

Tourism developments

7.27. Tourism makes an important contribution to the Orkney economy, with total visitor spending in 1991 of £24 million. The landscape, both cultural and natural, is the main attraction for visitors. However, there are aspects of tourism development that create pressures on this landscape and which may hinder its potential to make a major contribution to more remote economies. Orkney Islands Council and Orkney Enterprise have set out proposals to counteract these negative impacts.

7.28. Tourism in Orkney is characterised by a very short visitor season, and by the concentration of visitors that stay in Mainland to visit the most popular sites such as Skara Brae and Maes Howe. Recent years have seen the initiation of new schemes to rejuvenate the tourist sector. Two thirds of visitors state that archaeology is their first reason for coming. However, visitor numbers are already damaging the world-class sites of the Ring of Brodgar and Skara Brae, while the temporary overcrowding can reduce the visitor experience. Investment in new archaeologically derived visitor attractions would reduce the impact on the established ones. The Environmental Heritage Trust is an independent charity established by the Council with powers to acquire and manage land or buildings for access to and protection of archaeological, wildlife or landscape value. A number of countryside visitor sites and walks have been established which offer interpretation of the facilities of value to both local people and visitors. From 1989 to 1992, a Tourism Development Programme was run in the islands by the Highlands and Islands Development Board and its successor, Highlands and Islands Enterprise, and by Orkney Islands Council. This programme concentrated on upgrading the existing tourist facilities, a policy which has been continued by Orkney Enterprise. The restoration of traditional buildings has been favoured within this programme. Farm Diversification Schemes may also incorporate the provision of accommodation which can lead to the re-use of redundant buildings.

7.29. These measures have already begun to address the problems of the tourist sector in Orkney. However, it is recognised by the Council and Orkney Enterprise that further measures are required to dissipate the economic benefits of tourism out to the remoter islands, and to protect the landscapes of Mainland in particular from heavy use by visitors and indiscriminate tourism development.

7.30. Plans for future management of the tourist sector from Orkney Islands Council and Orkney Enterprise will shape future developments in this sector through strategic planning, and the creation of schemes to financially assist appropriate developments. Council policy is to continue to create visitor sites and pedestrian routes, including site interpretation, which should be of benefit to both visitors and locals. In addition, the Council will ensure that the value of certain sites is not detracted from by heavy visitor use. Orkney Enterprise's strategy is to improve training and marketing, and to improve the quality of accommodation. Orkney Enterprise's objective is to use marketing to attract more visitors, extend the season, encourage longer stays in the islands, and to attract visitors to the remoter areas.

7.31. Orkney Enterprise will fund community projects, and it appears that there is an excellent opportunity to combine this with tourism-related developments such as the promotion of cultural events and festivals; and development of community facilities such as community centres and sports facilities. In this way, the tourist sector can be specifically geared towards the provision of services and facilities which are compatible with local needs. The energy which a strong but well-managed tourist presence can bring to local economies and cultures should also sustain these communities beyond the tourist season.

DEVELOPMENT PRESSURES AND CHANGES: KEY ISSUES

7.32. The key landscape related issues to be addressed by planning and management guidelines are summarised as follows:

- The demand for residential developments in the open landscape of Orkney requires stringent locational and design control if the character of the landscape is not to be seriously compromised.
- The kit-house designs used to date are generally unsympathetic to the Orkney landscape and building traditions.
- The growth of farm complexes to accommodate livestock over-wintering and fodder has created large scale blocks which can be obtrusive in the landscape.
- Traditional farm buildings abandoned and ruinous are projecting a negative image in the landscape as a whole.
- The abandonment, or lack of effective management, of former agricultural areas is creating a desolate character in some of the remote areas, particularly, the North Isles.
- Some road improvements have, and others may potentially remove or alter important local characteristic features.

- Demands for future quarrying and sand extraction are likely to affect sensitive landscapes.
- Mechanised peat cutting is creating scars in parts of the moorland landscape.
- Improvements to public utilities require significant engineering and building projects which create corridors through the landscape and require a number of strategic building sites.
- Further windpower developments would require a detailed assessment of visual and other environmental impacts.
- Tourism developments may help to sustain rural communities and provide the means for landscape and building conservation work.

GENERAL PLANNING AND MANAGEMENT GUIDELINES

7.33. The open nature of the Orkney landscapes, lacking, in most areas, topographic enclosure or other framing elements, determines that the majority of developments are open to view from considerable distances and can potentially have significant visual impacts. Traditional buildings of various forms and scales merged harmoniously with the landscape through their positioning and use of indigenous natural materials. A similar harmony is required today for contemporary developments if the character of the islands is not to be spoilt.

7.34. ***The following summary of guidelines indicate the general planning and management requirements in relation to development pressures in the landscape:***

- ***Design guidance for new housing in Orkney is required. This should be a statutory document and provide explicit guidance on the following:***

  (i) siting in the landscape relative to topography, landscape features and other buildings;

  (ii) design, sizes and forms appropriate to rural Orkney and its different landscape types;

  (iii) design of materials and colours to ensure harmony with the landscape and to reduce importation of alien products/materials. Careful use of colour is particularly important in integrating new buildings into the landscape, and inappropriate colours can make buildings appear obtrusive.

  In addition, design assistance and encouragement should be given to:

  (iv) design for adaptability to reduce the need for future ad hoc extensions and to accommodate rurally based businesses;

  (v) design for energy efficiency and ease of maintenance.

- *Ideas on rural house design have been developed by the Royal Incorporation of Architects in Scotland within their publication: 'Fields of Vision: New Ideas in Rural House Design' (Jarman, 1993); many of the concepts developed in the document are appropriate for application in Orkney to develop a new vernacular architecture and design. These ideas should be promoted in Orkney, and design and technical assistance made available to those wishing to pursue an environmentally sensitive approach.*

- *Encouragement should be given to the design of approved 'kit-houses' tailored to the Orkney landscape. Liaison with potential suppliers and builders should be made to establish their co-operation.*

- *Design guidance should extend to cover farm buildings and provide supplementary information to PAN 39 (Scottish Office, 1993).*

- *Encouragement should be given for woodland framework planting before and after developments. Large prominent houses and farm complexes should receive priority treatment. Around smaller scale development, growth of hedgerows should be encouraged.*

- *Development should be restricted within zones of visual influence of the main archaeological sites. These restrictions should deny development proposals that would interfere with silhouette/ skyline views and that would detract from the general aura of the monuments.*

- *Encourage initiatives to secure new uses for traditional buildings and to enable their restoration.*

- *Develop a road and footpaths strategy that identifies a programme of conservation, restoration and enhancement for key features along the road or footpath corridor.*

- *Ensure environmental assessments of quarry or sand extraction proposals consider fully reinstatement proposals and the timescale over which landscape disturbance is likely. Support application of NPPG 5 and PAN 42 guidance (Scottish Office 1994a & b) in considering these .*

- *Introduce measures to limit or prevent the use of mechanical peat cutters and encourage the use of more discreet methods of peat storage and transportation, i.e. which involves alternatives to coloured plastic fertiliser bags.*

- *Ensure public utility pipelines corridors do not require the removal of important characteristic features, e.g. trees or walls, and that sensitive habitats are not disturbed.*

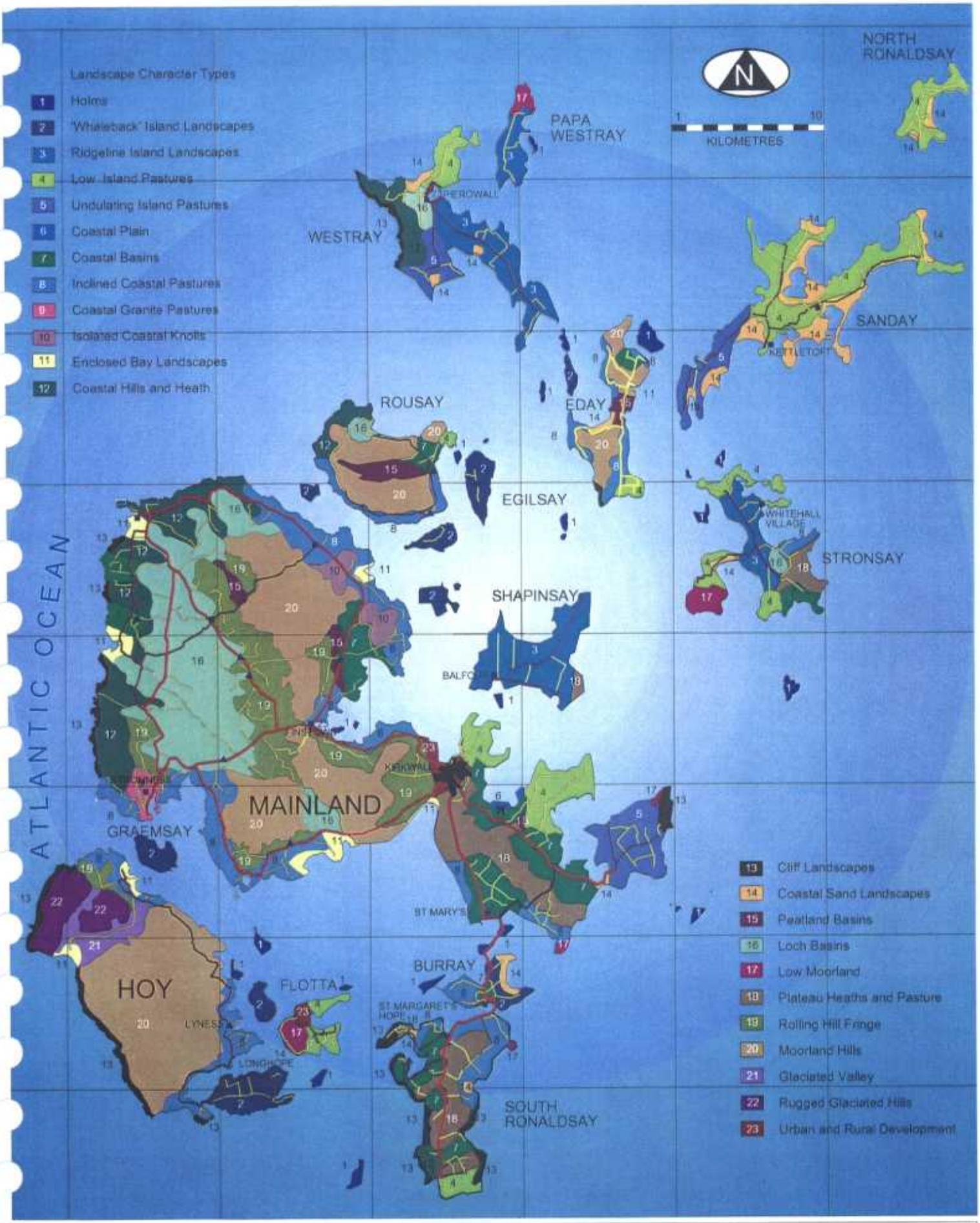
- *Examine the potential for utilising derelict or disused buildings as part of the utilities improvements programme.*

- *In accordance with the approach recommended by NPPG 6 (Scottish Office, 1994c), we consider that Orkney Islands Council should take a proactive role in defining areas with potential for windpower development which do not conflict with other environmental sensitivities - including effects on landscape character.*
- *Encourage 'green tourism' initiatives that can allow and support integrated countryside management and in particular, the conservation of wildlife and the archaeological resource.*
- *World Heritage Area status for Orkney on the basis of its archaeology (as recommended by the UNESCO committee) would highlight further the need for sensitive landscape management, and should be pursued by Orkney Islands Council.*
- *Encourage job creation within sympathetic development in the countryside (e.g. Quoyloo Brewery) to reduce commuter pressure.*

PART FOUR: LANDSCAPE CHARACTER

The first impressions of Orkney are that its landscape has much unity. The geology is relatively unvaried, so that the variety of the landscape is subtle and most discernible to those with time to study and experience the islands. The interaction between physical and human forces since settlers arrived on the islands over 5,000 years ago is still clearly expressed in the landscape. The Orkney landscape has been assessed using desk study and field survey, using the methodology described in Chapter 3. This enables the landscape character to be described in a hierarchical framework which establishes the patterns of landscape variations. This is done by identifying and describing Regional Character Areas, Landscape Character Types, and Island Character Areas.

See Figure 10 and Plates 4 to 7 on the following pages for a map and photographs of the Landscape Character Types



Landscape Character

Figure 10

Type 1: Holm Landscape

Type 2: 'Whaleback' Island Landscape

Type 3: Ridgeline Island Landscape

Type 4: Low Island Pastures

Type 5: Undulating Island Pastures

Type 6: Coastal Plain

LANDSCAPE CHARACTER TYPES: INDICATIVE PHOTOGRAPHS

PLATE 4

Type 7: Coastal Basin

Type 8: Inclined Coastal Pastures

Type 10: Isolated Coastal Knolls

Type 11: Enclosed Bay Landscapes

Type 12: Coastal Hills beyond Low Island Pastures (Type 4)

Type 13: Cliff Landscapes

LANDSCAPE CHARACTER TYPES: INDICATIVE PHOTOGRAPHS

PLATE 5

Type 14: Coastal Sand Landscapes

Type 15: Peatland Basins

Type 16: Loch Basins

Type 17: Low Moorland

Type 18: Plateau Heaths and Pasture

Type 19: Rolling Hill Fringe

LANDSCAPE CHARACTER TYPES: INDICATIVE PHOTOGRAPHS

PLATE 6

Type 20: Moorland Hills

Type 21: Glaciated Valley

Type 22: Rugged Glaciated Hills

Type 23: Urban Development

LANDSCAPE CHARACTER TYPES: INDICATIVE PHOTOGRAPHS

PLATE 7

8. LANDSCAPE CLASSIFICATION AND HIERARCHY

REGIONAL CHARACTER AREAS

8.1. The Orkney archipelago is recognisable as a distinct landscape 'region', based on the general characteristics of geology, landform, land use and historical associations. It is also the fact that it is a group of islands that contributes to its unity of character, particularly in the importance of the sea. Its isolation from mainland Scotland, yet mutual inter-independence, has created a strong identity for the County. It is concluded, therefore, that the County of Orkney constitutes the 'Orkney Regional Character Area'.

LANDSCAPE CHARACTER TYPES

8.2. Landscape character types are tracts of countryside, defined at a more detailed level, which have a distinct character due to particular combinations of landform and landcover and a consistent pattern of constituent elements. Landscape character types are generic: they can be found anywhere where distinct combinations of features occur. There are 23 landscape character types in Orkney.

ISLAND CHARACTER AREAS

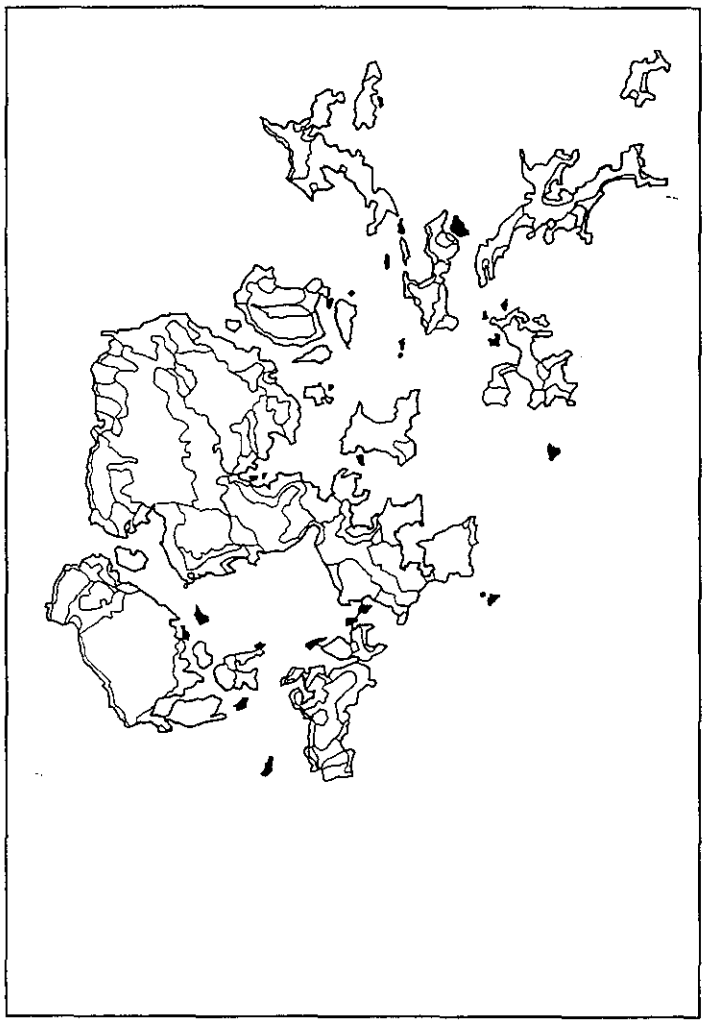
8.3. Although there are many similarities between the islands of Orkney, there are also many characteristics which reflect the individual history of each. For that reason, descriptions of 'Island Character Areas' have been included for the main inhabited islands. Each contains several landscape character types.

LIST OF LANDSCAPE CHARACTER TYPES

(The letters in brackets are used to identify individual Landscape Character Types in Chapter 10: Island Character Areas, page 185 onwards)

9. LANDSCAPE CHARACTER TYPES

TYPE 1: HOLMS



Key characteristics

- small uninhabited oval shaped islands;
- smooth domed topography;
- wavecut platforms and occasional low cliffs;
- rough grassland with occasional heath cover;
- prized gems of near perfect prehistoric landscape;
- occasional ruined croft or fishing station;
- occasional beacon or wartime defence structure;
- frequently grazed by sheep;
- valuable for sites for wildlife, seals and, in particular, a variety of sea birds.

General description

Holms are small islands generally oval in plan and measuring less than 2 kilometres in length. They are mostly low, gently domed in profile and fringed by rock platforms. Occasionally, tilted strata have caused the formation of cliffs on one side.

Holms are uninhabited, but are frequently used for sheep grazing. Remnants of former crofts or fishing stations are occasional built features on these smooth islets. Cairns and tumuli are also characteristic features of holms which stand out as artificial irregularities on the natural contours. More contemporary features are beacons and wartime structures which occupy some of the more strategically located holms. Holms are frequently the focus of views from neighbouring inhabited islands, as they interrupt the surrounding sheets of water and provide foreground interest.

Landscape sensitivities

- discontinuation of grazing could prejudice the long established agricultural character of certain holms, i.e. the pasture islands;
- grazing levels possibly threatening important wildlife or archaeological sites;
- holms may be potential sites for new development.

Strategy and guidance

Agriculture

The wildlife and archaeological value of the holms is generally such that grazing levels should be maintained at a level which does not threaten this value. The cultural importance of certain holms as 'pasture islands' should be safeguarded by supporting the continuation of grazing at sustainable levels.

Development

The holm landscapes may be potential sites for developments such as fish farming or other maritime industry. An essential characteristic of this landscape is its appearance in silhouette from neighbouring islands. The low, flat profile and scarcity of structures is an important aspect of this character. Any development proposals would, therefore, require careful siting and design and warrant a visual impact appraisal to ensure that new structures do not obscure sights of prominent cairns or other tumuli. The restoration of existing buildings should be supported in preference to new development where possible.

SUMMARY OF GUIDELINES

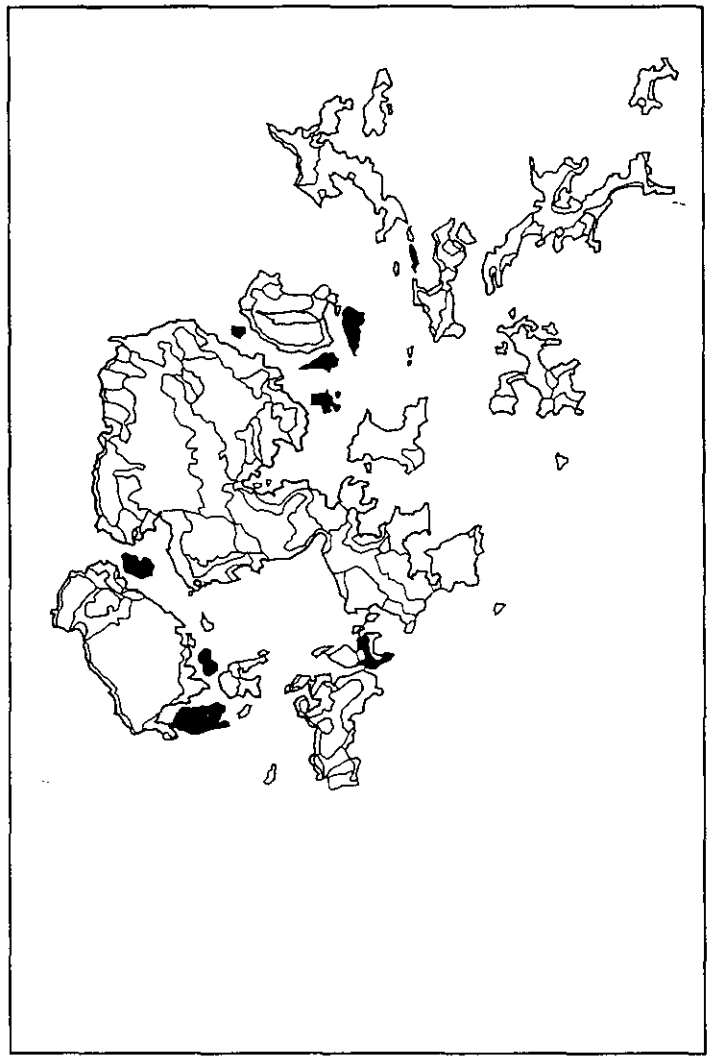
Conservation:

- *Encourage continuation of established grazing use of 'pasture island' holms.*
- *Encourage use of grazing levels which allow conservation of wildlife and archaeological interest.*
- *Apply strict standards to siting and design of buildings to minimise visual impact and to establish a sympathetic relationship with other buildings or structures.*

Restoration:

- *Encourage the restoration and re-use of any traditional structures.*

TYPE 2: 'WHALEBACK' ISLAND LANDSCAPES



Key characteristics

- gently dome shaped islands;
- improved pastures, occasionally in walled enclosures with orientation to the sea;
- scattered settlement associated with the roads;
- abandoned crofts and small farms on more remote islands;
- isolation and solitude;
- consciousness of the plays of light on the sea surrounding the islands.

General description

This landscape type is found on the smaller, mostly inhabited islands in the study area. The exception is Eynhallow which is uninhabited. These islands generally have an uneven oval outline and a domed profile reaching heights of up to 50m. Slopes are generally gentle and convex, dropping to a low undramatic coastline of rock platforms and shingle beaches.

The vegetation is predominantly improved grass with some rougher grass and heathland. The improved pastures are enclosed in fields, sometimes walled, with an orientation down to the sea. The settlement pattern is generally scattered, served by a sparse road network that crosses and circles the island giving access to individual properties by dead end tracks. Abandoned crofts are a feature of the smaller islands. Feelings of isolation and solitude are generated by the small size of this island landscape and by the scarcity of population.

Landscape sensitivities

- depopulation and the potential abandonment of property/decline in agricultural management;
- lack of maintenance of drystone walls;
- peat cutting;
- sensitivity of smooth island topography to large and poorly sited development;
- potential sensitivity to agricultural diversification projects, particularly tourism/recreation related.

Strategy and guidance

Agriculture

Drystone wall field boundaries and variety in grazing management enhance the patchwork appearance of these islands. The maintenance and extension of stone wall enclosures should be encouraged to maintain the character of this area, and the current mix of improved and semi-improved pasture and unenclosed rougher grasses and heathland should broadly be maintained. Peat cutting is not a major problem at present, but further expansion should be monitored.

Development

The smooth and generally low topography of these islands is a dominant characteristic which should be protected from obtrusive development. This might be achieved by siting new buildings below the skyline and with a seaward orientation. Unavoidable skylining should ensure that development has a mass and profile that is sympathetic with traditional buildings and building groups. Proposals for tall structures should incorporate a visual impact assessment. Support for the restoration of traditional buildings should be given. The potential for tourism related restoration projects should be investigated.

SUMMARY OF GUIDELINES

Conservation:

- *Encourage nature conservation-friendly agricultural practices and retention of rough grassland, wetlands and machair grasslands.*
- *Encourage retention of existing field patterns based on 19th century layout, i.e. prevent field enlargement and wall removal.*
- *Encourage the maintenance and extension of stone wall enclosures.*

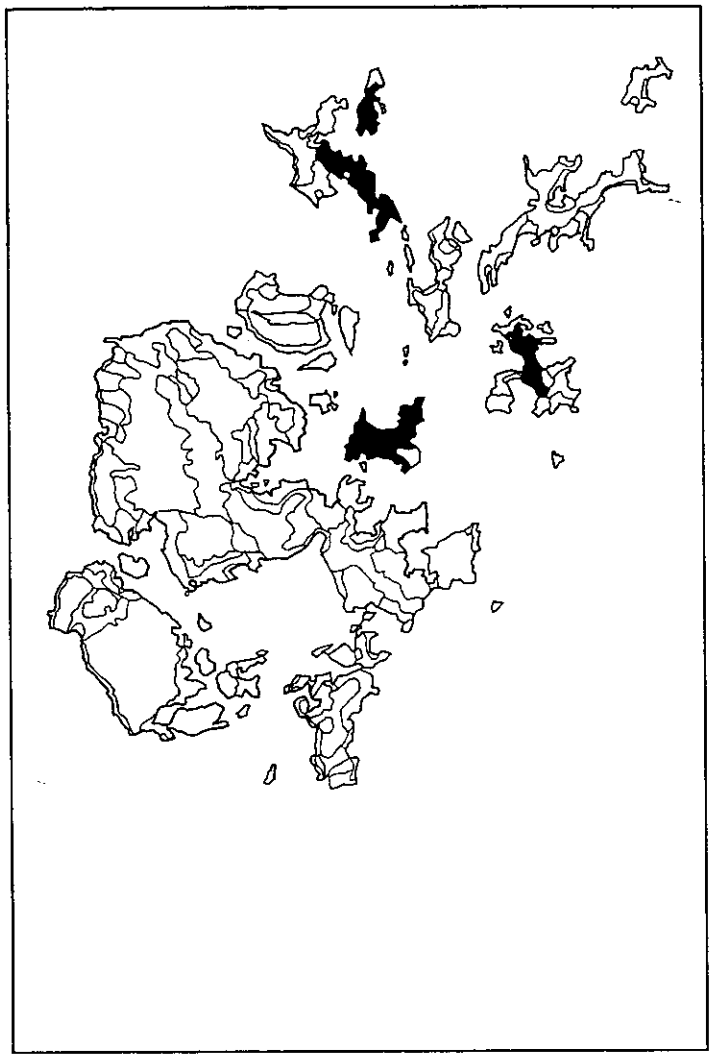
Enhancement:

- *Careful control of building siting and design, particularly with regard to skyline/ silhouette impacts should be encouraged.*
- *New building should be oriented in relation to the coast, and should reflect the scale and colouring of traditional buildings.*

Restoration:

- *Encourage restoration and redevelopment of abandoned crofts/farmsteads where feasible.*

TYPE 3: RIDGELINE ISLAND LANDSCAPES



Key characteristics

- elongated narrow islands with a single ridgeline along their length;
- gentle and consistent slopes down to the coast;
- main roads following the ridgeline in straight sections;
- 19th century rectilinear pattern of fields and minor roads;
- shallow bays, shingle beaches and wave-cut platforms;
- rich archaeology along the coastline.

General description

The Ridgeline Island Landscape is typical of the longer narrow islands which have a simple ridge line topography along their length. Strong characteristics of this landscape are the alignment of the main access road along the ridgeline with perpendicular side roads running down the contours towards the coast. The side slopes are generally consistent allowing uninterrupted views to the sea on both sides of the island.

This landscape is similar in several respects to the Inclined Coastal Pastures landscape, although it lacks the hinterland and visual backdrop provided in that landscape type. Components of this landscape are generally of more recent origin, stemming from 18th/19th century estate modernisation and resettlement rather than crofting landscapes.

Straight roads with sharp changes in direction are essential features of this landscape. Squared fields of regular sizes are also common. The coastline is generally low and undramatic, but often contains a rich archaeological resource outwith the heavily cultivated field system.

Landscape sensitivities

- maintenance of agricultural features;
- impacts of large scale modern farm developments;
- skylining of new development on ridge line;
- potential impacts of fish farm related developments in bays/at the end of local access roads.

Strategy and guidance

Agriculture

Most of this landscape is agricultural and as such is influenced by farm management practices. The patterns of colours and textures are largely determined by field sizes, shapes and boundary treatments. The geometric 19th century field pattern is dominant and is of cultural significance. Alterations to this pattern should, therefore, be discouraged. Furthermore, established field boundaries should be reinforced by wall restoration, fence reinstatement, and by leaving uncultivated field margins. The re-establishment of field boundaries removed during the past fifty years would also increase landscape diversity and improve the potential for wildlife. Uncultivated areas, particularly wetlands and the coastal fringe, heath and grasslands, should be protected from field enlargement/ploughing and drainage works. This should serve to protect undiscovered archaeological deposits, wildlife habitats and visual diversity.

Development

This landscape type provides productive farmland with an efficient infrastructure and desirable sea views. It is, therefore, potentially attractive to development (residential and farm related). Ridgeline development may be especially attractive as it might afford sea views in two directions. Such development could, however, be obtrusive if not associated with existing developments to form part of a nucleated settlement, or well spaced along the ridge/road line. Generally, development on the side slopes, below the ridgeline, would facilitate visual integration.

The lower slopes of the ridgeline landscapes often end in shallow bays accessed by minor roads or tracks. These may be potential sites for fish farm development. It is possible that this could be accommodated in the landscape, but careful siting and design of onshore structures would be required to avoid the ad hoc and temporary appearance of the 'sheds' currently in use. Proposals for such development should be assessed against the desirability of using existing access roads and the presence of coastal landforms, within which new buildings and yard space could be sensitively sited. Most traditional developments in this landscape are enclosed by drystone wall boundaries. New developments should incorporate new wall boundaries to match the local style and materials.

SUMMARY OF GUIDELINES

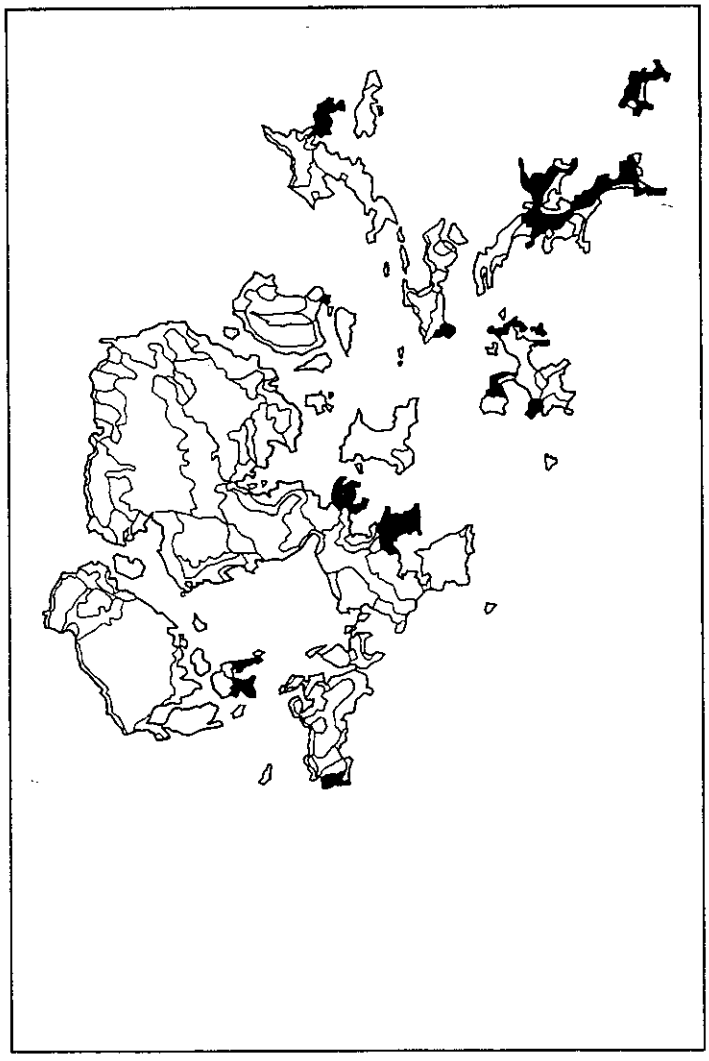
Conservation:

- *Encourage preservation of the culturally significant field patterns laid down in the 19th century.*
- *Protect the coastal strip from expansion of cultivation that may be damaging to undiscovered archaeological resources and wildlife habitats.*

Enhancement:

- *Maintain and extend drystone walls around new developments.*
- *Encourage wildlife diversity in farm management.*
- *Direct development proposals to sites below the ridgeline in order to obtain "backclothing".*
- *Assess visual impact of proposals for development on ridgeline against the desirability of preventing ribbon developments on the horizon.*
- *Assess fish farm proposals against the potential for sensitive siting and the use of existing access roads.*

TYPE 4: LOW ISLAND PASTURES



Key characteristics

- low and generally flat topography;
- open and extensive views;
- prominent built features and local topographic variations such as farm mounds, Treb-dykes, settlements and farmsteads;
- large regular fields with some Machair and links grasslands;
- occasional wetlands often appearing as sheets of water in the landscape with little topographic enclosure;
- dominant skies;
- experiences of exposure and vulnerability;
- mobile landscape - many major changes, often due to human influence, over the last 6,000 years.

General description

The Low Island Pasture landscape type is generally flat and below approximately 10m A.O.D. It typically allows extensive views from one side of the island or headland to another, and from remote viewpoints it registers only faintly on the horizon during misty conditions. It is often the product of sand deposition and, therefore, is closely related to the Coastal Sand landscapes in several areas. Machair and links grasslands are typical of this landscape type, although not present in all areas. Buildings and isolated topographic features stand out in this landscape; coastal dunes, farmsteads, farm mounds and Treb-dykes have, therefore, significant visual impact. Where machair grasslands occur they contribute seasonal colour and ecological diversity distinct from the predominant cultivated grasslands in Orkney. The generally flat and low lying nature of this landscape type creates an openness that can feel exposed and vulnerable to the elements, particularly the possibility of flooding or inundation by the sea.

Landscape sensitivities

- conservation of machair and links grassland areas;
- sensitivity of flat and open landscape to development;
- potential flooding/inundation problems;
- loss of drystone walls may threaten to destabilise sand based pastures;
- damage by coastal erosion and potential loss of rich archaeological deposits;
- damage by rabbits to turf cover and monuments.

