TORBAY
WILDLIFE SITES REVIEW

Report on a survey
by the

DEVON WILDLIFE TRUST

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1 INTRODUCTION

This report presents the findings of a review of sites of wildlife importance within what was previously the Borough of Torbay (hereafter described as Torbay), as commissioned by Torbay Council in November 1998. It follows an earlier and more detailed survey of the same sites in 1991 (Torbay Wildlife Survey, 1991).

Up-to-date information on the status of sites of ecological importance is essential for the effective implementation of nature conservation policies within the Torbay. In the seven years since the first survey a number of changes would be expected at some sites, either as a result of natural successional processes or loss of land to urban development.

To provide a background to the review, information presented in the first report is used to document the wildlife capital of Torbay. This is followed by a description of the individual sites surveyed for the review.

1.1 Biodiversity of Torbay

Although Torbay is considered an urban area, in 1991 some 2901 ha (46.5%) remained undeveloped. This land includes an outstanding range of wildlife habitats, some of which are either of restricted distribution within the county, or of national importance.

The major wildlife habitats found during the 1991 Torbay Wildlife Survey are described in turn below.

1.1.1 Woodland and scrub

The most highly valued sites are those that show a long history of continuous management as woodland. Those classified as 'ancient' have existed on the same site since at least 1600, and generally support a greater diversity of animals and plants than woodlands of more recent origin.

Although extensive areas of woodland occur in Torbay, analysis of old maps and reference to English Nature's Ancient Woodland inventory indicates that very little of this is ancient. Small areas occur in the Clennon Valley, Occombe Woods, Lupton Park, and the rural fringe of Paignton. The largest area of ancient woodland is the Grove, Brixham.

The majority of woodland in Torbay is therefore of recent origin (i.e. post 1600). Much of this has been planted, particularly during the first part of the nineteenth century. Large areas of woodland and scrub have developed in many coastal areas through natural succession from open grassland.

The woodland communities in Torbay are of a broadly similar type. In pure stands they are typically characterised by Oak (*Quercus* spp.) and Ash (*Fraxinus excelsior*), and an often diverse

shrub layer and a varied ground flora. This general pattern has in places been altered by extensive planting of broadleaves and conifers, and extensive invasion by Sycamore (*Acer pseudoplatanus*) in many woodland stands.

Three National Vegetation Classification (NVC) woodland communities were identified in the 1991 Torbay Wildlife Survey:

a) W8e *Fraxinus excelsior - Acer campestre - Mercurialis perennis* woodland. *Geranium robertianum* sub-community.
b) W8d *Fraxinus excelsior - Acer campestre - Mercurialis perennis* woodland. *Hedera helix* sub-community.
c) WlOc *Quercus robur - Pteridium aquilinum - Rubus fruticosus* woodland.

The most widespread community is the W8 *Fraxinus excelsior - Acer campestre - Mercurialis perennis* woodland, a large and variable community typified by a diverse ground flora.

Within Torbay W8 woodland contains both Ash (*Fraxinus excelsior*) and Pedunculate Oak (*Quercus robur*) in the canopy, with a variable amount of invasive Sycamore (*Acer pseudoplatanus*). The shrub layer is diverse and includes Dogwood (*Cornus sanguineus*), Field Maple (*Acer campestre*), Spindle (*Euonymus europaeus*), Guelder Rose (*Viburnum lantana*), Hazel (*Corylus avellana*) and Hawthorn (*Crataegus monogyna*) with Travellers-joy (*Clematis vitalba*) a locally abundant climber. Other species include Small-leaved Lime (*Tilia cordata*), Wych Elm (*Ulmus glabra*) and Yew (*Taxus baccata*), and most stands include planted Beech (*Fagus sylvatica*) and Sweet Chestnut (*Castanea sativa*). The ground flora is typically rich with Bramble (*Rubus fruticosus*), Dogs Mercury, (*Mercurialis perennis*), Cuckoo Pint (*Arum maculatum*), Harts-tongue Fern (*Phyllitis scolopendrium*), Soft Shield *Fern (Polystichum setiferum*), Bluebell (*Hyacynthoides non-scripta*), Primrose (*Primula vulgaris*), Early Purple Orchid (*Orchis mascula*), Stinking Iris (*Iris foetidissima*), Herb Robert (*Geranium robertianum*), Wood Avens (*Geum urbanum*), False-brome Grass (*Brachypodium sylvaticum*) and Ivy (*Hedera helix*).

Most examples of this type of woodland in Torbay fall neatly into the W8e *Geranium robertianum* sub-community. In addition to the species listed above the herb layer supports several local species such as Spurge Laurel (*Daphne laureola*), Wood Spurge (*Euphorbia amygdaloides*), Butchers Broom (*Ruscus aculeatus*), Stinking Hellebore (*Helleborus foetidus*), Goldilocks (*Ranunculus auricomus*) and Moschatel (*Adoxa moschatelina*). This community is very well represented and often dominates woodlands in Torbay, including Occombe Woods, Scadson Plantation, 10 Acre Brake, The Grove and Lupton Park Woods.

The other main woodland community in Torbay, (W8d *Hedera helix* sub-community) is generally associated with the coastal woodlands. Most of these are of relatively recent origin and contain predominantly Ash and Sycamore dominated stands. Ivy often dominates the field layer, which is much less diverse than the W8e community, the only regular associates being Herb Robert and Harts-tongue Fern.

The third woodland community occurs on more acidic soils and is relatively localised in Torbay. This is best described as W10 *Quercus robur - Pteridium aquilinum - Rubus fruticosus* woodland. Bramble, Bracken (*Pteridium aquilinum*) and Honeysuckle (*Lonicera periclymenum*) are typically abundant, with Bluebell being the most abundant vernal species. The shrub layer is dominated by Hazel and Holly (*Ilex aquifolium*), and Pedunculate Oak, Sessile Oak (*Quercus petraea*) and their hybrids are the main canopy species. This community occupies small areas, mostly within the valley woodlands such as Clennon, Occombe and Scadson Plantation, typically on steep slopes and in close association with the dominant stands of W8e.

In addition to these three major woodland communities, a variety of scrub communities are present, and on wetter soils small pockets of Alder (*Alnus glutinosa*) and Grey Willow (*Salix cinerea*) woodland are found.

Of particular note is the abundance of Holm Oak (*Quercus ilex*) in scrub and woodland throughout the Torbay area. Although extensive stands of this Mediterranean species contribute to the 'exotic' appearance of the Torbay, not only do these areas support fewer native species, but they are in places colonising important areas of open grassland.

1.1.2 Species rich grassland

Grassland is a common habitat in Britain but the majority of this is represented by agriculturally improved pasture or re-seeded grassland of limited wildlife interest. Areas of species-rich unimproved or semi-improved grassland are becoming increasingly rare and are considered amongst the most vulnerable and threatened habitats in Britain.

Unimproved grasslands have suffered least from agricultural intensification, tend to support the most species-rich communities, and often support rare or local species. Semi-improved grasslands show some signs of modification by artificial fertilisers, slurry, intensive grazing, herbicides or drainage, and are consequently less diverse than unimproved grasslands, though they may still be of considerable wildlife interest.

During the 1991 Torbay Wildlife Survey distinctions between unimproved and semi-improved grasslands were often found to be unclear. For that reason this section deals with all botanically interesting unimproved and semi-improved grasslands collectively. Several excellent examples of different grassland communities were identified in 1991, amounting to over 3% of the area of the Torbay, and representing a valuable wildlife resource.

The grasslands in Torbay can be divided into three broad groups - neutral, maritime and calcareous grasslands.

1.1.3 Neutral grassland

These are semi-natural grasslands, generally of enclosed field systems, occurring on loams and clays where the soil is not markedly acid or very alkaline (usually pH 5.0-7.9). This habitat has been subjected to widespread agricultural intensification over the last fifty years.

Within Torbay, species rich neutral grassland has persisted for two main reasons. Firstly, as a result of urban sprawl, areas of farmland have been cut off from the countryside and have avoided the harmful effects of modern agriculture. Secondly, the steep sided valleys, notably those running down to the sea, include areas that have proved too steep to improve. Many of these grasslands are currently suffering from inappropriate management. Overgrazing by horses has been a serious problem in Torbay, and in many cases, the grass sward has been broken up and large areas of bare earth created, with stands of undesirable species such as thistles, docks and Ragwort becoming established.

The following NVC neutral grassland communities were identified during the 1991 Torbay Wildlife Survey:

a) MG1 *Arrhenatherum elatius* coarse grassland.

b) MG5 *Centaurea nigra - Cynosurus cristatus* meadow and pasture.

In most grasslands dominant species included Cocksfoot (*Dactylis glomerata*), Sweet Vernal Grass (*Anthoxanthum odoratum*), Brown Bent (*Agrostis capillaris*), Yorkshire Fog (*Holcus lanatus*), Red Fescue (*Festuca rubra*) and Crested Dogstail (*Cynosurus cristatus*), with False oat-Grass (*Arrhenatherum elatius*) present at variable frequency. Herbs are prominent in this sward and included Common Knapweed (*Centaurea nigra*), Birds Foot Trefoil (*Lotus corniculatus*), Burnet Saxifrage (*Pimpinella saxifraga*), Yellow Rattle (*Rhinanthus minor*) and Red Clover (*Trifolium pratense*). In addition most stands included a selection of calcicoles, such as Quaking Grass (*Briza media*), Yellow Oat-grass (*Trisetum flavescens*), Salad Burnet (*Sanguisorba minor*), Ladies Bedstraw (*Galium verum*), Greater *Knapweed (Centaurea scabiosa*), Field Scabious (*Knautia arvensis*), Marjoram (*Origanum vulgare*) and Wild Carrot (*Daucus carota*).

These grasslands show strong affinities with MG5 *Centaurea nigra - Cynosurus cristatus* meadow and pasture. With a decrease in the level of management, and an increase in False Oat-grass and other coarse grasses, these communities were found to show strong affinities with MG1 *Arrhenatherum elatius* coarse grassland. This community is widespread within Torbay.

1.1.4 Calcareous grassland

Calcareous grassland typically occurs on unenclosed land, and is associated with chalk and limestone where shallow rendzina-type soils (pH 6.5 - 8.5) occur
It is a very localised grassland type, restricted to the chalk hills of southern England and the limestones of the north and west. Within Devon, it is largely confined to the chalk hills of East

Devon, between Sidmouth and Beer Head, and to the limestone outcrops of Torbay and Plymouth. Torbay supports the most extensive stands of calcareous grassland in Devon.

Calcareous grassland in Torbay is associated with outcrops of Devonian limestone, largely along the coastal strip, where the habitat is scattered from Sharkham Point, north to Watcombe. In the past much of this coast would have been covered by open grassland, however, it is now largely dominated by scrub and woodland. Early maps show a system of rough fields with small stands of scrub in suitably sheltered areas, and aerial photographs taken in the 1940s show significantly more grassland than remains today. Loss of grassland and the development of scrub probably resulted from the isolation of the coastal strip from the surrounding farmland and the subsequent breakdown of the traditional farming system, most probably sheep grazing. The situation has been exacerbated by the recent decline in the Rabbit population. Although the current mosaic of woodland, scrub and grassland on the coast provides an area of great value for a variety of wildlife, the importance of these limestone grasslands should be recognised. Efforts should be made to prevent further development of scrub wherever practicable.

