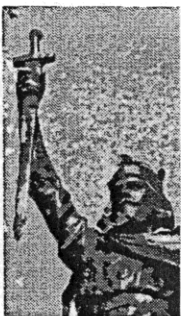


- 3.5.2 The chalklands were dissected by stream erosion and run off in the late Pleistocene interglacial and periglacial periods when the water table was higher. These secondary and minor valleys are now dry as a result of the porosity of the chalk. Thus, the River Itchen is the only watercourse in the study area.
- 3.5.3 A series of major and secondary ridgelines form a prominent and enclosing landform to the setting of Winchester, particularly to the east, west and south.
- 3.5.4 East of the city, Cheesefoot Head, at a height of 176m AOD, is clearly identifiable by the skyline cople of beech trees known as The Clump, together with the adjacent Great Clump, a larger area of woodland. Cheesefoot Head is pivotal to the topographical structure and setting of the eastern part of the city. From this elevated point a series of ridgelines, a number of which have steep erosional escarpments, radiate out towards the Itchen Valley. The most notable of these comprise:
- Fawley Down and Hazeley Down ridge;
 - Morestead Road to Northfields ridge;
 - Deacon Hill which links into the Hockley Golf Course and Twyford Down ridges;
 - Magdalen Hill Down terminating at the west facing slopes of St. Giles' Hill;
 - Chilcomb Down to Easton ridge

Deacon Hill, topped by a clump of trees, encloses the Vale of Chilcomb forming a distinctive landform on the eastern side of the city.



- 3.5.5 These interconnected ridges enclosing dramatic dry valleys, result from the progressive erosion of the Winchester anticline, with Cheesefoot Head forming a significant unbreached section of the anticline.
- 3.5.6 To the west of Winchester rises a distinctive north-south aligned ridge with the prominent group of telecommunication masts above Teg Down marking the summit area of 155m AOD. North of Teg Down, the ridge assume a north-east / south-west alignment extending down through the district of Harestock to the Itchen valley. The

east facing slopes below this ridge have been deeply dissected and enclose dry valleys. The built area of the city now extends across these series of secondary ridges or spurs. The complexity of these minor landforms ensures that this part of the city has a strong character even when overlain with relatively undistinguished development. This dissected landform is still apparent, with some of the steeper erosional slopes remaining undeveloped, notably at Whiteshute Ridge. Prominent buildings occupy some of the elevated sections of these ridges, in particular at West Down where the Police Headquarters and Prison complex are skyline features and present a distinctive silhouette above neighbouring housing.

- 3.5.7 A further ridge to the south-west of the city commences at Shawford Down adjacent to the Itchen Valley and follows a north-east / south-east alignment over Compton Down to Yew Hill. At a height of 121m AOD, the summit area is defined by a wooded hilltop reservoir and an adjacent block of woodland. The steep, predominantly wooded escarpment below the 'Compton ridge', together with intermittent views of the ridge top housing, defines the setting of the city to the south west. A classic panoramic view of the city can be seen here. Beyond Yew Hill, the escarpment assumes a north-west / south-east alignment and encloses a small valley through Compton Down and Bushfield leading into the city.
- 3.5.8 North of Winchester the sense of enclosure is less pronounced, with the landform gently rising above the Itchen Valley and merging into the undulating chalk plateau of the Mid Hampshire Downs. The summit area of Worthy Down at 121m AOD, and the land rising up to the Itchen and Micheldever Woods (approximately 115m AOD), are visible on the skyline to the north-west and north-east of the city respectively.

3.6 Soils

The soil types within the study area reflect the character of the underlying solid and drift geology. Soils are mainly well-drained, calcareous, fine silty soils over chalk. These are generally shallow on the summit areas and crests and deeper in valley bottoms. To the west of Winchester, intermittent deposits of plateau gravels and clay-with-flints give rise to clayey and fine silty clay soils that are often very flinty. The change to this predominantly clay soil is reflected in subtle changes in the vegetation type and agricultural land capability.

- 3.6.1 Variations in soil types are reflected strongly in local place or field names. For example, Weedacre Copse (Hursley Parish), Mud Farm (Itchen Valley Parish) and Morestead Down (Owlesbury Parish). This latter name was recorded in the 12th and 13th centuries meaning "barren upland". This is borne out by the nearby Longwood Warren. An area set aside as a warren was not prime agricultural land. This link to the past is further confirmed in the Victoria County History which confirms that "the soil being loam or chalk, is very poor". The land was poor when it was first named and it remained poor at the beginning of this century. An example of the unchanging nature of parts of the landscape around Winchester.

3.7 Climate

Located near the south coast of England, maritime influences have an ameliorating effect on the regional climate. However, the effect of elevation, aspect, and the shelter afforded by buildings and vegetation all influence the local microclimate. The lower and older sections of the city occupy a relatively sheltered location within the enclosed valley bottom, although the alignment of the valley towards the prevailing south-westerly winds can result in a funnelling effect along the valley in certain conditions.