Strategy and guidance

Agriculture

The wildlife value of the vegetation (particularly links and machair grassland) is largely dependent on sensitive agricultural management. The presence of these grasslands and their botanical diversity is a very important landscape element which should be conserved through sustainable grazing practice and by addressing the rabbit problem. Shallow wetlands occur regularly in this landscape and provide valuable habitats for a variety of birdlife and other animals. These features should be conserved and protected from drainage operations, infilling or alterations to the local hydrology.

In this very open landscape, field boundaries are important features in the landscape. The absence of topographic enclosure and the instability of sandy soils makes them valuable in both visual and practical terms. Drystone walls should, therefore, be maintained to preserve soil stability, visual and cultural interest.

Development

All development would be obtrusive in this landscape, particularly on the flat headland areas of East Mainland and Stronsay. It is recommended, therefore, that new development is carefully controlled in these landscapes, particularly with regard to massing, design quality and the treatment of highly visible peripheral areas. The groupings of new farm buildings should seek to enclose yard areas and avoid obscuring the traditional buildings. The contemporary design of new domestic buildings for this landscape should, ideally, reflect the mass and form of vernacular buildings, in particular, that of longhouses, suited to this low, flat landscape.

SUMMARY OF GUIDELINES

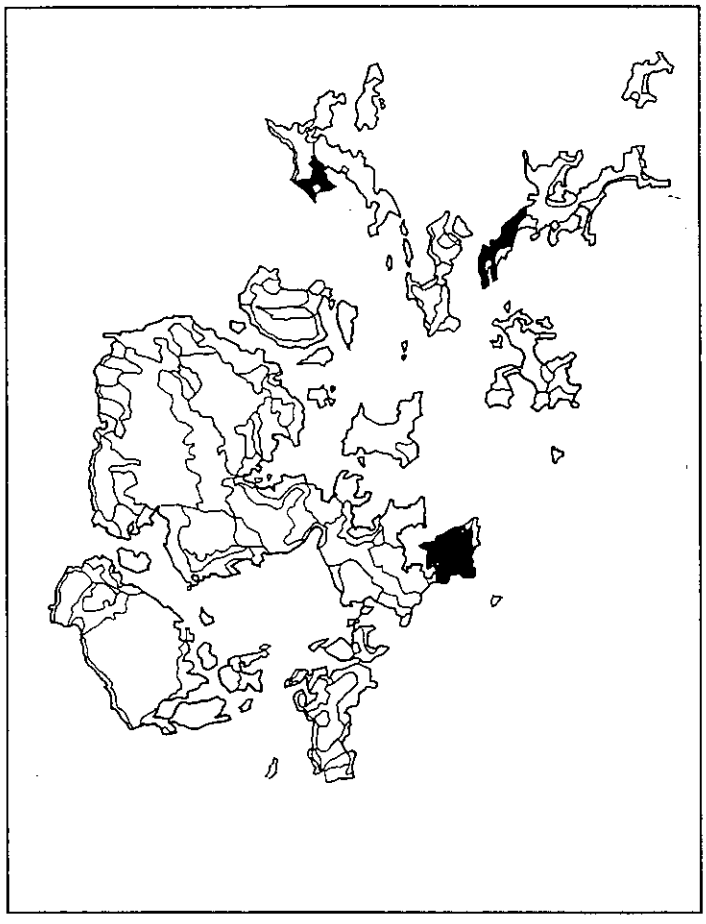
Conservation:

- *Sustainable grazing levels should be pursued to conserve the wildlife interest of links and machair vegetation.*
- *Maintain drystone wall boundaries.*
- *Encourage preservation of existing wetlands and uncultivated areas.*
- *Strict design control of development on flat headland areas is required.*
- *Address rabbit control problem.*

Enhancement:

- *Encourage greater wildlife diversity in farm management, for example, leaving field margins uncultivated.*
- *Where development is needed, adopt building styles which respect the vernacular tradition and building forms.*

TYPE 5: UNDULATING ISLAND PASTURE



Key characteristics

- undulating topography up to 100m;
- generally weak relief with an open character, except in deeper depressions where there is local enclosure;
- improved pasture in large, generally fenced, fields;
- regular farmsteads and occasional nucleated settlements;
- strong drystone wall pattern around large farms or houses;
- sheep and cattle grazing;
- strong visual relationship with the sea from highest areas.

General description

This landscape type is found on two islands, and on one headland area of East Mainland. The topography is undulating, reaching maximum heights of about 100m. This landscape lacks strong topographic features and is composed of a homogeneous mixture of gentle hills, ridges and depressions which create local enclosure in the lower areas. The landcover is predominantly improved pasture in fairly large fields. The field pattern creates a patchwork of greens and straw colours which is visually distorted by the apparently random undulations of the landscape. The fields are mostly fenced, although walled enclosures are also found, creating particularly strong patterns where they are associated with a large farm or house. Sheep and cattle graze these pastures. An important feature of this landscape is that it is closely related to the coast and sea, with views from high vantage points being strongly influenced by the surrounding expanse of water.

Landscape sensitivities

- open landscape sensitive to visual intrusion, except in pockets of low ground enclosed by landforms;
- intensive agriculture denying opportunities for nature conservation and development of wildlife habitats;
- visual relationship with sea sensitive to obtrusive development on higher ridges and knolls;
- maintenance of drystone walls.

Strategy and guidance

Agriculture

Agriculture is the main land use in these landscapes and, consequently, the main opportunities for landscape conservation or enhancement are through farm management. Topographic variety creates a less open and exposed landscape with opportunities for wildlife habitat enhancement, particularly in wetter areas of low ground or on steeper slopes. Topographic variations should be used to guide management for wildlife diversity and could include small scale woodland planting in sheltered hollows and the retention of wetland. Drystone wall field boundaries should also be maintained or rebuilt to their original patterns around the large farms, where their presence is an important legacy of 19th century estate farming. The more open areas of this landscape are sensitive to obtrusive developments. New buildings for farm use should be sited in a way that utilises topographic variations to integrate the buildings and screen yard space. This may require the use of smaller footprint buildings to avoid insensitive earthworks or obtrusive siting.

Development

The proximity of this landscape to the sea and its relatively elevated position make this an attractive landscape on which to site new housing. This, however, can appear obtrusive, and any new development should be confined to areas of this landscape where more varied topography offers some opportunity for screening. The strong visual relationship with the sea is an important characteristic of this landscape. Any developments proposed in these visually sensitive areas should adopt the local pattern of building distribution and, ideally, should restore traditional buildings, if available.

Any expansion of nucleated hamlets should be done with respect to the existing form of the settlement and to the vernacular building tradition.

SUMMARY OF GUIDELINES

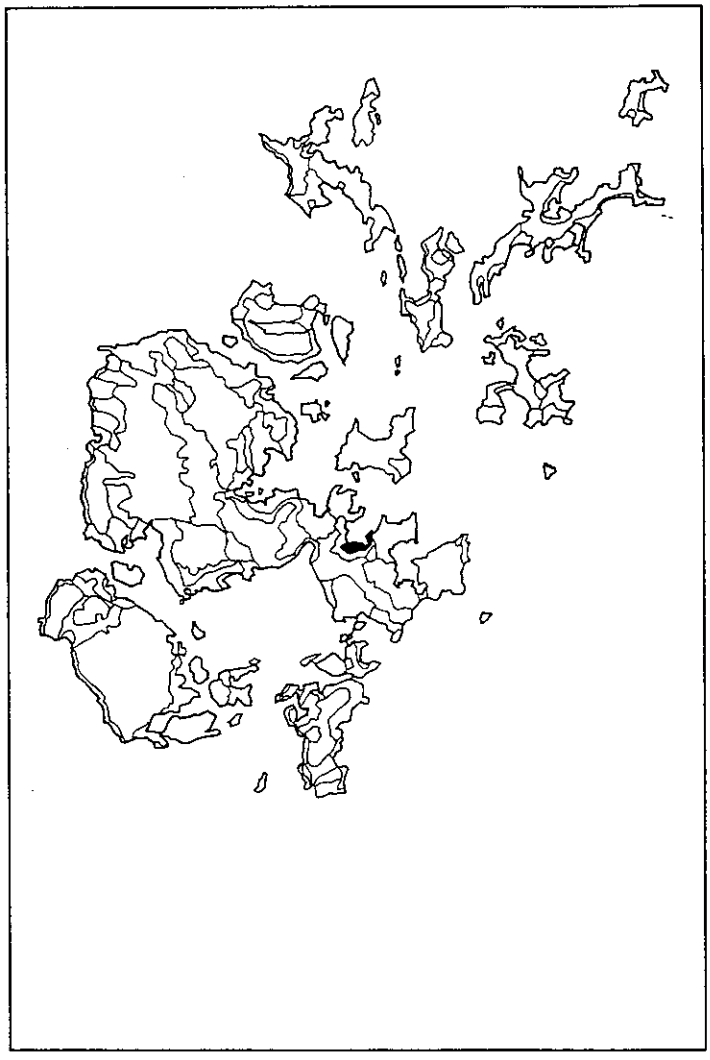
Conservation:

- *Maintain and extend drystone wall field boundaries.*

Enhancement:

- *Encourage farm management to increase wildlife diversity, particularly through a relationship with topographic variety.*
- *Avoid siting buildings on open or prominent sites. Use topography to screen new development where possible, and avoid obtrusive development within key vistas.*
- *Respect vernacular building tradition in any proposals for village or hamlet expansion.*

TYPE 6: COASTAL PLAIN



Key characteristics

- flat coastal edge to a higher hinterland;
- remnants of large square field boundaries around rough grassland;
- strong visual relationship with the sea;
- remnants of wartime air defences and airstrips.

General description

This landscape type is found at one location on the coastal edge of Mainland. The land is very flat with a low shoreline, and appears to almost merge with the sea. This contrasts with the hinterland which tends to rise steeply, creating a backdrop to the coastal plain. The consistent level nature of this landscape gives it the appearance of land reclaimed from the sea. This is emphasised by the large rectilinear field patterns. Landcover is predominantly rough grassland. These are grazed by cattle and occasionally sheep. Historically, this landscape east of Kirkwall provided an ideal site for wartime airstrips, the remnants of which are still visible adjacent to the existing airport. Development is otherwise widespread and tends to be located on locally higher ground or further inland.

Landscape sensitivities

- high visibility of coastal plain from higher hinterland makes the landscape sensitive to any new developments and landscape management changes;
- potential pressures for development, particularly around Kirkwall Airport;
- the flat and accessible nature of this landscape may encourage proposals for large scale building developments, e.g. industrial, airport related or farm sheds. These would be highly obtrusive and may obscure sea views from adjacent roads.

Strategy and guidance

Agriculture

Much of this landscape is under pasture or is part of the airport area. Field enlargement would potentially create a bland, unvaried landscape. Retention of traditional field patterns and restoration of lost field boundaries should be encouraged. Where present, the maintenance of drystone walls would enhance the definition of this landscape.

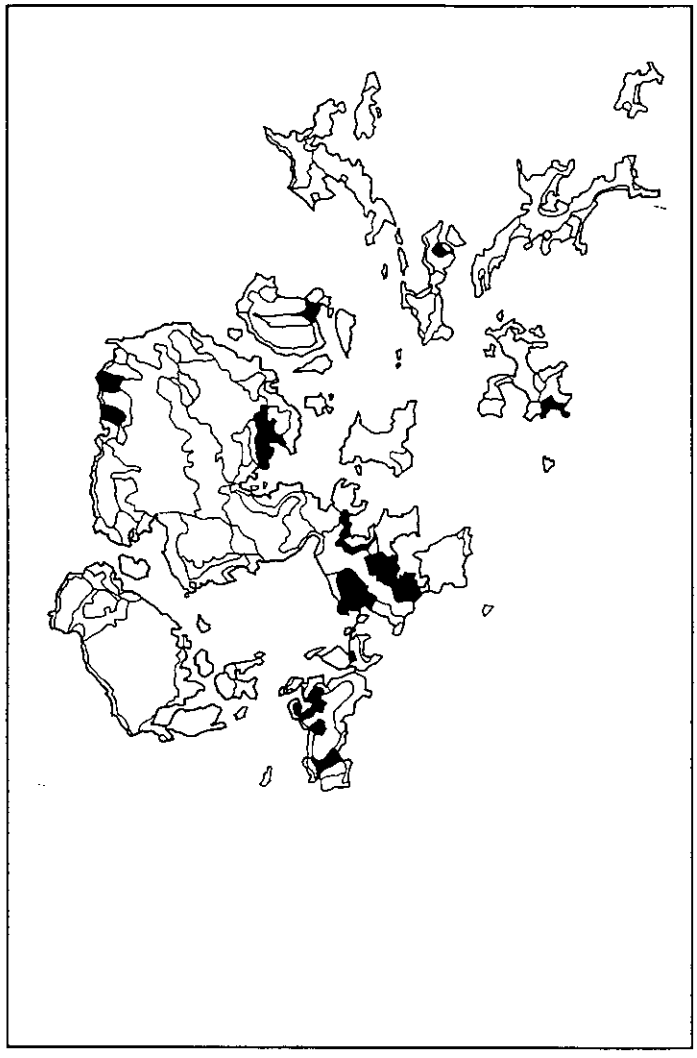
Development

New housing or other development should be kept away from the coastal edge as this would break the continuity of flat land and sea at the coast. Sites on the lower slopes of the adjacent hills may be suitable for development, particularly where the hills can provide a backdrop.

SUMMARY OF GUIDELINES

- *Maintain field boundaries, particularly stone walls to enhance the structure of the landscape.*
- *General presumption against any development on the coastline.*
- *Seek to provide total backdrop to new development by siting on lower hill slopes.*
- *Have regard to key visual relationships with the sea.*

TYPE 7: COASTAL BASINS



Key characteristics

- wide basin landform open to the sea;
- smooth relief dropping to sea level from surrounding hills and cliffs;
- productive agriculture; improved grazing, cultivated grass and arable crops;
- wetland and small lochs in lower ground and along watercourses;
- 'ouse' waterbodies behind coastline;
- estate farms with rectilinear field walls;
- good road access to lower ground.

General description

The Coastal Basins landscape type extends inland from the coast and is cradled by higher ground in the form of a wide basin. This landscape is generally very productive and well farmed as pasture and some arable fields. The exception is the lowest ground which frequently contains wetland or small lochs. Ouse waterbodies are also characteristic of the basin landscape's coastal edge. This landscape is settled and typically contains large estate farms with characteristic farmstead buildings and rectilinear field wall patterns. Views out to sea and access to beaches is an attractive aspect of these landscapes, which has no doubt influenced settlement in the past.

Landscape sensitivities

- drainage and reduction of wetter basin vegetation and land locked waterbodies;
- expansion of cultivation potentially damaging coastal sand features and archaeology;
- maintenance of stone walls;
- visual intrusion of developments into coastal basin.
- fish farm developments may target this landscape if conditions are suitable;

Strategy and guidance

Agriculture

Wetlands are a characteristic feature of these basin landscapes. Their semi-natural vegetation and the presence of open water provides a variety in the otherwise cultivated scene. Reclamation of these wetlands to enable expansion of fields should be discouraged. However, the development of more diverse and extensive wetland habitats should be supported and advice provided by appropriate nature conservation agencies.

Existing stone walls should be maintained to provide viable field boundaries for pastures. This would benefit landscape character, particularly where the walls emphasise underlying changes in topography and distinguish the core of historically important farms. This agriculturally productive landscape contains several large farms, some of which have become unsightly due to the inadequate planning and design of new building additions and extensions. These would generally benefit from the establishment of a tree framework, the enclosure of yard areas and the use of co-ordinating paintwork. Proposals for further farm developments should be encouraged to apply government design guidance and determine the appropriate layout, building mass, roof pitch and colouring for the Orkney landscape and for this landscape type.

Development

The elevated nature of the surrounding hill flanks determines that any developments may be intrusive within the basin. They therefore, require sensitivity in their siting and design. Skylining should generally be avoided, and buildings should be oriented with respect to the contours of the land, and with the sea. The local settlement patterns of resettled crofts, small farms and estate farms, should be used to guide the appropriate distribution of new developments.

Intrusive developments on the basin floor should generally be avoided as they may obscure locally important sea views, become the focus from surrounding areas, and may interfere with the local hydrology.

SUMMARY OF GUIDELINES

Conservation:

- *Protect basin wetlands from agricultural improvement.*
- *Protect uncultivated coastal areas from expansion of cultivation and small scale sand extraction.*
- *Maintain and restore stone wall enclosures.*
- *Avoid intrusive developments on coastal basin floor.*

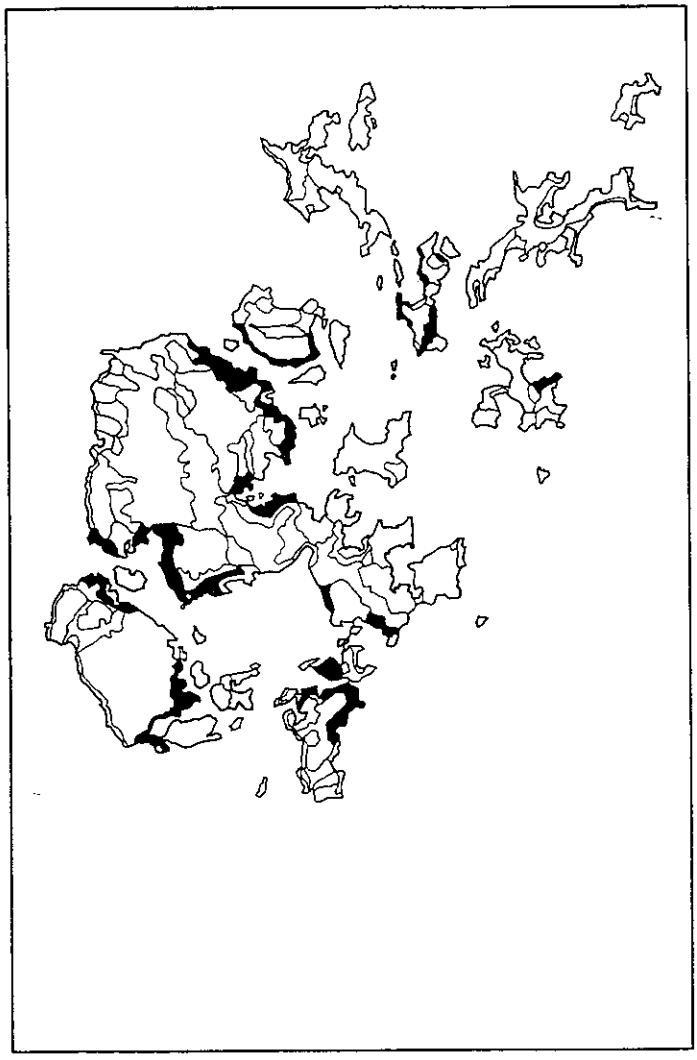
Enhancement:

- *Farm tipping is a problem in certain areas and should be prevented.*
- *Respect local settlement patterns and cultural history in the placement of new developments on the basin sides.*

Restoration:

- *Maintain and restore stone wall enclosures.*

TYPE 8: INCLINED COASTAL PASTURES



Key characteristics

- improved pastures sloping down to coast;
- rectilinear field patterns often with strong orientation to coastline;
- mixture of small scale clusters of resettled crofts and less developed geometric landscape of estate farms;
- roads running parallel to coast, giving access to coastal fringe and higher pastures / moorland;
- occasional large houses / farms with tree frameworks;
- extensive views out to sea and restricted views inland;
- rich coastal archaeology.

General description

This landscape is found in coastal areas, mainly on Mainland, South Ronaldsay, Rousay Eday and Hoy, where pastures slope gently down to the sea, and includes bay coastlines which lack the topographic enclosure of the enclosed bay landscapes. Heights range from 10-50m. Vegetation is predominantly improved grassland, often with rectilinear field patterns with a strong orientation down to the coast. Occasionally these are walled. This landscape frequently contains resettled crofts which are strung out along the coastal strip. These generally have smaller scale, less regular field patterns than the main estate farms, which are recognisable by their more rigid large-scale geometry.

This landscape, being both accessible to the sea and suitable for cultivation, has a rich archaeological resource. The coastal edge typically contains prehistoric sites; brochs are significant features, as are the more contemporary remains of coastal defences from the Second World War.

The orientation of the land to the sea is a particularly significant feature of this landscape, as the fields appear to drop away and merge with the sea. Views out to sea and to other islands are, therefore, extensive, while views inland are more restricted by topography.

Landscape sensitivities

- the effects of agricultural change on coastal pasture;
- decline in drystone dykes;
- possible impacts on archaeological/architectural heritage;
- new building developments.

Strategy and guidance

Agriculture

Land managers should seek to retain the predominant pastoral appearance. Ecological and landscape diversity would be enhanced by leaving field margins unimproved. This would help to define field boundaries, making their orientation to the coast more apparent, particularly where fields are fenced and enclosures are poorly defined.

Drystone walls should be conserved, and restored where they have fallen into disrepair. Restoration should be undertaken in the same style and materials as the original walls. The landscape character could be enhanced by further drystone wall building along field margins which run perpendicular to the sea and around any new developments.

Development

The archaeological and architectural heritage around the Orkney coastline should be protected from obtrusive developments near these sites which would detract from the character of the structure and its setting. New building developments should generally be oriented towards the coast, should avoid skylining where possible, and should attempt to reflect the vernacular tradition in materials and styles, for example in massing and roof pitch. Appropriate development sites should be assessed against the desirability of utilising existing access roads (i.e. avoiding new road construction) and adopting the local settlement pattern, i.e. resembling clustered resettled crofts or isolated farmsteads. Sites of former buildings should be preferred to greenfield sites, providing heritage interests are not damaged.

SUMMARY OF GUIDELINES

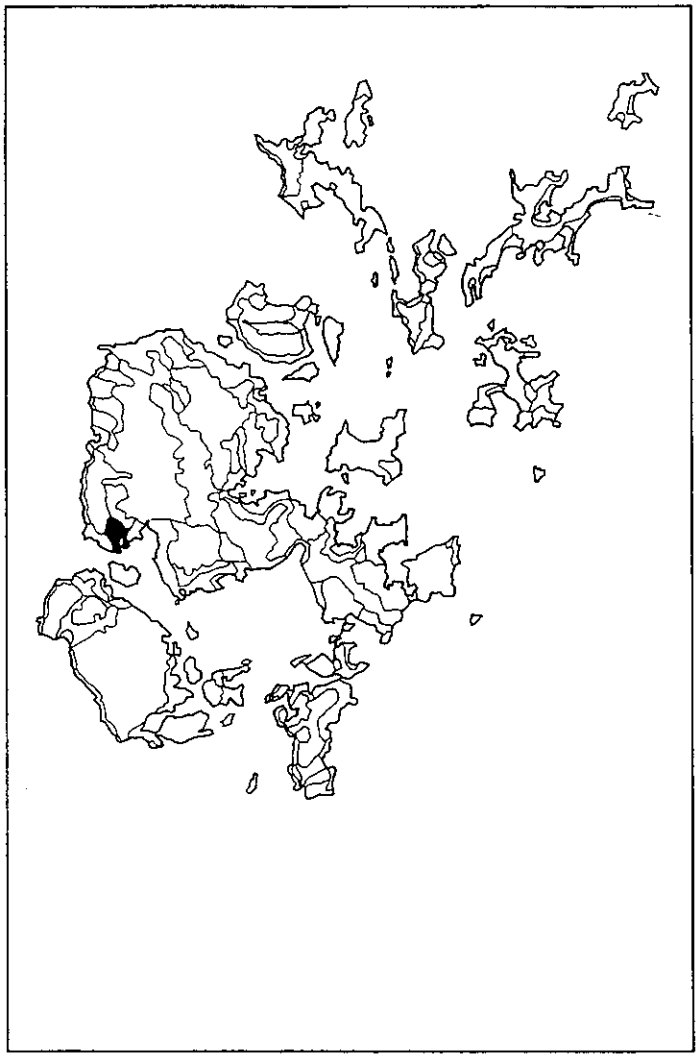
Conservation:

- *Retain predominantly pastoral character.*
- *Maintain drystone walls and extend around new developments; visual emphasis should be placed on those running down to the coast.*
- *Protect archaeological and architectural heritage from obtrusive development which may detract from local views, applying NPPG 5 and PAN 42 (Scottish Office, 1994a & b) when considering development proposals.*

Enhancement:

- *More field margins should be left unimproved to increase wildlife and landscape diversity.*
- *New building should be oriented in relation to the coast, and should reflect vernacular tradition in distribution and design.*

TYPE 9: COASTAL GRANITE PASTURES



Key characteristics

- steeply sloping pastures with strong coastal relationship;
- granite outcrops;
- granite stone walls.

General description

This landscape type is found on the south western coast of Mainland where granite outcrops from the surrounding sandstones. This is unusual in Orkney, in which there are few areas of exposed granite. The land slopes quite steeply up from the coast to a height of around 130 metres.

The vegetation is largely improved or semi-improved with some arable cropping. The steep topography and granite outcrops create quite an intimate yet rough character. Stone walls are particularly distinctive in this area. The sound and smell of the sea, and the bustle of the harbour at Stromness, are important facets in the character of the area.

Settlement is a major component of this landscape type which contains Stromness, the second largest town in Orkney. Stromness has a highly individual townscape, due to the relationship between its traditional buildings and the topography of hill and seafront. The stone buildings and streets curve around the harbour and up the granite hill, forming a distinctive entry point to Orkney for travellers by sea.

Landscape sensitivities

- *maintenance of stone walls;*
- visual intrusion of development.

Strategy and guidance

Agriculture

The granite stone walls are particularly distinctive and should be maintained as a feature. The agricultural landscape could be enhanced by leaving field margins unimproved, which would add diversity.

Development

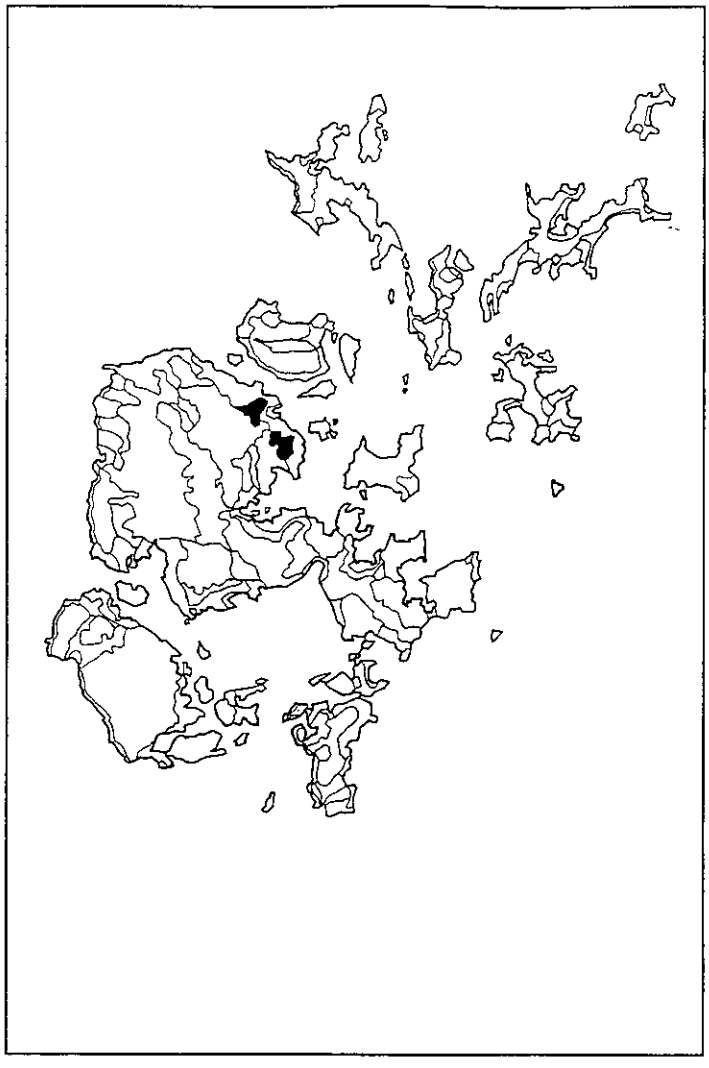
Any development should be designed and sited sensitively. The intimacy of the landscape should not be compromised by visual intrusion of development. Materials for building should seek to reflect the underlying geology.

SUMMARY GUIDELINES

Conservation:

- *Maintain granite stone walls and encourage their repair.*
- *Encourage leaving field margins unimproved.*
- *New development should be sensitively sited and should seek to reflect the underlying geology in choice of materials.*
- *Encourage protection of Stromness buildings and townscape.*

TYPE 10: ISOLATED COASTAL KNOLLS



Key characteristics

- elevated coastal hills;
- improved pasture;
- stone walls which often emphasise the topographic variation;
- archaeological ritual and burial sites;
- elevated position allows views along the coast.

General description

This landscape type is found at two elevated coastal locations onWest Mainland, at heights of between 50 and 150 metres. These hills stand prominently from the surrounding undulations of hills and coastal basins as distinct topographic features. Both Vishall and Enyas are steep-sided. The vegetation is largely unimproved and enclosed, with rougher unenclosed areas.

Some stone walls occur, emphasising the topographic variation. A small network of tracks and isolated farmsteads are also evident. This landscape type contains some archaeological interest, largely related to the elevated position for ritual and burial practices. Vishall has a number of Neolithic chambered cairns on its western edge, while tumuli are located on the flanks of Enyas.

Unlike other hill landscapes which offer views down to the coast, the location of these hills affords views along the coast. Views out to sea, and particularly over to Rousay, are significant from this landscape.

Landscape sensitivities

- further improvement of hill pastures, or reversion to moorland;
- decline in drystone dykes;
- elevated position makes any developments along the coast highly visible.

Strategy and guidance

Agriculture

The maintenance and extension of stone wall enclosures should be encouraged as a feature, particularly where this would emphasise the topography. Land managers should seek to maintain a balance between improved pasture and moorland so that the hills do not appear "scarred" by temporary changes in vegetation and land use.

Development

Potential developers should be aware of the visibility of the coastal strip from the elevated hill land, and should seek to locate away from this area or screen any developments where possible. Section 75 agreements may be invoked by the planning authority. Skylining of structures within this landscape type should be avoided, and any new development should be orientated with respect to the coast and be sympathetic to the vernacular tradition in roof pitch and materials. Restoration of old farm buildings would also enhance this landscape.

SUMMARY GUIDELINES

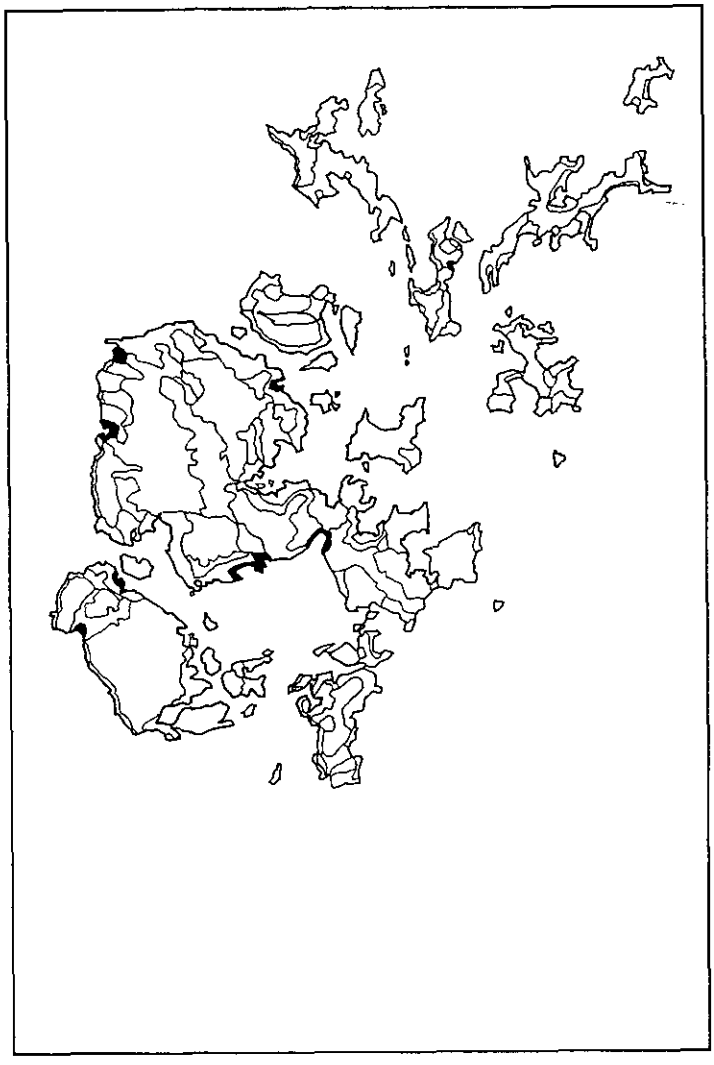
Conservation:

- *Maintain and extend stone wall enclosures.*
- *Avoid creating transitional agricultural land uses on the hillsides.*
- *Avoid developments in key views along the coastline.*
- *Avoid skylining of structures.*
- *New building should be oriented in relation to the coast.*
- *Sites of archaeological interest should be protected from agricultural or developmental pressures.*

Enhancement:

- *Encourage the restoration of old farm buildings.*

TYPE 11: ENCLOSED BAY LANDSCAPES



Key characteristics

- low lying sheltered coastal basins;
- sand or shingle bays;
- popular visitor areas.

General description

This landscape is found at locations on fault lines, or where locally softer rock has been eroded to form sand or shingle bays. These bays form coastal basins and land within them is generally below 20m. Whilst these bays are all quite distinct, they share the common feature of coastal enclosure which gives the landscapes their essential character.

The vegetation is predominantly improved grassland with some enclosures. Small water courses often drain into these bays. The scenic views out from these landscapes have made the areas popular with visitors, particularly on Mainland.

Landscape sensitivities

- visitor pressure;
- intrusive development which would detract from landscape character and quality;
- potential for extraction of sand/gravel;
- potential sites for fish farm developments.

Strategy and guidance

Development

The main sensitivities in this landscape relate to various forms of development. Visitors should continue to be able to use these areas for recreation, but some monitoring of the effects of visitor use on coastal paths may be necessary. Provision of visitor facilities such as car parking and toilets should be designed and located sensitively, possibly outwith the actual bay landscape with good path access provided.

A number of archaeological sites exist around some of the bay landscapes. The most important are already protected as Ancient Monuments, for example, Skara Brae and the Broch of Gurness. Other sites may also require some low level management including interpretation to protect them from the heavier visitor use in these areas.