Due to the rarity of calcareous grassland in Devon, these areas support a large number of species that are very localised in the county. More significantly the limestone grassland of Torbay includes communities that are unknown elsewhere, and a large number of nationally rare plant species. The most extensive areas occur on Walls Hill and Berry Head.

In 1991 the identification of calcareous grassland communities was found to be extremely difficult, largely as a result of the complex system of environmental variables operating in most of the sites where these communities occur. Firstly, as most of the sites are coastal, there is a strong maritime influence in places and 'coastal' species may become significant elements of the community in other areas. In addition, differences in aspect, steepness of slope, soil depth and levels of grazing; cutting and disturbance all combine to produce a very complex mosaic of different grassland communities.

Two main NVC calcareous grassland communities were however recognised in the 1991 Torbay Wildlife Survey:

a) CG1 *Festuca ovina - Carlina vulgaris* grassland.

b) CG2 *Festuca ovina - Avenula pratensis* grassland.

The CG1 community is characterised by a short, open, tussocky turf, usually interrupted by rock outcrops and small patches of bare soil, and was found to rarely form extensive stands. Grasses typically include Cocksfoot, Sheeps Fescue (*Festuca ovina*), Red Fescue (*Festuca rubra*) and Crested Hairgrass (*Koeleria macrantha*), whilst herbs include low growing woody perennials such as Wild Thyme (*Thymus praecox*), Portland Spurge (*Euphorbia portlandia*) and Salad Burnet. Another significant component of this open sward is the presence of a series of small annuals, occurring at variable levels of abundance from year to year. These include various species of Mouse-ear Chickweed (*Cerastum* spp.), two species of Sandwort (*Arenaria* spp.) and national rarities such as Small Rest Harrow (*Ononis reclinata*) and Small Hares-ear (*Bupleurum*

baldense). Overall, this community supports a series of nationally rare species and represents the single most important community in Torbay.

CG2 grassland forms more extensive stands of calcareous grassland, and is characterised by a closed sward of dominant grasses and abundant herbs. These grasses include Sheeps Fescue, Cocks Foot, Quaking Grass, Yellow-oat Grass, Crested Hair Grass, Downy Oat Grass (*Avenula pubescens*) and False Brome, with False Oat Grass becoming dominant in unmanaged stands. Herbs typically include Salad Burnet, Dropwort (*Filipendula vulgaris*), Birds Foot Trefoil, Pyramidal Orchid (*Anacamptis pyramidalis*), Bee Orchid (*Ophrys apifera*), Pale Flax (*Linum bienne*), Small Scabious (*Scabiosa columbaria*), Wild Thyme, Marjoram, Ladies Bedstraw, Wild Carrot, Horseshoe Vetch, Squinancy-wort (*Asperula cynanchica*), Purging Flax (*Linum catharticum*) and Mouse-ear Hawkweed (*Hieracium pilosella*).

1.1.5 Maritime grassland

This grassland type is confined to the maritime fringe of Britain and supports many species restricted to the coast. In Torbay, the combination of a generally mild climate and calcareous soils makes these maritime communities floristically rich, and notable for the presence of a number of rare species.

In 1991 most maritime grassland sites were characterised by abundant Red Fescue, along with species such as Thrift (*Armeria maritima*) and Bladder Campion (*Silene vulgaris* subs *maritima*), though communities were found to vary considerably from one area to another. The communities were found to grade from open, species poor communities of ledges and crevices supporting strictly maritime species, to closed grass-dominated communities with a mix of both maritime and inland species.

The NVC recognises twelve maritime cliff communities of which nine were provisionally identified during the 1991 Torbay Wildlife Survey. Some of these are particularly associated with chalk and limestone cliffs in Southern England, and are of very local distribution.

The NVC maritime grassland communities identified in 1991 were:

MC1 *Crithmum maritimum* - *Spergularia rupicolor* maritime rock crevice community.

- a Typical sub-community.
- b *Inula crithmoides* sub-community.

MC4 *Brassica oleracea* maritime cliff ledge community

- a *Beta vulgaris* subs maritima sub-community
- b *Ononis repens* sub-community.

MC5 *Armeria maritima* - *Cerastium diffusum* subs *diffusum* maritime therophyte community.

a *Desmazeria marina* sub-community.
b *Anthyllis vulneria* sub-community.
c *Aira praecox* sub-community.
d *Arenaria serpyllifolia* sub-community.

MC6 *Atriplex hastata - Beta vulgaris* subs *maritima* cliff community.

MC7 *Stellaria media - Rumex acetosa* cliff community.

MC8 *Festuca rubra - Armeria maritima* maritime grassland.
a *Crithmum maritimum* sub-community.

MC9 *Festuca rubra - Holcus lanatus* maritime grassland.

MC11 *Festuca rubra - Daucus carota* subs *gummifera* maritime grassland.
a *Bromus hordaceous* subs *ferronii* sub-community.
b *Ononis repens* sub-community.
c *Sanguisorba minor* sub-community.

MC12 *Festuca rubra - Hyacynthoides non-scripta* maritime bluebell community.
b *Ranunculus ficaria* sub-community.

With so many communities involved, the relationships between them in Torbay are very complex. However, a general pattern can be described as follows:

There is often a seaward zone of the *Crithmum - Spergularia* crevice community (MC1), or the Brassica ledge community (MC2) on vertical cliffs and ledges.

In dry, sunny areas, where the soil remains shallow, these communities give way to *the Festuca - Daucus* community (MC11), its three sub-communities themselves sometimes zoned according to a general decrease in maritime influence as one proceeds inland. This community then grades into calcareous grassland. Rock outcrops surrounded by thin drained soils may support small areas of the *Areneria - Cerastium* therophyte community.

Where cliffs support deeper, moister soils, the crevice vegetation is replaced by *the Festuca - Armeria* maritime grassland (MC8), particularly the *Crithmum* sub-community, which itself gives way to *Festuca - Holcus* maritime grassland (MC9). Some particularly damp and generally north facing slopes, support the *Festuca - Hyacinthoides* Bluebell community.

1.1.6 Heathland

The 1991 Torbay Wildlife Survey identified one small area of heathland vegetation on Berry Head. It was then thought likely that this community occupies a much smaller area than in the past, as it would appear that gorse has invaded most of this site and now forms extensive stands

of tall scrub. The remaining fragments of heath support Bell Heather (*Erica cinerea*) and Western *Gorse (Ulex gallii*) which dominates the low shrub cover, and a selection of calcicolous species such as Salad Burnet, Dropwort, Quaking Grass, Hairy Oat Grass, Ladies Bedstraw and Betony. Although Heather (*Calluna vulgaris*) was not noted in this small area, it has been recorded in the past and may still occur elsewhere. This area can be regarded as 'limestone heath' - a rare habitat and one of very high nature conservation value.

In 1991 this community showed strong affinities with the NVC H4c *Calluna vulgaris-Ulex gallii* heath, *Sanguisorba* minor sub-community.

1.1.7 Wetlands

In contrast to woodlands and species-rich grasslands, the 1991 Torbay Wildlife Survey found that wetlands are poorly represented within Torbay. There are no rivers, and areas of standing water are very limited.

A handful of streams are in places associated with small areas of marshy grassland and fen vegetation. In the Clennon Valley, water has been diverted to supply a series of ponds. The upper ponds lie within the zoological gardens, but further down the valley, Torbay Council have created a series of pools to attract wildlife. This site is by far the most significant area of open water in Torbay and supports interesting aquatic and marginal flora, including extensive stands of Bulrush (*Typha latifolia*). This site has considerable wildlife value and further interest may develop as the plant communities mature. Other important sites within Torbay include Broadsands Marsh, where Torbay Council are carrying out management to maintain areas of open water and fen, and a series of pools at Barton. Elsewhere, there are a few concrete lined ornamental ponds situated in formal areas of parkland, which despite having no associated semi-natural vegetation and suffering from high levels of disturbance, still manage to attract water birds and aquatic invertebrates.

1.1.8 Coastal habitats

Torbay has some 33 km of coastline, of which, in 1991, 25 km (77%) supported semi-natural vegetation. This coastline is diverse with a series of vegetated and unvegetated cliffs, steep slopes and ledges, sandy, rocky and shingle beaches, marine caves and offshore islands.

The coastal strip largely supports woodland, scrub and grassland communities that have already been discussed above. Small but significant differences in microclimate ensure that these coastal sites are suitable for a great number of species that do not occur at any distance from the sea.

1.1.9 Greenspace

This term is used here to describe intensively managed and regularly mown amenity grassland, typical of lawns, playing fields and urban parks, in which Perennial Rye-grass (*Lolium perenne*) predominates. Also included within this category is what is often called 'urban savannah', which consists of amenity grassland, as described above, with occasional standard trees often of non-native species.

This habitat was estimated to cover some 246 ha in Torbay in 1991, and representing a larger area than all the species rich grasslands put together.

1.1.10 Gardens

In Torbay, some of the suburban gardens, particularly in the older parts of Torquay are large, secluded, and often represent a microcosm of the countryside, with stands of woodland, scrub and grassland, hedgerows, compost heaps, walls, rockeries and ponds. Garden ponds are of particular note in that they may represent important areas for amphibians and aquatic insects, which have a shortage of natural sites in Torbay.

2 SPECIES PRESENT IN TORBAY

2.1 Vascular plants

2.1.1 General

Approximately 560 species were recorded during the 1991 Torbay Wildlife Survey, representing nearly 40% of the total number of vascular plant species recorded in Britain. More significantly, this list included a large number of rare and local species. With the exception of Braunton Burrows in North Devon, no other area in the county supports such a concentration of rare and local plants.

During the 1991 survey, ten nationally rare species, including two Schedule 8 species, were recorded, along with twenty-eight nationally scarce species.

The following sections list those nationally rare and scarce species recorded in the 1991 Torbay Wildlife Survey.

2.1.2 Nationally Rare Species

Small Hare's Ear *Bupleurum baldense*	Very rare. Confined in mainland Britain to Beachy Head in East Sussex and Torbay, where it occurs in open calcareous cliff top grassland. Recorded in the past on Walls Hill Downs, but the main population is on Berry Head - this representing the most extensive population in Britain.
Small Rest Harrow *Ononis reclinata*	A tiny annual, restricted in Britain to a few localities on the carboniferous limestone of South Wales and the Devonian limestone of Torbay. Within Torbay, it occurs in open, rocky limestone grassland on south facing slopes. The main population is in the Berry Head - Sharkham Point area, but it has also been recorded from Daddyhole. A new site for this species was discovered during the 1991 survey.
Goldilocks Aster *Aster linosyris*	Very rare and restricted to seven localities on coastal limestone cliffs in Torbay, North Somerset, Wales and Lancashire. Some of the colonies are very small and the Torbay Colony is the largest in the country, and the only one known to set seed regularly. This colony is situated on cliffs south of Berry Head, and although in places the plants are threatened by scrub invasion, the population would seem to be very healthy. A thriving population at a new site was discovered during the 1991 survey.