- 3.7.1 In contrast to the relatively sheltered valley, the more elevated sections of the city, particularly those on the ridge tops and summit areas, can be very exposed in periods of high wind. The numerous steep escarpments display strong contrasts in aspect that, in turn, are reflected in the local microclimate. This is well demonstrated in the south and north facing slopes of the Magdalen Hill Down and Deacon Hill escarpments where vegetation cover reflect the strongly contrasting aspects. At a smaller scale the effect of aspect also occurs within a number of the residential areas to the west of the Itchen valley where housing extends across a number of east-west aligned valleys resulting in pockets of north facing slopes which are less hospitable for housing.
- 3.7.2 At a very local level it will be interesting to monitor the contrasting development and regeneration of vegetation on the steep opposing south-east and north-west facing embankments of the M 3 road cutting at Twyford Down.

3.8 Nature Conservation

The semi-natural habitats of the area around Winchester are particularly diverse with the three main habitats being:

- The River Itchen and associated disused water-meadows;
- Chalk grassland and mixed chalk scrub;
- Ancient woodland.

- 3.8.1 One of the most important features of the city is the way in which semi-natural habitats penetrate right into the heart of the urban area. This is highly valued by local residents, as well as being an important feature for the movement of wildlife from one site to another. A technical report on the nature conservation resource is given in Appendix 3.

The Itchen Valley

- 3.8.2 The Itchen Valley is the most extensive area of semi-natural vegetation within Winchester. The river flows from north to south through the city centre. Species-rich water meadows provide an important landscape setting for many of the city's historic buildings, including Winchester College and the Hospital of St.. Cross.
- 3.8.3 The River Itchen is of international importance for its wildlife. It includes four Sites of Special Scientific Interest (SSSIs) and has been submitted as a candidate Special Area of Conservation (cSAC) by English Nature. The River Itchen cSAC has three main features of importance:
- it is a prime example of plain and sub-mountainous rivers with floating *Ranunculus* vegetation, a priority habitat listed in Annex I of the Habitats directive;
 - it is the most important area in Hampshire for otter (*Rosann Sparshott, pers. comm.*), a priority species listed on Annex IIa of the Habitats Directive;
 - it supports important populations of two priority species listed on Annex IIA of the Habitats Directive, white-clawed crayfish *Austropotamobius pallipes* and southern damselfly *Coenagrion mercuriale*.



- 3.8.4 There is also one wet grassland Site of Interest for Nature Conservation (SINC) in the Itchen Valley, just west of Easton. There are other parts of the valley which are not included in the SSSI/SINC network, but which contribute to the overall value of the valley for wildlife. These include a number of small watercourses, areas of damp improved grassland and scrub.
- 3.8.5 The River Itchen is one of the larger Wessex chalk streams, and is a very fine example of an English chalk river. The river runs through an area of soft, permeable rock which allows rainfall to percolate through and form vast aquifers. There is little surface water run-off and, with river management, floods are rare. The river is fed by chalk springs near Cheriton, and the flow of water is relatively stable, the water of high quality and great clarity, rich in nutrients and constant in temperature. The river's vegetation is dominated by higher plants, and the aquatic flora is exceptionally species-rich with many of the typical chalk-stream plants present in abundance. The river is also rich in fish, invertebrates and supports diverse populations of aquatic molluscs.
- 3.8.6 There are extensive areas of species-rich grassland in the Itchen valley and these are mostly notified as SSSIs or SINC. The soils of the valley include alluvium, peat and tufa and these, combined with the network of ridges and drains associated with the disused water-meadow system, result in complex mosaics of dry grassland, rush pasture, fen meadow, flood pasture and swamp communities. The most species-rich communities are the fen meadow and flood pasture communities associated with the moist calcareous soils of the former water meadows. The water meadows were formed and maintained in the 17th to 19th centuries to assist the drainage and irrigation of riverside grassland. Irrigation of the meadows during January and February would advance the growing season and provide early grass growth for sheep which were folded on the downs in the winter months. The operational water meadows were probably relatively species-poor and have become more diverse ecologically since their abandonment.
- 3.8.7 The river valley is of considerable importance for birds. Kingfisher, grey wagtail and little grebe occur very widely. Tall vegetation and scattered scrub supports significant populations of reed and sedge warbler, and the formerly rare Cetti's warbler is becoming widely established in similar habitats. Other breeding birds of note include water rail, tufted duck, pochard and shoveler. The Itchen valley was an important site for breeding birds of wet grassland such as snipe, redshank and lapwing, but numbers have declined in recent years. Passage species which use the river margins include common and green sandpiper. The grassland of the river valley is an important hunting area for barn owl, which breed in farm buildings along the edge of the valley.
- 3.8.8 The valley is of especial importance for two mammals, otter and water vole. The upper and mid-river provide much suitable habitat for otter, and their numbers were enhanced in 1993 through release of captive bred animals. Otters have been recorded in the heart of the city, an indication of the high water quality. Water vole populations have declined nationally and reductions in the strong populations on the River Itchen have also been noted. Nevertheless, Hampshire is a national stronghold for water voles, and the River Itchen supports a major population within the county.