Development of aggregates extraction is a potential sensitivity in this landscape. Any proposals for such development should be restoration-led, i.e. plans for site reinstatement should be made clear at the outset, with substantial reinstatement/landscaping made a condition of planning consent. Coastal aggregates extraction could potentially damage well preserved archaeological deposits. Allowance for archaeological surveys and monitoring should be made in any extraction developments.

Bays valued for recreation and general amenity should be protected from fish farm development which could detract from scenic values and impose restrictions on recreational activity.

SUMMARY GUIDELINES

Conservation:

- *Monitor effects of visitor pressure on coastal paths, etc.*
- *Protect/manage archaeological sites and make thorough archaeological surveys a requirement of development proposals.*
- *Protect high amenity bay landscapes from fish farm development.*

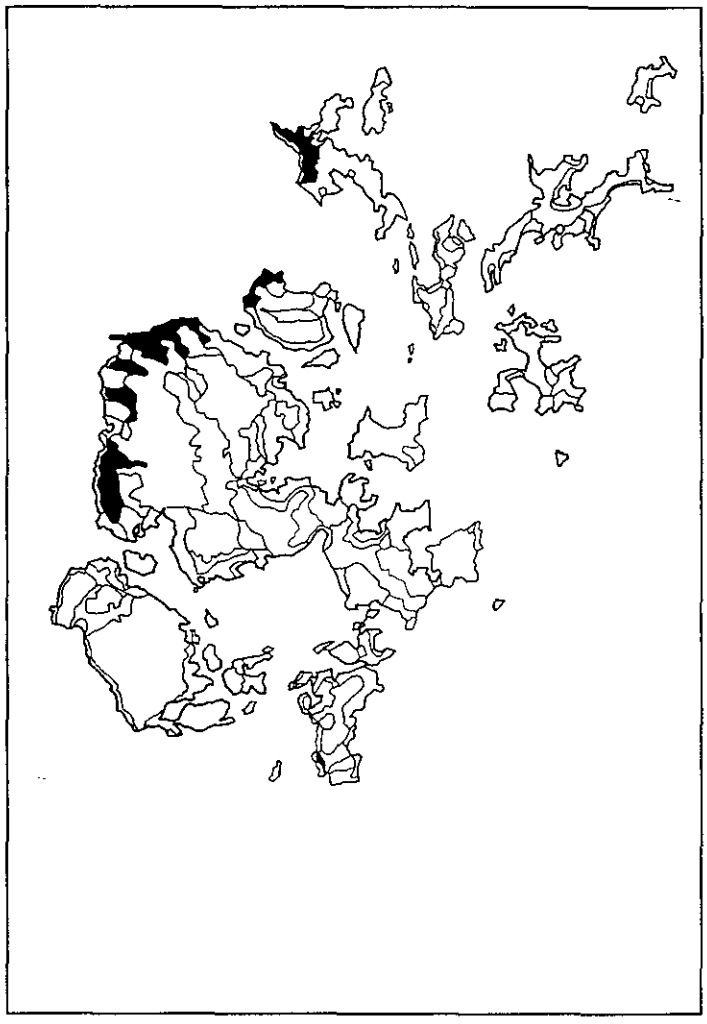
Enhancement:

- *Provision of visitor facilities should be designed and located sensitively.*

Restoration:

- *Require substantial reinstatement measures for any aggregates extraction proposals to ensure sand stability and re-establishment of semi-natural habitats.*

TYPE 12: COASTAL HILLS AND HEATH



Key characteristics

- hills with strong relief reaching 150m along the coast;
- rough, improved grassland, and maritime heath with a range of green hues and grass textures;
- subtle topographic features visible on hillsides, e.g. terraces and low crags;
- *large scale field enclosures* occasionally walled;
- sheep and cattle grazing;
- scattered farms and some ruined/abandoned farmsteads;
- hilltop cairns.

General description

The Coastal Hills and Heaths landscape is found mainly around the coast of West Mainland and Westray, where grassland hills create an irregular rim to the islands, reaching heights of up to 150m. Typically, these hills meet the sea at dramatic cliffs which form part of the 'Cliff Landscape Type'.

The landcover is predominantly improved or rough grassland with maritime heath in the areas most exposed to the sea. Much of this landscape was originally common rough grazing and as such, lacked extensive field boundaries. There are, however, a few large scale field and property boundaries which are characteristic features. The landscape is scarcely populated, with a few farmsteads prominent on lower slopes. The occasional ruined croft are features of the higher areas. The grass cover allows the outline of underlying strata to be seen in certain areas and small rock outcrops (sometimes called 'hamars') are noticeable features in the generally smooth but strong relief. On the lower slopes, the remnants of old hill dykes are discernible as small linear ridges. Quandale (Rousay), contains Orkney's best example of a preserved, extensive fossilised area of pre-improvement landscape. This makes it of the highest historical, as well as scenic importance.

The height of the hills makes them important visual barriers controlling views out to sea. Under low sun or in silhouette, topographic features are highlighted. Hilltop cairns from the Bronze Age are particularly noticeable in these conditions.

Landscape sensitivities

- potential expansion of improved grassland on the lower slopes and introduction of new field boundaries;
- decline of remaining drystone walls;
- deterioration and potential loss of ruined crofts and farmsteads;
- potential sites for radio masts/wind turbines with consequent visual intrusion and potential scarring by access tracks;
- housing development on lower slopes to obtain good but remote vantage points;
- potential damage to significant wildlife habitats through over grazing and possibly through tourism activities.

Strategy and guidance

Agriculture

The use of this landscape for low intensity grazing should generally be continued in order to preserve its relatively wild character and to reflect the extent of previous common grazing land. Sustainable grazing should also be managed in a way that promotes semi-natural habitats (particularly maritime heath and grasses) and increases wildlife potential.

The potential restoration and re-use of traditional abandoned crofts/farmsteads, should be encouraged for agricultural or other purposes.

The management of the few drystone walls in this landscape would have a significant impact in the elevated landscape, particularly under low sun when all topographic features are cast in high relief.

Development

The absence or scarcity of development in this landscape is one of its key characteristics which should ideally be preserved. Isolated structures of architectural merit have a precedent, e.g. Kitchener's Monument and some lighthouses; only singular buildings of such quality should be considered in this landscape if adequately justified.

Development of housing on lower slopes should be limited. Distribution and siting should ensure that the traditional local settlement pattern is reflected and that buildings are of characteristic scale. Extension beyond the existing hill road network should be discouraged.

SUMMARY OF GUIDELINES

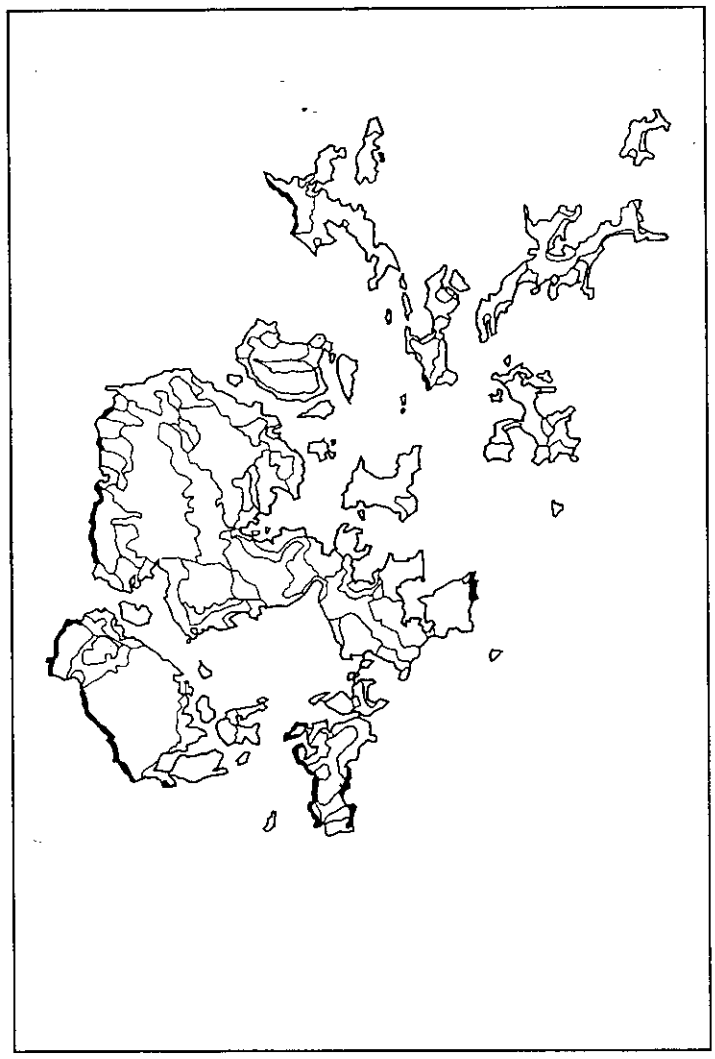
Conservation:

- *Manage grasslands and heath to promote and protect semi-natural habitats.*
- *Maintain and restore remaining drystone walls.*
- *Strict limitations to new development should be applied, only accessible lower slopes should be considered.*

Restoration:

- *Support the restoration and re-use of abandoned crofts/farmstead buildings.*

TYPE 13: CLIFF LANDSCAPES



Key characteristics

- eroding coastal features - cliffs, stacks and caves;
- rough grass and montane vegetation right up to cliff edge;
- wildlife interest of salt tolerant flora;
- sea birds.

General description

This landscape type is found predominantly along the Atlantic western coasts of the study area, but is also found on the eastern seaboard of South Ronaldsay and East Mainland. Some of the cliff tops are very high, over 200m in places.

The main features of this landscape are formed by marine erosion, creating cliffs, stacks, caves and arches. This makes spectacular scenery, for example in north Hoy, Marwick Head, and at The Gloup on the Deerness coast. Cliff tops are often of rough grass extending right to the cliff edge, the dark greens contrasting with the colour of the sandstone. There is also some montane and peatland vegetation. The influence of sea spray gives rise to wildlife interest in the salt tolerant flora, creating carpets of colour when in flower. Sea bird colonies are also found here.

Landscape sensitivities

- marine erosion.

Strategy and guidance

Agriculture

Cliff top areas are a combination of rough grazing and maritime heath, generally unenclosed, exposed and semi-natural in character. This should be conserved by maintaining low intensity grazing and by leaving the landscape unenclosed.

Development

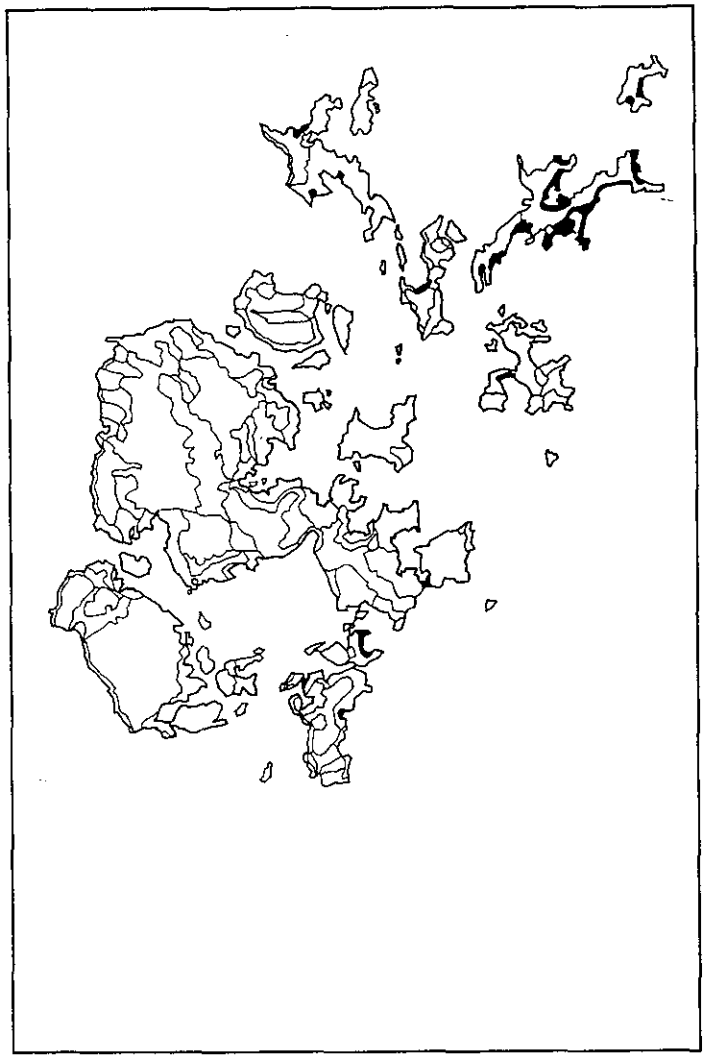
Coastal defence works may be perceived to become necessary in some areas. In these situations, coastal defence works should be designed to be unobtrusive, so that the natural forces which have shaped the magnificent features continue to appear as the overwhelming influence in this landscape. The alternative, of allowing the natural processes of marine erosion to continue, may be more acceptable. Access along cliff top areas, for tourism and recreation, may be developed in certain areas. This should avoid the erection of extensive fences, signs and other structures which could seriously detract from the wild and dramatic cliff scenery.

SUMMARY OF GUIDELINES

Conservation:

- *Maintain unenclosed and low intensity cliff top grazing.*
- *Ensure any essential coastal defence works are unobtrusive.*
- *Restrict the development of barriers, signs and other 'clutter' along clifftop footpaths.*
- *Create better access for walkers between public roads and cliffs.*

TYPE 14: COASTAL SAND LANDSCAPES



Key characteristics

- generally flat coastlines with sand deposition landforms and features (sand bays, ouses, ayres, dunes, tombolos);
- marram grass and rough grassland;
- important ecological sites;
- extreme archaeological sensitivity;
- pale yellow and green colours, with often vibrant turquoise seas;
- sand stripes from mechanical sand extraction.

General description

This landscape type occurs in coastal areas where the landforms have been created by sand deposition, often creating extensive sand systems. The topography is generally flat, with wide sandy bays and sand flats merging with the sea. Sand dune systems are, therefore, often important topographic features standing proud of the otherwise flat landscape. The principal landforms/features are sandy bays, ouses, ayres, sand dunes (often with 'links' type land inland), and tombolos, linking the main island bodies with adjacent small skerries or holms. These features may occur together as on Sanday, where approximately one third of the land area is sand dominated, or may simply occur as a single significant feature within other landscape types.

Vegetation in this landscape is influenced by the generally high shell content of the sand. Marram grass is common on sand dunes, and the vegetated areas tend to be rough grassland. These sites are often of high ecological value. They are also of a potentially high value for archaeology since the sand may have obscured and hence protected coastal archaeological sites, although coastal erosion may threaten these sites in the future.

Sand landscapes are valued today as a mineral/aggregate resource and many of these areas have planning consent or applications under consideration for sand extraction. This creates sand stripes at the coast where mechanical methods are used. The main colours are pale yellows and greens, and turquoise seas where the sandy bays continue under the water.

Landscape sensitivities

- sand landscapes sensitive to erosion;
- agricultural management on sensitive ecological or archaeological sites;
- pressure for sand extraction;
- the archaeology is an important consideration in landscape change.

Strategy and guidance

Agriculture

Significant areas of the Coastal Sand Landscapes include ecologically important machair grassland areas which are grazed but uncultivated and support a diverse collection of plants on the calcareous soils. The survival of the machair grassland habitat depends on low intensity grazing and natural fertilisation. This agricultural practice should be maintained in machair areas and expansion of cultivated areas restricted.

Development

The Coastal Sand Landscapes are under particular pressure from mechanical sand extraction. This can have a significantly adverse impact on the wildlife and scenic values of the landscape and may be damaging to buried archaeological deposits. The northern islands of Westray, North Ronaldsay and Sanday in particular have outstanding beaches, largely undeveloped, where the wide sweeps of isolated sandy bays would be particularly sensitive to such development. Sand extraction should, therefore, be targeted to accessible but visually contained sites where dangers of coastal destabilisation have been discounted by thorough analysis. Archaeological sites are likely to occur in these locations, except where the sand now fills old sea inlets. This is a problem where the cost of very significant archaeology has to be weighed against the value of development.

Fish farming may also be proposed for the waters off these areas. Again, these should be strictly controlled, particularly in the North Isles. Local economic factors may, however, provide a strong argument. In such cases, siting and design of onshore structures should be done sensitively and within rigidly defined boundaries to prevent incremental expansion.

Coastal Sand Landscapes may become sought after sites for new development, for example housing or tourist related. Such development should generally be avoided at the coastline because of potentially high obtrusion.

Other

Coastal erosion is a problem in many of these areas. In one sense, the coastal landscape is constantly evolving and it is through this evolution that the present features have been, and continue to be made. However, some measure of sand stabilisation may be required because these areas are an important resource. Furthermore, coastal erosion may threaten archaeological sites which were once protected by the sand and are now being opened to the elements. In such cases, it is important to log the archaeological resource before it disappears.

SUMMARY OF GUIDELINES

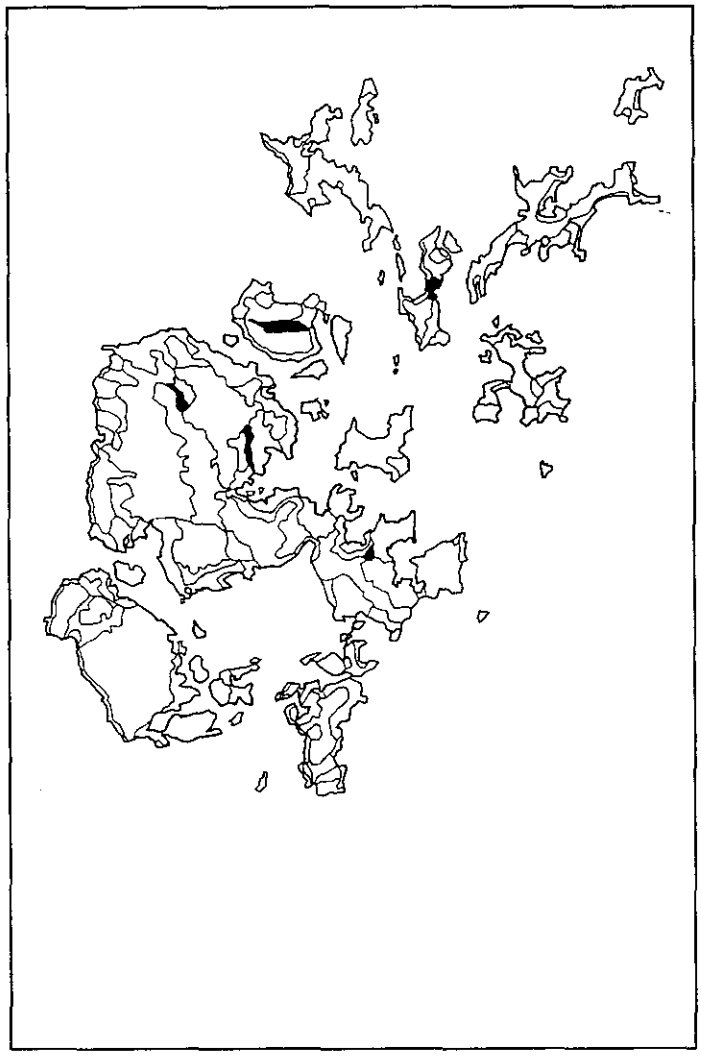
Conservation:

- *Maintain sustainable grazing levels to conserve wildlife of machair and links grassland.*
- *Address rabbit control.*
- *Strict control should be applied over large scale mechanical sand extraction.*
- *The development of fish farms should be controlled and limited to less visible locations.*
- *Ensure careful siting of onshore structures if fish farm development is permitted.*
- *Avoid housing or tourist development on the shore line.*
- *Priority should be given to recording archaeological sites threatened by coastal erosion, quarrying or other development.*

Enhancement:

- *Support low key methods of land stabilisation at the coast, e.g. planting marram grass.*

TYPE 15: PEATLAND BASINS



Key characteristics

- low lying basins associated with coast or inland water;
- unenclosed peatland and wet vegetation, ungrazed;
- roads cutting through;
- wildlife and some archaeological interest.

General description

This landscape type occurs in low lying topographic basins, associated with the coast and inland water bodies. The land is typically very flat, around 10 or 20m.

The vegetation is peatland or wet grassland vegetation which is not enclosed and is largely ungrazed. This vegetation offers some nature conservation interest. There is very little settlement, with some roads cutting through the basins.

Some archaeological interest exists to the east of Settiscarth, in West Mainland, in the group of tumuli.

An important characteristic of this landscape type is that the peatland is found in fairly large extents at low altitudes, and is contained within topographic basins. Other areas of low lying peat do occur in the study area but are not distinct enough to be picked out as discrete units. However, the presence of low lying peat is highlighted as a feature of other landscape character areas where it occurs.

Landscape sensitivities

- peat extraction;
- vertical or large scale structures would be highly intrusive in this landscape;
- wildlife interest of whole peatland basin may be compromised by any drainage.

Strategy and guidance

Agriculture

Peat cutting is an important local resource for fuel. Mechanical cutting for commercial supply is the only viable source for many people, although it does cause considerable scarring over wide tracts. Ideally, the mechanical peat cutting should be targeted to visually contained areas where long views are denied by the surrounding landform. In addition, the reinstatement of the top vegetation should be a requirement for mechanical extraction.

The peatland basins harbour significant wildlife interest, particularly in their wettest areas. These areas should generally be protected from drainage alterations and cultivation in order to safeguard wildlife interests.

Trees and woodland

Some small scale indigenous woodland and scrub planting would be appropriate in the basin areas and could be used to improve habitat and visual diversity in this landscape.

Development

Building developments within the basin floor would be visually intrusive and inappropriate in this wet peaty landscape. There may be some scope for small scale building (residential or agricultural) on surrounding slopes but high standards in building design (style and materials) should be applied.

SUMMARY OF GUIDELINES

Conservation:

- *Discourage the drainage and cultivation of wetland for agriculture in basin floor.*
- *Strict control of building developments should aim to keep the basin floor clear of development.*

Enhancement:

- *Target mechanical peat cutting to visually contained but accessible areas, ensure reinstatement of surface vegetation.*
- *Small scale woodland and scrub planting should be encouraged in hollows and around wetlands.*
- *High standards in building design should apply to any building development.*

TYPE 16: LOCH BASINS

Key characteristics

- 'drowned' landscape dominated by bodies of water;
- open landscapes, some with long views from one basin to another;
- radial pattern of field enclosures around lochs;
- wetlands, mires, marshes and areas of low peatland;
- settled landscape with villages, large farmsteads and nucleated settlements;
- relatively extensive road network;
- prehistoric ritual landscapes and monuments.

General description

This landscape type is found most extensively on Mainland, Rousay, Stronsay and Westray, and is associated with the fresh water and tidal lochs that dominate inland basins. The topography is generally flat or gently inclined towards the water. The scarcity of marginal vegetation endows the landscape with a drowned appearance. Field boundaries generally run perpendicular to the water's edge creating a radial pattern around the lochs, thereby emphasising the basin character. Long views from one sheet of water to another is an important aspect of this landscape type's continuity and extent, particularly on West Mainland.

The larger, more sheltered inland basins on Mainland have nucleated settlements, large farmsteads and scattered houses. Evidence of generations of human occupation is represented by some of Scotland's most significant prehistoric monuments. The legacy of wartime developments is also present, most notably in the form of redundant airfields which utilised the flat ground. In the North Isles, loch basin landscapes are more restricted in extent, often containing scattered farmsteads. Land use is generally improved pastures creating a tapestry of greens. Lines in the landscape are traced by some drystone walls but mostly fences. The former highlight subtle topographic variations by the shadows they cast under low sunlight.

Landscape sensitivities

- residential development pressures;
- agricultural development pressures;
- loss of small wetlands and unimproved pastures;
- decline of remaining drystone walls;
- field enlargement and boundary removal;
- deterioration of wartime relics;
- visitor pressure on key archaeological sites.

Strategy and guidance

Agriculture

Drystone walls, although not extensive in this landscape type, are important local features, reflecting the local geology and highlighting topography. Their conservation and restoration would help to halt any appearance of decline in certain areas and would reinforce local landscape character.

Small wetland areas and unimproved pastures make important contributions to the aesthetic and wildlife diversity of the landscape. These discrete features should be conserved and protected from incremental removal.

Post and wire fence field boundaries are predominant in this landscape type. Their contribution to landscape character could be enhanced through the development of uncultivated field margins and the possible establishment of hedgerows in certain areas.

Trees and woodlands

The more sheltered 'inland' nature of this landscape type and the extent of building and infrastructure development would be suited to small scale tree and woodland planting, particularly in proximity to new buildings, in and around villages, and where practicable at fresh water loch margins. This could enhance the settled character of the landscape, help to integrate development and create dynamic reflections.

Development

The open and relatively flat and large scale of this landscape type determines that new developments would be highly visible and potentially obtrusive. New buildings should seek to develop a contemporary character suited to Orkney and the local landscape type. The siting and scale of buildings should be carefully considered in relation to their effects on long views over loch basins and on the context of important prehistoric monuments. Other important considerations in this landscape type are the orientation of buildings which should be parallel to contours allowing a prospect over the lochs. The sympathetic hues of local sandstone colours is a positive characteristic of old buildings; these colours (and materials) should be promoted for new buildings. Tree frameworks for isolated developments and particularly for new farm complexes should be encouraged.

Archaeology

This landscape type contains some significant prehistoric monuments which demonstrate the relationships between ancient ritual and dwelling activities. Despite the extensive data on Orkney's archaeological resource, there is a need to extend archaeological investigations in order to improve the knowledge of the cultural landscape and thereby inform policies for their protection and management. Particular consideration should be given in this landscape type to controlling development in proximity to monuments in order that important axial views, silhouettes and ancient access routes remain uninterrupted. The relocation of fenced field boundaries that dissect groups or parts of the same monument should also be promoted as a means of enhancing the setting of monuments in the landscape.

SUMMARY OF GUIDELINES

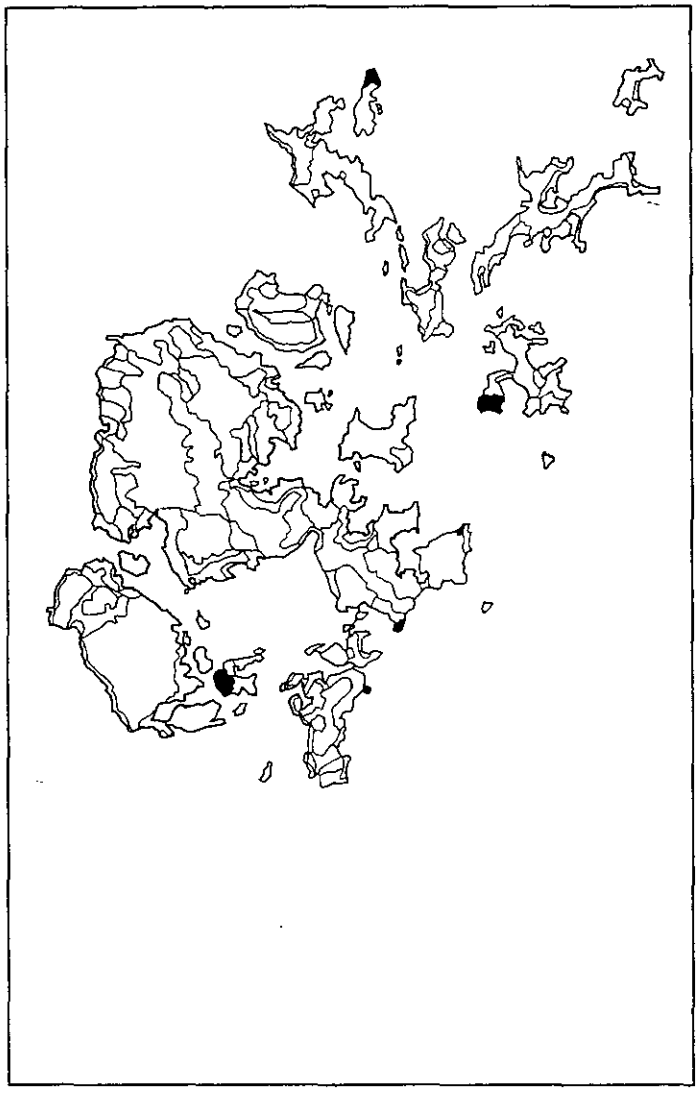
Conservation:

- *Encourage initiatives to restore and conserve areas with drystone walls.*
- *Conserve and protect small wetland and unimproved areas from incremental drainage and cultivation.*
- *Protect archaeological resource and improve its context through countryside management.*

Enhancement:

- *Support the establishment of uncultivated margins along fence lines.*
- *Support the planting of small scale woodlands and tree groups around farmsteads, new buildings and village developments.*
- *Control the siting and design of buildings to prevent obscuring long views, and compromising local building character.*

TYPE 17: LOW MOORLAND



Key characteristics

- low moorland often isolated from higher moorland hills;
- low undulating hill areas or convex headlands;
- unenclosed heather moorland, and maritime heath at the coast;
- seasonal variation in colours, with dark brown most of the year;
- ecological/ornithological interest;
- coastal cairns and brochs.

General description

This landscape type is generally found in peripheral areas and on low hilly headlands. It is often distinct in its disassociation with higher moorland areas, although it occasionally represents a lowland extension of higher moorland where ground conditions are difficult. It typically occurs below 50m and has gently rolling topography. The vegetation is mostly heather moorland with some rough grassland. The colours tend to be dark browns, seasonally vibrant when the heather is in bloom. Such sites are often of ecological and/or ornithological value. For example, the low moorland in the north of Papa Westray is an RSPB bird reserve. This land is generally unenclosed, although peripheral parts may be grazed. Some peat cutting occurs, although it is local in scale and sub-peat archaeology may be present. In coastal areas the local effects of the sea are noticeable in the presence of maritime heath and the abundance of sea birds.

Landscape sensitivities

- reclamation of moorland for grazing;
- potential visual intrusion of mechanical peat cutting and threat to sub-peat archaeology.

Strategy and guidance

Agriculture

The financial incentives for improving moorland for grazing have now been removed. However, if any further reclamation was to take place, the change in colour and texture in this landscape would be significant. This might also threaten the wildlife value by altering the habitat. Peat cutting has been carried out in some areas. Hand cutting creates distinct stripes in the heath which are characteristic of many moorland areas. Mechanical peat cutting involves stripping much larger areas of vegetation which can create visual scars. The absence of surface vegetation determines that they remain obtrusive for considerable time. In order to reduce this effect, mechanical cutting should be restricted to less visible areas.

Development

It is possible that there may be some pressure for windfarm development in this landscape, as it is exposed but more easily accessible than some of the higher moorland areas. Any such proposals should be considered carefully since these landscapes also tend to be highly visible from adjacent areas. Wind turbines might also disturb the ornithological interest of the areas.

SUMMARY OF GUIDELINES

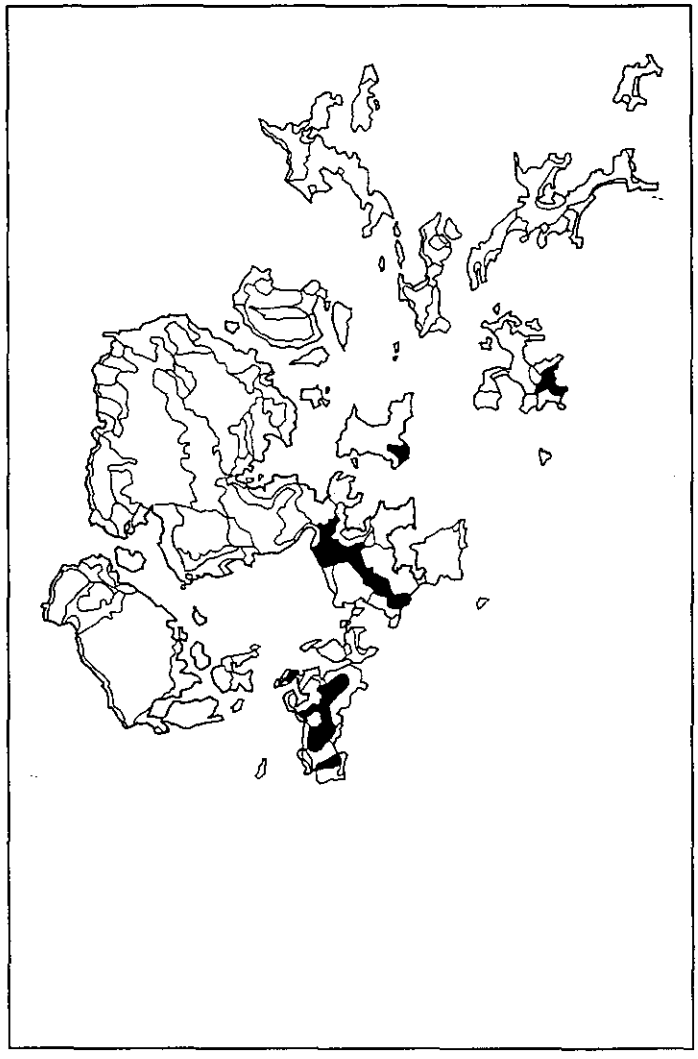
Conservation:

- *Reclamation of moorland for grazing should not be encouraged.*
- *Peat cutting by hand should generally be preferred over mechanical cutting in this low and exposed landscape.*

Enhancement:

- *Mechanical peat cutting should be restricted to less visible areas.*

TYPE 18: PLATEAU HEATHS AND PASTURE



Key characteristics

- locally high ground 50m-100m A.O.D. forming fairly extensive plateau;
- mixture of pastures and heathland;
- large scale field pattern with occasional unenclosed areas;
- scattered farmsteads;
- elevated topography denies views to coast except from the plateau edge;
- generally open and exposed character despite relatively low altitude.

General description

This landscape type is most extensive in East Mainland. It typically lies between 50m and 100m A.O.D. and is fairly flat or gently rolling. It constitutes the inland high ground and has a distinct plateau character. This is emphasised by the denial of views to the coast from the plateau due to the abrupt start of the side slopes and the generally convex nature of the relief.

Landcover is generally a mixture of pastures and heath with some elevated wetlands in local depressions. The open and slightly elevated character of the plateau creates the feeling of exposure, despite the fact that the altitude is relatively low. The presence of occasional arable fields alongside heathland is a reminder of this fact. The colours are generally muted mixtures of fresh greens, straws and ochre browns which reflect the changes in landcover. The extensive views possible along the plateau make built structures obtrusive, despite their wide distribution.

Field patterns are generally of a large scale, utilising fences more than dry stone walls. This landscape harbours a range of archaeological deposits which can be sometimes distinguished by unnatural-looking landforms.