Nit-grass *Gastridium ventricosum*	A very rare annual grass of Southern Britain, probably native in short grassland on chalk and limestone and occurring as a casual elsewhere. Recorded from open limestone grassland on Berry Head, this being the only site in Devon for this species.
Little Robin *Geranium purpureum* subs. *purpureum*	Very rare, local and declining. This is a species of open rocky habitats and hedgebanks close to the sea on base rich soils. The 1991 survey identified several localities for this species within Torbay and it could be considered a 'Torbay speciality'. Particularly good populations were found around Daddyhole and Fishcombe Point.
White Rock-rose *Helianthemum apenninum*	This is confined in Britain to Carboniferous limestone around Brean Down in Somerset and Devonian limestone in Torbay. Within Torbay, it occurs very locally in dry, rocky limestone grassland on south facing slopes around Walls Hill and Berry Head. The hybrid between this species and Common Rock-rose (*Helianthemum nummularium*) known as *Helianthemum suphurum* occurs at Fishcombe Point.
Purple Gromwell *Lithospermum purpurocaerulea*	Very rare, restricted to a few localities in South Devon, the Mendips in Somerset and in Wales, where it grows on the margins of woods and in scrub. This species was rediscovered at Petit Tor where it was last recorded over 50 years ago.
Carrot Broomrape *Orobanche maritima*	Like other broomrapes, this is a root parasite of other flowering plants. The scale-like leaves lack chlorophyll and they obtain all their nourishment from their host plant. This species is very rare and confined to the south coast of England, occurring in East Kent, Hampshire, Devon, Cornwall and the Channel Islands. It grows on rough maritime grassland where it usually parasites on wild carrot. Several good colonies occur in Torbay - one, in the Walls Hill area, of particular note in that the host plant is rock samphire (*Crithmum maritimum*). A small number of new sites were discovered for this species during the 1991 survey.
Early Meadow Grass *Poa infirma*	Very rare and local. Until recently believed to be confined to the Lizard in Cornwall, the Isles of Scilly and the Channel Islands. First recorded in Devon in 1989 and several further records from the county have followed. An early flowering annual,

	this species was recorded on Berry Head where it occurs in short limestone grassland.
Honewort *Trinia glauca*	Very rare and confined to the Devonian limestone of Torbay, and carboniferous limestone of Gloucestershire and Somerset, where it occurs in short open, rock limestone grassland. In Torbay it can be found between Berry Head and Sharkham Point, where it can be locally. frequent in suitable habitat. A small number of new sites for this species were discovered during the survey.

2.1.3 Nationally Scarce Species

Maidenhair Fern *Adiantum capillus-veneris*	Very rare and confined as a native to damp calcareous sea cliffs in South West Britain. In Devon there are only two sites - one on the cliffs west of Ilfracombe and one in Ansteys Cove, Torquay. The latter site is vulnerable to damage and disturbance.
Lanceolate Spleenwort *Asplenium bilotii*	An Atlantic species of South west Britain, where it occurs on rocks, walls and hedgebanks, usually near the sea. In Devon it is only found in any frequency on old walls on the western edge of Dartmoor and along some sections of the south coast. There is one record from Torbay.
Wild Cabbage *Brassica oleracea*	Known from about 30 localities, mostly in the south west where it is confined to steep maritime cliffs of chalk or limestone and often associated with seabird colonies. A 'Torbay speciality' with large colonies around Berry Head and Walls Hill, and scattered records elsewhere.
Dwarf Mouse-ear *Cerastium pumillum*	A rare and local species of calcareous soils in southern England. It is a tiny annual of short open calcareous grassland, and although only recorded from single sites on Berry Head and Walls Hill, may be under-recorded. These are the only Devon records.
Sea kale *Crambe maritima*	Scattered around the British coastline, but commonest on the south coast where it is typically a plant of undisturbed shingle beaches. Occasionally a cliff ledge plant, and recorded on cliffs around Watcombe in 1959, but no recent records.
Sea Storksbill	Two local species of short, open grassland close to

Erodium Maritmum Musk Storksbill *Erodium moschatum*	the sea, particularly of south west and western coasts. *Erodium maritimum* was found to be scattered around Torbay in suitable habitats, while *Erodium moschatum*, although absent from much of the Torbay,was locally frequent around Sharkham Point.
White Ramping Fumitory *Fumaria capreolata*	An annual weed of waste ground, track sides and hedgebanks, with a markedly south-western distribution in Britain. This was found to be scattered around the Torbay, and although nowhere common, was most frequent in disturbed habitats near the coast.
Wall Bedstraw *Galium parisiense*	A small prostrate annual of open habitats, mostly in the south-east. This was recorded from a wall in Torquay in 1978, and was re-discovered at the same site in 1991.
Round-leaved Crane's Bill *Geranium rotundifolium*	A local plant of Southern Britain, most frequent in the South West where it occurs in dry, open, usually calcareous grassland. The species was found in a few scattered localities in the Torbay - but nowhere common.
Stinking Hellebore *Helleborus foetidus*	A rare plant of woods and scrub on calcareous soils, most abundant on the chalk of the North and South Downs, but also occurring on limestone of Southern Britain. During the 1991 survey this was recorded from a few sites in the Brixham area - these representing the only sites within the county.
Pale St Johns Wort *Hypericum montanum*	A very local and declining species of chalk and limestone areas in England and Wales. This was found to be scattered in the coastal strip, occurring along woodland margins and in scrubby grassland, where in some areas it is locally abundant.
Tree Mallow *Lavatera arborea*	This is a coastal species of south-west Britain, occurring on cliffs, rocks and stony waste ground. In Torbay it is locally abundant on limestone cliffs.
Rock Sea-lavender *Limonium binervosum*	A local species largely confined to the south and west coasts of Britain. In Torbay, there are numerous colonies, typically on north facing Permian breccia cliffs associated with rocky headlands. The species has been the subject of recent research and is now believed to represent a series of closely related 'micro-species', most of which are probably apomictic. Thus, the true identity of the populations in Torbay is yet to be established

	and the area may support several different micro-species of very limited distribution in Britain.
Hairy Bird's-foot Trefoil *Lotus subbiflorus*	Confined in Britain to coastal Hampshire, Dorset, Devon, Cornwall and the Isles of Scilly, it is an annual of dry, open coastal grassland. Previously recorded from Sharkham Point but not recorded in 1991.
White Horehound *Marrubium vulgare*	A rare and local coastal species of the south and west coasts. This has been recorded from the Walls Hill area but was not seen in 1991.
Toothed Medick *Medicago polymorpha*	A local coastal species of open habitats close to the sea. Scattered records for Torbay but nowhere common.
Bastard Balm *Melittis melissophyllum*	Very local, more or less confined to Devon, Cornwall and the New Forest, where it grows in woodland and and hedgebanks. Three sites were recorded during the 1991 survey - all on the margin of scrubby woodland on north facing cliff slopes.
Corky-fruited Water-dropwort *Oenathe pimpinelloides*	A local species confined to Devon, Dorset, Hampshire and South Somerset. It is locally abundant in some areas, for example around Exeter, but is rare in Torbay. Only two sites for this species were found, both in rough grassland.
Spiked Star of Bethlehem *Ornithogalum pyrenaicum*	Very local and known as a native from several southern counties with a particular concentration on oolitic limestone around Bath. This was recorded from one coastal site within Torbay, in rough grassland on limestone. Although it is doubtful whether it is native at this site, it is interesting to note that the species was recorded there as long ago as 1936.
Ivy Broomrape *Orobanche hederae*	A local species with a coastal south western distribution. It is a parasite of Ivy and was found to be widespread in Torbay, no doubt reflecting the abundance of its host species, particularly in secondary woodland along the coast.
Bulbous Meadow-grass *Poa bulbosa*	A rare and local species of open, dry, coastal grassland largely in south-east England. In Torbay, recorded from open, trampled cliff top limestone grassland around Berry Head, Daddyhole and Walls Hill.
Autumn squill	Very local and virtually confined to dry maritime

Scilla autumnalis	grassland in Devon, Cornwall and the Channel Islands. In Torbay it is very characteristic of trampled open cliff top limestone grassland and in some areas is locally abundant.
Rock Stonecrop *Sedum forsteranum*	A local species of west and south west Britain, occurring in Devon, Somerset, Shropshire and Wales, where it grows on cliffs, rocks and scree slopes. In Torbay it is locally abundant on steep rocky slopes, particularly around Berry Head and Walls Hill.
Whitebeam *Sorbus porrigentiformis* *Sorbus rupicola*	Two of about 17 apomictic species (microspecies) of Whitebeam recognised in Britain, most of which are local species of limestone areas in the North and West. *Sorbus rupicola* is the most widespread of these, whereas *Sorbus porrigentiformis* is much more local and also endemic to Britain. Within Torbay, *Sorbus rupicola* occurs around Churston Cove, Brixham, and a few examples are found on limestone cliffs around Walls Hill. The population of *Sorbus porrigentiformis* is concentrated in the Walls Hill -Babbacombe area.
Clustered Clover *Trifolium glomeratumi* Fenugreek *T.ornithopodiodesi* Suffocated Clover *T.suffocatum*	Three local and declining annual clover species of open, dry, coastal grassland, all more or less confined to the south coast. Within Torbay, all three species are very rare and are recorded occasionally from suitable coastal sites. Most recent records come from Berry Head.
Keeled-fruited Corn-salad *Valerianella carinata* Narrow-fruited Corn-salad *Valerianella dentata*	Both species are small annual weeds of arable land, banks and rock outcrops on well drained, usually calcareous soils. *Valerianella carinata* was found to be widespread and often abundant in Torbay. It was always the most abundant species of Corn-salad and may have been under-recorded in the past. *Valerianella dentata* is a much rarer and declining species, throughout the country. This was recorded from a few widely scattered localities, always on trampled, rocky, limestone grassland.
Twiggy Mullein *Verbuscum virgatum*	Very rare, confined as a native to Devon, Cornwall and the Isles of Scilly, occurring on waste ground and rough grassland. There are widely scattered records in Torbay, but it is never found far from the sea.

2.1.4 Other Species

In addition to the species listed in the previous sections, many species that are rare or local in the County occur in Torbay. Due to the limited distribution of calcareous grassland in Devon, this particularly applies to calcareous grassland species. Several of these are primarily south eastern species on the extreme edge of their British range in Torbay, for example, Horseshoe Vetch, Squinancywort, Stemless Thistle (*Cirsium acaule*) and both Pyramidal and Bee orchids.

It is also interesting to consider the Torbay flora in an international context. The elements of the British flora regarded as particularly important by European botanists are firstly, Atlantic species, which are often better represented in Britain than elsewhere in Europe, and include species such as Gorse and Bluebell, and secondly, maritime species associated with the outstanding range of coastal habitats in Britain. Both these elements are particularly well represented in Torbay.

2.2 Bryophytes and lichens

Neither of the above groups were surveyed during the 1991 Torbay Wildlife Survey, but available information suggests that both floras are rich.

The bryophyte flora is known to be both diverse, and notable for the presence of rare species. As with vascular plants, the rarer species are associated with areas of calcareous grassland. These include the nationally rare *Cheilothela chloropus* which is known from only five sites in Britain - three of these occurring in Torbay.

The area's low pollution levels and variety of habitats have also allowed a rich and diverse lichen flora to develop. Studies of lichens at Berry Head and Hopes Nose/Walls Hill indicate that these communities are of outstanding importance.

2.3 Mammals

2.3.1 General

Mammals are well represented within Torbay, and the often extensive areas of woodland, scrub and rough grassland provide ideal sites for many of our native species. Foxes are widespread as in many urban areas, and Torbay is very fortunate in supporting a large population of badgers. Badgers are given protection under The Badger Act 1973 (as amended by the Wildlife and Countryside Act 1981), and The Badger Act 1991, which extends protection to their setts.