Unimproved chalk grassland

- 3.8.9 Unimproved chalk grassland is particularly concentrated on the scarp slopes to the south-east of the city. The most important site in relation to the city of Winchester is St.. Catherine's Hill SSSI, which lies immediately to the south-east of the city, and

Winchester City and its Setting

Ecology

River and associated habitats e.g. wet grassland, fen, swamp



Sites of Special Scientific Interest

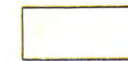


Site Important for Nature Conservation

Dry calcareous and neutral grassland and scrub



Sites of Special Scientific Interest

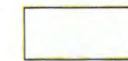


Site important for Nature Conservation



Local Site

Woodland and trees



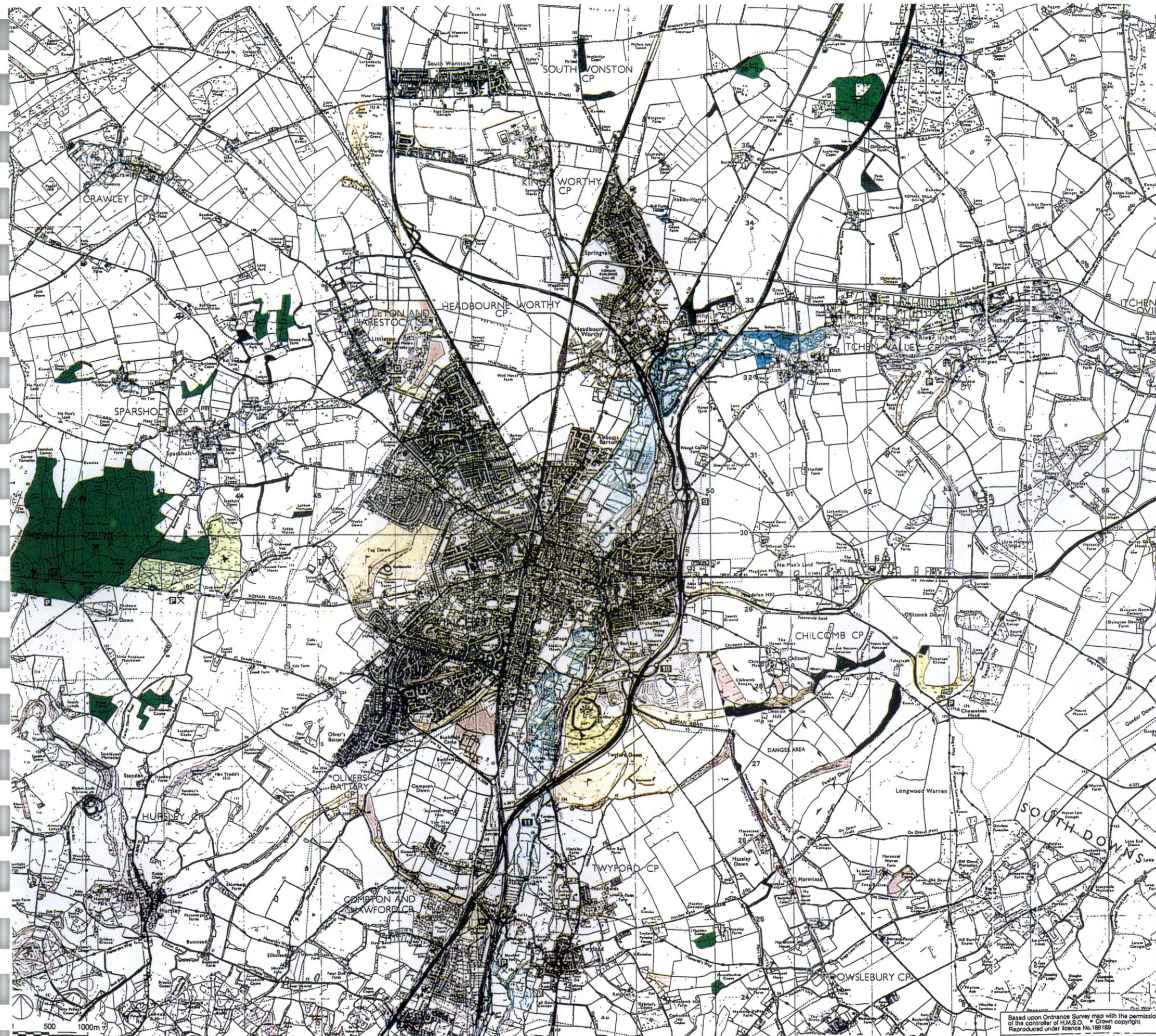
Sites of Special Scientific Interest



Site Important for Nature Conservation



Local Site



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