Landscape sensitivities

- open plateau character sensitive to changes in land cover;
- open plateau makes built structures highly visible from within the landscape.

Strategy and guidance

Agriculture

The generally flat elevated topography and large fenced fields create little enclosure in this landscape, and contribute to its exposed character. The stronger delineation of field boundaries, for example by using uncultivated field margins, would help to define patterns in the landscape and would improve the diversity of colour and texture. The addition of small woodlands and tree frameworks around settlements or farmsteads would help to punctuate this open landscape. Wetland areas are an important contribution to both ecological and landscape diversity. These areas should not be drained or improved.

Trees and woodlands

The establishment of small woodlands in this landscape, if feasible, would enliven its character and provide limited screening/backclothing for its isolated developments.

Development

Within this landscape, there are few opportunities for screening new development and hence the landscape is sensitive to visual obtrusion. Existing settlement is well dispersed and is frequently viewed in isolated silhouette on the plateau. This widely dispersed, low density pattern of development should be maintained. However, new buildings should be considered carefully for their massing and silhouette which should respect the vernacular forms in the area. Woodland/ tree frameworks should, ideally, be established around developments and especially the larger farm related buildings.

SUMMARY OF GUIDELINES

Conservation:

- *Avoid drainage of land improvement of wetland areas.*

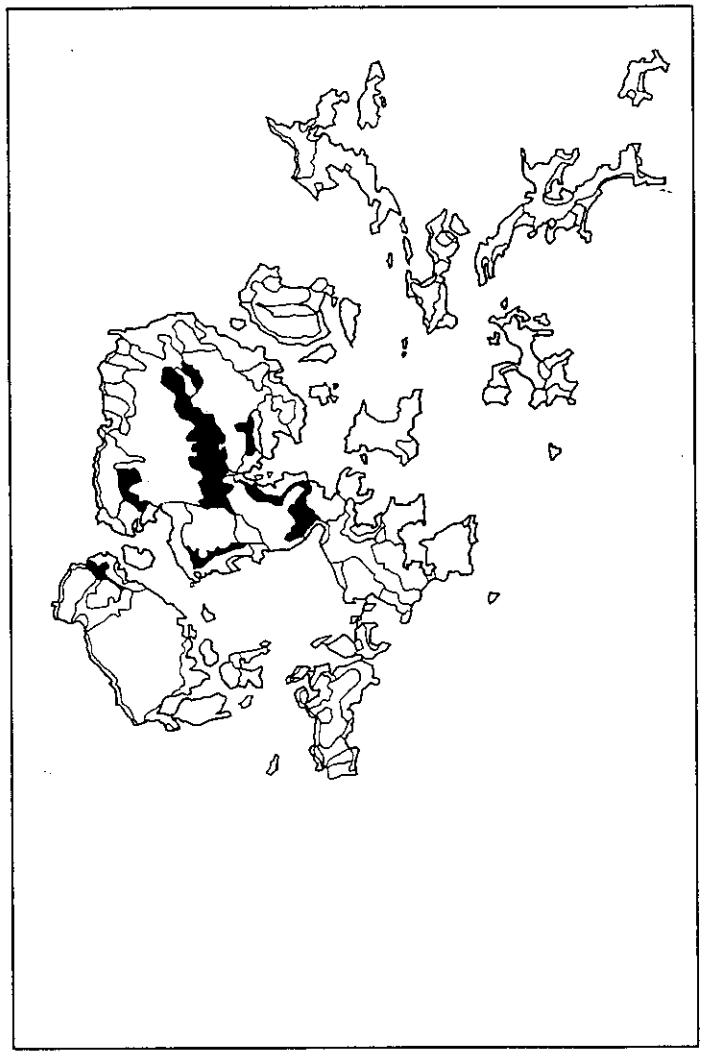
Enhancement:

- *Enhance landscape structure by restoring/extending areas of stone wall field boundaries.*
- *Enhance wildlife diversity of pastures by leaving field margins uncultivated.*
- *Maintain the widely dispersed settlement pattern; site and design new buildings with regard to skyline views.*
- *Encourage and support woodland planting of small and medium scales and particularly around developments.*

Restoration:

- *Enhance landscape structure by restoring/extending areas of stone wall field boundaries.*

TYPE 19: ROLLING HILL FRINGE



Key characteristics

- rolling border between low lying and upland landscapes;
- improved pasture on lower slopes, enclosed in fenced fields;
- rougher grassland, enclosed by stone walls on high ground gives way to unenclosed moorland hills;
- roads and scattered settlement;
- archaeological interest.

General description

This is a transitional landscape found on Mainland and north Hoy, which forms the rolling lower fringe of hill areas and the upper border to low lying loch landscapes or coastal pastures. It is this relationship to both low lying and hill land which gives the rolling hill fringe much of its character. Heights vary between 20 and 150m. The topography is predominantly rolling, (associated with the extensive deposits of boulder clay), although there are steeper slopes in places.

The vegetation in lower areas is predominantly rich improved pastures, enclosed by fences and some stone walls. Fields vary in size and orientation but are generally small to medium, and cattle and sheep are a common sight. On higher ground, the green improved pastures give way to unenclosed brown moorland. This often creates an interesting feature where the contrast in colours clearly highlight moorland areas which have been improved for pasture. On lower lying areas the land has a well settled agricultural appearance with good access via the road network. Settlement becomes more sparse in higher parts, and is generally of scattered farmsteads. A network of minor roads and tracks often traverse the higher parts of this hill fringe.

Archaeological interest is found in the tumuli, burnt mounds and brochs, the most significant areas being those associated most closely with the loch basin landscapes. Tumuli sites on elevated hillsides are also of archaeological significance.

Landscape sensitivities

- susceptibility of island agricultural landscapes to changes in agricultural subsidy or in transportation costs;
- decline in drystone walls;
- derelict farm buildings;
- large farm developments, particularly cluttered ancillary buildings;
- possible demand for housing along main routeways creating linear development.

Strategy and guidance

Agriculture

This landscape type contains much of the improved and settled farmland of West Mainland, and makes a large contribution to the dominant agricultural character, particularly where the land is elevated and, therefore, more visible. External factors such as the subsidy and price of livestock, and transportation costs to the main markets on the Scottish mainland may in the future significantly change this character. Notwithstanding this, farmers should be aware of the important contribution which they make to the landscape. The current livestock densities should be retained where possible. Landscape enhancement may be achieved through more widespread management of field margins to allow rougher and more diverse grasses and wildflowers to thrive.

The maintenance and extension of stone wall enclosures should be encouraged, and there is scope for derelict farm buildings to be restored. It is acknowledged that significant grant aid may be required as an incentive for the latter improvement. The appearance of sprawling farm developments may be improved by attempting to achieve co-ordination in massing and roof pitch, and also by using some colour co-ordinating paintwork.

Trees and woodlands

Small scale tree planting for shelter and to partly conceal new developments should be considered. Some planting around large farm developments would help to give more unity, and a tighter defined boundary to the extent of the buildings, while planting around houses (using, for example, sycamore and whitebeam) would extend the tradition for such planting.

Both types of planting would add diversity to the landscape, and could allow easier accommodation of new building into the landscape.

Development

The existing pattern of development, good road network and location, make this landscape type potentially very attractive for further development. This is reflected in the Structure Plan housing policies which have identified certain settlements in West Mainland as suitable for new building. Whilst the appearance of this landscape is generally settled, care should be taken to prevent linear development along roadsides and proliferation of self build style houses. Building materials should, in their colour and texture, attempt to reflect those of surrounding stone in vernacular buildings and walls. Building styles should be sympathetic to their location and visibility, and should also have regard to the vernacular tradition. New buildings should be sited with respect to the contours and orientation of the land to ensure a more natural 'fit' into the landscape.

SUMMARY OF GUIDELINES

Conservation:

- *Consider retaining, where feasible, the current livestock densities.*
- *Maintain and extend stone wall enclosures.*
- *Linear housing development along roadsides should be prevented.*

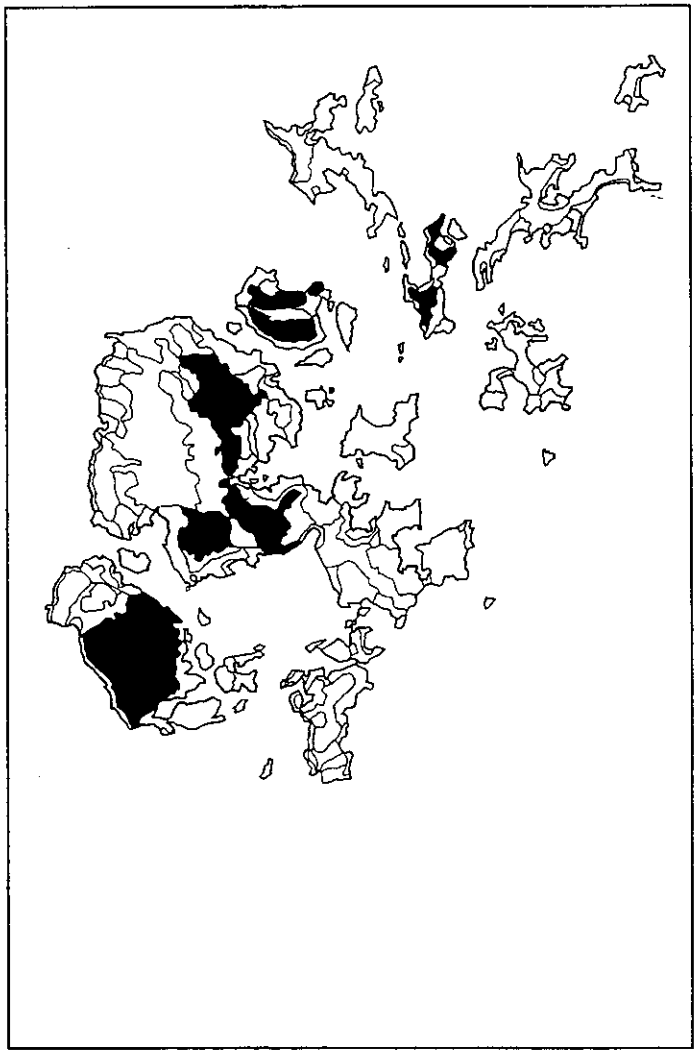
Enhancement:

- *Manage field margins for wildflowers and other wildlife.*
- *Maintain and extend stone wall enclosures.*
- *Large/expanding farm developments should use co-ordinated massing and roof pitch to achieve greater coalescence.*
- *New building should attempt to reflect the surrounding geology and vernacular tradition in building materials and style.*
- *New building should be sited with respect to contours and orientation of underlying land.*
- *Small scale tree planting should be encouraged around individual residential and farm developments.*

Restoration:

- *Restoration of old farm buildings should be encouraged.*

TYPE 20: MOORLAND HILLS



Key characteristics

- undulating hill land;
- peat and heather moorland, mostly unenclosed;
- few and isolated farmsteads and tracks;
- active and redundant peat cutting sites;
- occasional hill dykes and signs of sub-peat archaeological farmsteads and field systems;
- Bronze Age barrows on skyline recognisable by the unnatural topographic variations.

General description

This landscape is found on the hilliest parts of Mainland, Rousay, Eday and Hoy. The land varies from being quite steeply undulating, for example on parts of Hoy and Rousay, to more gentle slopes on northern West Mainland. Heights range from 50m up to 350m. The vegetation is largely peat and heather moorland with montane species at higher altitude. The land is completely unenclosed, although some small fenced grazings may be found on the periphery of the hill land.

The relatively recent development of peat over the past thousand years has occurred since initial human habitation of the islands and it is likely that significant sub-peat archaeological features are present, for example, on Rousay and Eday. Earlier boundaries of hill grazing - 'hill dykes' - are still visible on some of the lower slopes, although moorland occasionally extends below these former boundaries. Peat cuttings are often evident, creating dark scars against the orange red and brown moorland colours; or, where peat cutting has been abandoned, there are softer linear impressions resulting from heath vegetation re-establishment. These moorland landscapes can appear monotonous but harbour a diversity of wildlife interest. They offer significant vantage points for views onto lower lying land, and themselves are good reflectors of prevailing weather: in drizzle they appear bleak and less colourful; in sunshine their colours are vibrant and contrast with blue skies and distant views of water.

There are very few and isolated settlements and roads. However, vertical structures of telecommunications, hydro poles and wind power generation are an obvious human influence in the landscape.

Landscape sensitivities

- improvement of peripheral hill land for pasture;
- visual scarring and potential archaeological/wildlife damage by mechanical peat cutting;
- vertical developments such as wind towers or hydro poles.

Strategy and guidance

Agriculture

The lack of fencing or walls helps to create the wild and sometimes bleak character of this landscape, and reflects the historic use as common hill grazing in many areas. The imposition of new field boundaries and the enclosure of former common hill land should be resisted. The old hill dykes, where remaining, would define an appropriate limit to cultivation, thereby preventing the sawtooth pattern of reseeding along the moorland perimeter. The previous incentives to improve moorland no longer exist but this nevertheless is a potential sensitivity. Improvements have often led to loss of important archaeological sites.

Peat cutting on the moorland has created the characteristic dark scars and landform patterns. In the case of mechanical extraction, the results can be visually obtrusive as large plots are worked by surface stripping. It may be possible to reduce the negative impact of this activity by directing mechanical cutting to less visible areas and by demanding comprehensive heath restoration measures. Proposals for mechanical peat cutting should also be required to examine the archaeological potential of the site in order to avoid/limit potential damage. The development of a Peat Cutting Policy by Orkney Islands Council would be beneficial and should seek to establish appropriate areas and rules for peat cutting.

Trees and woodland

Significant areas of the moorland hills are relatively uninhabited and receive little grazing pressure. Such areas may be appropriate sites for native woodland establishment. This should be focused on natural gullies and folds in the landscape where some shelter can be obtained.

Development

The main development pressures appear to be the impact of vertical structures (wind towers, telecommunication masts and hydro poles) within the otherwise undeveloped appearance of this landscape. Such structures can be highly obtrusive against the generally open and rolling topography, although in some cases such as the Burgar Hill wind towers on Mainland, they have arguably become landmarks. Any future developments of this kind should be sited with regard to the visibility of the site from surrounding landscapes and the ability of the topography to screen the ancillary buildings and road developments. The ability to utilise existing hill roads and buildings should also be sought in siting such developments.

SUMMARY OF GUIDELINES

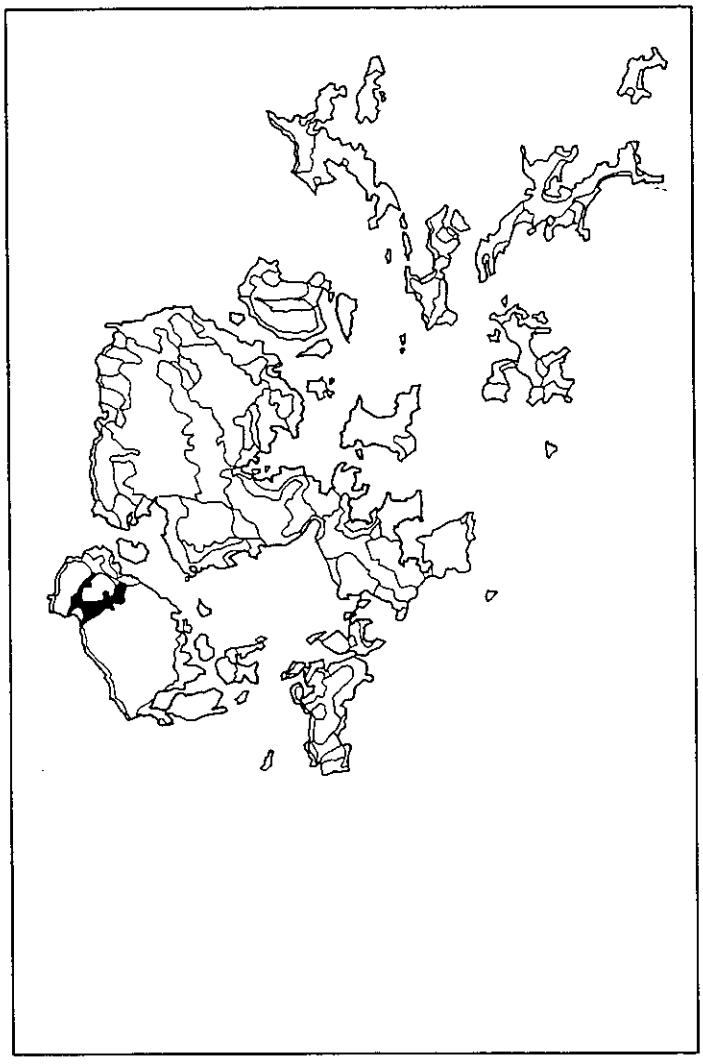
Conservation:

- *Retain the open semi-natural character of the Moorland Hills landscape.*
- *Discourage moorland cultivation and reseeding above the historic 'hill dyke' boundary lines, where present.*
- *Support more extensive archaeological surveys of peatland areas to inform proposals for peat cutting and other developments.*
- *NPPG 5 and PAN 42 guidelines (Scottish Office, 1994a & b) should be applied to development proposals.*

Enhancement:

- *Direct mechanical peat cutting to less visible hill areas and demand heath vegetation restoration on worked sites.*
- *Examine the potential for native woodland establishment in gullies and valleys.*
- *Site development carefully with regard to visibility from other landscapes.*
- *Utilise existing tracks and sites of former development in preference to all new developments in the exposed landscape.*

TYPE 21: GLACIATED VALLEY



Key characteristics

- broad U-shaped valley;
- glaciated hill sides;
- wet heath vegetation;
- lack of enclosures.

General description

This landscape type occurs in the glaciated hill land of Hoy where broad "U-shaped" valleys have been formed by ice action between upland areas, connecting the east and west coasts of north Hoy. A tributary valley forks north-east from the main valley near Rackwick. The valley floors are fairly flat, between 30 and 50 metres with some undulation, which contrasts with the steep valley sides. Many features of a glaciated landform occur within the valleys including truncated spurs, lateral moraine creating terracing on the hillside, and terminal moraine where the valley meets Rackwick Bay.

The vegetation in the valley floor is largely wet heath and deer grass which continues up the valley sides. Nutrient-rich flushing occurs below the terrace line, and the change in colour of vegetation emphasises this line. Small burns run through the valleys. The patch of deciduous woodland occupying the gully at Berriedale is distinctive within the landscape.

There is evidence of some peat cutting, but there are no enclosures. The valley floor is the main access route through the hills and so minor roads and tracks have been located through this landscape. The area is popular for walkers and climbers and a path crosses the tributary valley floor.

There is archaeological interest in the Dwarfie Stane, a glacial erratic which was carved out as a burial tomb in prehistoric times. This feature attracts many visitors: a car park and walkway have been provided for the convenience of visitors. Views within the landscape are channelled along the length of the valley. The steep sides obstruct views to the surrounding hills.

Landscape sensitivities

- visitor pressure (walkers and cars) in scenic area.

Strategy and guidance

Agriculture

The area has a largely ungrazed appearance and should generally remain unenclosed. Peat cutting should be restricted to prevent "scarring" and mechanical cutting should be avoided.

Tourism

The area is very popular for walkers and car-based visitors, as it links the road network on eastern Hoy to the very scenic but more inaccessible western coast. Care should be taken to maintain a low level of visitor service provision, i.e. in terms of basic amenities. Footpath erosion should be monitored carefully, and some informal management of visitors may be required, perhaps in conjunction with site interpretation.

Development

There should be a general presumption against any development (residential or other) which would have an intrusive effect and compromise the integrity of this distinct and unique landscape within the Orkney islands.

SUMMARY OF GUIDELINES

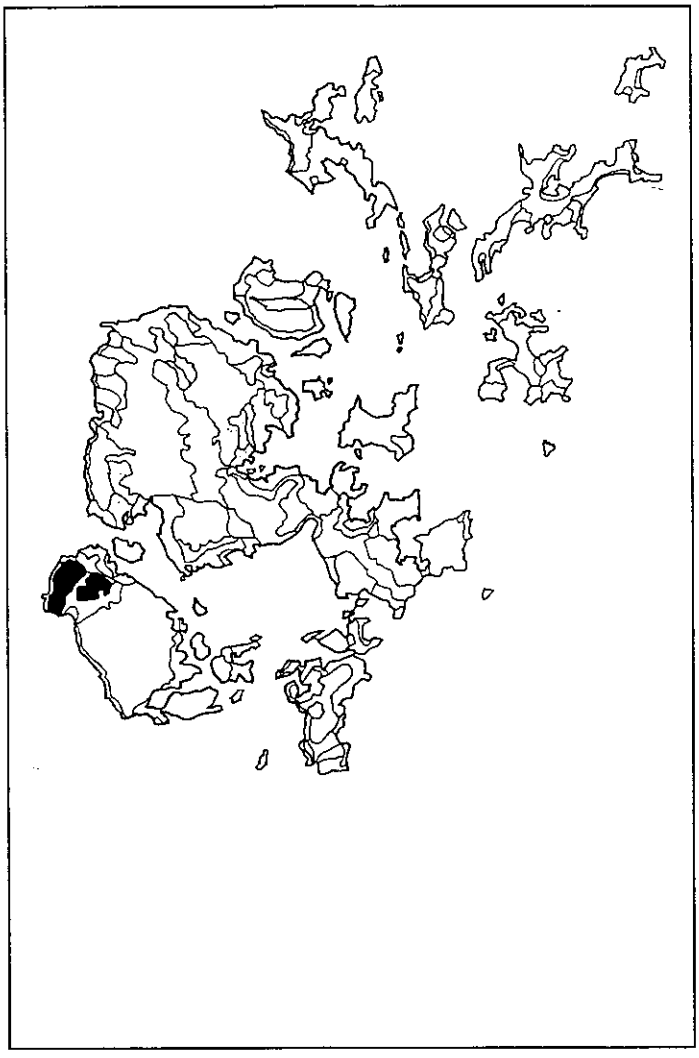
Conservation:

- *Maintain unenclosed grazings.*
- *Avoid mechanical peat cutting.*
- *Avoid over-expansion of visitor amenity.*
- *Monitor environmental impact of visitor use, particularly erosion, and adopt informal visitor management where necessary.*
- *General presumption against intrusive development.*

Enhancement:

- *Enhance interpretation function.*

TYPE 22: RUGGED GLACIATED HILLS



Key characteristics

- steep hills with craggy cliff faces and quite rounded summits;
- moorland and montane vegetation;
- no settlements or roads.

General Description

This landscape type is found on the island of Hoy, where the relief (which is higher than on Mainland) and the glacially sculpted landforms create dramatic landscapes. Rugged glaciated hill land is over 100 metres in height, rising typically to over 400 metres. Ward Hill, the highest point on Hoy, is 479 metres. The slopes are very steep, with craggy cliff faces and some scree. Hill summits are quite rounded.

The vegetation is montane in character in the highest areas with heather moorland and peatland. The land is unenclosed and there are no settlements or roads. This is a popular hill walking area and a few paths cross the land. The RSPB has a nature reserve in north Hoy which covers parts of both Ward Hill and Cuilags. The rugged hill land of Hoy is visible from many other parts of Orkney, and it provides an elevated vantage point for long distance views across the other islands.

Landscape sensitivities

- possible improvement of hill land for pasture;
- possible intrusion of built development into physically sculpted landscape.

Strategy and guidance

Agriculture

Hill land should remain unenclosed and should generally not be improved as this could damage the wildlife interest and compromise the integrity of the landscape.

Trees and woodland

There may be some scope for small scale planting of native trees, perhaps following gullies in the hillside and respecting the contours of the hill.

Development

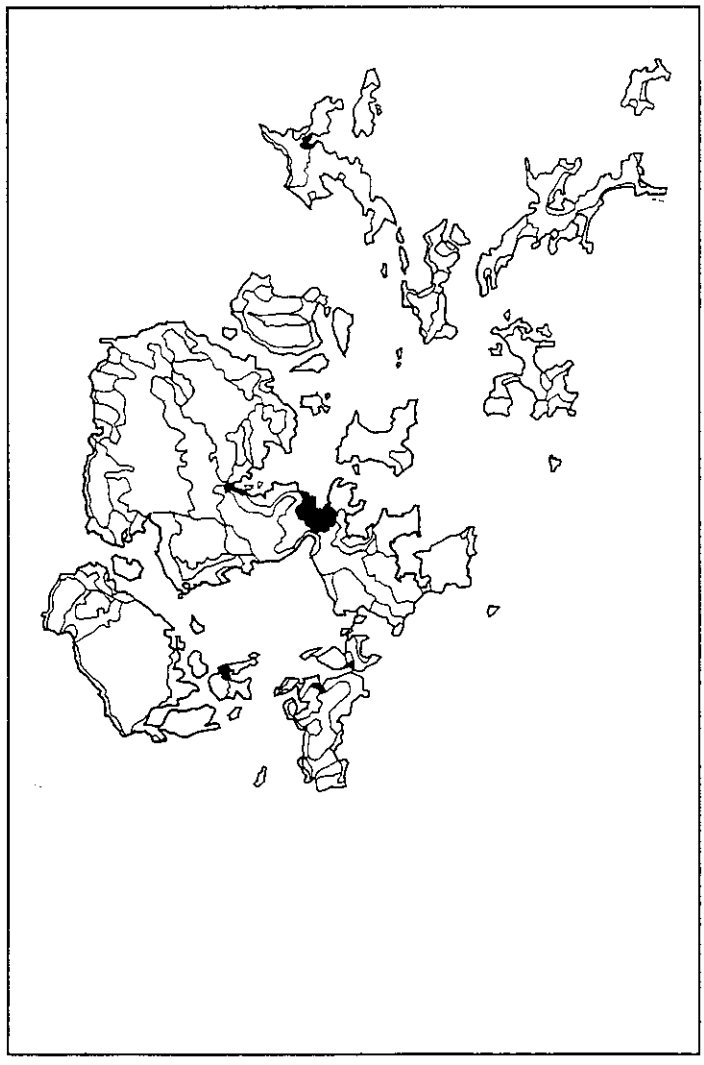
Much of this land is unsuitable or undesirable for development. Development should not introduce an overtly human influence into this physically sculpted landscape.

SUMMARY OF GUIDELINES

Conservation:

- *Retain unenclosed grazings.*
- *Hill land should not generally be improved.*
- *Investigate potential for small scale tree planting.*
- *There should be a general presumption against introduction of overt human influence.*

TYPE 23: URBAN AND RURAL DEVELOPMENT



Key characteristics

- predominantly urban or industrial land uses, often situated within shallow basins;
- large structures within large developments which are highly visible from outwith the area;
- focus for further development.

General description

This landscape type is defined primarily by its predominantly urban or industrial land use. Rural development landscapes are often found in slight topographic basins and around sheltered bays, where conditions have been favourable for development, communication and sea trade. The main characteristic of this landscape type is its overtly urban or industrial nature when compared to the rest of the study area. The size, scale and extensiveness of the structures of these landscapes are such that they are often visible from a significant distance. These landscapes are also likely to be the focus for further development and they are, therefore, generally subject to incremental change and expansion.

Orkney's main settlements are, or have been, strategic harbours developed for trade, industry and communication. Most development areas are of modest size, i.e. small villages, however, Kirkwall, Stromness and the Flotta Oil Terminal are sizeable development areas.

Landscape sensitivities

- the effects of expansion of development into neighbouring 'greenfield' sites, particularly elevated sites where visual impact is likely to be considerable;
- the redevelopment of existing built up areas may result in the loss of significant buildings and trees or may obscure important buildings/views within the town (particularly Kirkwall);
- remote developments just outside the main urban area may constitute urban sprawl and could introduce obtrusive features onto the skyline;
- the clear definition between the agricultural landscape and the town(s) could be blurred by the expansion of urban fringe developments such as golf courses, caravan parks, sports grounds, etc.

Strategy and guidance

Development in and around Kirkwall

St. Magnus Cathedral, the powerful landmark building in the centre of Kirkwall, is an essential part of the town's identity. Its outline in skyline views must be protected in its entirety from interference by buildings on higher ground behind the Cathedral or from the development of inappropriately tall buildings in and around Kirkwall.

Clear limits should be established for the potential expansion of Kirkwall, these should ideally restrict further expansion to the south and south east which might otherwise extend over the visual horizon. Development beyond the golf course to the west should be maintained at a low, scattered density and continuous linear expansion along the back road to Finstown should be prevented.

The golf course constitutes an appropriate limit to development west of Kirkwall, this and other established limits should be reinforced by tree belts and wall boundaries.

See also "Coastal Granite Pastures" (Type 9) for details about Stromness.

SUMMARY OF GUIDELINES

Conservation:

- *Protect the skyline dominance and integrity of St. Magnus Cathedral.*
- *Define and protect the landscape setting of Kirkwall and Stromness.*
- *Restrict urban fringe development around Kirkwall to the lower parts of the town's topographic basin.*

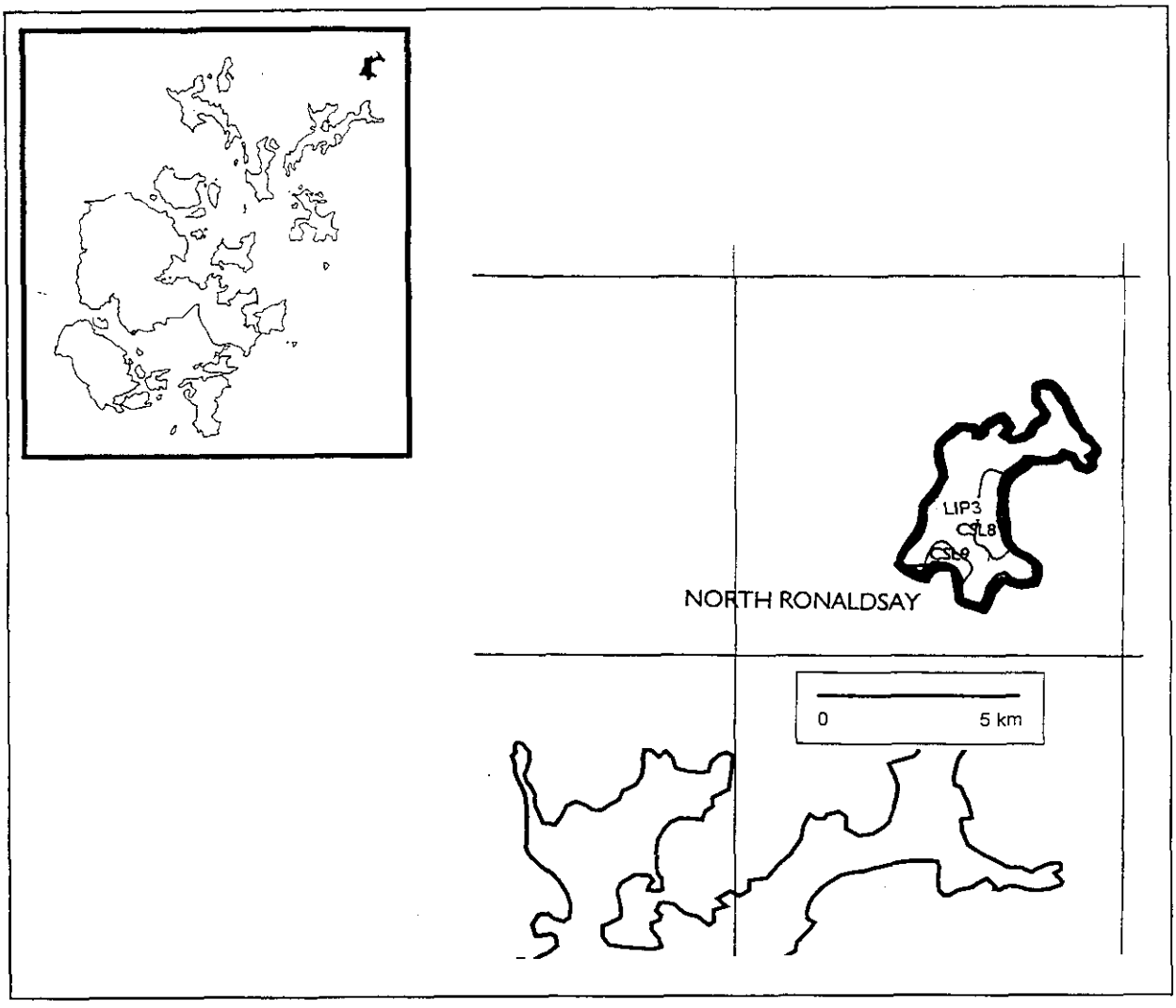
Enhancement:

- *Establish a landscape framework around Kirkwall and Stromness to assist integration of new 'greenfield' site developments.*
- *Establish housing design guidance for developers.*

10. ISLAND CHARACTER AREAS

Descriptions of the 15 Island Character Areas can be found on the following pages

NORTH RONALDSAY



North Ronaldsay is the most north easterly of the Orkney islands, lying approximately three miles to the north of Sanday, separated by the North Ronaldsay Firth. It is 5 km long by 2.5 km wide, and is predominantly flat with much of the land lying below 20m A.O.D. Two landscape character types have been identified on the island: Low Island Pastures and Coastal Sand Landscapes.

The flat landscape of North Ronaldsay has, like Sanday, been influenced by the shallow contoured Rousay Flags which underlie the entire island. These flags extend beyond the shoreline as broad wave-cut platforms and reefs, for example at Tor Ness and Dennis Ness. Deposits of wind-blown sand cover extensive areas of the coast, particularly on the southern and eastern parts. The central part of the island is covered by large areas of boulder clay, creating a more hummocky topography.

The soils of North Ronaldsay are derived from the underlying sandstone and from glacial till and shell sand deposits. The most north easterly point and the central island area are dominated by brown forest soils, non calcareous gleys and peaty gleys, with associated vegetation of arable or ley rotation and permanent pastures, swamp and sedge mire, and Atlantic heather moor and maritime heath in the north and west coasts. Around Linklet Bay and South Bay, the main soils are calcareous gleys. The vegetation associated with these soils includes silverweed pasture, swamp and sedge mires, and arable and permanent pastures. These soils occur on gently sloping, weakly undulating ground, most usually with a narrow fringe of steep sided coastal dunes.

The soils of North Ronaldsay are light and free draining compared to the other islands, owing much to the high shell sand content of the soil. Wildlife-rich machair grassland areas have developed beside the coast, influenced by the presence of shell sand. North Ronaldsay supports a rich and diverse population of wild flowers, animals and birds. The island's habitats can be divided into: foreshore, grazed links, marshland and agricultural land. The farmed landscape contains features such as uncultivated field margins which provide habitats for wildlife. The ornithological interest is particularly high, and the coast has been proposed as an SPA for its population of breeding black guillemots. Many birdwatchers visit the island each year because of the numbers and species of migratory birds which visit the island *en route* to Greenland and Iceland. Grey and common seals also breed around the shores.