Both Stoat and Weasel also occur in suitable areas, and Hedgehog and Grey Squirrel are familiar visitors to many parks and gardens. These species plus Dormouse, Harvest Mouse and Water Shrew were all recorded in 1991.

The bay itself is also regularly visited by Grey seals and various cetaceans, including Bottlenosed Dolphin.

2.3.2 Bats

Britain has 14 species of breeding bat, and since the 1940's most species have undergone significant population declines, firstly as a result of disturbance and loss of roosting and hibernating sites, and secondly, as a result of habitat change. The bats themselves and their roosts are now protected by the Wildlife and Countryside Act 1981, but loss of suitable feeding areas remains a threat to the local bat population.

Torbay is known to support nationally important populations of some species. Pipistrelle and Brown Long-eared bats are both widespread, with Noctule, Whiskered and Natterers bats also occurring. The two most significant species however are Greater and Lesser Horseshoe bats. A 1988 survey indicated a national population of only 3000 Greater Horseshoe bats, concentrated into particular localities of south west England and South Wales. Lesser Horseshoes are more widespread (numbering 8000 in 1988) but also declining significantly both in Britain and elsewhere in northern Europe. Both these nationally rare species are known to occur within caves around Berry Head, where 63 Greater and 14 Lesser horseshoes were recorded in 1991. Of particular importance is the use of some caves as breeding sites for Greater Horseshoes.

Clearly bat conservation should have a high priority in Torbay. In the 1991 Torbay Wildlife Survey, it was impossible to survey and document all bat roosts and hibernation sites in such a short time. However, recognition of insect-rich feeding sites for bats was considered a priority in identifying sites of wildlife interest.

2.4 Birds

Torbay has a great deal of bird interest. There are breeding seabirds, a nationally important population of the rare and declining Cirl Bunting, and a good selection of wintering species.

2.4.1 Seabirds

Torbay's predominantly rocky coast with rugged cliffs and a number of off-shore islands affords nest sites for a variety of seabirds. The most notable concentrations are around Berry Head and Hopes Nose with small numbers occurring elsewhere. The following species were recorded as being of significance in 1991:

Cormorant - The Devon population represents 3.5% of the British population (Sitters, 1988). The South Coast population is increasing and the Torbay population may become increasingly significant in national terms. The species is afforded full protection under the Wildlife and Countryside Act 1981.

Shag - The Devon population of breeding Shags is considered to be a significant percentage of the total population in England and Wales, the majority of these birds restricted to certain sections of the South Coast. It is afforded full protection under the Wildlife and Countryside Act 1981.

Kittiwake - In Devon, restricted to a handful of sites, prominently around Torbay, but this population represents 4% of the breeding population of England and Wales. It is afforded full protection under the Wildlife and Countryside Act 1981 and is a candidate Red Data Book species.

Lesser Black-backed Gull - A rare breeding species in Devon, with a large colony on Lundy, but only about 20 pairs on the mainland coast.

Guillemot - The Berry Head colony represents the only stable colony on the South coast of England, and due to the accessibility, small size and close viewing conditions represents a very important population for ecological monitoring. This species is afforded full protection under the Wildlife and Countryside Act 1981, and has full status as a Red Data Book species.

Razorbill - In Devon the largest numbers breed on Lundy, with a sizeable population on the north Devon coast and a few pairs in Torbay. It is afforded full protection under the wildlife and Countryside Act 1981, and has full status as a Red Data Book species.

It is important to remember that conservation of those birds relies not only on protection of the breeding sites, but also of the marine environment in which they feed. Pollution from oil and untreated sewage, the use of gill-nets and increased disturbance caused by water sports throughout the year, are all likely to have a significant effect on the bird fauna of the area.

2.4.2 Peregrine

The Peregrine is a breeding resident which is found in Britain in internationally important numbers. The fortunes of the Peregrine have fluctuated in the last 50 years, with a major decline in the population occurring in 1957-1963 as a result of the use of persistent organochlorine pesticides in agriculture. Following controls over pesticide use, and a campaign of protection and education, numbers have risen to over 900 pairs - which is probably in excess of its pre-war level. This represents about 25-30% of the breeding population in Western Europe Threats from pesticides are now mostly over, but the problems of illegal killing and theft of eggs and chicks still continue.

In Devon, most Peregrine eyries are on sea cliffs. In 1991 two breeding pairs were recorded in Torbay, both occurring in such habitat.

The species is afforded full protection under Schedule 1 (i) of the Wildlife and Countryside Act 1981, and has full status as a Red Data Book species.

2.4.3 Cirl Bunting

The Cirl Bunting is a rare species of South West England that has suffered a major decline in the last 40 years, and is now more or less confined to South Devon.

Provisional figures for 1991 gave a breeding population of approximately 220 pairs in Britain, 210 of which occurred in South Devon, between Exeter and Plymouth. Of these, approximately 28 pairs were recorded in Torbay - this representing 13% of the national population.

Proposed developments and road building, particularly within areas of core populations will continue to fragment and destroy suitable habitat and inevitably lead to a further reduction in the population. Torbay Council have a considerable responsibility to ensure that the Torbay population not only survives, but is allowed to flourish. With site protection and sympathetic management, the Council can ensure that this is achieved.

The Cirl Bunting is listed on Part I, Schedule of the Wildlife and Countryside Acts 1981 and 1985, and is protected by special penalties at all times. It is against the law to intentionally disturb birds during the nesting season. The Cirl Bunting has full status as a Red Data Book species.

2.4.4 Wintering birds

The sea off Torquay, Paignton and Brixham is mainly shallow and sandy, and sheltered from prevailing south-westerly winds. As a result the bay is the best in Devon for a variety of wintering grebes, divers and wildfowl.

Great crested grebes reach a flock of 30 or so, and this represents the largest regular winter population in the county (1991 data). Red Necked and Slavonian Grebe also regularly winter, and Torbay is the only regular wintering site for Black Necked Grebe in Devon. Small numbers of Great Northern Divers also occur, with both Red Throated and Black Throated Divers occurring sporadically. Small numbers of wintering seaduck include Common Scoter, Eider, Red Breasted Merganser and Long-tailed Duck.

In addition, Clennon Ponds, although small, support a good selection of freshwater duck species. This site also provides breeding habitat for some localised species in the County, such as Little Grebe and Tufted Duck.

2.4.5 Other Species

In addition to those species which regularly breed or winter, Torbay is also of great interest for the number of rare and unusual species which pass through on migration.

Berry Head and Hopes Nose are prime sites in the region for observing seabird passages in spring and autumn, and a large number of different species are recorded each year. Coastal sites also

offer excellent opportunities for watching passage migrants, and rare vagrants regularly occur. These include visitors from the south like the Hoopoe and Bee-eater, northern species such as the Greenland Gyrfalcon which Spent 10 days on Berry Head in Spring 1986, and even the occasional American species, such as the Ring-billed Gull.

2.5 Reptiles and amphibians

All the common British reptiles occur in Torbay; Adder, Grass Snake, Slow Worm and Common Lizard. Dry Sunny railway embankments provide the best habitat for these species, but suitably warm, sheltered cliff slopes are also important. Private gardens may play a significant role, particularly for Slow Worm and Grass Snake.

Few suitable amphibian breeding sites were recorded during the 1991 Torbay Wildlife Survey, and it is likely that garden ponds provide the most important amphibian sites in Torbay. The only two garden ponds that were visited during the 199 survey were found to support Common Frog,, Common Toad and both Smooth and Palmate newts, and these species may well occur widely in such habitats. No records were received for Great Crested Newt, but this may occur in one or two places. This species is given Special protection under Schedule 5 of The Wildlife and Countryside Act 1981.

2.6 Invertebrates

2.6.1 General

Invertebrate recording is a rather specialised skill which tends to involve few individuals in any one area. Consequently, both the quantity and quality of information for various groups varies greatly between sites. Existing information on the invertebrate fauna of Torbay was found to be rather poor in 1991, but with the range of habitats present, particularly in the coastal strip, the invertebrate interest would be expected to be significant.

Some of the more notable species recorded in 1991 are listed below.

2.6.2 Butterflies and Moths (Lepidoptera)

Butterflies are well represented and are the most widely reported group in Torbay. Some 34 species have been recorded in the last 5 years, although the status of some of these needs confirmation. Of particular note are the following:

Adonis Blue (*Lysandra bellargus*) Confined to the extreme south of England where it is restricted to calcareous grassland on steep, usually south facing slopes. The larval food plant is Horseshoe Vetch. Sightings at the time of the 1991 survey at Berry Head would seem to indicate

the presence of a small isolated colony, presumably on some of the more inaccessible cliff ledges, but the status of this species needs confirmation.

Small Blue (*Cupido minimus*) Frequents old quarries, cliff slopes, and downland on chalk or limestone grassland, where the larvae feed on Kidney Vetch. Only a handful of sites in Devon, with Torbay being something of a stronghold for the species. The species is now the subject of specific habitat management by Torbay Council to conserve and hopefully increase the population.

Marbled White (*Melanargia galathea*) A local species in Britain, very much concentrated in the south west, where it prefers lightly cropped or unmanaged grassland. The larvae feed on a series of native grasses of unimproved pasture. In 1991 this species was found to be widely distributed in Torbay, wherever suitable habitat was present. At some sites large populations were present.

Brown Hairstreak (*Thecla betulae*) A rare and declining species of woodland and hedgerows where the larvae feed on Blackthorn. Recorded from a few sites in Torbay, but possibly overlooked.

Other local species of butterfly recorded from Torbay in recent years include Brown Argus, Silver Washed Fritillary and Small Pearl Bordered Fritillary. The moths of Torbay are not so well studied, but several species of interest are known to occur:

Jersey Tiger (*Euplagia quadripunctaria*) A spectacular day flying species of suburban gardens, wasteground and open countryside. The larvae feed on a variety of plants including Nettle and Hemp Agrimony (*Eupatorium cannabinum*). This is a very rare species in Britain, confined to the south Devon coast between Exeter and Brixham, but was found to be very abundant in Torbay, and must be considered as something of a local speciality. In 1991 adults were regularly seen during the day in mid summer more or less throughout the Torbay, often feeding on the flowers of Buddleia and Red Valerian.

Scarlet Tiger (*Callimorpha dominula*) Another attractive day flying species, breeding in wet meadows and coastal undercliff, where the larvae feed on a variety of herbs. It is a very local species confined to south west England and was recorded in several sites during the 1991 wildlife survey.

Other records include the Beautiful Gothic (*Leucochleana oditis*) a Red Data Book species recorded from Walls Hill.

2.6.3 Other Species

a) Grasshoppers and Crickets (Orthoptera)

This group was widely recorded in Torbay, with two notable species present:

Great Green Bush Cricket (*Tettigonia viridissima*) The largest British species and confined to the south coast of England, where it is most common in the south west. This species was found to be very common in Torbay during 1991, and present in almost every hedgerow and stand of rank vegetation and scrub.