Agriculture is the main economic activity on North Ronaldsay, and the island still retains many traditional features of farming. Pastures are delineated by a mixture of fences and drystone walls. The North Ronaldsay sheep are kept communally on the foreshore, feeding from seaweed. The entire island is bounded by a stone dyke which excludes the ancient breed of seaweed-eating sheep from the island's pastures. The stone 'punds' or pens on the north east coast are used to collectively round up the sheep for clipping and dipping. Farms are generally small, Holland Farm being the only holding of significant size. 'Stooks' are a common site, stacked for drying in early autumn, and some agricultural buildings still have the traditional corn kiln. The hen huts which remain also reinforce the image of traditional farming of a low key crofting nature. Livestock on the island today is largely sheep and cattle. There are an estimated 3,000 to 4,000 North Ronaldsay sheep on the island, taking typically three to four years to fatten sufficiently for slaughter. Poultry and pigs reared for subsistence use is now in decline. Oats are grown on North Ronaldsay and are a reasonably successful crop here since late cutting is possible.

A number of traditional Orkney longhouses are still in use, some having been restored. Holland House in the south of the island was built by the Traill family in the 19th century, who then owned the entire island. The Trailles were notorious landlords who were responsible for rent-racking their tenant farmers across Orkney. In the 19th century, they attempted to modernise the farm landscape of North Ronaldsay after the collapse of the kelp trade. This involved laying out squared fields and extending cultivation. In the process, they cleared from the land many crofting families who were subsequently resettled in Eday and other islands. The Trailles owned significant properties throughout Orkney. Their main houses were given the same name: Holland House. In North Ronaldsay, the property was used mostly for vacations.

The ancient dykes dividing land on the island (Treb-dykes) at Ancum Loch and Nesstoun have survived largely intact and are visible ridges in the landscape. North Ronaldsay was traditionally divided into the three areas of Northward, Linklet and Southward by the Treb-dykes of Matches dyke in the north and Muckle Gairsty in the south. North Ronaldsay, like Sanday, has a number of farm mounds which stand proud of the surrounding landscape, having been built up from the deposits of previous settlement and from the rubble remaining as old buildings were demolished.

In the north of the island at Dennis Ness, there are a number of stone circular structures known as planty creughs. These were used for growing crops and appear to have been very successful at sheltering the plants from the biting winds. Adjacent to these are a number of cists built into a dyke, and on the Torr Ness headland there are a large number of small cairns. On this headland is also the old beacon which was built between the 1770s and 1780s to warn ships off from the hazardous reefs. Today, this is achieved by the new lighthouse, which stands at 109 feet high and is the tallest land based lighthouse in Britain.

Other remains of North Ronaldsay's previous cultures include the Broch of Burrian at Strom Ness in the south of the island, dating from the Iron Age when it was the centre-piece of an extensive settlement. It appears to have been occupied well into the Pictish period, since Christian relics have been recovered from the site. A number of burnt mounds have also been identified on the island, for example at Ancum Loch. The standing stone at Hollandstoun is unusual compared to other stones in the Orkney islands because of the circular hole which has been cut into the top part of the stone. This stone stands as a landmark in North Ronaldsay. There is also evidence in the landscape of ancient unenclosed settlements, for example, at Dennis Ness and known sites of ecclesiastical origin.

The lack of tree cover or peat resulted in turf-stripping for fuel in previous years. The headlands at Tor Ness and Dennis Ness were stripped of turf and now have a very thin layer of vegetation. This contributes to the very open and windswept characteristic of the northern shores.

Evidence of the kelp industry which started on the island in the 1720s can be found in numerous shallow hollows (kelp pits) around the coastline, which were used for burning the tangle. Prior to this, seaweed had been used for fertilising the machair land, and for fuel.

The remoteness of North Ronaldsay has allowed many traditional features of the island to persist, such as agricultural practices. Many traditional Orcadian names also persist to this day.

Sensitivities and Guidelines

The landscape assessment has identified the following as the main sensitivities of the landscape of North Ronaldsay. These do not preclude the more general issues described in Part Three of the report.

- Depopulation and abandonment of property may cause the decline and loss of many important structures and may allow agricultural areas to go rank and untended.

  Reuse and maintenance of agricultural buildings, and continued low intensity working of land, or its management for nature conservation should all be encouraged.

- The viability of local economic potential on North Ronaldsay would be threatened by cuts in ferry subsidies and/or less frequent services, having a knock-on effect on social activities and ultimately reflected in the management of the landscape.

  Support should be given to retention of existing ferry links and subsidised crossings.

- Drystone dykes, planty creughs and punds are important characteristic features which may be threatened by poor maintenance.

  The characteristic stone structures listed above should be maintained in the traditional style using local materials.

- Potential attempts to farm more intensively may remove many of the agricultural features that give North Ronaldsay its distinctive character.

  Support sustainable farming methods that preserve characteristic features of North Ronaldsay's landscape and maintain rich wildlife interest.

- Inappropriately designed new building may have an adverse effect on the island because of the enclosed scale of the community.

  Only the highest standards of design for new development should be permitted, reflecting where possible local traditional building development.

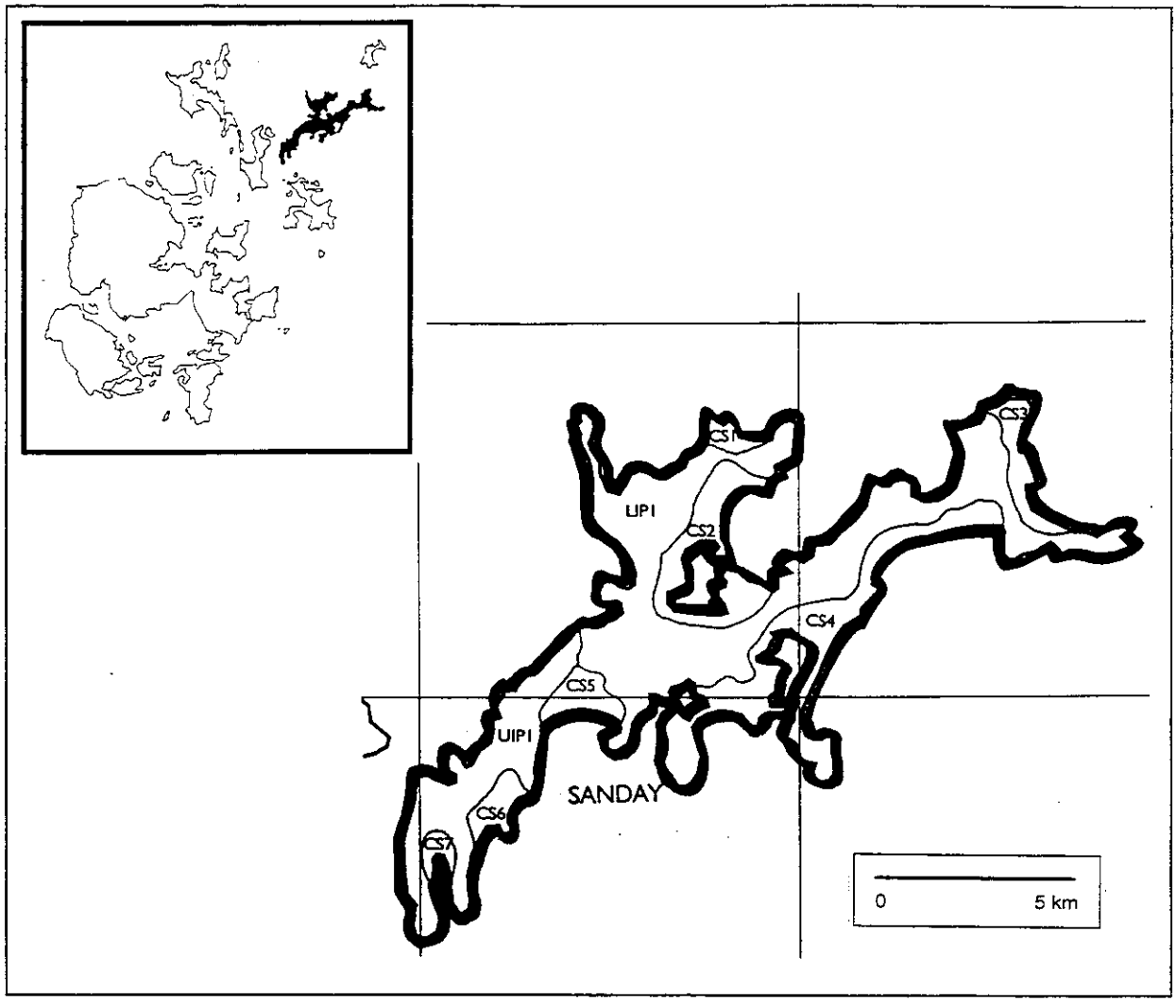
- Tourism developments may provide mechanisms for economic activity and restoration of buildings; conversely, these developments could change the character of the island.

  Tourism developments should be sensitively integrated into the landscape, reflecting where possible local traditional building styles and avoiding obtrusive development.

- Coastal features, both natural (e.g. sand dunes) and built structures, are susceptible to damage by the sea and the elements.

  Any new building on the coastline should be sited with regard to potential sea damage; sand landscape features may require local stabilisation measures. If necessary, this should be done with regard to the ecology of the sand systems, and visual and landscape impacts.

SANDAY



The island of Sanday is located in the northern isles of Orkney. It is a predominantly flat island with much of the land lying less than 50m and it is noted for its extensive sandy coastline. It is the largest of the North Isles, being approximately 20 km long by 8 km wide, and it is also one of the flattest islands in the archipelago. The low lying landscape has a strong visual relationship with the surrounding sea, which extends out to the horizon to the north and east. The other North Isles of Westray, Papay, Eday, Stronsay and North Ronaldsay are visible from different parts of the island. Three landscape character types have been identified on the island: Coastal Sand Landscapes, Low Island Pastures and Undulating Island Pastures.

The flat, open landscape has been created by an extensive covering of windblown sand over the shallow contours of the underlying Rousay Flags. The sand deposits have in fact been responsible for connecting a group of skerries, thus creating a large island from numerous smaller ones. The base geology is predominantly Rousay Flagstone which extends beyond the shoreline as broad wave cut platforms and below the low water mark as hazardous reefs. Topographic variation in the southern part of the island coincides with north/south fault lines across Spur Ness Headland and the appearance of a succession of slightly younger rocks, with some boulder clay deposits. This creates a hillier, hogback ridge landscape with a generally more hummocky appearance. The Hegglie Ber coast (U1PI) contains conglomerate beds which are of very high geological interest, and the Bay of Newark and Scot Quay Ayre (CS4), Doon Helzie (CS6) and Otterswick (CS2) are all of geomorphological interest. Coastal geomorphology has created the extensive sand deposition features along the coastline which account for much of Sanday's character. Landscape Unit CS4 contains a range of features including wide sandy bays, tidal sandy bays, tombolos and dunes. The last constitute prominent topographic features in the otherwise generally flat landscape, particularly at the Bay of Newark where they stand over 10m above the surrounding landscape. Much of Sanday's landscape is, therefore, mobile and relatively recent in origin. It is also susceptible to the elements and could be quickly transformed by savage seas and winds. Undoubtedly, human interference in the landscape has led to its increased mobility.

The extensive sand deposits determine that most of Sanday's soils are light and friable generally of the following types: calcareous gleys and regosols, brown forest soils and rankers. Only in the Gump of Spurness area are peaty gleys and podzols found on the higher faulted rocks. The light lime soils of Sanday have long been prized for their ease of agricultural cultivation and today much of Sanday is under cultivated grassland and ley rotations. Some of the more recent sand landscapes support extensive machair grasslands which are ecologically valuable and an essential characteristic of Sanday.

The vegetation of the north and north east areas tends to be rougher grassland with silverweed pasture, swamp and sedge mires. Across much of the rest of Sanday the land is cultivated with arable and permanent pastures under rotation. These rotations are based on ley grassland and include forage crops and cereals for stock feed. The north end of Spur Ness is hilly and has some areas of Atlantic heather moor. Rearing of beef cattle is the primary agricultural industry of Sanday, with sheep production also important. Farms tend to be of a modest size, with a number of larger farms in central Sanday where amalgamation of farm units has taken place. The pastures are generally fenced which adds to the openness of the island. There are, however, some significant walled areas around long established farms, in many cases, these walls play a vital role in stabilising the sandy soils, e.g. Els Ness, Tresness and Newark Farms.

Sanday is particularly important for wildlife. For example, two SSSIs have been identified: North Wall SSSI for its extent of machair vegetation, and central Sanday SSSI for its dune systems and machair. East Sanday is a proposed SPA site with internationally important numbers of wintering sanderking and nationally important wintering purple sandpiper. It is also a breeding site for Arctic tern and sandwich tern. Around the coast are a number of RSPB notable sites.

Farming on the island has removed the visible remains of much of Sanday's prehistoric culture, although there are numerous recorded sites. For example the southern headland at Spur Ness is rough hill land where the ancient field boundaries of the prehistoric era have been preserved. It is likely that the sand and machair at the coastline currently obscures, and hence protects, sites of archaeological importance. Coastal erosion has revealed some hitherto unknown sites, for example the remnants of Viking settlement, but this erosion also threatens to remove these sites before adequate surveys can be undertaken. Sanday was prized by the Norse, whose settlement pattern is the basis of much of today's. The island was cultivated long before the arrival of the Norse settlers, evidence of which includes what is believed to be an outstanding prehistoric cemetery at Tofts Ness. Curious pre-Norse land divisions called Treb dykes also cross the island, distinguishable as low, broad ridges. A distinctive legacy of Norse settlement are the numerous 'farm mounds', artificially created hummocks on which a succession of farmsteads have been built since medieval times. These are distinct features of Sanday and North Ronaldsay and have a significant topographic presence in these flat landscapes. They are not found in the other islands. On Sanday the mounds at Beafield, Tofts and Westbrough (all in unit LIP1) are particularly striking features in the landscape. The materials from which the mounds were made are generally peat and other materials discarded from domestic use, including the residue of bedding material from byres. It is thought that the presence of fertile soils on the island made it unnecessary to spread these deposits over the land, hence the formation of the mounds. The mounds have also been built up by the successive farm buildings, and by the wind blown sand which has slowly covered any obstructions in its path. Sanday is archaeologically the richest area in Orkney. Here, there come together all the special conditions which make for the deepest and richest archaeological stratigraphies (more than 4m deep deposits at Pool, for instance, span time from the first Neolithic settlers to the 19th century farm). Sanday's sites are of the highest international importance.

Sanday's agriculture was transformed in the 19th century by the modernisation that affected most of Orkney. The layout of squared fields, land reclamation and the significant expansion of cultivation took place. Some significant farms were developed, employing the latest technology in farming. A particularly fine example is at Stove (over 1,000 acres) which had an impressive home farmstead utilising Orkney's first 'head-end tying' byre. Stove also had a large steam engine, used to compensate for the island's lack of water power. Its chimney now appears incongruous in Sanday's agricultural landscape. Another noteworthy example is the horse engine house at Tresness. The 18th century kelping industry is also of importance to the history of Sanday. It was a major industry at that time, and the kelping pits are still visible along the coastline. Modern day tangle collection and drying is evident at the coast in the tangle drying racks which are found by the shore.

Sensitivities and Guidelines

The landscape assessment has identified the following as the main sensitivities of the landscape of Sanday. These do not preclude the more general issues described in Part Three of the report.

- Commercial sand extraction may be detrimental to the outstanding scenic qualities of Sanday's coastline and may destabilise sensitive topographic features.

  Sand extraction is inappropriate in the most sensitive sand dune areas.

- Sand extraction may be detrimental to archaeological sites and potentially damage well-preserved archaeological deposits presently not precisely located.

  Archaeological survey of proposed sites for sand extraction, and adoption of sensitive working methods is advised to minimise damage to archaeological features.

- Cultivation or increased grazing pressure on machair grasslands could remove or be detrimental to an essential characteristic feature of Sanday and may damage nature conservation value.

  Avoiding increases in grazing density on sensitive machair grassland is recommended.

- Most developments in Sanday's predominantly flat landscape would be visible from long distances and could be obtrusive or unsightly.

  New building should be sited and designed in sympathy with the surrounding landscape and traditional building forms.

- Development of large farm buildings at farm mound sites may obscure or partially remove farm mounds.

  Massing and siting of farm buildings should be designed in relation to important local features.

- The potential loss of landmark buildings, like Stove Model Farm, would be detrimental to the interest and cultural history of the landscape.

  The retention and appropriate reuse of landmark buildings such as Stove Model Farm is recommended.

- In the open, unenclosed landscapes of Sanday, disrepair of drystone walls threatens soil stability and lessens landscape structure.

  The continuing maintenance and/or restoration of drystone dykes in a manner reflecting local traditional styles and materials would help to stabilise soils and benefit landscape diversity.

- Outside the machair and small heathland areas, Sanday's landscape lacks ecological diversity.

  Enhance ecological diversity through appropriate management measures, for example protection of low wetlands from drainage.

- The scenic and recreational value of Sanday's coastline is likely to attract tourism development interest, which may threaten the characteristic unspoilt quality.

  Tourism developments should be sensitively integrated into the landscape, reflecting where possible local traditional building styles, and avoiding obtrusive development.

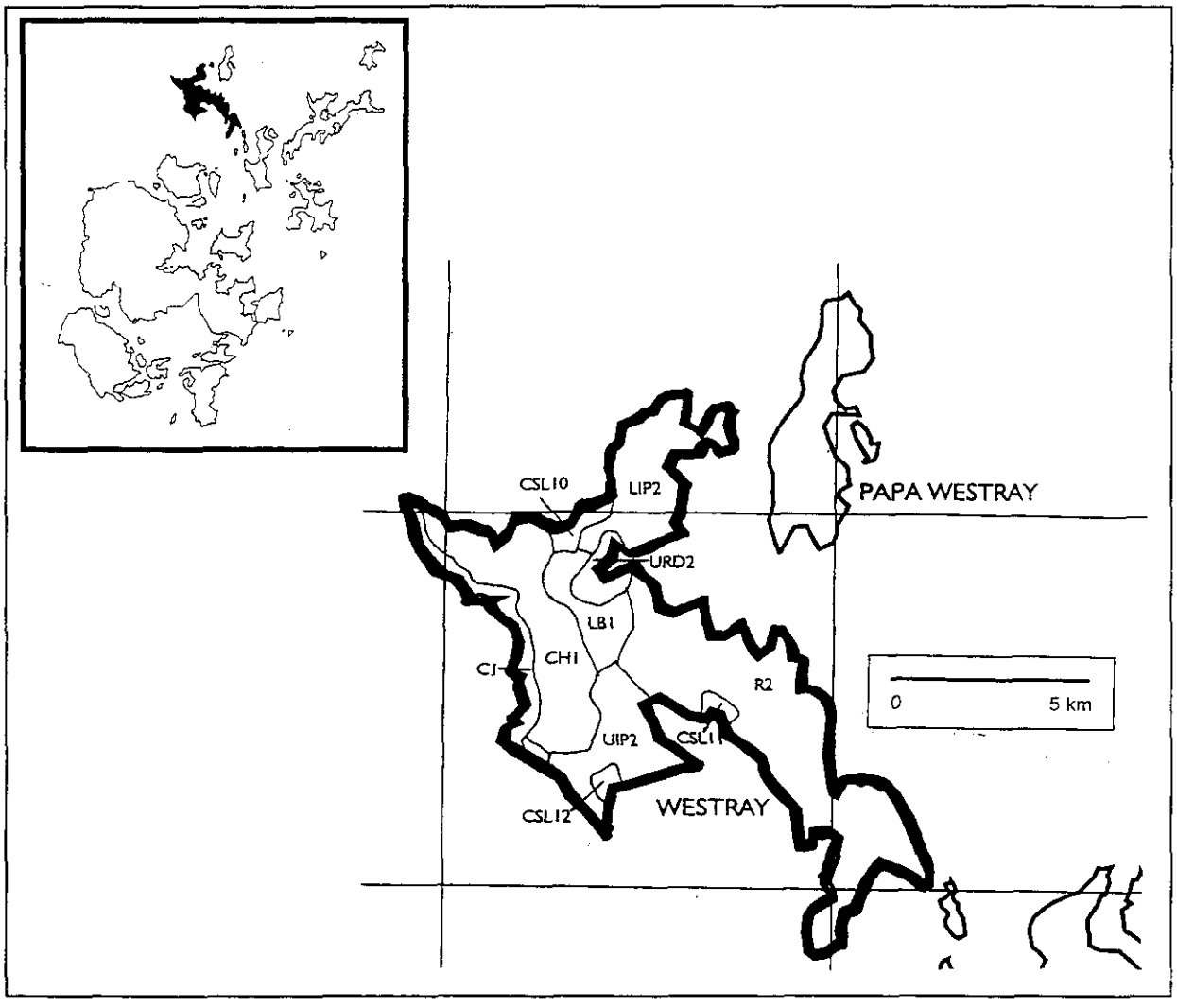
- Expanding tourism may offer the best hope for a positive use of archaeologically sensitive areas and should be carefully encouraged.

  Encourage careful expansion of tourism to allow for enjoyment of archaeological sites.

- Rabbits are a major problem to agriculture and to the stability of sand based landscapes, with deleterious consequences for archaeology.

  Control rabbit population to prevent damage to agriculture, ecology and archaeology of sand landscapes.

WESTRAY



The landscape classification of Westray identifies eight landscape character types: Low Island Pastures; Ridgeline Island Landscapes; Undulating Island Pastures; Coastal Hills and Heaths; Cliff Landscapes; Loch Basins, and Urban and Rural Development. Their distribution is illustrated on the above key map.

Westray is the most north westerly island of the archipelago, fully exposed to Atlantic influences. It has a long irregular form, 16km long by 6km wide, which is buttressed in the west by a range of hills which bear the brunt of Atlantic forces against a line of high cliffs. Its eastern coast is long with sawtooth succession of bays and headlands ('ness').

Westray's solid geology is almost entirely Rousay Flags (Middle Red Sandstone series), which are composed of blue and grey flagstones. The strata generally inclines to the west, thereby creating the steeper eastern slopes of the hill range with their terraced undulations and small scarps ('hamars'). The solid geology is overlain by extensive boulder clay and blown sand deposits. The boulder clay covers a large proportion of the island's low eastern 'tail'. Blown sand is more localised but covers sizeable areas at Tuquoy, The Links (north of Pierowall) and adjacent to the Bay of Skaill. Most of Westray's bays have a hinterland of blown sand and a number retain water bodies (ouses and ayres) behind storm beaches. The abundance of shell sand has provided a valuable source of lime for fertiliser and amelioration of acid soils for cultivation.

This combination of solid and drift geology creates a mixture of soil types. Non calcareous gleys and peaty gleys are found on the boulder clay; calcareous soils on the sand deposits; and peaty podzols and gleys on the hill land. Overall, Westray has a large proportion of light friable soils which now support extensive improved grassland. The higher western hill land is the main exception; traditionally the out-bye land, these areas retain the character of rough common grazing (i.e. from Skea Hill to Noup Head). The New Statistical Account (1845) reports that agricultural production on Westray was limited and that the majority of the island was under rough grazing. Since that time, the agriculture of Westray has been modernised and intensified such that Westray is now the most prosperous of the North Isles. The lower ground is enclosed by an efficient grid-iron of fields cultivated for rotation grasses, with some potatoes, barley, oats and turnips. The production of store cattle is the prime activity, but dairying is also important. The successful development of Westray's fishing industry has also played an important part in developing the island's economy. The combined success of farming and fishing has allowed the maintenance of high quality facilities on Westray and has reduced the problems of population decline so damaging to other island communities.

The higher and wilder landscape of Westray's western seaboard provides valuable habitats for a range of wildlife. The West Westray SSSI supports some of the largest colonies of guillemots, kittiwakes, razorbills and fulmars in the British Isles. Westray is also important for numerous migrant birds, particularly Arctic terns which visit in their thousands each year. The lochs and wetlands of the lower ground are also rich in wildfowl. The sights and sounds of these birds are important characteristics of the island's landscapes and are a significant attraction to tourists and ornithologists.

The 1794/95 Old Statistical Account (Withrington & Grant [eds], 1978) makes it clear that Links of Noltland and Mae Sands were both recently overwhelmed by sand, emphasising the mobile and recent nature of some of these sand landscapes.

As with most of the Orkney islands, the rectilinear field patterns of today's agricultural landscape were laid down in the 19th century by the landlords of the time. However, the legacy of previous land tenure systems is still evident. In Westray, the Norse influence is particularly strong and this is reflected in today's settlement patterns and the wealth of Norse archaeological sites. It is believed that Westray may have been controlled by relatively few Norse chieftains, each with large households. This would account for the small number of tunships and of chapel sites on Westray. The *'Orkneyinga Saga'* (see Taylor[ed], 1938) describes the role of leading 12th century Westray households in the support of Rognvald Kolsson's invasion of Orkney. One of the Westray chieftain's sons - Haflidi - became a leading figure in Orkney and built an expensive church (Cross Kirk) on his estate at Tuquoy, the ruins of which are still standing. Several farmsteads of high standing in Norse times are reflected in the location and names of existing farms. Several of these have been the centres of significant landholdings and have the characteristic pattern of stone walls in proximity to the farmstead, for example, at Tuquoy, Cleat, Langskaill and Skaill. This contrasts with the more ubiquitous use of fences and smaller scale walled enclosures of resettled crofts.

Pierowall, the main settlement in Westray, is of Norse origin and was once an important focus for medieval commerce and ecclesiastical activity. As an old settlement, it differs from most of the other villages at the steamer piers of other islands whose origins are fairly modern relating to fishing or Victorian estates. The village plan which curves around its natural harbour is characteristic of Scandinavian trading towns and is comparable with the medieval centre of Kirkwall that once abutted the Peerie Sea as its inner harbour. In the centre of Pierowall stands the remains of its medieval parish church, Lady Kirk, signifying the historic importance of this settlement.

Behind Pierowall stands the impressive Noltland Castle, a Z-plan tower house begun c.1560 by Gilbert Balfour. This is a significant landmark building which dominates the Loch of Burness basin and is visible above Pierowall from considerable distance. The 19th century addition of drystone wall field boundaries in the vicinity of the castle serves to reinforce its visual impact in the landscape. Noltland Links, to the north, is one of Westray's largest areas of blown sand under which evidence of a very extensive early prehistoric settlement has been found. This sand also conceals medieval landscape patterns associated with Noltland Castle.

The coastline of Westray, and particularly the back-shore area, is an important archaeological resource area. Many of the most significant sites listed in the RCAHMS List for Westray (1983) are within this zone, nevertheless, numerous sites exist inland and are mostly visible as mounds and dykes in the landscape. A singular characteristic of Westray's low coastline is the large number of naust sites (open boat mooring structures). Some are of Norse origin, but most are related to the 19th century handline fishing industry.

Sensitivities and Guidelines

The landscape assessment has identified the following as the main sensitivities of the landscape of Westray. These do not preclude the general issues described in Part Three of the report.

- Unlike most of the other Northern Isles, pressures for housing and other development exist on Westray. This is most evident around Pierowall where new development is already scattered behind the village. This does not appear to be consolidating the urban form of the village by filling gap sites, but instead is starting to create a form of urban sprawl above the village.

  New development in Pierowall should be concentrated within the village, making use of gap sites. Development on the hillside above should be avoided.

- Abandonment and potential dereliction of several fine traditional homestead and farmsteads is a sensitivity, e.g. Nether House, Gallowhill Farm, Langskaill west of the Bay of Tuquoy, and at Rackwick.

  Restoration and reuse of these buildings should be encouraged.

- Deterioration of drystone walls and replacement by fences is a sensitivity, e.g. at Aikerness (LIP 2), Noltland (LB 1).

  Support maintenance and restoration of drystone walls using traditional styles and materials.

- Sand extraction creates a potential threat to buried archaeological deposits, ecological values and to the amenity of adjacent beaches, e.g. at Mae Sands and potentially at Noltland Links.

  Sand extraction in the most sensitive sand landscapes is not appropriate. Archaeological survey of proposed sites is recommended.

- Potential fish farm expansion in sheltered bays (particularly on the north/east side of Westray (R2)), could have significant visual impact from the ridgeline road and developments on the hillside.

  Fish farms and associated onshore structures should be sited sensitively to minimise visual impact.

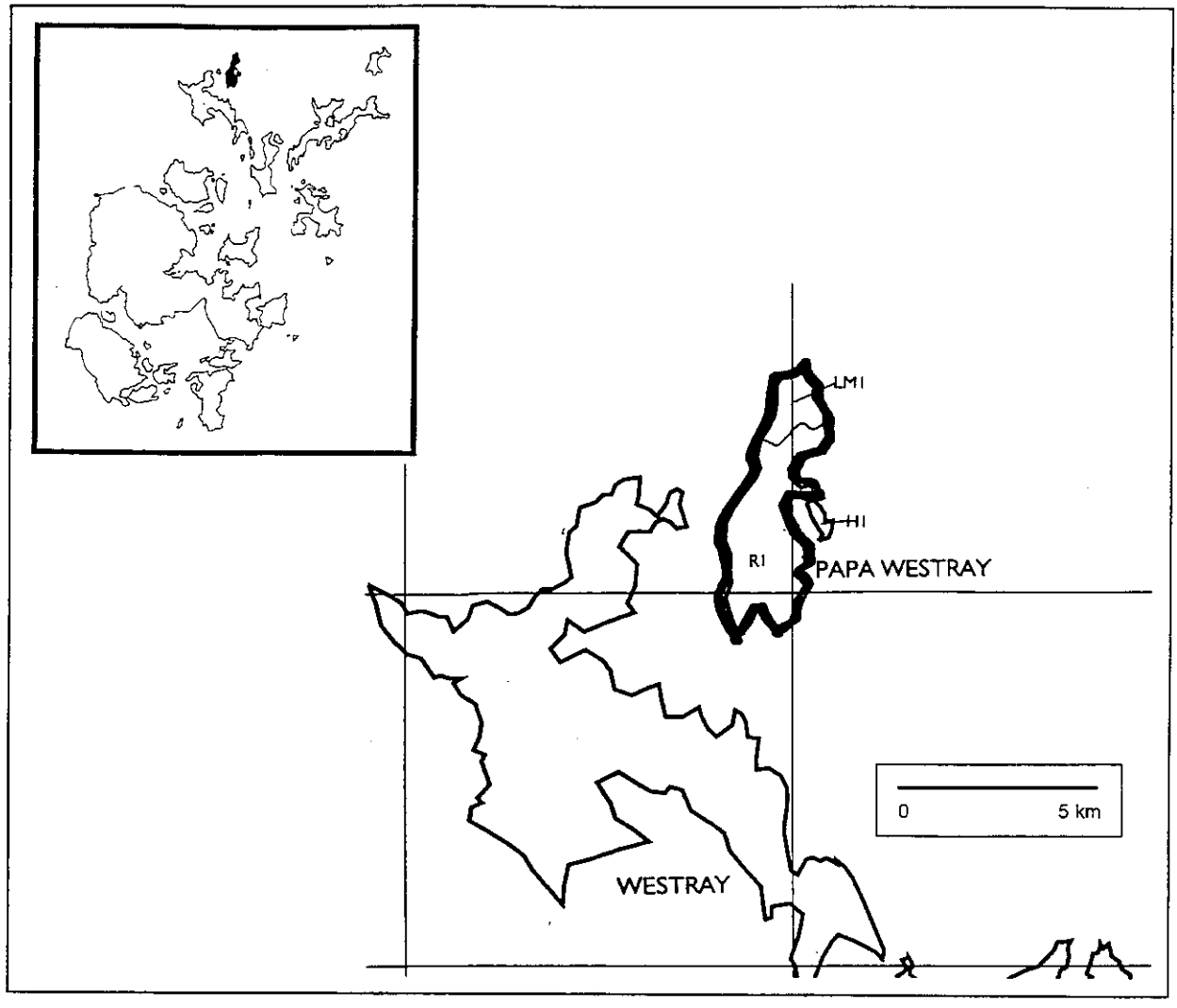
- Further development of tourism facilities is likely in Westray, and may impact on the scenic character of the island.

  Tourism development should be used to enable the restoration of significant buildings, and new recreation developments should be designed and sited sensitively.

- Potential drainage or partial reclamation of waterbodies could diminish variety in the agricultural landscape and be detrimental to wildlife (particularly LB 1, LIP 2 and R2).

  Avoid drainage of waterbodies and wet vegetation where at all possible.

PAPA WESTRAY



Papa Westray, or Papay, is one of the smallest and most northerly of Orkney's North Isles, measuring just 7km long by 2km wide. It is separated from the much larger island of Westray by Papa Sound, and forms a low ridge off Westray's north east coast. Three landscape character types have been identified: Ridgeline Island Landscapes, Holm, and Low Moorland.

The underlying geology of Papay is the Rousay Flags of Middle Old Red Sandstone. In places, these flags comprise fish sediment known as the 'fish beds', which are also found on Westray. The drift geology consists primarily of blown sand deposits on the coastline around North Wick, South Wick and Bay of Moclett.

At the northern end of Papay, Mull Head ends abruptly in cliffs facing the full force of northern waters. In contrast to this, the eastern and southern shores are characterised by their wide sandy bays.

The soils on Papay are predominantly brown forest soils and non calcareous gleys, supporting arable and permanent pastures. Vegetation on Mull Head comprises an extensive area of maritime heath, part of which has been designated as an SSSI (North Hill). On the southern and part of the western coast, the soils are influenced by shelly sand deposits, and vegetation tends to be silverweed pasture and sedge mires, suitable for rough grazing. Around Bay of Moclett this soil supports an area of machair vegetation. The Holm of Papa off the east coast of Papay has saline gley soils which give rise to vegetation such as sea plantain, maritime grass and crowberry heath.

Papay has considerable wildlife interest, reflected in the designation of two SSSIs at North Hill and Holm of Papa. North Hill is the largest area of maritime heath vegetation in Orkney and the mainland of north Scotland and is botanically very diverse, including the rare Scottish primrose (*Primula scotica*). This site also has considerable wildlife interest for its bird populations (Arctic terns and Arctic skuas) and is managed as an RSPB bird reserve. The Holm of Papa SSSI supports the largest known colony of black guillemots in Britain and is, therefore, of importance. Seals are commonly found along the shoreline.

Historic records indicate that Papay was traditionally a productive area of farmland. Today, much of the land is farmed and the island has an agricultural landscape of moderate intensity. Most of the land on the western side of the island is divided into fairly large fields by drystone dykes, their pastures supporting a mixture of sheep and beef cattle. The eastern coast tends to have large fields which are fenced. More farmsteads are visible along the eastern seaboard than the west, suggesting that the land has been traditionally farmed in bands running west to east across the island.

Holland House and Farm are the focus of agricultural productivity on the island, a legacy of the Traill family's influence on the historical land use of the area. There are a number of fine buildings in the Holland House complex and the pattern of well maintained drystone walls is particularly prominent in its vicinity. Holland House and Farm are landmark features in Papay's landscape, owing to their position on the island's central ridge line. The current buildings were started in 1810, taking four years to complete. It replaced the original farm (Manifold) which was in operation in the early 16th century.

Papay contains a wealth of archaeological remains dating back to the Neolithic period, many of which are still apparent in the landscape. In the 1970s, the Knap of Howar settlement on the western coast of Papay was re-excavated. The two oblong stone built houses represent a Neolithic farmstead, and midden deposits have revealed a mode of farming in essence not far removed from that of today. Sheep, cattle and pigs were reared for subsistence and some cereals were cultivated. Fish and shellfish were also taken from the surrounding seas.

A number of early burial mounds have been recorded, for example, on Holm of Papa, which possesses one of the most impressive chambered tombs in Orkney, and on North Hill where over 40 burial mounds have been identified on the upper slopes. Standing stones have been recorded in a number of places and there are examples of burnt mounds, as at Knowe of Backiskaill.

Papay contains archaeological features in the landscape which are similar to those characteristic of Sanday and North Ronaldsay - particularly Treb-dykes and farm mounds. These are generally less well preserved on Papay than on the other islands, however, they may have been smaller in size initially.

Papay contains particularly significant early Christian sites, for example, the complex of St. Boniface church is of considerable historical importance. The other significant site is at St. Tredwells.

A great number of nausts have been recorded on Papay, for example, at Backiskaill. These are the unroofed, boat shaped shelters which were located on or above the shoreline. These are important to the history and industry of the islands, some dating back 1,000 years, while others are a tangible reminder of the prosperous fishing industry of last century. Other legacies of the industrial past include windmills, for example, around Holland Farm.

Sensitivities and Guidelines

The landscape assessment has identified the following as the main sensitivities of the landscape of Papa Westray. This does not preclude the more general issues described in Part Three of the report.

- The pattern of drystone dykes on the western coast and around Holland Farm (Landscape Character Unit R1) is strong and loss of these features would be detrimental to landscape structure.

  Support the maintenance and restoration of drystone dykes in local traditional style.

- The buildings in the Holland House and Farm complex are of historical interest and are an important feature of the island's landscape.

  The integrity of the Holland House and Farm buildings should be conserved.

- The wildlife interest at Mull Head may be under pressure from any changes in livestock grazing levels.

  Sustainable grazing levels should be achieved to protect wildlife at Mull Head should be encouraged.

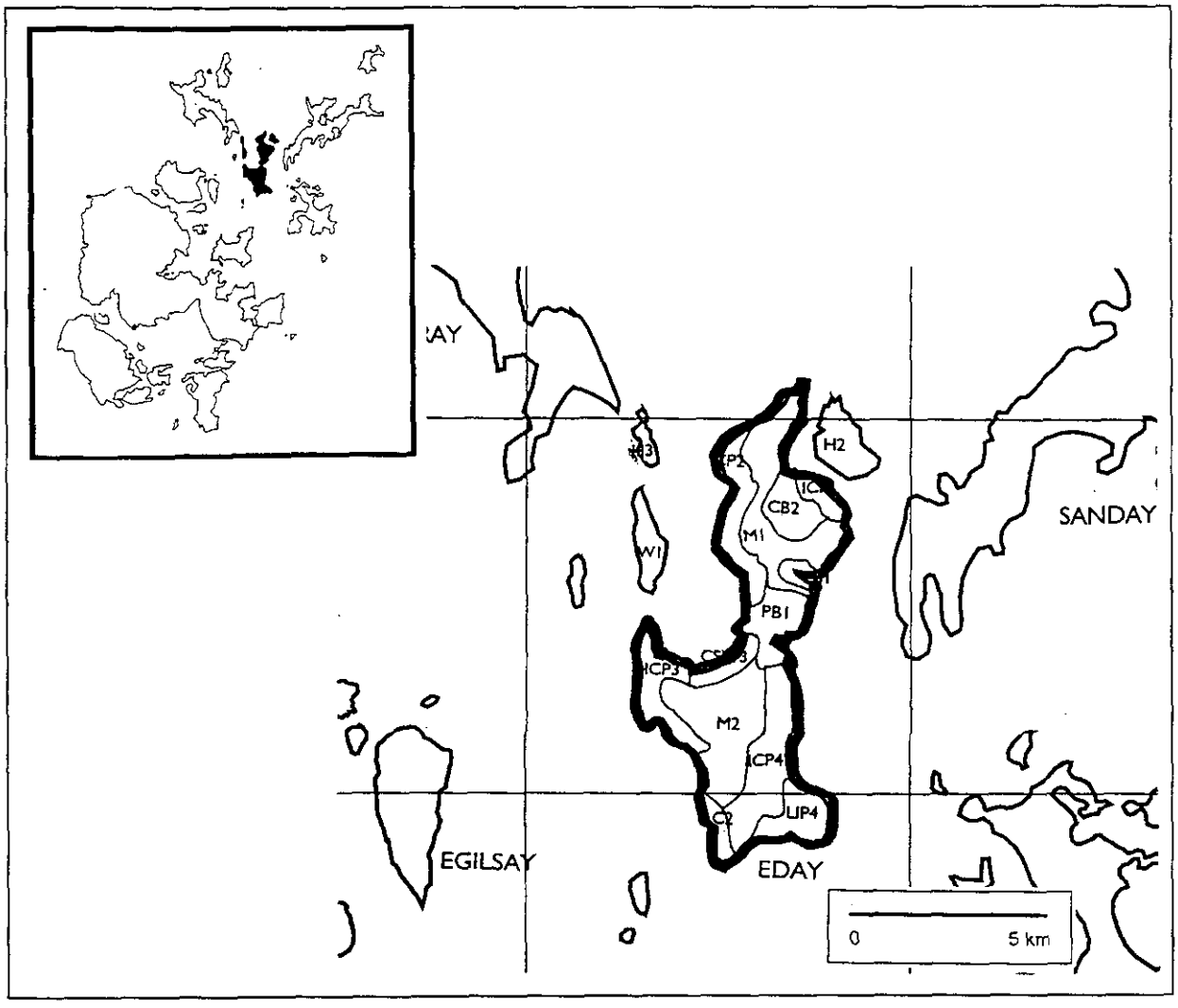
- The bird populations of Mull Head and Holm of Papa may be under pressure from any changes in land use.

  Any land use change which would threaten the bird populations may be considered inappropriate.

- Many of the archaeological sites on Papay are barely visible in the landscape and may be sensitive to land use changes and/or are suffering from coastal erosion.

  Archaeological survey of sites subject to proposed land use change is recommended to minimise damage to archaeological sites.

EDAY



Eday is centrally located within the North Isles, but is usually associated with Stronsay with which it is united as one parish. Eday has an oblong form with a north-south orientation. It is 13 km long by 4 km wide from its furthest extremities. The small islands of Faray and Holm of Faray almost link Eday to Westray and, by their close proximity, figure prominently in views from the west coast. The Calf of Eday is separated from the main island by the narrow Calf Sound, but has a strong geological relationship with the main island. Eight landscape character types have been identified for Eday: Holm; Low Island Pastures; Coastal Basin; Inclined Coastal Pastures; Enclosed Bay; Cliff Landscape; Coastal Sand Landscape, and Moorland Hills.

The geology of Eday is more complex than the other North Isles. The island is composed predominantly of Eday sandstones, marls and flags, but has bands of Rousay flags on its east and west coasts. The general north-south orientation of the strata determines the elongated form of the island and alignment of its hills. The red sandstone of Eday has provided a fine building material as freestone and for slates. Stone was quarried here for the building of St. Magnus Cathedral in Kirkwall. The abandoned coastal quarry at Fersness marks the more recent exploitation of this resource.

The extent of boulder clay deposits is limited. The main deposits are at Fersness, Carrick, Custay, the Sandhill area, the Sandybank area and at Southside/Backaland. Not surprisingly, these areas have the deepest and best soils which are generally non calcareous gleys and peaty gleys. Elsewhere, the very acid conditions created by the sandstone supports thinner peaty soils. Consequently, Eday has extensive peaty moorland and rough grassland. Areas of cultivated grassland and arable crops are extremely limited, although archaeological evidence suggests that at one time the island was more extensively cultivated.

The dark moorland of Eday has for many centuries been the dominant characteristic of the island and it is believed that the name 'Eday' may be derived from the ancient word for heath. In the past, Eday's peatland has provided a plentiful supply of fuel for its inhabitants and for the more cultivated North Isles. Signs of peat cutting, old and new, are, therefore, a common sight. Archaeological discoveries below the peat indicate that significant depths have been deposited since the Iron Age and that previously large areas of hill land were farmed and enclosed. Extensive remains of prehistoric stone walls have been discovered below the peat, i.e. sub-peat dykes. In addition, the moorland contains a wealth of other archaeological deposits related to settlement and ritual activity since the early prehistoric period. These include a number of visually significant monuments, particularly cairns (for example, Vinquoy Hill) and standing stones (for example, the 4.5m Stone of Setter) and burnt mounds (for example, at Stenaquoy).

The Calf of Eday contains upstanding archaeological sites of enormous importance and interest which, treated carefully, could be used as a visitor attraction.

The patterns of settlement on Eday have some distinct characteristics that reflect their cultural history. In the 1830s, numerous crofting families were removed from North Ronaldsay by the landlord and resettled on the west of Eday. The settlement patterns of Cusbay and the West Side represent these re-established crofting communities. A different form of resettlement is to be found in the south east corner of the island where a grid iron pattern of resettlement plots and fields was established.

The laird of Eday is based at Carrick House at the north end of the island on the shore of the Bay of Carrick. The house dates from the 17th century and is accompanied by a fine farmstead complex. Here, the local influence of the estate is immediately noticeable in the pattern of well built drystone dykes and the plantation woodland on the hillside.

The relative unsuitability of Eday for agriculture is compensated to an extent by its significant wildlife interest, particularly for migrating and breeding birds and the diversity of semi-natural plant communities.

Sensitivities and Guidelines

The landscape assessment has identified the following as the main sensitivities of the landscape of Eday. These do not preclude the more general issues described in Part Three of the report.

- Mechanised peat cutting for the commercial production of peat products could create obtrusive visual scars.

  Mechanised peat cutting should be sited with careful regard to viewpoints and the road corridors.

- Mechanised peat cutting could damage Eday's significant sub-peat archaeological deposits.

  It is recommended that archaeological surveys are undertaken prior to commencement of mechanised cutting.

- The disuse and ruin of prominent buildings creates an air of dereliction, e.g. the Baptist Chapel, Sandhill Smithy, the fine but underused Carrick Home Farm.

  New, appropriate uses should be sought for the above buildings to allow continued maintenance.

- The abandonment or/and poor management of farmland is creating tracts of rank and rough grassland in areas previously cultivated and grazed (i.e. ICP 3, CB 2 and M 1).

  Explore the potential for managing rank grassland for nature conservation.

- Small holdings of resettled crofters have small scale walled enclosures, some of which are in decline (ICP 2 and ICP 3).

  Encourage the maintenance and restoration of walled enclosures in traditional style and materials.

- Fish farming developments may potentially introduce unsympathetic structures to attractive sheltered bays and sounds (potentially CB 2, EB 1, ICP 1 and ICP 2).

  Fish farm development should be carefully sited and designed to minimise visual impact; these should utilise existing access roads and buildings where possible.

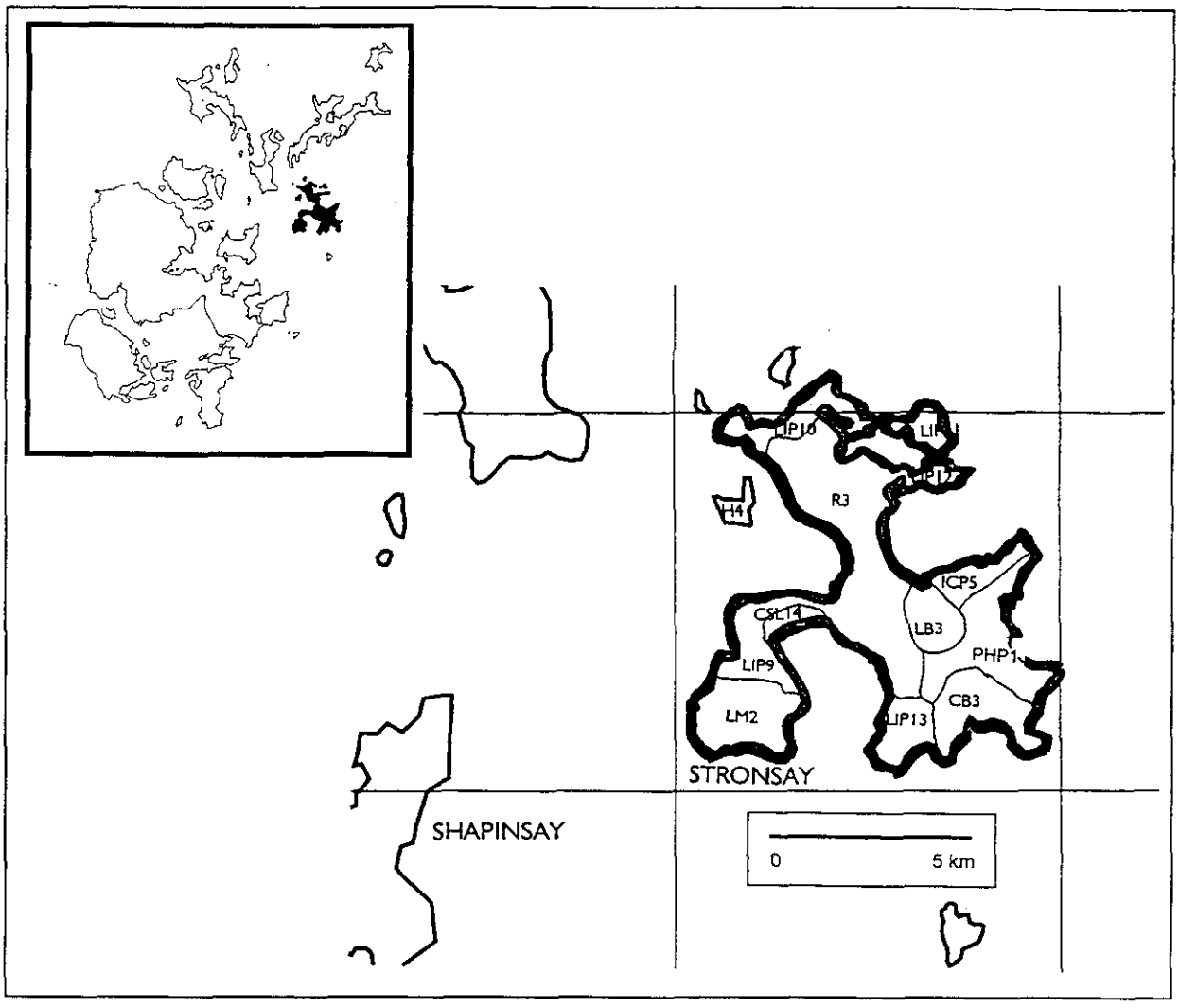
- Coastal erosion threatens to remove important archaeological sites without thorough records.

  Archaeological survey of sections of coast threatened by erosion is recommended.

- The occasional importation of exotic/uncharacteristic styles of building/farming by incomers is modifying the local traditional character of the island (e.g. whitewashed buildings in ICP 1).

  New building and modifications to existing buildings (including internal finishes) should be designed to reflect traditional styles.

STRONSAY



Stronsay is located in the northern isles of Orkney, on the eastern edge of the archipelago. It is surrounded by the nearby islands of Sanday, Eday and Shapinsay to the north, west and south respectively. The eastern seaboard faces the expanse of the North Sea. Nine landscape character types have been identified: Low Island Pastures; Holms; Ridgeline Island Landscapes; Loch Basin; Inclined Coastal Pasture; Plateau Heaths and Pasture; Coastal Basin, Coastal Sand Landscapes and Low Moorland.

Stronsay has three 'limbs' pinched at the centre by three large bays: St. Catherine's, Mill Bay and Bay of Holland. The main body of the island has a low ridgeline which runs roughly north-west to south-east. Stronsay is, however, generally low lying, its highest areas reaching just over 40m AOD.

The underlying geology of Stronsay is Middle Old Red Sandstone: the older Rousay Flags accounting for most of the land, with areas of younger Lower and Middle Eday Sandstones. The drift geology comprises extensive areas of boulder clay in the central/southern and north west, with blown sand deposits around the bays, and peat on the hill land at Rothiesholm Head in the south west. Mill Bay on the eastern coast has been designated as an SSSI for its geological interest. The geology on the east coast has been eroded by sea action, creating coastal erosion features such as stacks and gloups, for example, the Vat of Kirbister.

Stronsay's soils are generally non calcareous gleys and brown forest soils, which are generally cultivated under ley or permanent pastures and arable. On Rothiesholm Head peaty podzols, gleys, and shallow peat have developed, restricting land use to rough grazings. Around the Bay of Holland shelly calcareous gleys have developed, influenced by the blown sand deposits. These are largely under rough grazing or semi-improved pasture. On the south eastern seaboard of Stronsay, saline gleys have developed, influenced by the salt spray. These soils have supported the development of northern maritime heath vegetation, for example on Burgh Hill, and use of the land is largely restricted to rough grazings.

The colours created by the different vegetation types make an important contribution in the landscape. The Rothiesholm moorland is covered in a purple carpet of bell heather in late summer, and the maritime heath of Burgh Hill has a varied plant life of heather, crowberry, mosses, lichens and orchid. In wetter hollows at the coast there are dense patches of yellow iris (*Iris pseudacorus*).

The main wildlife interest on Stronsay is the seabirds, which contribute much to the island's character and identity. The principal seabird colonies are found on the south eastern and southern coasts, and on the small island of Auskerry to the south. South eastern Stronsay is a notable RSPB site and proposed SPA, important for its breeding black guillemot population and wintering purple sandpiper. Auskerry is a proposed SPA site for its Arctic tern and storm petrel colonies. Other notable seabirds on Stronsay include great skuas and Arctic skuas which nest on the island, often performing spectacular displays in flight. A bird reserve has been set up at Mill Bay.

The northern coast of Stronsay and small holms off this coast are important breeding sites for grey and common seals.

Agriculture is an important employer on Stronsay, with the farms being generally large. This has resulted in the past from the amalgamation of holdings in the last few decades. Farming on the island is concentrated on beef production and is intensive, with much of the land under improved pasture or crops. Most of the fields are fairly large, bounded by drystone walls or fences and laid out in the grid iron patterns characteristic of 19th century farm improvements. Like Shapinsay, this is a dominant characteristic of the island. Around the large houses, such as Housebay, Cleat Airy and Holland, the agricultural landscape appears particularly well tended, with well maintained walls and flagstone field boundaries. The general impression of intensive agriculture and well kept farm land is now a significant part of Stronsay's identity.

Last century, however, Stronsay was renowned for its herring fishing industry, which employed 1,000 steamships in its heyday. Whitehall harbour was once one of the major herring ports in Scotland, but went into decline in the 1930s. Herring processing and marketing was also carried out on the island. Whitehall village still retains its 'fishing village' character, with the houses strung out along the flat Grice Ness headland; however, many of the buildings are now disused or underused. The settlement is an important feature in the north east of the island, being visible from the southern shore of Mill Bay, the B9062 along the ridge of the island, and also from the track up to the airfield on Huip Ness.

The kelping industry has also been important in the island's history. It was a Stronsay man, James Fea, who first produced kelp in Orkney in 1722. Huge profits were to be made from the industry, but the kelp burning produced an acrid smoke which the farmers believed was damaging their crops and their health. This resulted in the kelp riots on Stronsay in 1741 as farmers went on the rampage, destroying many kelp burning sites. The industry continued, however, and Stronsay was heavily involved in kelping in the 19th century. The kelp chimneys on Papa Stronsay still stand and are a landmark in the area.

Besides Stronsay's industrial archaeology, there are a number of sites and features dating back nearly 5,000 years which chart various periods in the island's cultural history. The chambered tomb at Hillock of Baywest dates to the late Neolithic period and there is also a chambered cairn at Lamb Ness on the south coasts and cists, for example at Clestrain. A number of burnt mounds have been identified across the island, particularly as ploughing and land improvement have revealed areas of burnt rocks. There are a number of broch sites around the coast which generally appear as slight rises in the ground. However, at Hillock of Baywest, the mound is a considerable size, measuring 22.5m diameter by 3.2m high. A Pictish house has been recorded on Linga Holm off the north west coast of Stronsay. Linga Holm, Little Linga and the island of Auskerry off the south coast of Stronsay, all have a considerable concentration of archaeological sites, from prehistoric to medieval, within a largely "prehistoric landscape".

Unenclosed early settlements have been identified throughout the island including, at Clestrain, a naust site where boats were drawn up onto land.

A number of ecclesiastical sites have been identified, with Papa Stronsay being named for its early Church connections and the stack sites, for example, at Brough of Burgh Head and Tams Castle, are structures on the summits of rock stacks which are thought to have been small monasteries or religious hermitage sites.

One of the most distinct modern landmarks in Stronsay is the water tower which stands on the ridge and is visible from most of the island and from surrounding islands. In misty conditions, this structure helps to distinguish Stronsay from the other low lying islands.

Sensitivities and Guidelines

The landscape assessment has identified the following as the main sensitivities of the landscape of Stronsay. This does not preclude the more general issues described in Part Three of the report.

- Development pressures on the island are potentially very visible, particularly along the central island ridge.

  Aim to avoid 'skylining' of new development along central island ridge and in other very visible locations.

- Strong grid iron field patterns are emphasised by drystone walls and flagstone boundaries, for example, in Landscape Character Units CB3, ICP5, PHP1, and R3. Loss or disrepair of these boundaries would be detrimental to the landscape structure.

  Encourage the maintenance and restoration of field boundaries using traditional local style and materials, particularly in areas where field patterns are a strong feature.

- The dune systems and machair/links grassland are of ecological value and are sensitive to disturbance from extensive mechanical sand extraction activity and from livestock grazing.

  Mechanical sand extraction is not appropriate in the most sensitive sand and machair landscapes, and sustainable livestock grazing levels should also be aimed for in order to maintain the wildlife value (LIP9-12 and CSL14).

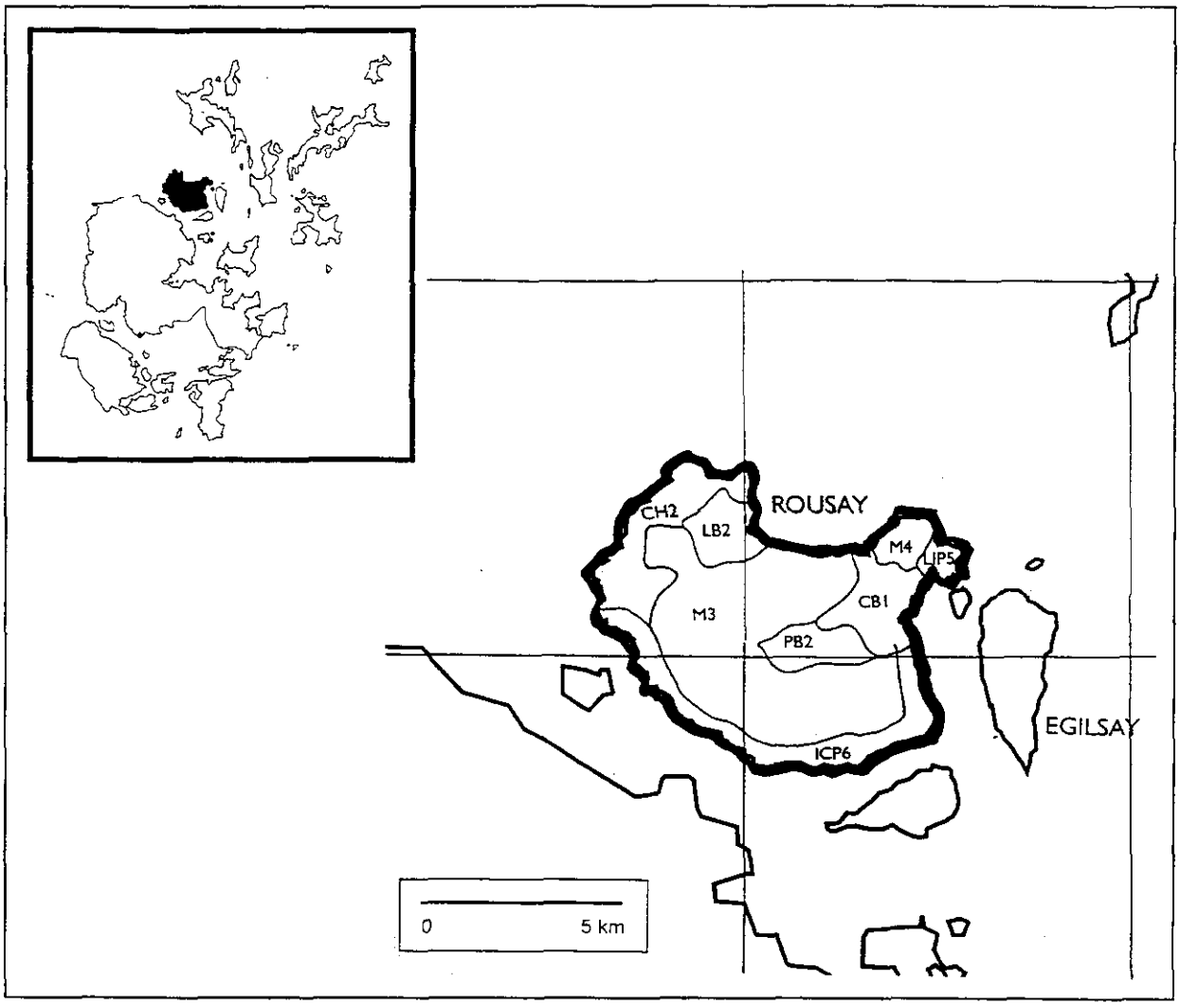
- Low-lying wetland around Meikle Water is of some ecological interest, and is sensitive to activities such as drainage.

  Encourage avoidance of draining wetland (Landscape Character Unit LB3).

- The peatland on Rothiesholm Head (Landscape Character Unit LM2) may have potential for commercial peat extraction, creating landscape sensitivity and potential threat to sub peat archaeology.

  Any proposed sites for peat extraction should be limited to the west and southern sides of the headland, and it is recommended that archaeological survey is carried out prior to extraction to minimise risk to archaeological features.

ROUSAY



Rousay is situated to the north east of Mainland, separated by the Eynhallow Sound. The island has a more compact outline than most North Isles, and measures over 7 km north to south and east to west. Its roughly circular shape is distorted by its northern headlands: Faraclett Head and Sacquoy Head, which frame the wide Saviskaill Bay. Seven landscape character types have been identified on the island: Low Island Pastures; Loch Basin; Coastal Basin; Peatland Basin; Inclined Coastal Pastures; Moorland Hills; and Coastal Hills and Heath.

Rousay is considered one of the North Isles, but has many similarities with West Mainland from which it is separated by only 1.5 kilometres. It has an upland character with strong relief which mirrors aspects of the West Mainland moors and north-east coast. Rousay's uplands reach 235m at Kierfea Hill and its horseshoe shaped ring of hills generally extends above 200m. At the coast, the ground rises steeply, denying access into the interior except at Sourin and at Wasbister.

The topography of Rousay is distinctive and immediately recognisable from other islands. The significant hill mass contrasts with the generally lower profile of the other islands, but most distinguishable are the pronounced terraces on the coastal slopes which stand out in silhouette and are highlighted by the play of low sunlight. These express the planar nature of the underlying Rousay Flags, especially where glacial scouring has removed surface till from the coastal fringes.

The height and extent of Rousay's moorland hills provide an adequate watershed for two inland lochs: Muckle Water and Peerie Water; and the Loch of Wasbister. They also represent a bountiful supply of peat which has been cut for many generations.

The soils of Rousay are predominantly a mixture of peaty podzols, peaty gleys, peaty rankers and non calcareous gleys. There is also a significant area of blanket peat in the centre of the island. These support a relatively low percentage of cultivated grassland and arable crops and, consequently, rough grazing and moorland dominates the island. Lower coastal slopes and basins support the most intensive agriculture, particularly where boulder clay is present. These areas contain some large long established farms.

Archaeological evidence suggests that the intractable nature of the hill land has restricted cultivation and settlement to the lower ground, particularly the coastal strip where an abundance of significant prehistoric and historic sites have been discovered. The concentration of sites along the Eynhallow Sound is particularly outstanding. These include a range of structures dating from the fourth millennium BC which indicate how land tenure, settlement and defensive patterns have changed over the centuries. These include the Neolithic chambered cairns of Midhowe and the Knowe of Rowiegar; a sequence of Iron Age brochs; the Wirk remains of a medieval castle; the legacy of Norse settlement, and the ruins of crofts cleared in the 19th century. The number and prominence of archaeological sites in state guardianship in this island are due to the 1930s whisky magnate and laird, Walter Grant, who donated them to the state after more than a decade of intensive research and excavation. They are now the reason for most tourists visiting Rousay.

The RCAHMS list (1982) includes 139 sites and finds on Rousay and the location of many suggests that settlement and cultivation was once more extensive than today. Clearance of crofters during the 19th century was responsible for the removal of complete communities from hill and coastal land to make way for sheep grazing. George William Traill was responsible for this 'Highland clearance' type activity on Rousay. His purchase of 2,800 acres in the west of the island brought about significant changes in the landscape which are clearly evident today. Three tunships were evacuated to form the farm of Westness. Large squared fields were laid out along the coastal strip, leaving the most westerly area of Quandal open as a sheep run. The ruined remains of these tunships are now fossilised within coastal heathland. This is the only large district in Orkney with well preserved traces of pre-improvement practices and settlement patterns.

Westness House and Farm remained the main focus of the estate on Rousay until the estates of Westness and Trumland were combined under Frederick Burroughs. The construction of an impressive mansion house at Trumland by Burroughs resulted in Westness being let primarily for sport. Trumland House and Westness Farm are both notable, besides their architectural qualities, for the plantations of sycamore that define their curtilage.

The valley of the Sourin Burn and higher ground generally contain numerous ruined buildings, with small unkempt fields. These are mostly the result of attempts to survive without land, with an exacting landlord, after having been cleared from Westness or Quandale.

In conclusion, Rousay's dramatic topography, the contrasts between moorland and agricultural fringe, and its wealth of upstanding 'preserved' archaeology, makes it a distinctive and picturesque island. Its agricultural potential is, however, limited and there is a growing dependency on tourism which is facilitated by Rousay's accessibility from Mainland. It is highly visible from the Evie area and conversely, developments along the north east coast of West Mainland would be highly visible across the Eynhallow Sound from Rousay.

Sensitivities and Guidelines

The landscape assessment has identified the following as the main sensitivities of the landscape of Rousay. This does not preclude the more general issues described in Part Three of the report:

- Development pressures in the coastal strip are potentially highly visible and obtrusive, particularly from the Mainland.

  High standards in siting and design of new development, particularly along Rousay's west and southern coasts, should be applied.

- Tourism developments and related signage are likely to increase and may detract from the island's character. Leaflets could perhaps be used to lessen the need for tourist signage.

  All tourism developments including signage should be carefully sited and designed.

- Drystone walls are essential features of Landscape Units LB2, CB1 and ICP6, (the lichen cover at Wasbister is particularly distinctive).

  Support the maintenance and restoration of drystone walls in local materials following the traditional estate or crofting pattern.

- The mature woodlands of Trumland House and Westness Farm are landmark features that require management.

  Development of management plans for mature woodlands is recommended to maintain these as significant landmark features.

- Road improvements, visitor car parks, etc. along the island's peripheral road may damage or remove traditional features such as hill dykes or drystone walls.

  Traditional features disrupted during infrastructure or other works, should be reinstated where possible, using traditional styles and materials.

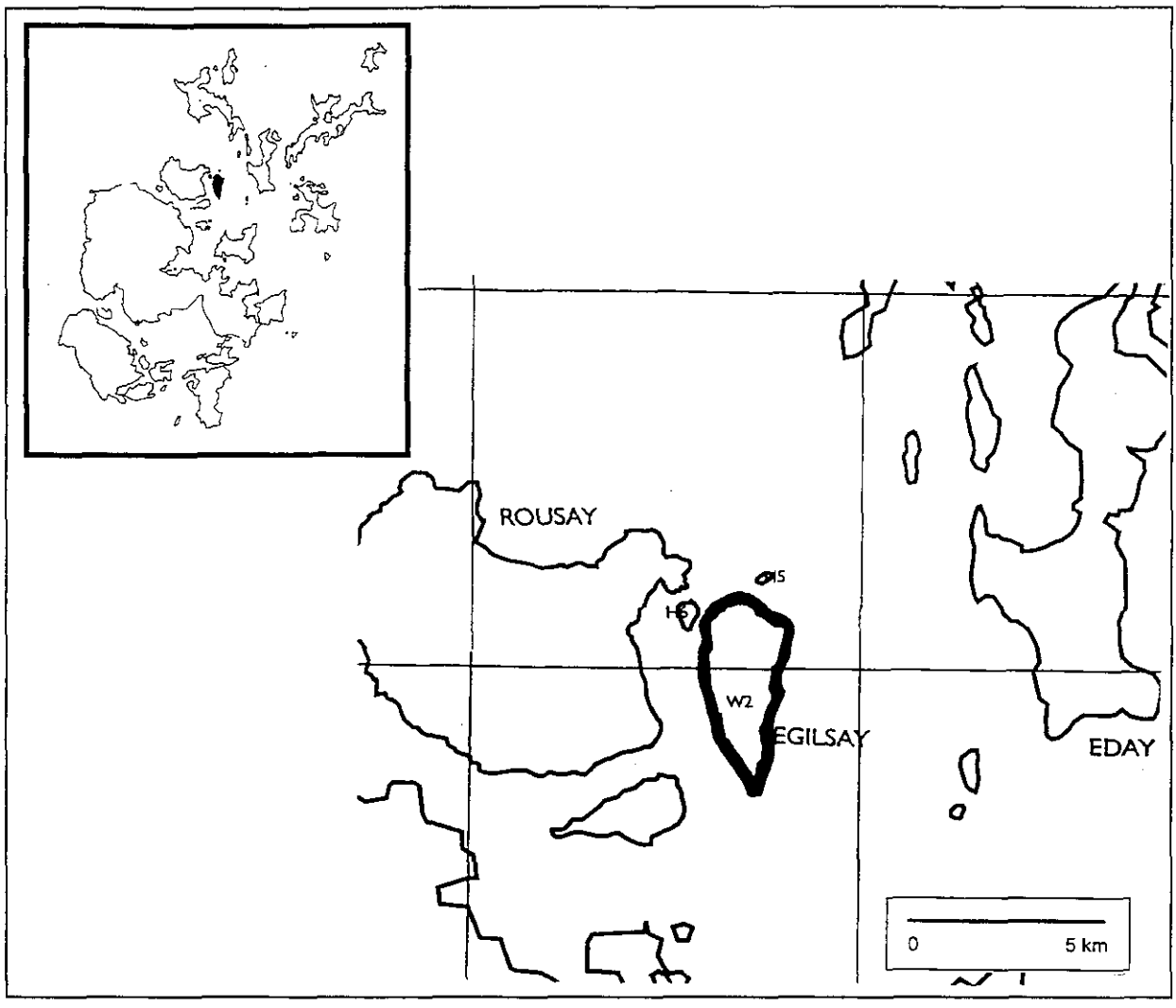
- Rousay's moorland has great potential for peat extraction, mechanised cutting could, however, create visual scarring discernible from the Mainland and may damage sub-peat archaeology.