Grey Bush Cricket (*Platycleis denticulata*) Very rare and local in Britain. The preferred habitat is hard or soft rock cliffs in dry places with rough herbage, usually on south facing slopes, and never more than a few hundred yards away from the sea. This was recorded from Walls Hill during the 1991 survey, and there are older records from Berry Head

b) Dragonflies and damselflies (Odonata)

Devon is a very good county for this group of insects, but due to a lack of suitable wetland breeding sites, Torbay does not support notable concentrations or species of Odonata. Clennon Ponds is currently the best site and may in time develop further interest.

c) Other invertebrates

Other national rarities are known to occur in Torbay. These include some species unknown outside the Torbay, such as the Firebug (*Pyrrhocoris apterus*) which is only known from Ore Stone Rock, and the Bristletail (*Trigoniophthalmus alternatus*) only recorded from Berry Head. Further study would undoubtedly reveal the presence of more unusual species.

3 THE 1998 WILDLIFE SITES REVIEW

3.1 Background to survey

The natural environment within Torbay is notable for:

a) The presence of a series of outstanding wildlife sites that are of sufficient scientific interest to merit designation as Sites of Special Scientific Interest or County Wildlife Sites.

b) A selection of other wildlife sites scattered throughout the Torbay creating a valuable wildlife resource, and designated Local Wildlife Sites.

These sites have been recognised so that priorities for nature conservation can be identified, and they represent the minimum area within Torbay in which wildlife interests should be maintained and enhanced. The publication in 1998 of a Biodiversity Action Plan for Devon has increased the importance of such sites at both a county and regional level.

The 1991 Torbay Wildlife Survey was co-ordinated by the Devon Wildlife Trust and supported by funding from Torbay Borough Council's Arts and Recreation Dept and English Nature, with additional sponsorship from Sainsbury's. In 1998 a review of the wildlife sites in Torbay was requested by Torbay Council. The work was undertaken by Dr David Fee of the Devon Wildlife Trust. Given the short time period in which to undertake the review it was agreed to survey only those sites whose 'status' was thought likely to have changed since the 1991 survey; N.B. In this context status is used to mean (a) either a change in site boundary as a result of loss of habitat due to land use changes, or (b) a change in habitat 'quality' as a result of successional processes or human influences.

Only County and Local Wildlife Sites were considered. Sites of Special Scientific Interest and intertidal habitats were not included. Each site was considered in consultation with officers from Torbay Council, and a list of sites was identified for review. Sites that were not thought to have changed significantly since 1991 were omitted from the review, so as to allow the work to be completed in the time available.

The major aims of the review can be summarised as follows:

a) To evaluate those County and Local Wildlife Sites in Torbay whose current status is unknown.

b) To update information on the general wildlife resource within Torbay.

c) To provide suggestions for the future management and conservation of sites within Torbay.

d) To raise the profile of wildlife and nature conservation within Torbay Council.

3.2 Survey methods

Maps (at a scale of 1:10,000) provided in the 1991 Torbay Wildlife Survey were used to identify existing County and Local Wildlife Sites. Those identified for review were visited in the last week of October and the first two weeks of November, 1998. Existing site record cards were used to provide background information for each site. Changes in site boundaries were recorded and an assessment of habitat quality made. Access permission was gained for a majority of the sites. Where permission could not be obtained or access was impossible (as for example along railway lines) the wildlife interest was evaluated as best as possible from existing public rights of way.

3.3 Presentation of findings

An updated series of inventory maps were produced at 1:10,000 scale (as with the 1991 Torbay Wildlife Survey) on which all sites of wildlife interest in Torbay are identified. Where appropriate these maps show existing or proposed boundary changes to wildlife sites. All maps are shown at the end of this report. Only those sites included in the review are numbered, and a description of their status in 1998 is provided for each site in turn below.

A full list of all site reference numbers is provided on the maps included in the 1991 Torbay Wildlife Sites report.

3.4 The 1998 review - site details

Sites re-surveyed under the 1998 review are described below. Sites are described by ascending reference number (see the 1991 Torbay Wildlife Sites report for a complete list), and for each an assessment of current status is provided by detailing current designation, site boundary integrity, habitat description and outline management recommendations. Detailed site descriptions, including species lists, are available from the Devon Biodiversity Records Centre, based at the Devon Wildlife Trust.

Site name: Ashleigh.

Site Reference Number: 5

Site designation: Part Local Wildlife Site, part County Wildlife Site.

Boundary integrity: Unchanged since 1991 survey.

Habitat description: A mixture of improved and unimproved grassland, scrub and woodland habitats. An area of grassland in the valley bottom is currently being managed as a 'conservation area'.

Outline management recommendations: The habitat of greatest value is the small area of calcareous grassland in the northern part of the site. Management should aim to prevent further scrub encroachment into areas of grassland. A suitable grassland management regime should be reinstated if practicable. In 1998 the site was known to contain at least one Cirl Bunting breeding territory (RSPB, Pers. Comm.). Consultation with the RSPB is recommended prior to undertaking management works on site.

Site name: Barton West.

Site Reference Number: 7

Site designation: County Wildlife Site.

Boundary integrity: Significant boundary changes have occurred at this site as a result of ongoing housing development. The predicted loss of land is shown on the map that accompanies this document.

Habitat description: Horse grazed pasture and hedgerows. The site is known to be important for breeding Cirl Buntings.

Outline management recommendations: The loss of a large amount of land at this site is likely to have a significant impact on the local Cirl Bunting population; this species is known to have held breeding territories at this site during 1998 (RSPB, Pers. Comm.). The continued designation of this site as a County Wildlife Site merits further examination in light of these habitat losses.

Site name: Barton Hall Farm.

Site Reference Number: 10

Site designation: Local Wildlife Site.

Boundary integrity: Significant boundary changes have occurred at this site as a result of ongoing housing development. The predicted loss of land is shown on the map that accompanies this document.

Habitat description: Semi-improved grassland, hedgerows and mixed woodland.

Outline management recommendations: The loss of a large proportion of this site merits an assessment of its continued designation as a Local Wildlife Site, though as the woodland area is to remain the area will continue to have some local wildlife value.

Site name: Edginswell.

Site Reference Number: 13 15

Site designation: Local Wildlife Site.

Boundary integrity: Unchanged since 1991 survey.

Habitat description: Marshy grassland with a small stream and ponds in the western part of the site. The current condition of the ponds could not be assessed at the time of the review. An area of ground described in 1991 as 'heavily disturbed' forms the eastern part of the site, and now consists of tall rank grassland with patches of rushes, Bramble and Buddleja. This field now forms an important local wildlife refuge.

Outline management recommendations: The ponds and stream should ideally be maintained as open water, subject to agreement from the landowner. The vegetation of the eastern part of the site forms an important part of the ecological corridor running along the railway line to the north. The structural diversity of the vegetation should ideally be maintained by removing some areas of scrub where and when appropriate.

Site name: Shiphay Hospital.

Site Reference Number: 14

Site designation: Local Wildlife Site.

Boundary integrity: Unchanged since 1991 survey - though an area of housing has been developed on the south western boundary of the site in an old walled garden.

Habitat description: An area of planted woodland and amenity grassland, with a stream running through the southern part of the site - the stream having abundant ferns and bryophytes in places. A good quality hedgerow is located along the eastern boundary.

Outline management recommendations: None.

Site name: St. Marychurch Downs.

Site Reference Number: 18

Site designation: County Wildlife Site.

Boundary integrity: Unchanged since 1991 survey.

Habitat description: A complex of grassland, scrub and woodland habitats with considerable diversity for such a small area. Brambles and scrub dominate many areas of calcareous grassland in the northern part of the site.

Outline management recommendations: Structural and species diversity should be maintained at the site, but not at the expense of continued losses of calcareous grassland. Ideally further scrub encroachment should be prevented and some areas of scrub cleared. A suitable grassland management regime should be implemented where practicable.

Site name: Warberry Copse.

Site Reference Number: 29

Site designation: Local Wildlife Site.

Boundary integrity: Unchanged since 1991 survey.

Habitat description: Mixed woodland plantation described in 1991 as being 'badly storm damaged' and generally disturbed as a result of tree felling. Trees planted recently before 1991 have now reached a height of 3-4 metres, and Bramble and Bracken dominate the field layer in many places, particularly in the northern half of the site. A series of paths run through the site, which receives heavy recreational use.

Outline management recommendations: The woodland will continue to improve structurally as the planted trees mature. There are no immediate management priorities, but the site should be occasionally monitored to determine likely canopy dominants, and if possible locally native species encouraged.

Site name: Asheldon Copse.

Site Reference Number: 30

Site designation: Local Wildlife Site.

Boundary integrity: Only the area of woodland to the east of the Palace Hotel was surveyed and plotted on the enclosed map, as access to the woodland in the hotel grounds could not be obtained in the time available. The woodland within the hotel grounds may merit continued inclusion in the Local Wildlife Site, but this needs to be confirmed by an additional survey.

Habitat description: Area of mixed woodland with considerable Holm Oak invasion. The woodland is contiguous with the woodland of Walls Hill-Hope's Nose SSSI.

Outline management recommendations: There are no immediate management priorities, though the woodland would probably benefit from some selective felling of Holm Oak, as this would increase light levels in the field layer and enhance stand diversity.

Site name: Black Head Field.

Site Reference Number: 32

Site designation: County Wildlife Site.

Boundary integrity: Unchanged since 1991 survey.

Habitat description: A mixture of semi-improved grassland and species rich calcareous grassland. The site is thought to have been recently grazed.

Outline management recommendations: It is unknown whether the recent grazing forms part of a long term plan to manage the field, though some form of grazing or cutting is required to maintain or enhance sward diversity.

Site name: Ilsham Marine Drive.

Site Reference Number: 34

Site designation: County Wildlife Site.

Boundary integrity: Unchanged since 1991 survey.

Habitat description: Scrub, woodland and species rich grassland, partly along a roadside verge.

Outline management recommendations: Scrub and woodland should not be allowed to encroach into areas of species rich grassland. If grassland areas along the roadside verges are cut during the growing season, ensure the cutting regime is appropriate to maintaining community diversity.

Site name: Thatcher Point.

Site Reference Number: 35

Site designation: County Wildlife Site.

Boundary integrity: Unchanged since 1991.

Habitat description: A series of coastal habitats, notably rocky outcrops, scrub and grassland. A network of public paths cross the area.

Outline management recommendations: Scrub should not be allowed to encroach into areas of species rich grassland. Any management plan should address the issue of public use of the site, as some areas are currently prone to erosion as a result of intensive use.

Site name: Westerland Valley.

Site Reference Number: 42

Site designation: County Wildlife Site.

Boundary integrity: This site has already undergone significant changes as a result of housing development, and further housing is planned for other parts of the site. The map for this site provided in this document shows the likely total loss of land by the time the housing development is completed.

Habitat description: Mixed farmland, with scrub, woodland, and some species rich grassland. The fields running along the western side of Luscombe Road are currently valuable, as they have developed a rank sward of grasses, herbs and some shrubs. These fields are however to be built on in the near future.

Outline management recommendations: Given the significant loss of land from this wildlife site, a detailed assessment should be made to determine whether it still meets criteria for its designation as a County Wildlife Site. It should be noted that Cirl Bunting was found to be breeding on site in 1998 (RSPB, Pers. Comm.), and the loss of land is likely to have a serious impact on the local Cirl Bunting population.

Site name: Shorton Manor/Shorton Woods.

Site Reference Number: 43

Site designation: Local Wildlife Site.

Boundary integrity: The central and western parts of this site have undergone significant changes, and the new boundaries are shown on the map provided in this document.