  Peat extraction should be sited where it is least visible, using topography and contours to minimise visual impact. Archaeological survey of proposed sites for mechanical extraction is recommended to minimise risk of damage to sub peat archaeology.

- Pressures for further fish farm developments may be forthcoming and would probably have significant visual impact from the island's main road and settlements.

  Fish farm developments should be sited where they are least visible, and associated onshore structures should be sited to minimise visual intrusion.

EGILSAY



Egilsay is a small oval shaped island which lies to the east of Rousay, separated by Rousay Sound. The island is approximately 5 km long and over 1.6 km wide in the north, tapering to the Point of the Graand in the south. Egilsay is wholly the 'Whaleback' Island Landscape character type.

The island's topography is generally an elongated mound reaching 35m at its highest point and having a central ridge line. Local undulations, terraces and depressions relate to the inclined strata and the presence of fault lines.

The solid geology is composed of Rousay Flags which dip to the west, creating the steep eastern scarp near Kirbist and determining the orientation of the wave-cut platforms around the east and north coasts. North-south faults running close and parallel to the island's western coast are strongly defined by a trough which is expressed at the coast by the Hubbet, a small linear inlet.

Egilsay was subject to ice scouring in the same manner as neighbouring Rousay. This left only thin glacial deposits. The soils are consequently a mixture of shallow peaty gleys, peaty podzols, peaty rankers and brown forest soils. The presence of wind blown shell sand at Mae Banks has, however, provided a useful source of lime for soil amelioration and creates a distinctive feature on Egilsay's east coast.

The island's land cover is consequently limited to a predominance of rough grazing and moorland with local cultivation, where soil conditions permit, for ley pastures and arable crops. Egilsay lacks the characteristic grid iron field patterns of other islands and is almost devoid of drystone walls. This helps to exaggerate the open and exposed nature of the landscape.

The island contains approximately a dozen farms and is sparsely populated. This, combined with its small size and awkward communications, engenders a particularly isolated and partially abandoned character, despite its proximity to Rousay and, indeed, depopulation is a threat. Recently, the RSPB has acquired significant holdings on Egilsay and has worked with the local farming population in implementing the scheme to attract corncrakes.

Egilsay does not contain a significant archaeological resource, but it does have special associations with the *'Orkneyinga Saga'* (see Taylor[ed], 1938). St. Magnus was martyred on Egilsay and, consequently, the island has retained special religious significance. The medieval church of St. Magnus, built possibly after St. Magnus' death, is a powerful landmark on the highest point of the island. It can be seen from considerable distances and is an important feature in views from Shapinsay, Rousay, Wyre and Eday, in particular. It represents the only survivor of a distinctive group of round-towered churches in Orkney and Shetland. Nowadays, it is an essential part of Egilsay's identity.

Kili Holm has an excellent upstanding Bronze Age settlement. It is important to continue grazing such holms in order that such sites can be seen.

Sensitivities and Guidelines

The landscape assessment has identified the following as the main sensitivities of the landscape of Egilsay. This does not preclude the more general issues described in Part Three of the report:

- Depopulation threatens the viability of the community and may lead to farm amalgamation and abandonment of property.

  Efforts should be made to revive the local economy, retaining the current pattern of farm management.

- Diversification to supplement limited agricultural economy may introduce new development, e.g. fish farm or tourism/recreation related developments, which may create landscape sensitivities.

  Local economic development should be encouraged where this is sited sensitively in relation to the surrounding landscape and is not obtrusive.

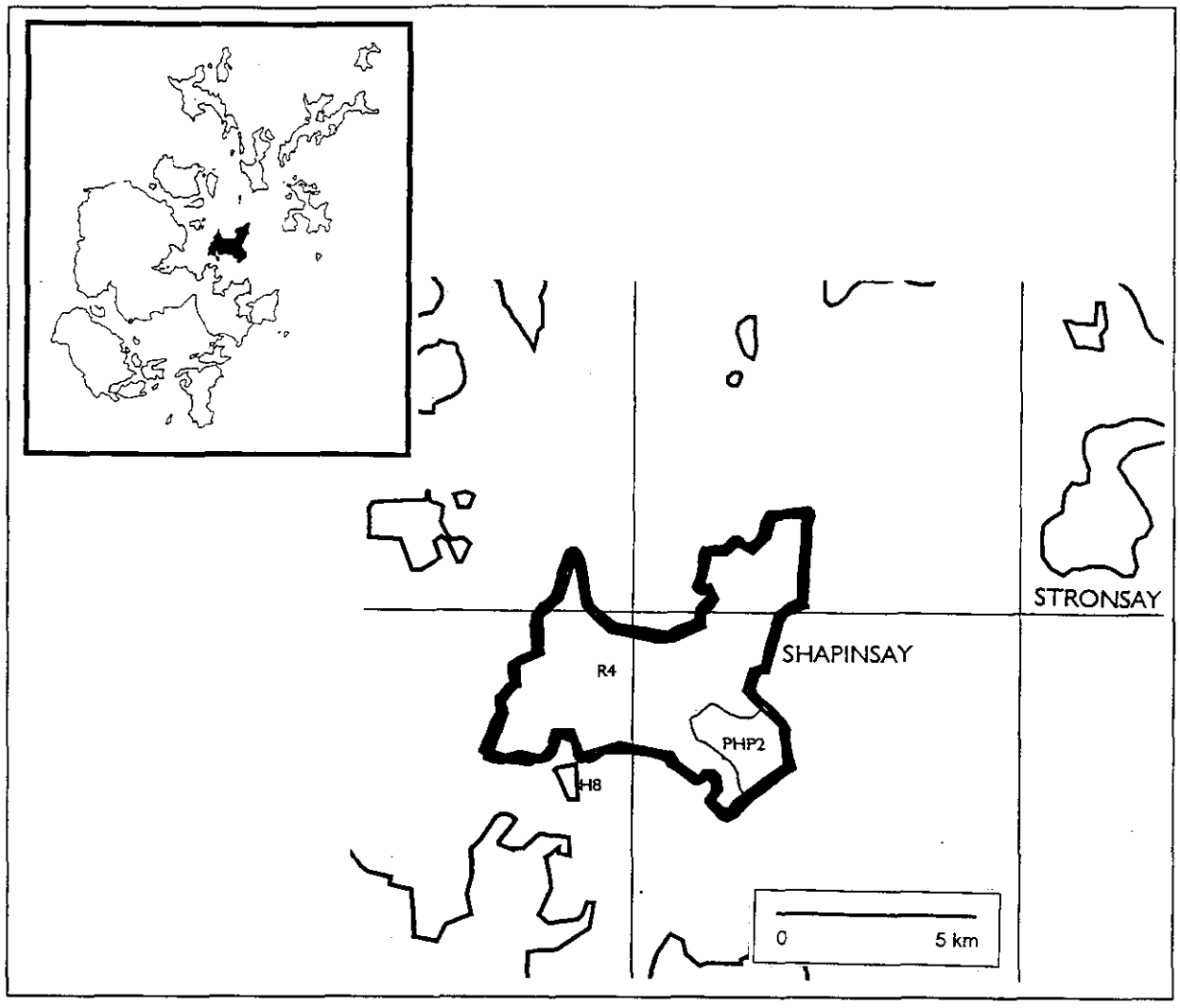
- Potential development on Egilsay's ridgeline could be obtrusive and might detract from the impact of St. Magnus Church.

  Development along the island's ridgeline should be discouraged and preferably avoided, particularly adjacent to St Magnus Church.

- Potential developments and landscape management changes on Egilsay's northern flank would be highly visible from Rousay and the Rousay Sound.

  Siting and design of development and landscape changes in the north of Egilsay should be given special consideration and skylining of structures should be discouraged and preferably avoided.

SHAPINSAY



Shapinsay is the closest of the North Isles to Kirkwall, lying less than 7 kilometres to the north east. Between Shapinsay and Mainland lies the small uninhabited Helliar Holm. Two landscape character types have been identified on the island: Ridgeline Island Landscape and Plateau Heaths and Pasture.

Shapinsay is roughly boot-shaped: its toe, the Ness of Ork points north east, its heel, Haco's Ness points south. It measures approximately 7km east to west and north to south from its extremities. The island's highest point is the central Ward Hill which reaches 64m. From here, high ground extends as a ridge to the north east and as a plateau to the east. The latter drops to the sea as cliffs, the former ends at the Ness of Ork. The north western corner of the island is defined by a narrow promontory 'The Galt', which is accompanied by a number of small skerries. Between The Galt and the Ness of Ork the wide arc of Veantrow Bay is enclosed. This contains an interesting assemblage of depositional features and skerries which have trapped Lairo Water and the tidal Ouse behind storm beaches. Most of Shapinsay's coastline is formed by rock platforms and low cliffs; however, the western coast has long beaches and another 'ayre' Vasa Loch. The most popular sandy beach is in the Bay of Sandgarth.

The solid geology of Shapinsay is mostly Rousay Flagstone, but the relatively high plateau in the south east is composed of sandstones and volcanic rocks. Fault lines that run north-south through the western part of the island determine the presence of the pronounced valley at Balaclava, and the adjacent ridge that is surmounted by a straight road running due north. Earlier this century, this valley was dammed and flooded to provide water power for Elwick Mill. The area, still waterlogged, is now a Local Nature Reserve.

Shapinsay has a generous mantle of boulder clay over its surface, which forms the basis for productive soils. These are mainly non calcareous gleys, brown forest soils with peaty podzols, peaty gleys and rankers on thinner drifts. These soils are intensively farmed, with over 80% of the island under cultivated grass and arable crops. The remainder is rough grazing and moorland, most of which is on the south east plateau.

Perhaps the most striking characteristic of Shapinsay is the rigid geometry of its fields and roads and the intensity of cultivation. These result from the extensive agricultural improvements undertaken by David Balfour during the 19th century. David Balfour inherited part of Shapinsay on his father's death and proceeded to acquire the whole island (approximately 7,000 acres). With imported wealth, he set about the transformation of Shapinsay's landscape. Run rig was replaced by a grid iron pattern of fields, generally 10 acre squares. Extensive field drains were installed, and fertiliser imported. In a short period of time, he had enlarged the cultivated area from 700 acres to 5,000 acres.

David Balfour saw himself as the patriarchal landlord and reinforced this position by the construction of Balfour Castle in the south west corner of the island. He commissioned David Bryce to design a Scots Baronial mansion around the earlier Georgian mansion of his grandfather. This was accompanied by an estate village, home farm (Balfour Mains), walled garden and extensive woodlands. These were constructed in the late 1840s and remain as the most ambitious and extravagant examples of estate architecture in Orkney.

David Balfour was an extremely progressive but benign landlord who encouraged his tenants to improve their landholdings and set in place mechanisms to ensure high quality livestock production. The legacy of this approach is clearly evident in Shapinsay's productive agriculture today. In contrast, his contemporary landlords such as the Traills and Burroughs in Rousay, and Hebden in Eday, created barely tolerable conditions for their tenants and achieved only short lived gains from attempts at agricultural improvements.

The extensive nature of agricultural landscape changes on Shapinsay have left relatively few archaeological features visible inland, but there is much interest around the coast and in the small areas of remaining moorland. The most significant in the landscape include the chambered cairn of Haco's Ness, Castle Bloody's chambered mound, the Mor Stein standing stone, the coastal brochs of Burroughston, Steiro and Howe Hill, and the ruins of St. Catherine's Chapel. In addition, there are a number of interesting sites less immediately visible. These include burnt mounds, sub-peat dykes, and the remains of old settlements.

The location of Shapinsay makes it clearly visible from the higher ground of West and East Mainland. The vantage point of Ward Hill permits views to several of the North Isles on a clear day. Eday, Stronsay and Rousay are particularly dominant.

Sensitivities and Guidelines

The landscape assessment has identified the following as the main sensitivities of the landscape of Shapinsay. These do not preclude the more general issues described in Part Three of the report.

- Field enlargement and the local removal of the 'Balfour' field pattern (10 acre squares) would be detrimental to the strong geometry of the Shapinsay landscape and would disregard the cultural significance of Balfour's agricultural improvements. Field enlargement would decrease the scale and the variety of the agricultural landscape.

  Encourage the retention of the existing scale and pattern of fields, with maintenance and restoration of field boundaries in traditional style a priority.

- Incremental 'reclamation' of uncultivated coastal land, wetlands or plateau heath would potentially reduce visual and ecological interest and may be damaging to undiscovered archaeological deposits.

  'Reclamation' of uncultivated coastal land should generally be avoided, particularly in areas of ecological value and where archaeological remains may be located.

- Fish farming developments may impact views of the more sheltered bays from ridgeline developments. The scenic qualities of Veantrow Bay's wide arc would be diminished by the presence of fish farm cages.

  Fish farm developments should be sited where they will be least visible, avoiding the Veantrow Bay area, and associated onshore structures should be designed and sited to minimise visual impact.

- Some modern farm buildings and related houses lack sensitivity and respect for traditional building forms and layouts. Potential ridgeline developments could be obtrusive.

  Careful siting and design of any development proposed near the ridgeline is required.

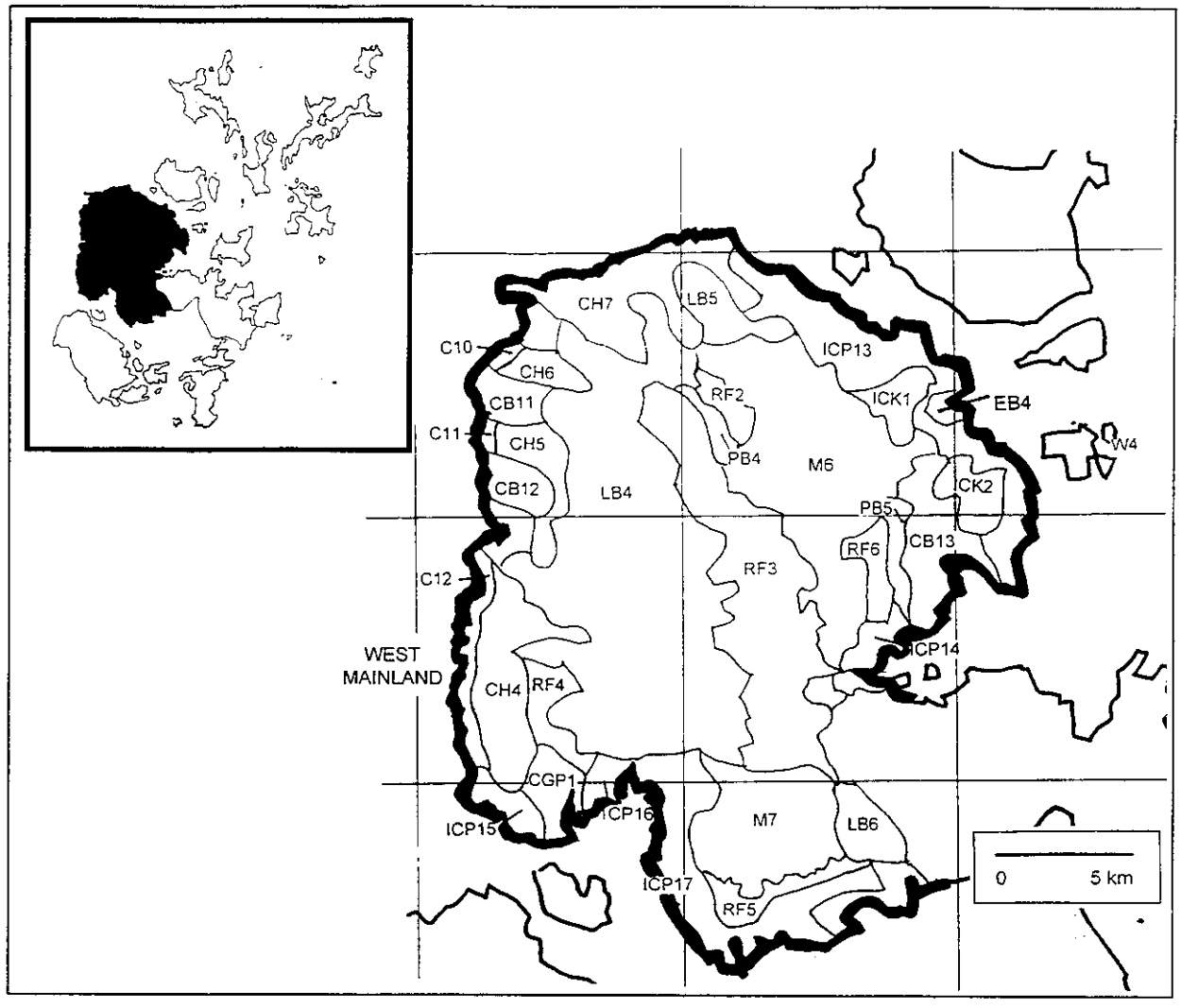
- Around Balfour Mains and Gorn there is a limited extent of drystone walls, flagstone fences and hawthorn hedges, which form a significant component of the local landscape.

  Encourage the conservation of these features.

- The integrity of Balfour Castle, its designed landscape, Balfour Estate Village and Balfour Mains, is important to the overall identity of Shapinsay.

  The means to ensure the perpetuity of the above features should be a priority consideration.

WEST MAINLAND



West Mainland comprises the most extensive land area in Orkney. This expanse is emphasised by the two large lochs that occupy much of the lower lying ground. The topography is varied, ranging from these wide loch basins to moorland hills that reach over 200 metres in height. A total of eleven Character Areas has been identified in West Mainland: Coastal Basins; Inclined Coastal Pastures; Coastal Granite Pastures; Isolated Coastal Knolls; Enclosed Bay Landscapes; Coastal Hills and Heath; Cliff Landscapes; Peatland Basins; Loch Basins; Rolling Hill Fringe; and Moorland Hills.

* Please note that the scale of this map is different to the map scales for the other Island Character Areas.

The underlying geology mainly consists of Stromness and Rousay Flags from the Middle Old Red Sandstone, but a thin area of Eday Flags borders the North Scapa Fault on the northern edge of Scapa Flow at the extreme south of Mainland. On the west coast, the sandstones have been fashioned into impressive cliffs. Exposure to the Atlantic winds and seas has carved out "gloups" (blow holes), "geos" (clefts), arches and stacks into the coastline. The "Castle of Yesnaby" is a notable example of a stack. The exception to the cover of flagstones is an area above Stromness where the older granites and schists that underlie the sandstones are exposed. This area has a characteristic topography that is more hummocky and rougher looking than the areas of sandstone. The granite stone dykes of this area look quite different from the flagstone field boundaries which are more common in Orkney.

The terrain of West Mainland is generally more characteristic of glacial deposition than glacial erosion. This contrasts with the hills of Hoy which, in clear weather, form a notable backdrop to many views in West Mainland. The ice sheets smoothed the topography, hollowing out the expansive loch basins and deepening the channels that now separate the islands. There are no areas of extensive dune systems on West Mainland. However, areas of blown sand occur, perhaps most famously at Bay of Skaill on the west coast where it served to protect the remains of the Neolithic village of Skara Brae.

The expansive basin containing lochs Harray and Stenness is the most striking inland landscape feature of West Mainland. The inter-connected lochs, which are designated as Sites of Special Scientific Interest (SSSI), provide a range of habitats from salt water through brackish to fresh water as well as forming a unique setting for many outstanding archaeological features. The hills are generally vegetated by moorland; away from these areas peat is limited, although Glims Moss is an example of a basin bog. Agriculture is the dominant land use of much of West Mainland. Woodland is largely absent, although a few mature trees grow within the shelter provided by the buildings of Stromness, and there is some policy woodland around Woodwick House near the north east coast.

Settlement, mostly in the form of farmsteads and scattered groups of houses, is located throughout the lower ground and around the lochs. The main settlement is the town of Stromness, situated on steeply rising ground above its harbour. Although located on the area of granite, sandstone flags have been used for most of its traditional buildings. They are built gable end to the sea to maximise access for boats and this, combined with the strong relationship between the buildings and hilly topography on which Stromness is built, gives it a highly distinctive townscape.

The archaeological interest of West Mainland is outstanding, even in comparison with the rest of Orkney. The coastline and inland lochs provided sites for chambered cairns, standing stones, stone circles, and settlement, world-renowned examples of which can be found in West Mainland. Skara Brae, the Neolithic village, is located on the Bay of Skaill on the west coast; Maes Howe chambered cairn is near the road between Stromness and Kirkwall; and the Ring of Brodgar stone circle and standing Stones of Stenness take advantage of the superbly dramatic site of the narrow isthmus between lochs Harray and Stenness. Numerous cairns, tumuli, burnt mounds, standing stones and other relics contribute to the special significance and character of this ritual landscape in a local and national context.

Later features include the impressive ruin of the Earl's Palace at Birsay on the north western tip of Mainland. On the south coast, at Orphir, the Earl's Bu is located, with nearby the Hall of Clestrain which has a distinctive wall pattern. Several brochs, for example Broch of Gurness, are located on the east coast, on Eynhallow Sound. At Marwick Head on the Atlantic coast is the tower-shaped memorial to Lord Kitchener who was drowned off the coast during the first World War. Near Dounby, in the centre of the island, the flat landscape was used for airfields in the second World War and many of their brick and concrete structures and earth covered bunkers still remain as a reminder of the strategic importance of Orkney. The most noticeable recent development is the cluster of wind turbines on Burgar Hill.

Sensitivities and Guidelines

The particular characteristics of West Mainland give rise to the following strategy for landscape management. This is not to preclude the more extensive guidelines in Part Three of this report.

- New development will generally be highly visible in this open landscape, despite the existing, fairly scattered, settlement pattern. Development pressure is likely to be particularly strong where access to Kirkwall and Stromness is easiest.

  Acceptable limits of expansion may need refining, particularly where development pressures are strongest; provide guidance on acceptable forms and design of new housing; avoid prominent sites for building
  The pastures inclined towards Loch of Stenness require particular sensitivity in relation to future development because of the key views out from and into this landscape.
  Siting and design of new buildings should be sensitive to the underlying landform and the vernacular tradition in architecture.

- The distinctive townscape of Stromness (CGP1), and its visibility from the sea on a main approach route to the islands, requires that any future expansion is carried out sensitively.

  Respect the traditional buildings and townscape of Stromness. Ensure further development at Stromness is sympathetic to the character of the area and does not detract from the town.

- There are some derelict buildings, for example at Redland (RF6), but there are also examples of well restored long houses with flagstone roofs.

  Encourage restoration of derelict traditional buildings.

- Peat cuttings are evident on the moorland hills(PB4&5 and M6&7). This can be visually intrusive in certain situations. Some peat cutting techniques are traditional, e.g. herringbone stacking, and need to be recognised as part of the "living landscape".

  Avoid mechanical peat cutting if at all possible and replace top cuttings as a solution to the landscape effects of peat extraction.

- Stone wall field boundaries are characteristic of much of the area.

  Encourage the maintenance and retention of the granite stone walls which are a feature of the Stromness area.
  Hedgerow planting could be considered to add diversity to the landscape and definition to field boundaries.

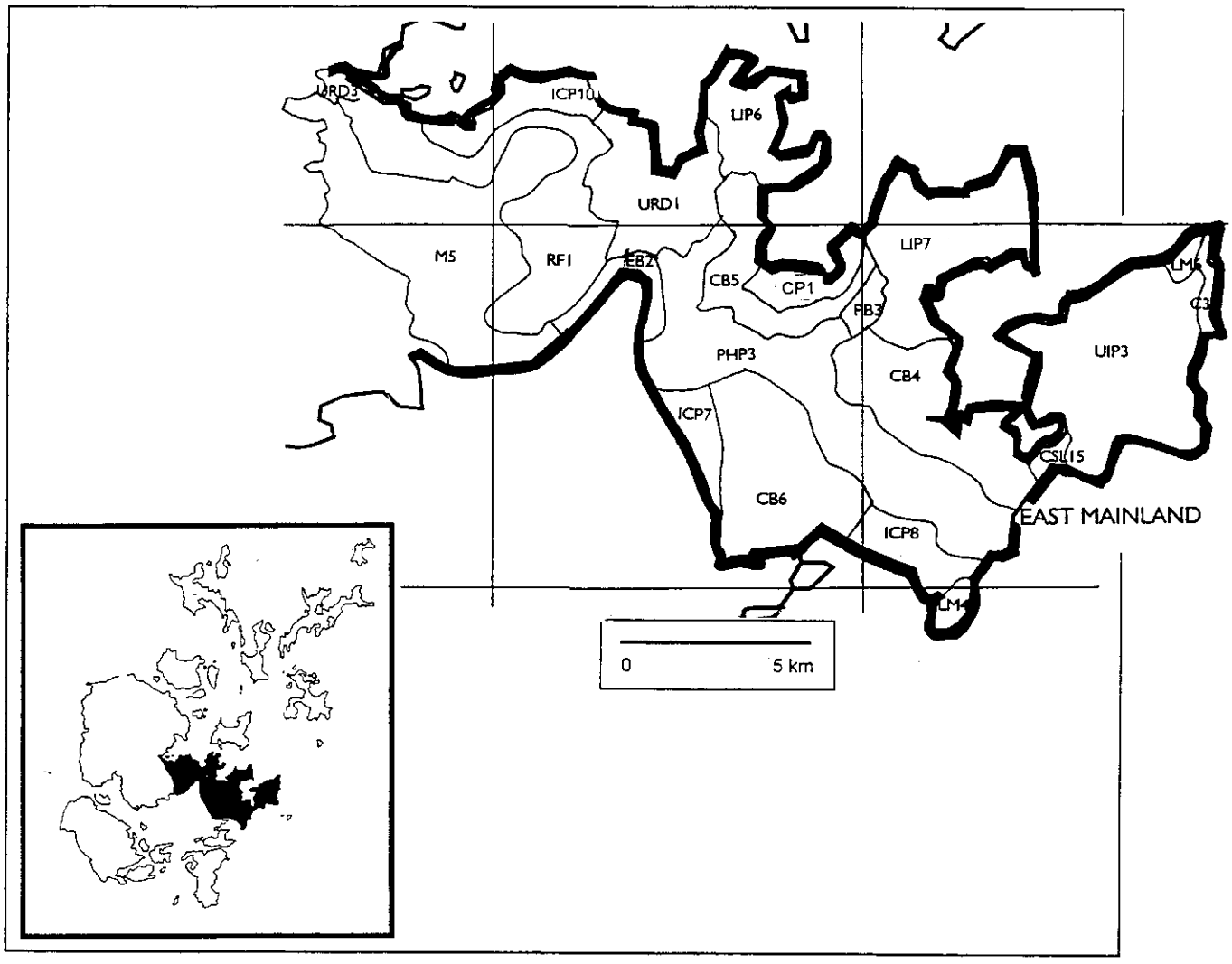
- Woodwick House and its associated policy woodland, Woodwick Wood, situated on the coast (EB4), are landscape features of the area. An avenue of trees arches over the road to the north of the Breck of Cruan, creating an interesting feature.

  Maintain woodland as an important feature.

- The archaeological heritage of West Mainland is outstanding and forms a significant component of the landscape character.

  Support the principal of protection of the archaeological heritage, both scheduled monuments and wider countryside features wherever possible (in association with the statutory duties of other agencies such as Historic Scotland).

EAST MAINLAND



The East Mainland character area lies to the north west of Scapa Flow, and takes in the parishes of St. Andrews, Holm and Deer Ness. The area extends westwards to include Orkney's main town, Kirkwall. 14 landscape character types have been identified: Urban and Rural Development, Low Island Pasture, Undulating Island Pasture, Coastal Basin, Coastal Plain, Peatland Basin, Coastal Sand Landscape, Low Moorland, Cliff Landscapes, Inclined Coastal Pasture, Plateau Heaths and Pasture, Rolling Hill Fringe, Enclosed Bay, and Moorland Hills.

The underlying geology comprises Rousay Flags and Eday Beds of the Middle Old Red Sandstone series. Glacial deposits cover most of the lower land area and peat has developed on the higher hill and plateau areas of Holm, although much of this has been improved for pasture. The headlands of Tanker Ness, Deer Ness and north of Kirkwall are low and undulating, the land rising up towards the central area of Holm, which is an undulating plateau at about 70m AOD. On these headlands, views are afforded north eastwards towards the North Isles. The southern and western coasts border Scapa Flow where views are dominated by the islands of Flotta and Hoy, with mainland Scotland in the distance.

The soils of the East Mainland area comprise mostly non calcareous gleys and brown forest soils which have developed on the northern headlands and are largely under arable and permanent pasture. The centre and south of East Mainland is covered by peaty podzols and some blanket peat, which mostly coincide with the higher ground. Landcover is mostly pastoral with ley rotations on the better soils and rough grazing on the thinner peaty soils.

Land use is predominantly agricultural with the emphasis on beef cattle rearing. The urban influence of Kirkwall is considerable, with urban fringe development extending over much of the St. Ola area.

Kirkwall is Orkney's main town, and is the focus for urban expansion and the location of new manufacturing industry. The townscape of Kirkwall is a dominant feature in the north of East Mainland, particularly the tower of St. Magnus' Cathedral, which can be seen from great distances and is a welcoming landmark on arrival by sea. Proximity to Kirkwall has created particular development pressures in Tankerness, Deer Ness, and along the arterial roadways radiating out from the town. The topographic basin around Kirkwall has been the focus for most urban expansion, however, the spread of the town southwards onto higher ground has removed much of the town's pastoral backdrop. This effect may be repeated if the western flanks of the basin are developed more extensively in the future.

East Mainland has a wealth of archaeological sites and monuments dating from prehistoric times up to 20th century remains of Orkney's wartime history. A number of early domestic or burial sites have been recorded, for example, the 'Five Hillocks' site which comprises nine earthen mounds and is sited near the airport, and The Howie which is an unenclosed settlement mound now protected as a scheduled monument. A number of burnt mounds have been recorded, for example, at Campston and Howell, and there are also numerous broch sites, although most are not immediately visible as such. Eves Howe broch is one of the more prominent mounds which is grass covered, and only on the north side is there any exposure of the underlying structure. This site has been scheduled.

Through the medieval period there appears to have been many religious sites on East Mainland. The most significant is the Brough of Deerness Chapel and settlement, dating from the 12th and 13th centuries, which has been scheduled. There are also a number of medieval church sites, although often no trace remains in the landscape today. Also possibly dating from this period are the stack sites, for example Moustack, which may have been a hermitage retreat and which is visible as a small mound on the top of the stack. Naust sites have been recorded, and there are also other remains of the area's fishing history, for example, the 19th century fishing station complex at Hall of Tankerness. A kelper's bothy has been recorded at Taing Skerry and wind pumps at the Loch of Tankerness are also a relic of agricultural/industrial activity in the area. The strategic position of Scapa Flow was defended this century during the First and Second World Wars and a number of batteries and gun emplacements still stand on the coastline, for example, near Graemeshall and also the Ness Battery overlooking Deer Sound. The Churchill barriers which lie off the south coast of East Mainland were constructed to prevent passage into Scapa Flow by German submarines. Roads have now been built on top of the barriers, thereby allowing direct access onto Lamb Holm, Glims Holm, Burray, and South Ronaldsay.

The extent of improved pasture has reduced some of the ecological value of the area. However, there are still interesting wildlife sites, for example the Mull Head Local Nature Reserve on the north-east coast of Deer Ness which is a valuable area of maritime heath with moorland and wetland habitats. In those fields which have not been improved so intensively there is still a richer grassland species including iris, meadowsweet and lady's smock. The Bay of Suckquoy contains saltmarsh habitat, and the sandy coasts at Scapa Bay and St. Peter's Pool are important for wading birds. Graemeshall Loch is a good area for wetland plants. In all these sites where the wildlife diversity is richer, diversity is added to the colours and texture of the landscape.

Sensitivities and Guidelines

The particular characteristics of East Mainland give rise to the following strategy for landscape management. This is not to preclude the more extensive guidelines in Part Three of this report.

- Urban expansion around Finstown and Kirkwall threatens the landscape, through visual intrusion.

  Aim to control urban expansion around Finstown and Kirkwall, through defining clear limits and establishing a robust landscape framework. Urban limits should seek to preserve the agricultural context and stop development over the main visual thresholds seen from the towns.

  Development along the coastline of East Mainland can be highly visible from its hinterland, neighbouring headlands, and from nearby islands, disrupting the continuity between the coastal fringe and the sea.

  Further development along the shoreline should be discouraged and preferably avoided.

- The wildlife and landscape value of wetland and peatland vegetation may be threatened by land drainage, particularly on the lower fringes of hill areas in central east mainland.

  Encourage conservation of wetland/peatland vegetation by avoiding extensive drainage of land.

- The sand bar which links Deer Ness to Mainland is under threat from natural erosion processes.

  Support the conservation of sand dune system and prevent natural erosion of sand bar linking Deer Ness to Mainland.

- Mechanical peat extraction may threaten the heathland vegetation of moorland landscapes and would be highly visible if sited on the flanks of East Mainland hills.

  Mechanical peat extraction should be controlled, and sited to avoid the most sensitive sites visually, and for archaeology and ecology.

- The integrity of the bay landscapes of East Mainland, particularly Scapa Bay, may be threatened by indiscriminate or inappropriate development.

  Aim to maintain the existing character of Scapa Bay and ensure that new development is site to avoid visual intrusion.

- Coastal features such as cliffs are threatened in places by natural marine erosion.

  Monitor the effects of erosion and adjust landward activities to compensate. Ensure threatened archaeological sites are thoroughly surveyed during the erosion process.

- Elevated hillside locations are popular for new housing development which often creates a sensitivity in the landscape.

  Encourage the prevention of new building on prominent locations, particularly where this would appear on the skyline.

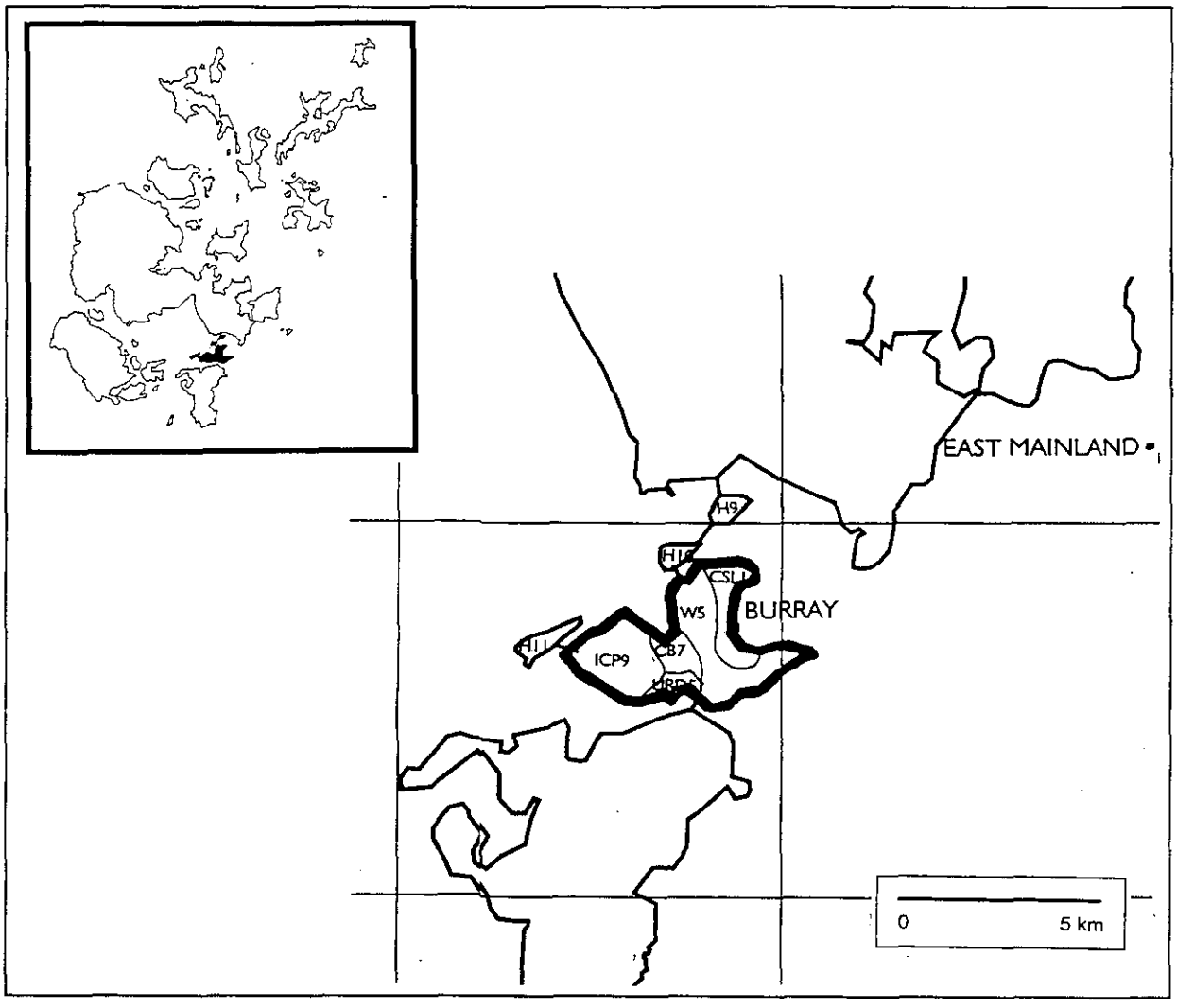
- The farmed areas of East Mainland often lack a strong landscape structure.

  Aim to enhance the structure of the landscape through, for example, hedgerow planting along roadsides/field boundaries, and maintenance of drystone walls.

- The strong pattern of drystone walls associated with large farms and houses may be threatened by loss and disrepair.

  Support the maintenance and restoration of the strong drystone wall pattern using local traditional styles and materials.

BURRAY



The island of Burray is located to the south of East Mainland, forming the eastern passages to Scapa Flow. It is 5km by just over 3km in size. The island is now linked to East Mainland (via Glims Holm and Lamb Holm) and to South Ronaldsay by the Churchill Barriers, constructed during the last war. Six landscape character types have been identified: Inclined Coastal Pasture; Whaleback Island Landscapes; Coastal Basin; Holm; Urban and Rural Development, and Coastal Sand Landscapes.

The underlying geology is predominantly Upper Eday Sandstone (and Eday Marls) and Rousay Flags, divided by a faultline down the centre of the island. This determines the presence of a trough almost at sea level, which separates the island into two distinct halves. Echnaloch Bay and the landlocked Echna Loch mark this division. Boulder clay deposits cover most of the island. The main exception is the extensive cover of blown sand over the North and South Links behind Bu Sands on the east of the island.

The soils are largely non calcareous gleys, brown forest soils and peaty podzols, with an area of saline gleys on Burray Ness. On the eastern coast, there are calcareous regosols developed from extensive shelly sand deposits. Over much of Burray, vegetation is arable or permanent pasture. On the shell sand, there is dune pasture and silverweed pastures, while on the saline gleys there occur sea plantain-crowberry heath and maritime grassland. From a distance, the brown heathland of Hunda, Burray Ness and the highest ground at Hillside stand out in contrast against the improved grassland and clearly illustrate the effects of peat stripping and heathland reclamation in their abrupt transition and squared outline.

The landscape is predominantly agricultural, with beef and dairy cattle, sheep and pigs raised on the improved pastures. The fields are of medium size and are bounded by fences and walls. The main walled areas coincide with the larger farms such as The Bu of Burray where the local impact is considerable. The island also has a number of sandy bays which are popular for watersports. The sand areas of the North Links were once briefly designated as SSSI, and are used as a scramble track. Recently, planning consent has been given for sand extraction in this area. Fishing is also important to the island's economy, including shellfish.

Ecological interest on Burray is largely ornithological. There is a bird sanctuary with a range of species: grouse, lapwing, curlew and Arctic tern. On the coast are puffin, oystercatcher, cormorants, and ducks and gulls. Along the coast are common and grey seals.

Historically, settlement and agriculture has focused on the eastern half of Burray where the soils are lighter, thicker and less acid. The western half of the island was left as common moorland until the 19th century when crofts were developed around its north and south flanks. The relatively scant development of eastern Burray reflects the large landholdings in this area, in particular the Bu of Burray which covered 300 acres. In the west, numerous small crofts developed in close proximity and ultimately became small farms, coalescing over time to become medium sized farm units.

The herring fishing industry was an important part of the crofters' existence and was also responsible for the development of the main settlement, Burray village. The most prominent archaeological sites are the Brochs after which Burray was named (the Viking 'borgarey' meaning broch island). Many brochs, some with masonry exposed, others as green mounds, contribute to the landscape. More contemporary features of cultural heritage value are the wartime defence structures, especially the Churchill Barriers and views of the Italian Chapel on Lamb Holm (a nissen hut converted by Italian prisoners of war).

Sensitivities and Guidelines

The landscape assessment has identified the following as the main sensitivities of the landscape of Burray. This does not preclude the more general issues described in Part Three of the report:

- Potential expansion of Burray village might cause development to coalesce over the southern flank of Burray's western half (ICP9). Development in this area is very sensitive to views from the A961 across Water Sound.

  Further expansion of Burray village should seek to 'wrap around' the coastline, avoiding location on higher areas where structures might appear on the skyline.

- Commercial sand extraction could be detrimental to the wildlife and amenity value of the Bu Sands area.

  Sand extraction in the most sensitive parts of the Bu Sands is inappropriate;

- Reclamation of the limited areas of heathland (ICP9) and wetland (CB7) would reduce the diversity of Burray's landscape.

  Encourage retention of areas of heathland and wetland.

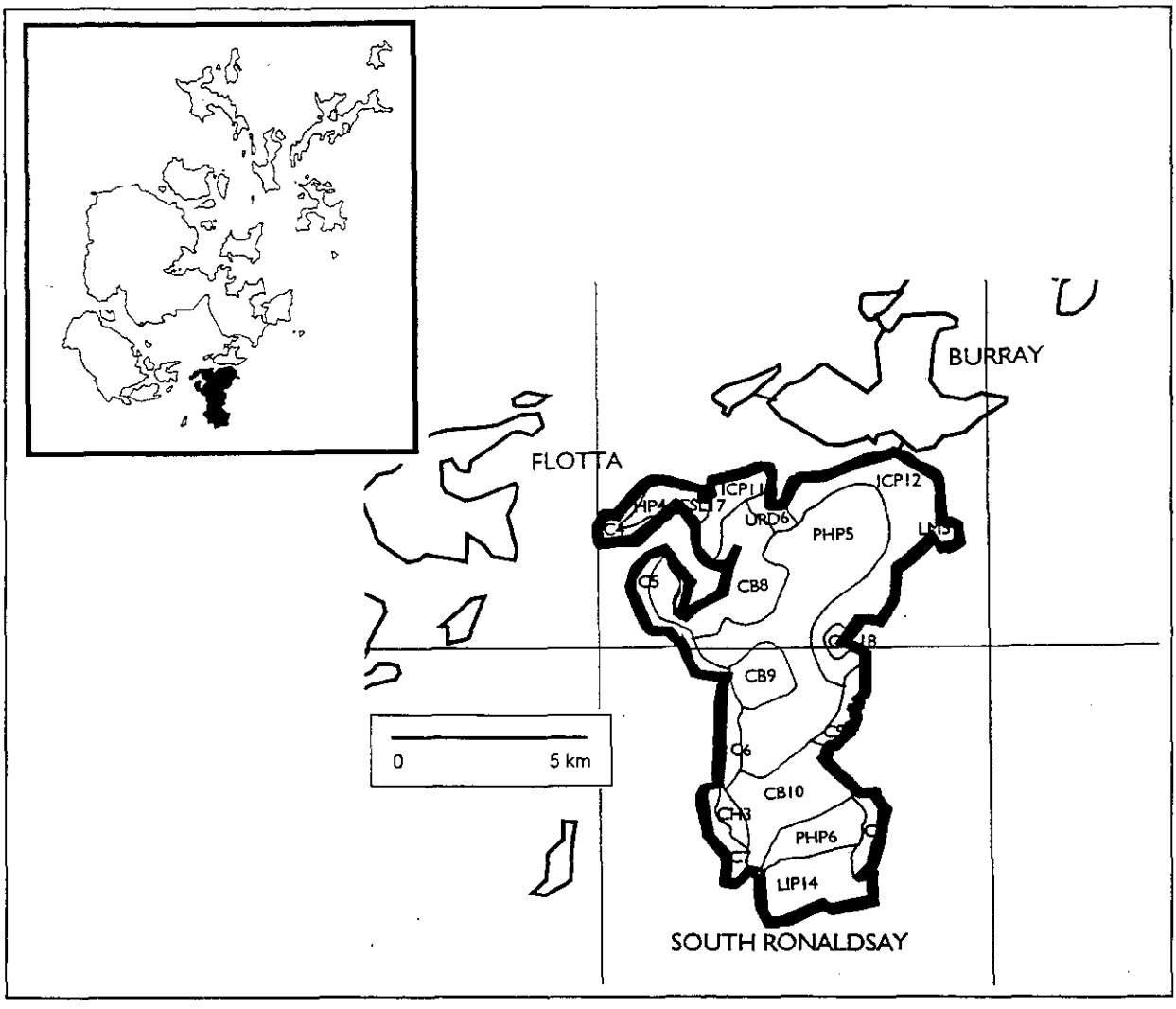
- The contribution of the drystone walls, particularly around the Bu of Burray, is important. Their deterioration or removal would be damaging to the scenic and cultural values of the area.

  Support the maintenance and restoration of drystone walls using local traditional styles and materials.

- Potential fish farm developments may introduce new buildings and related equipment around Burray's coast.

  Fish farm developments should be sited where they are least visible, and the visual impact of associated onshore structures should be minimised through careful siting.

SOUTH RONALDSAY



South Ronaldsay is the southernmost island of Orkney and lies at the south east of the South Isles group. To the north west is Scapa Flow; to the east the North Sea; and to the south and south west is the Pentland Firth. The land mass is separated from Burray to the north by the narrow Water Sound, but communication with East Mainland is facilitated by the causeway links between South Ronaldsay, Burray, Glims and Lamb Holm. Nine landscape character types have been identified in South Ronaldsay: Low Island Pastures; Coastal Basins; Inclined Coastal Pastures; Coastal Hills and Heaths; Cliff Landscapes; Coastal Sand Landscapes; Plateau Heaths and Pasture; Urban and Rural Development; and Low Moorland.

The island is roughly rectangular in shape, approximately 12 km from north to south, 4km across the centre and over 9 km between extremities in the north (i.e. between Hoxa Head and Grim Ness). The main irregularities to this elongated island form are the headlands of Hoxa and Herston that enclose the large submerged Widewall Bay, which has a curious hammerhead shape and dominates the north west corner of the island. South Ronaldsay's other bays are more typical in form but generally narrow and well defined. These include St. Margaret's Hope and the Dam of Hoxa on the north coast, Sandwick, Barswick and Burwick on the west coast, Wind Wick, Newark Bay and Manse Bay on the east coast.

South Ronaldsay has an interesting geological composition of Middle Old Red Sandstone rocks. These include Upper Middle and Lower Eday Sandstones, Eday Marls and Flags and Rousay Flags. The main geological boundaries run south west to north east across the island, determining the alignment of the main valleys and hills. Faulting also displaces the strata changing the local resistance of rocks to erosion and determining the presence of topographic features. Generally, the more resistant Lower Eday and Middle Eday Sandstones constitute the main hills and ridges of South Ronaldsay (Ward, Sandy, Vensilly, Kirkie and Hoxa); the highest, Ward Hill, reaches 118 metres. A number of igneous intrusions are also found on South Ronaldsay. These take the form of short dykes visible at a number of locations around the coast.

The topography of South Ronaldsay is characterised by its rolling succession of valleys, basins and hill ridges which cross the island and create an interesting coastline of alternate cliffs and bays. South Ronaldsay has an extensive but thin covering of reddish boulder clay. This is at its thickest in the valleys and basins and is absent from the highest hills and ridges. The island's soils are mostly non calcareous gleys and peaty gleys, with localised cover of brown forest soils around Widewall Bay; peat on Ward Hill and saline gleys around the south coast. The island is agriculturally productive and has a predominant cover of improved grassland with arable crops in lower areas. The main exceptions are the heather moorland and rough grasslands of the hill ridges and high coastal areas and the marsh/wetlands of the valleys and basin areas. Cattle rearing for both beef and dairy production is the main agricultural activity. Sheep are also kept in significant numbers. Crops are grown to provide winter feeding for livestock, but the arable acreage has generally declined since the 1940s.

Agriculture is the main employer in South Ronaldsay, although the oil and tourism industries have made important contributions in the last 20 years. In the last century South Ronaldsay supported a significant fishing industry, particularly in the north of the island. St. Margaret's Hope developed as a herring fishing village on reclaimed land adjacent to Ronaldsvoe, an old Norse settlement site. The community of Herston on the side of Widewall Bay also developed as a fishing village. The New Statistical Account (1845) describes how 245 herring boats and 11 cod-fishing sloops were employed in South Ronaldsay at that time.

Agricultural settlement was then concentrated in the more fertile valley areas, common moorland being much more extensive than today. The main communities were composed of scattered farmsteads within distinct districts separated by moorland ridges. These districts (e.g. Hoxa, Grimness, Herston, Widewall in the North Parish, and Sandwick, Mossetter, Burwick, Windwick and Linklater in South Parish) originally had their own chapel. Many of the farmsteads were of Norse origin. At Cleat and at Aikers a different settlement pattern is evident, with close groupings of small farm units. Reclamation of hill land has since extended the areas of improved grassland and the patterns of fenced enclosures. The almost exclusive use of fences in South Ronaldsay is a notable characteristic of the island; only in the north west corner are drystone walls used around the main farms of the island : Roeberry House, Widewall and Blanster.

South Ronaldsay's archaeological resource is most evident in the coastal areas and where cultivation is absent. The most prominent sites are cairns, burnt mounds and brochs. The main scheduled sites include the Chambered Cairns of Isbister (Tomb of the Eagles) and Sandwick; the Burnt Mounds of Barswick and Liddel; and the Brochs of Hoxa and Sandwick. More recent structures of heritage interest are the wartime coastal defences, like those on Hoxa Head guarding the south passage to Scapa Flow.

Sensitivities and Guidelines

The landscape assessment has identified the following as the main sensitivities of the landscape of South Ronaldsay. These do not preclude the more general issues described in Part Three of the report.

- Potential alterations to extensive fence enclosures could be easily undertaken and might lead to a general increase in scale of the field patterns and consequent loss of variety.

  Encourage the retention of the current pattern of enclosures.

- Most of the basin and valley areas have wetlands and small watercourses. Incremental drainage and reclamation of these characteristic features would remove the focal point of many areas and diminish landscape diversity.

  Seek to avoid drainage of wetland areas.

- Further reclamation of plateau and coastal heath would be prejudiced to the overall balance of landscape character types in South Ronaldsay (PHP5).

  Support the retention of the existing heathland, avoiding further reclamation.

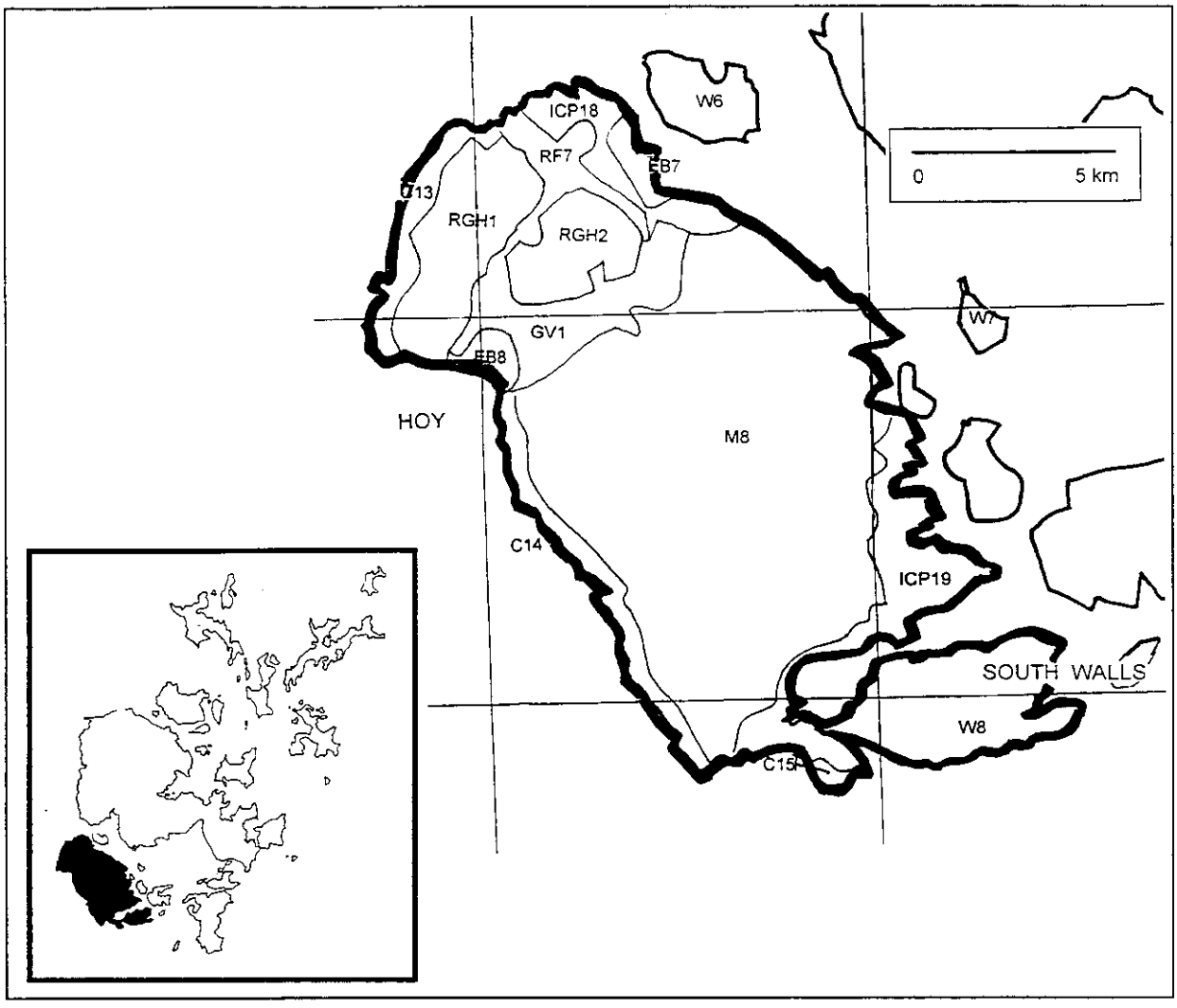
- The potential expansion of St. Margaret's Hope could be detrimental to its attractive townscape qualities.

  Preparation of an urban plan for St Margaret's Hope which seeks to sympathetically integrate new buildings, and which defines a clear edge to the village, is recommended.

- The drystone walls of the north western part of South Ronaldsay are distinctive features (contrasting with the fences elsewhere). Their deterioration or replacement by fences would diminish their contribution to the local landscape character.

  Encourage the retention of drystone walls, particularly in the north west, using local traditional styles and materials in their maintenance and restoration.

HOY AND SOUTH WALLS



Hoy is the south westernmost island of Orkney, lying at the west of Scapa Flow. To the east it is flanked by a series of small islands and islets including Graemsay, Flotta, Fara and Cava. To the west it is open to the Atlantic Ocean. Together with South Walls, which is joined to the south tip of Hoy by the narrow spit of "the Ayre", it is the largest Orkney island after Mainland. 8 character types have been identified: Whaleback Island Landscapes; Inclined Coastal Pastures; Enclosed Bay Landscapes; Cliff Landscapes; Rolling Hill Fringe; Moorland Hills; Glaciated Valley; and Rugged Glaciated Hills.

The highest land in Orkney is found on Hoy, named from the Norse for "high land". Ward Hill, one of the hills at the north end of the island, reaches a height of 479 metres. The underlying geology consists principally of Hoy Sandstones from the Upper Old Red Sandstone series. These resistant rocks form the high ground, in contrast to the lower areas on the north west and south west of the island which are underlain by the Middle Old Red Sandstone series which is so widespread in the rest of Orkney. The famous landmark of the "Old Man of Hoy" consists of layers of these harder sandstones which rest on a plinth of lava. The Hoy sandstones also form the impressively high, sheer cliffs

along the coast at St John's Head, which at 348 metres are amongst the highest in Britain.

Hoy is the only place in Orkney that clearly shows features of glacial erosion as well as deposition, with examples of glacial troughs and corries in the northern hills. Enegars Corrie on the north tip could have contained a small glacier. Ward Hill displays examples of periglacial features, such as stone stripes, which are of geomorphological interest. These features reveal that intensive wind and frost action, similar to tundra conditions, prevails at these altitudes. Hoy contains the most extensive area of blanket bog in Orkney. The peat covers much of the high ground between Rackwick and Melsetter. Elsewhere the soils are based mainly on coarse or moderately coarse tills; gleys are common on the flatter land.

The glaciated uplands of Hoy support a predominantly montane vegetation, ranging from sub-Arctic fell field on the highest ground to heathland. Blanket bog is extensive on the lower moorland hills of Hoy south of Rackwick and it provides a valuable wildlife habitat. In a sheltered gully at Berriedale near Rackwick is the most northerly semi-natural woodland in Britain. The main species are birch, rowan, willow, aspen and hazel, with *Rosa* and honeysuckle. It is thought that this is similar to the scrub woodland that would have covered all of Orkney before the arrival of humans. In contrast, agriculture, principally improved pasture, is the dominant land use on the gentler slopes of the Middle Old Red Sandstone at the north west of the island and on South Walls.

Settlement is confined to the low-lying areas of the islands. Therefore, all of South Walls is settled while on Hoy itself there are farms and houses all along the south east coast from The Ayre to Muckle Rysa, and also on the north-east coast at Quoydale. The only dwellings on the west coast are at Rackwick, where a distinctive group of traditional houses is located. Lyness, where the vehicle ferry runs from, is probably the most concentrated area of settlement. Melsetter House at the head of North Bay is of architectural interest, being designed in the "Arts and Crafts" style. The wind-shorn woodland around it adds variety to the surrounding landscape which is typically devoid of trees.

There are several areas of archaeological interest on Hoy. The most well-known is probably the Dwarfie Stane in the glen between Rackwick and Quoyness. It is a glacial erratic block of sandstone that was excavated to form a burial chamber, and is the only example in Britain of a rock-cut Neolithic tomb. The Dwarfie Stane is a popular feature, and a walkway and car park have been constructed to facilitate access to it. There are several remnants of brochs, unenclosed settlements and nausts on the islands, mostly located near the coast. At Whaness Burn in North Hoy there are sub-peat dykes which indicate an extensive area that may have been used for agriculture during the Bronze Age.

The strategically important location of Hoy, on the west side of Scapa Flow, made it useful as a base for shipping both naval and mercantile. Longhope provided a sheltered anchorage for vessels prior to an Atlantic crossing, and was large enough to accommodate the convoys that became compulsory during times of war, for example in the late 18th and early 19th centuries. It was at this time that the two Martello Towers which flank the entrance to the sound were built. Harkness Martello tower has been restored, and the adjacent Battery it complements is also in good condition.

The strategic location of Scapa Flow remained important during the two World Wars of the 20th century. Consequently, the amount of relics from these wars is a feature of Hoy. At Lyness the remains of the military presence in Orkney during the Second World War are significant. They include many large-scale, mostly derelict buildings; a museum; and a naval cemetery.

Sensitivities and Guidelines

The particular characteristics of Hoy and South Walls give rise to the following strategy for landscape management. This is not to preclude the more extensive guidelines in Part Three of this report.

- Expansion of development will generally be highly visible in this open landscape with a limited road network, despite the rather scattered settlement pattern.

  The limits of expansion need further definition. Guidance should be provided on acceptable forms and design of new housing. Prominent sites for building should be avoided.

- The area around Lyness and Rinnigill is a particularly important historic landscape for its naval and military heritage. There may be scope to improve the interpretation of these sites, although there could be associated safety implications.

  Consider furthering interpretation and protection of the naval and military heritage around Lyness and Rinnigill; consider improvement of its interpretation.

- The moorland hills (M8) above Lyness contain the concrete and brick remains of military structures from the Second World War.

  Retain derelict military buildings as part of the archaeological heritage of the Orkney islands.

- The Martello tower and Battery at Harkness provide interest as reminders of earlier conflicts than the World Wars.

  Further interpretation of the Martello tower in relation to the naval and military heritage of Lyness could be considered.

- The area of semi-improved grazing in the north of Hoy (ICP18) generally has quite a rough appearance and could benefit from some enhancement works. However, as part of the key view of Hoy from south west Mainland, the character of this land should generally be retained in its present state.

  Retain the essential character of the area, particularly in relation to views of northern Hoy from south west Mainland.

- Melsetter House (in ICP19) is of architectural merit, the estate walls also being significant. The shetlerbelt planting around the house, sheared by onshore winds, contributes to the wider landscape.

  Encourage retention/management of the policy woodland / shelterbelts around Melsetter House.

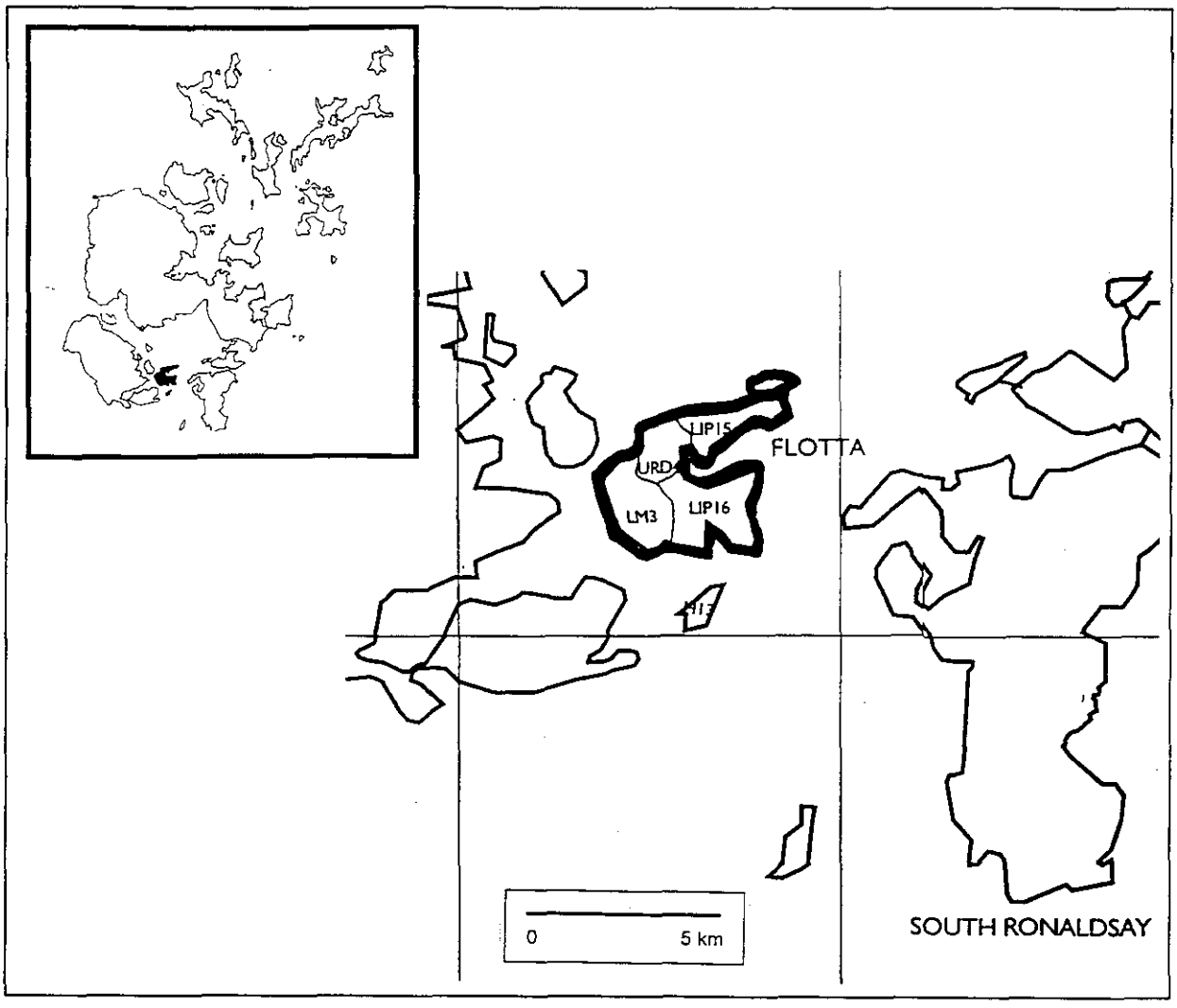
- At Rackwick (EB8), old crofts are still evident on the hillside, some of which have been restored in recent years. There is the potential for further restoration.

  Support restoration of old croft buildings, particularly at Rackwick, but also elsewhere on Hoy and South Walls.

- Much of the vegetation on the moorland hills is peaty and peat cuttings are evident, particularly around Heldale Water (M8). Most visually damaging are the mechanised cuttings which have involved the removal of wide strips of vegetation.

  Avoid mechanical peat cutting if at all possible, and replace top cuttings to help mitigate the landscape effects of peat extraction.

FLOTTA



The island of Flotta is located in the south of Scapa Flow and is one of Orkney's South Isles. It is roughly 3 km long by 5 km wide at its broadest point. It is encircled by other islands in the archipelago To the west, the hills of Hoy loom on the horizon, the green pastures of South Walls lie to the south, and South Ronaldsay lies to the east. Across Scapa Flow, to the north, the hills of West Mainland are visible. Three landscape character types have been identified: Low Island Pasture; Low Moorland and Urban and Rural Development.

The underlying geology of Flotta is predominantly Rousay Flags, with younger Eday Flags in the north. Much of the lower ground of the Golta peninsula, and the developed area in the central and eastern area, has a drift geology of boulder clay with peat deposits on the higher hill land in the west.

The soils are predominantly non calcareous gleys and peaty gleys, with areas of eroded peat. Much of the east and southern areas are given over to permanent pasture, moorland vegetation in the west, and some arable crops. The west of the island is mostly covered by moorland. This distribution has not changed significantly this century.

The main habitats are, therefore, heathland in the north and west, and improved grassland in the south and east. Arctic skua and Arctic terns breed on the moorland areas. The small island of Switha (Holms landscape character type), to the south of Flotta has important sea bird colonies.

The main land uses on Flotta are agricultural and industrial. The latter is focused on the Oil Terminal developed in the 1970s on the site of Second World War naval camps. This development is extensive and involved considerable engineering and landscaping works to accommodate the huge storage tanks unobtrusively. This was largely successful, but the presence of the terminal is belied by its flare stack which can be seen from many parts of Mainland and beyond.

The main archaeological features on Flotta are of relatively recent origin and relate to the coastal defences which were established on Flotta in the Second World War to guard the main entrance through the Sound of Hoxa. Some of these are Scheduled Ancient Monuments.

Sensitivities and Guidelines

The landscape assessment has identified the following as the main sensitivities of the landscape of Flotta. These do not preclude the more general issues described in Part Three of the report.

- The bird populations on Flotta may be sensitive to changes in moorland vegetation.

  The conservation of moorland habitat should be encouraged.

- The landscape and ecology of Flotta's moorland is sensitive to extensive peat cutting.

  Mechanical peat cutting should be limited and controlled through careful siting to avoid highly visible scarring, and disturbance to important bird sites.

- Patterns of drystone walls are an important element of structure in this landscape.

  Support the maintenance of drystone walls using local traditional style and materials.

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