Habitat description: An area which according to the 1991 survey included abandoned gardens, now largely comprised of open woodland and scrub, with some herb rich grassland.

Outline management recommendations: There are no immediate management priorities. Given the loss of land from this wildlife site, a detailed assessment should be made to determine whether it still meets criteria for its designation as a Local Wildlife Site. Though highly fragmented and greatly reduced in area, the woodland habitat that remains appears to be of considerable local importance, and a central section in the valley bottom near Shorton Farm is largely inaccessible and therefore remains undisturbed. An active Badger sett was recorded from this remaining area of woodland during the 1991 survey, though access to establish its continued presence could not be obtained on this occasion.

Site name: Lower Blagdon.

Site Reference Number: 46

Site designation: Local Wildlife Site.

Boundary integrity: Unchanged since 1991.

Habitat description: Mixed farmland and woodland, with a large amount of horse grazing, particularly in improved fields.

Outline management recommendations: None.

Site name: Brake Copse.

Site Reference Number: 50

Site designation: Local Wildlife Site.

Boundary integrity: Unchanged since 1991 survey.

Habitat description: Woodland habitat described as 'severely storm damaged' in the 1991 survey. Stands dominated by Beech, with some Ash, Sycamore and Sweet Chestnut. Some dead wood, including large Beech boles, is present, and the woodland has a generally open canopy with no evidence of any recent regeneration by any woody species. Sheep grazing adjacent fields had access to the site at the time of the visit.

Outline management recommendations: Ideally the woodland should be fenced to prevent access by grazing animals. Natural regeneration may be encouraged as a result, though introductions of suitable woody species would increase the diversity of the community. An increase in the amount of dead wood should be encouraged.

Site name: Yalberton Stream.

Site Reference Number: 52

Site designation: Local Wildlife Site.

Boundary integrity: Unchanged since 1991 survey.

Habitat description: Small stream with associated bankside vegetation, including woodland along part of its northern section. An area of land described in 1991 as 'wasteland', and now covered with developing scrub/woodland, lies along the north eastern boundary of the site, though is not currently included within the wildlife site.

Outline management recommendations: There are no immediate management priorities, though the area of 'wasteland' should be considered for inclusion within this wildlife site, due to its structural diversity and potential as an important local woodland. It should be noted that at the time of the 1998 review the water in Yalberton Stream was considerably polluted as it left the industrial estate. This is likely to be highly detrimental to the aquatic ecosystem for a considerable distance downstream.

Site name: Clennon Woods.

Site Reference Number: 54

Site designation: County Wildlife Site.

Boundary integrity: Unchanged since 1991 survey.

Habitat description: Diverse range of woodland habitats including wet valley and mixed Ash/Oak woodland, with an small area of species rich calcareous grassland on the summit of the hill in the northern part of the site.

Outline management recommendations: The grassland is currently being managed by removal of scrub and the prevention of further encroachment by woody species. Being the most valuable community on site it is important to ensure that the grassland is maintained by an appropriate grazing or cutting regime. As the site is owned by the Whitley Conservation Trust it is assumed that current management recommendations have already addressed this issue. The woodland habitats can generally be left to develop naturally in the immediate future, though monitoring of stands may be eventually required.

Site name: Clennon Ponds.

Site Reference Number: 55

Site designation: Local Wildlife Site.

Boundary integrity: Unchanged since 1991 survey.

Habitat description: Open fresh water with marginal tall herb vegetation, grassland and scrub.

Outline management recommendations: A large amount of open water remains in all ponds at this site, and there are no immediate management priorities. It is recommended however that if not already in place, a management plan for the site is formulated within the next five to ten years, as by this time it may be necessary to clear some areas of emergent vegetation.

Site name: Torbay and Dartmouth railway.

Site Reference Number: 57

Site designation: County Wildlife Site.

Boundary integrity: Unchanged since 1991 survey.

Habitat description: Species rich grassland and an important wildlife corridor.

Outline management recommendations: As access to this site was limited it is difficult to make management recommendations. In 1991 however the site was noted to be of exceptional quality, and observations made from public rights of way during the 1998 review would tend to confirm this. A more detailed survey of site is recommended within the next two years, in order to identify specific management priorities.

Site name: Waddeton Estate Woods.

Site Reference Number: 62

Site designation: Local Wildlife Site.

Boundary integrity: Unchanged since 1991 survey.

Habitat description: Mixed conifer and broadleaved woodland.

Outline management recommendations: These sites could only be surveyed from nearby roads, and therefore it is not possible to provide management recommendations.

Site name: Dartmouth Road.

Site Reference Number: 64

Site designation: Local Wildlife Site.

Boundary integrity: Unchanged since 1991 survey, though it is recommended that the site is enlarged to incorporate the small area of grassland along the western boundary of the site, as has been included in the map provided with this report.

Habitat description: Roadside verge with limestone outcrops and areas of species rich grassland. Abundant scrub cover in places.

Outline management recommendations: On both sides of the road, but especially along the western section, the quality of the grassland communities is being reduced through invasion by woody species, particularly Ash, Buddleja and Bramble. Ideally, management should aim to control woody species within the next few years, so as to prevent a net loss of biodiversity at the site.

Site name: North Broadsands/Blue Waters Drive.

Site Reference Number: 65

Site designation: County Wildlife Site

Boundary integrity: Unchanged since 1991 survey.

Habitat description: Areas of species rich calcareous grassland amongst species poor amenity grassland. Subject to heavy public use over much of the area.

Outline management recommendations: Evidence for recent grassland management was not seen at the time of the site visit. Management of the site should concentrate of an appropriate grazing/cutting regime for the areas of species rich grassland.

Site name: Tor Rocks.

Site Reference Number: 66

Site designation: County Wildlife Site.

Boundary integrity: Unchanged since 1991 survey.

Habitat description: Small area of woodland, the stands dominated by Sycamore.

Outline management recommendations: There are no immediate management priorities at this site.

Site name: Churston Point/Elberry Cove.

Site Reference Number: 68

Site designation: County Wildlife Site.

Boundary integrity: Unchanged since 1991.

Habitat description: Coastal grassland and scrub.

Outline management recommendations: The plant communities at this site appear to be largely self-sustaining, though it may in future be necessary to address the issue of footpath erosion in some locations.

Site name: Churston Cove/Elberry Cove.

Site Reference Number: 69

Site designation: County Wildlife Site.

Boundary integrity: Unchanged since 1991.

Habitat description: Coastal scrub/woodland and calcareous grassland.

Outline management recommendations: Scrub encroachment into open grassland areas on the summit of Fishcombe Point is of immediate concern, as this will lead to the loss of important

grassland communities. A population of *Sorbus porrigentiformis* is present in the coastal scrub/woodland in the vicinity of Fishcombe Point, and is of both national and international conservation significance. Ideally this population should be monitored to ensure that sufficient regeneration niches are available. Scrub control to ensure the survival of the grassland communities in this location should not however be undertaken to the detriment of this *Sorbus* population. Footpath erosion should also be monitored along this section of coastline.

Site name: Galampton Warborough Common.

Site Reference Number: 70

Site designation: County Wildlife Site.

Boundary integrity: Unchanged since 1991.

Habitat description: Species rich grassland with areas of scrub/woodland. Heavily used as public open space.

Outline management recommendations: No specific management recommendations are required at this site, as current management as amenity grassland appears to be sufficient to maintain the grassland communities.

Site name: The Grove.

Site Reference Number: 71

Site designation: County Wildlife Site.

Boundary integrity: Unchanged since 1991 survey.

Habitat description: Area of mixed woodland on ancient woodland site. Stands dominated by varying amounts of Ash, Sycamore, Sweet Chestnut, Beech and conifer species. Field layer diverse in places, with a range of species characteristic of calcareous substrates. Some areas of calcareous grassland are associated with canopy openings. Subject to heavy public use, mainly along footpaths.

Outline management recommendations: The importance of this site has long been recognised, and it is currently being managed by Torbay Council to enhance the overall diversity of the site.

Site name: Manor Farm, Galmpton.

Site Reference Number: 73

Site designation: Local Wildlife Site.

Boundary integrity: Unchanged since 1991 survey.

Habitat description: A mixture of woodland and scrub, with areas of semi-improved and species rich calcareous grassland. A disused lime kiln next to the road at Manor Farm has recently been found to be of importance to local bat species (S. Bevis, Pers. Comm.).

Outline management recommendations: No specific management recommendations are required at this site, though a detailed survey of areas of grassland is desirable, as access permission was not obtained during the 1998 review.

Site name: Churston Railway Line.

Site Reference Number: 75

Site designation: County Wildlife Site.

Boundary integrity: Unchanged since 1991 survey.

Habitat description: Scrub, woodland and grassland along the route of a disused railway line. An important ecological corridor through species poor farmland.

Outline management recommendations: This 2km section of disused railway line provides a mosaic of habitats, which in 1991 were described as being of 'outstanding quality'. Clearance of scrub to maintain open areas of grassland was recommended in 1991, and this continues to be the main management priority for the site. Ideally, a management plan should be formulated to determine the maximum permissible amount of scrub cover at the site, and to maintain this habitat mosaic.

Site name: Berry Head Farm.

Site Reference Number: 77

Site designation: Local Wildlife Site.

Boundary integrity: Unchanged since 1991.

Habitat description: A mosaic of scrub, woodland and grassland habitats, forming an important buffer to the west of Berry Head SSSI.

Outline management recommendations: Much of the site has remained largely unchanged and therefore requires no current management recommendations. The series of fields in the south of the site appear to have been uncut for a number of years. A loss of diversity may result from a lack of grassland management, and therefore it is recommended that the need for management in this area is determined as soon as possible. As two pairs of breeding Cirl Bunting were present in 1998 (RSPB, Pers. Comm.), it is recommended that this is done in consultation with the RSPB. The presence of Cirl Bunting may merit designation of this site as a County Wildlife Site.

Site name: Laywell/New Road.

Site Reference Number: 83

Site designation: Local Wildlife Site.

Boundary integrity: Due to the quality of the area of grassland to the south of the site, an extension to the existing wildlife site is proposed. This is shown on the map provided as part of this report.

Habitat description: Rank unmanaged grassland with extensive stands of Bramble, surrounded by tall hedgerows. An area of Alder woodland runs along the route of a stream, adjacent to New Road.

Outline management recommendations: Current ownership of this site is unknown, but it represents a valuable local wildlife resource which should ideally be protected. It is recommended that attempts made to secure the future of this site, including extending the site boundary as described above.

Site name: Mudstone Lane.

Site Reference Number: 84

Site designation: Local Wildlife Site.

Boundary integrity: Unchanged since 1991 survey.

Habitat description: Species poor grassland with some scrub/woodland. Marled White butterflies were recorded as using the field in the 1991 survey.

Outline management recommendations: No specific management recommendations, though a survey at an appropriate time of year is desirable to evaluate the continued importance of the site for butterfly species.

Site name: Yards Lane.

Site Reference Number: 85

Site designation: Local Wildlife Site.

Boundary integrity: Unchanged since 1991.

Habitat description: Semi-improved pasture and species rich lanes. Many fields currently used for horse grazing.

Outline management recommendations: No specific management recommendations, though the presence of 5 breeding pairs of Cirl Bunting in 1998 (RSPB, Pers. Comm.) could merit designation of this site as a County Wildlife Site.

Site name: Sharkham Point.

Site Reference Number: 86

Site designation: County Wildlife Site.

Boundary integrity: Unchanged since 1991 survey.

Habitat description: Mosaic of coastal grassland, scrub and cliff communities. An area of grassland is currently managed as a 'nature conservation grassland' by Torbay Council. A network of footpaths cross the site, which in places receives heavy recreational use.

Outline management recommendations: Management should control scrub invasion into grassland and control footpath erosion. The presence of breeding Cirl Bunting in 1998 (RSPB, Pers. Comm.) means that management should be undertaken in consultation with the RSPB.

3.5 Additional sites not included in the 1998 review

A limited period in which to undertake the review meant that some sites were not surveyed on this occasion. Given the importance of Torbay for populations of Cirl Bunting, additional information on this species was obtained from the RSPB. Records for breeding territories in 1998 show that a number of additional wildlife sites are important for this species:

Maidencombe, Site Ref. No. 1: Currently a County Wildlife Site, and still known to hold breeding pairs of Cirl Bunting during 1998 (RSPB, Pers. Comm.).

Smalldon lane/Esterfield Lane, Site Ref. No. 9: Currently a County Wildlife Site, and still known to hold breeding pairs of Cirl Bunting during 1998 (RSPB, Pers. Comm.).

Cockington, Site Ref. No. 25: Currently a Local Wildlife Site, though the presence of 5 pairs of Cirl Bunting in 1998 could merit designation as a County Wildlife Site.

3.6 Conclusions

This review has revealed the continued presence of important wildlife sites throughout Torbay, including extensive areas of woodland and scrub, nationally important areas of species-rich grassland, coastal habitats, and many species with a nationally restricted distribution. This wildlife resource requires recognition and promotion as one of the major attractions of the area. This requires not only effective site safeguard but, in many cases appropriate and on going habitat management. The value of the species rich grasslands in particular may be lost if this issue is not addressed. A more detailed survey of some sites during the spring and summer would provide additional information of value in this process.

Further losses of habitat of importance to breeding Cirl Bunting should be prevented in future, and partnerships between Torbay Council and conservation organisations encouraged to achieve these aims.

REFERENCES

Devon Wildlife Trust (1991) *Torbay Wildlife Survey.*

Ivemey-Cook, R. B. (1984) *Atlas of the Devon Flora.* University of Exeter.

Stace, C. (1991) *New Flora of the British Isles.* Cambridge University Press, Cambridge.

TORBAY WILDLIFE SITE REVIEW 1998

KEY TO MAPS

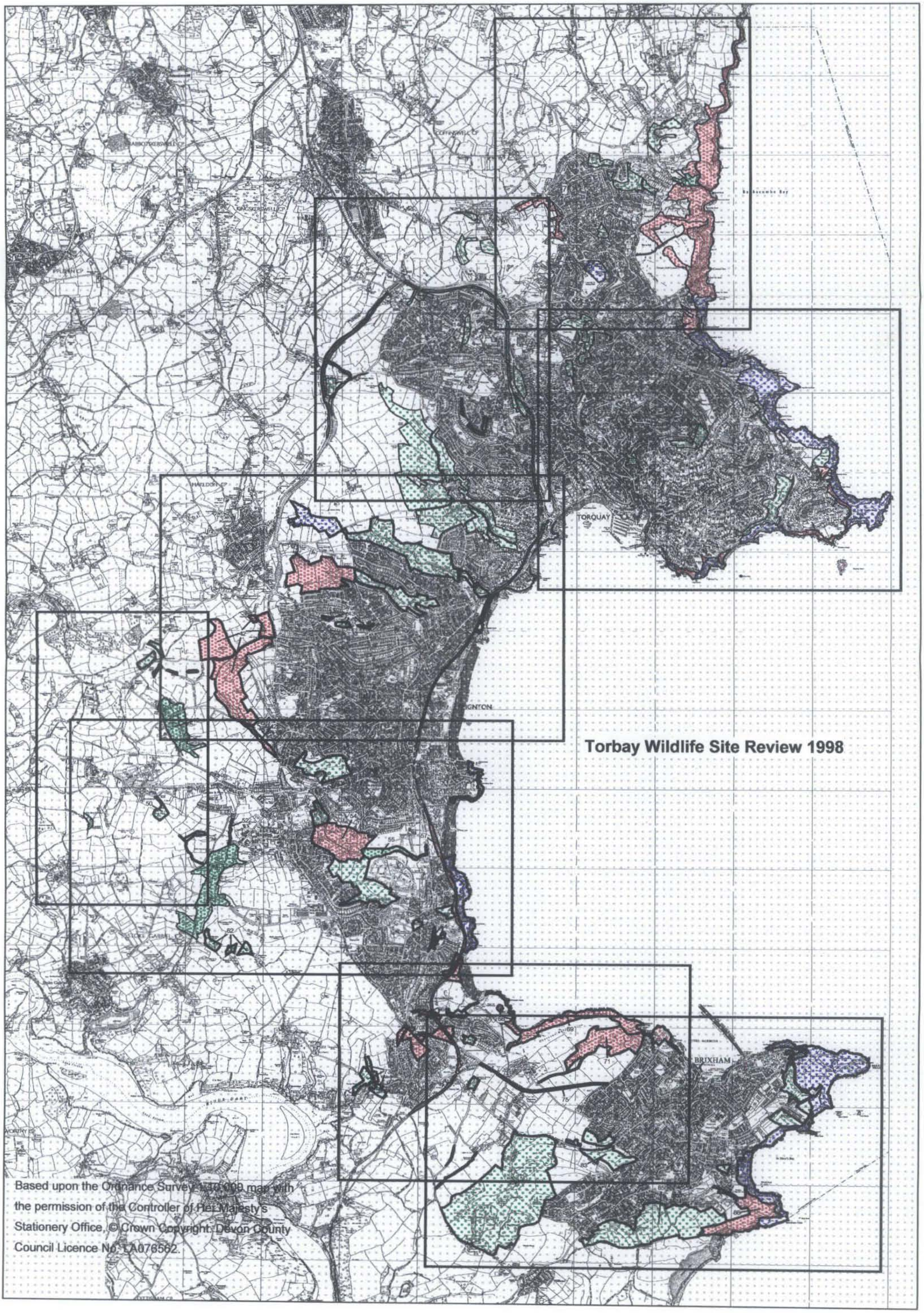
SITE OF SPECIAL SCIENTIFIC INTEREST — Blue dots

COUNTY WILDLIFE SITE — Red strips

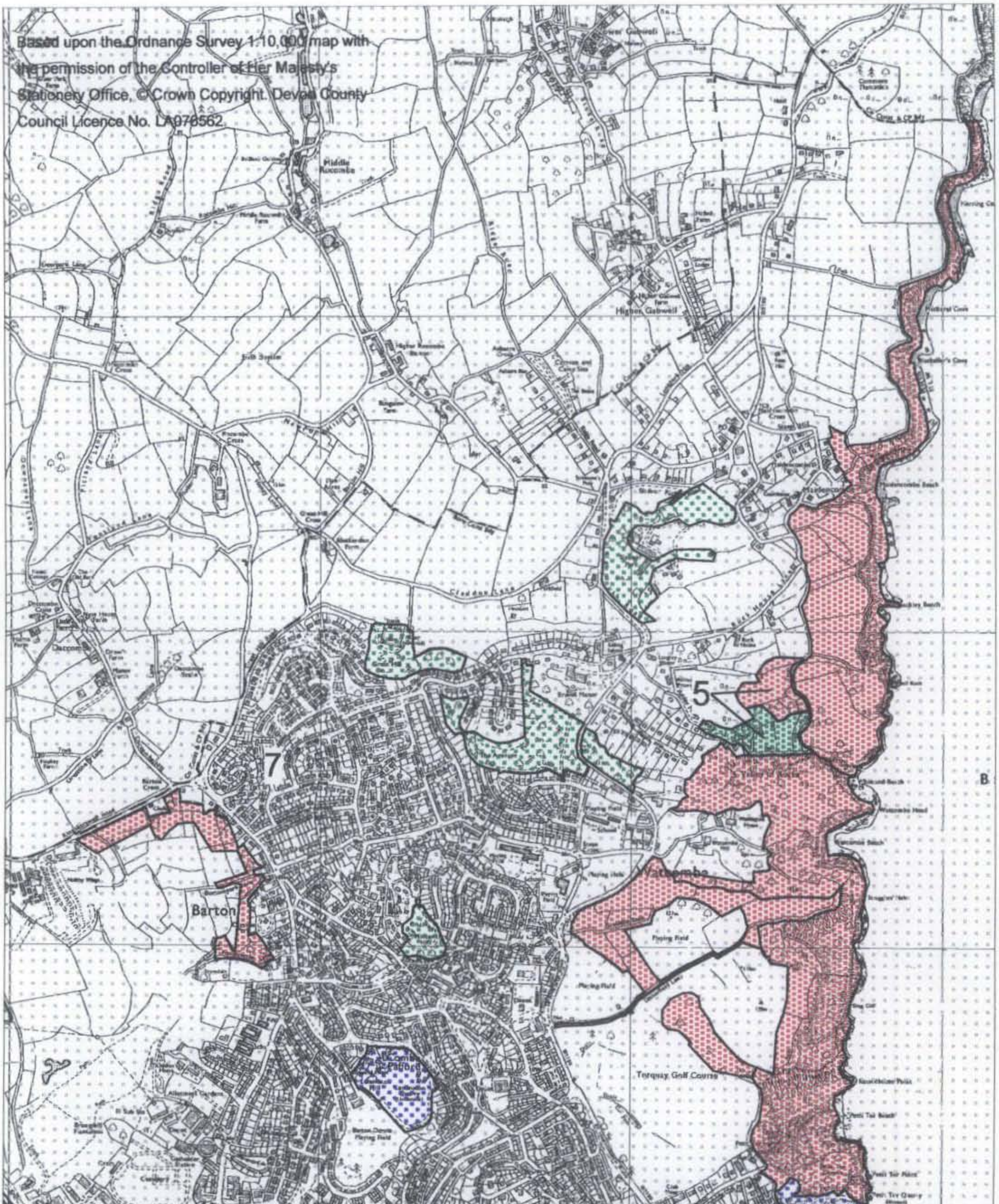
LOCAL WILDLIFE SITE — Green wash

Candidate SAC/SSSI — Yellow wash

Proposed reassessment/denotification — Magenta wash



Torbay Wildlife Site Review 1998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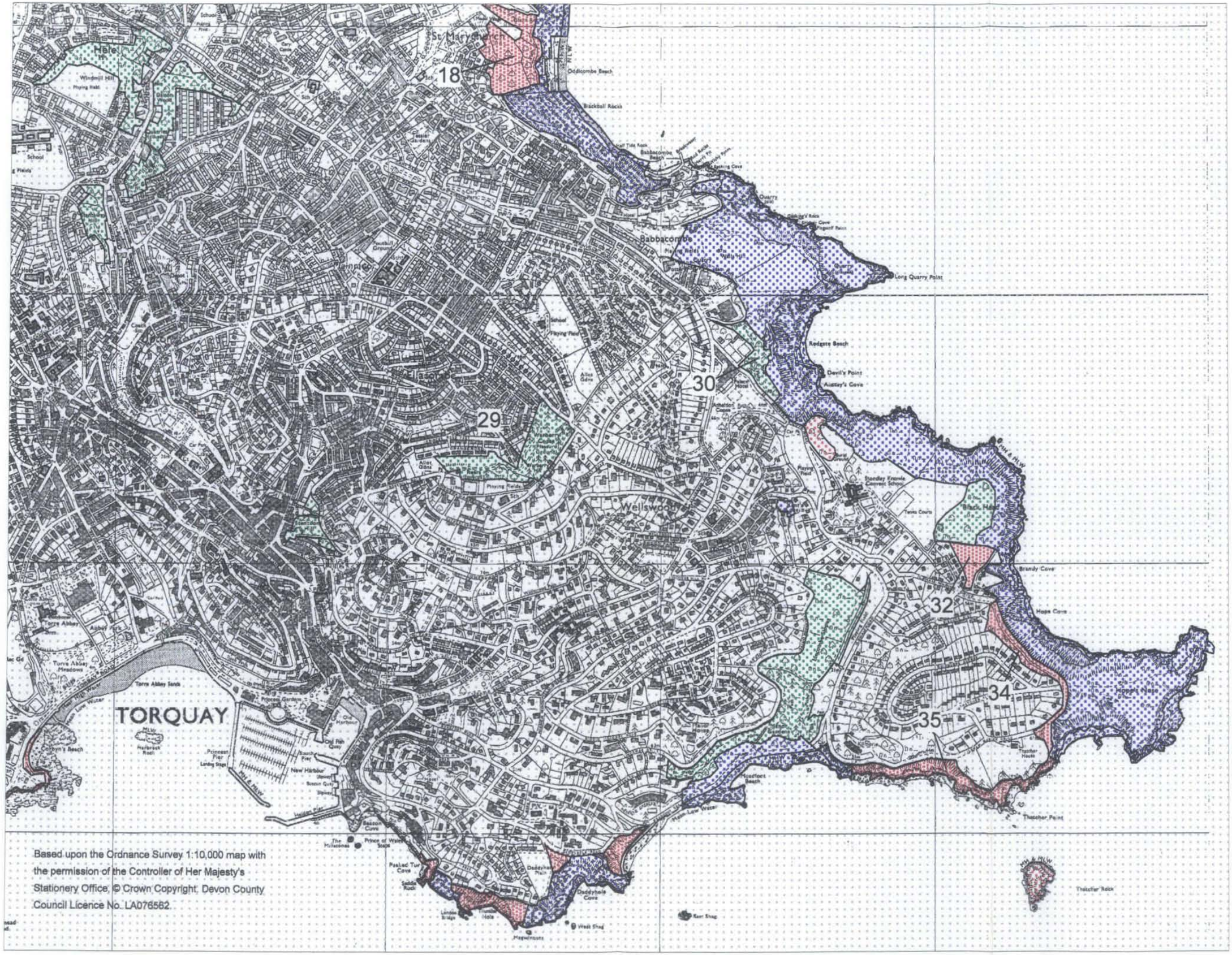
B
Barton
Torquay Golf Course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TORQUAY
Babbacombe
Wellswood
St Marychurch
Oldcombe Beach
Babbacombe Beach
Long Quarry Point
Redgate Beach
Devil's Point
Abbey's Cove
Black Head
Brandy Cove
Hope Cove
Thatcher Point
Thatcher Rock
Torre Abbey Meadows
Torre Abbey Sands
Princess Gardens
Princess Pier
Old Fish Quay
New Harbour
Beacon Quay
Beacon Cove
Daddyhole Plain
Daddyhole Cove
Meadfoot Beach
Torbay Road
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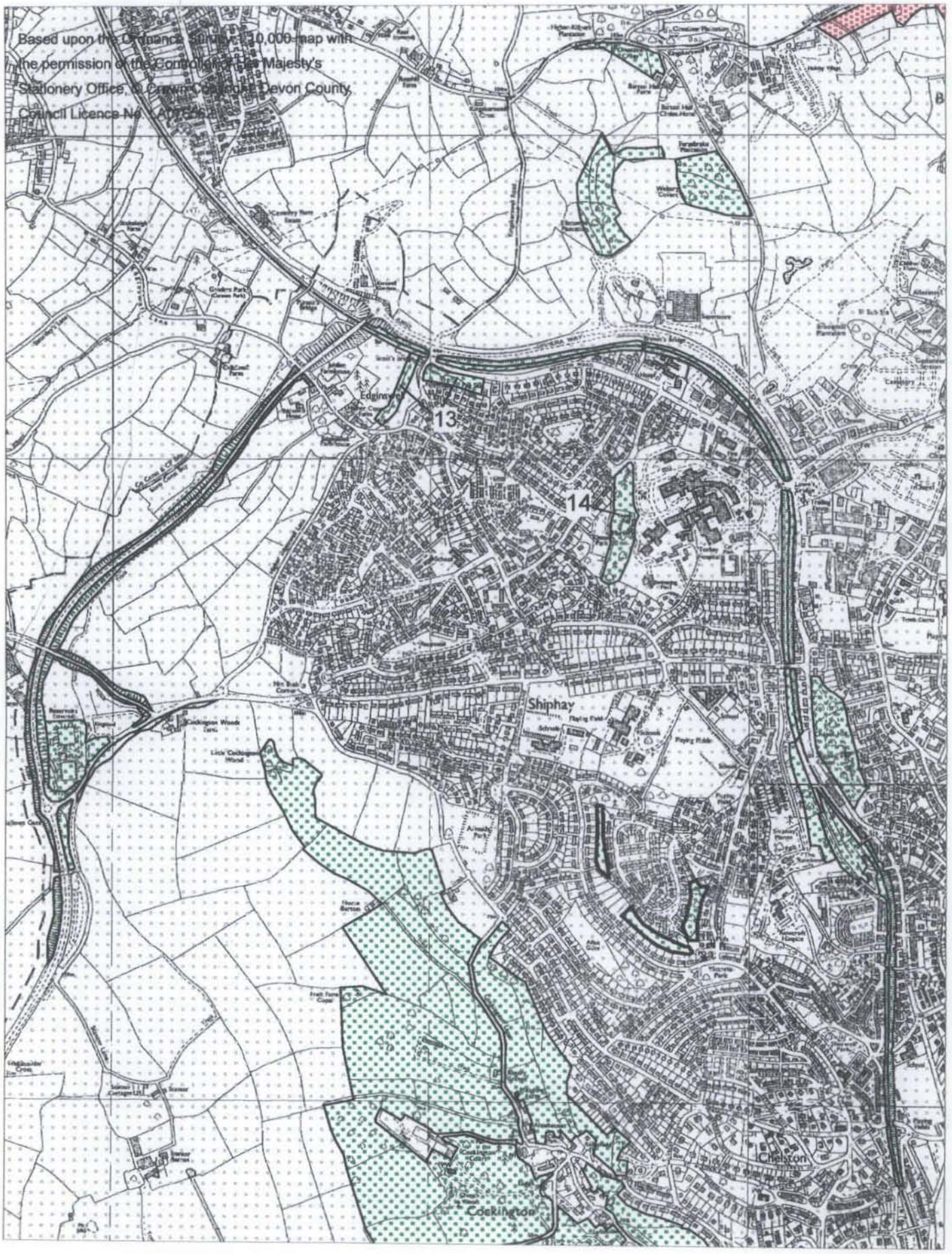
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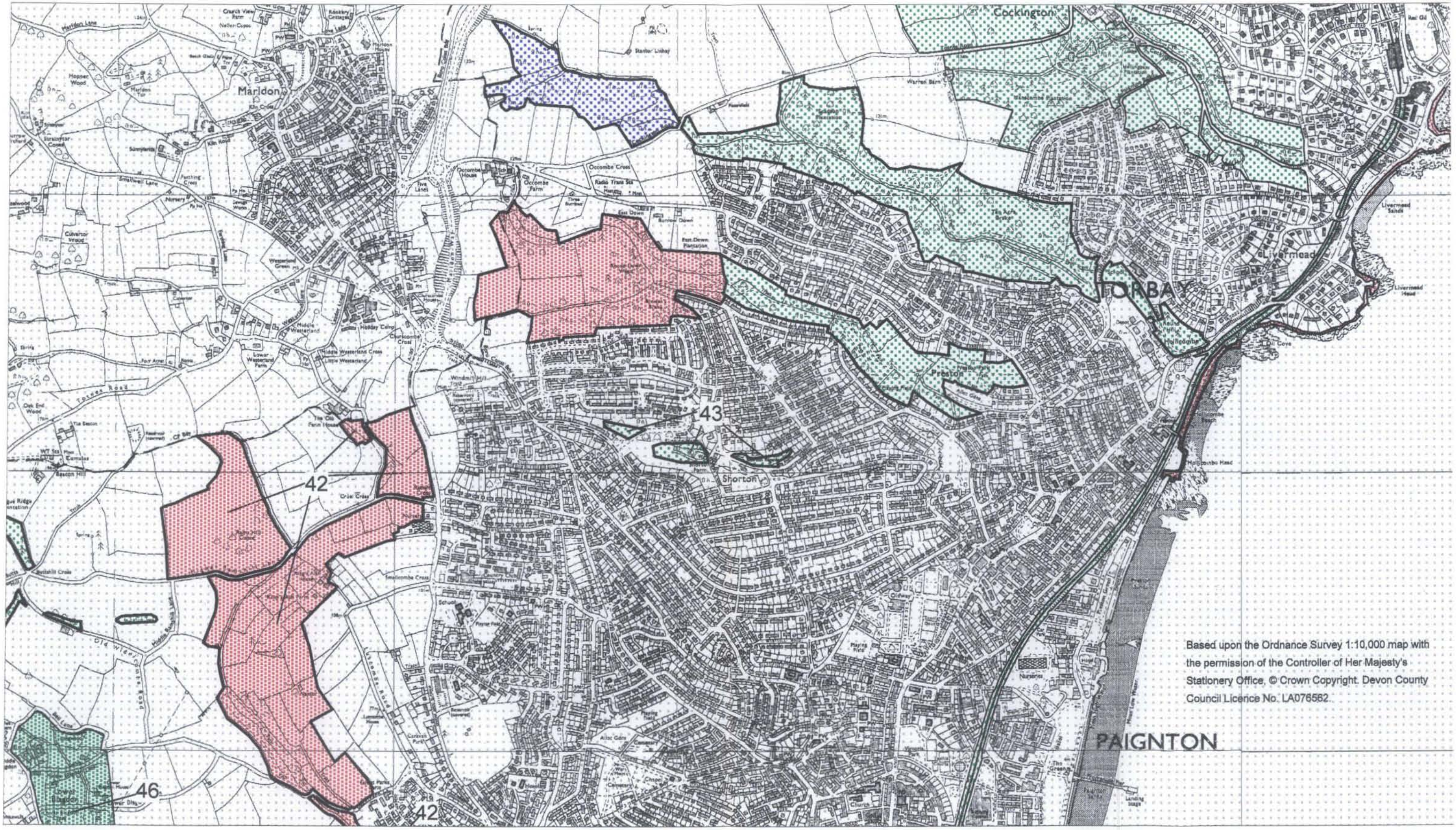
Shiphay
Chelston
Cockington


Marldon
Cockington
TORBAY
Livermead
Preston
Shorton
PAIGNTON
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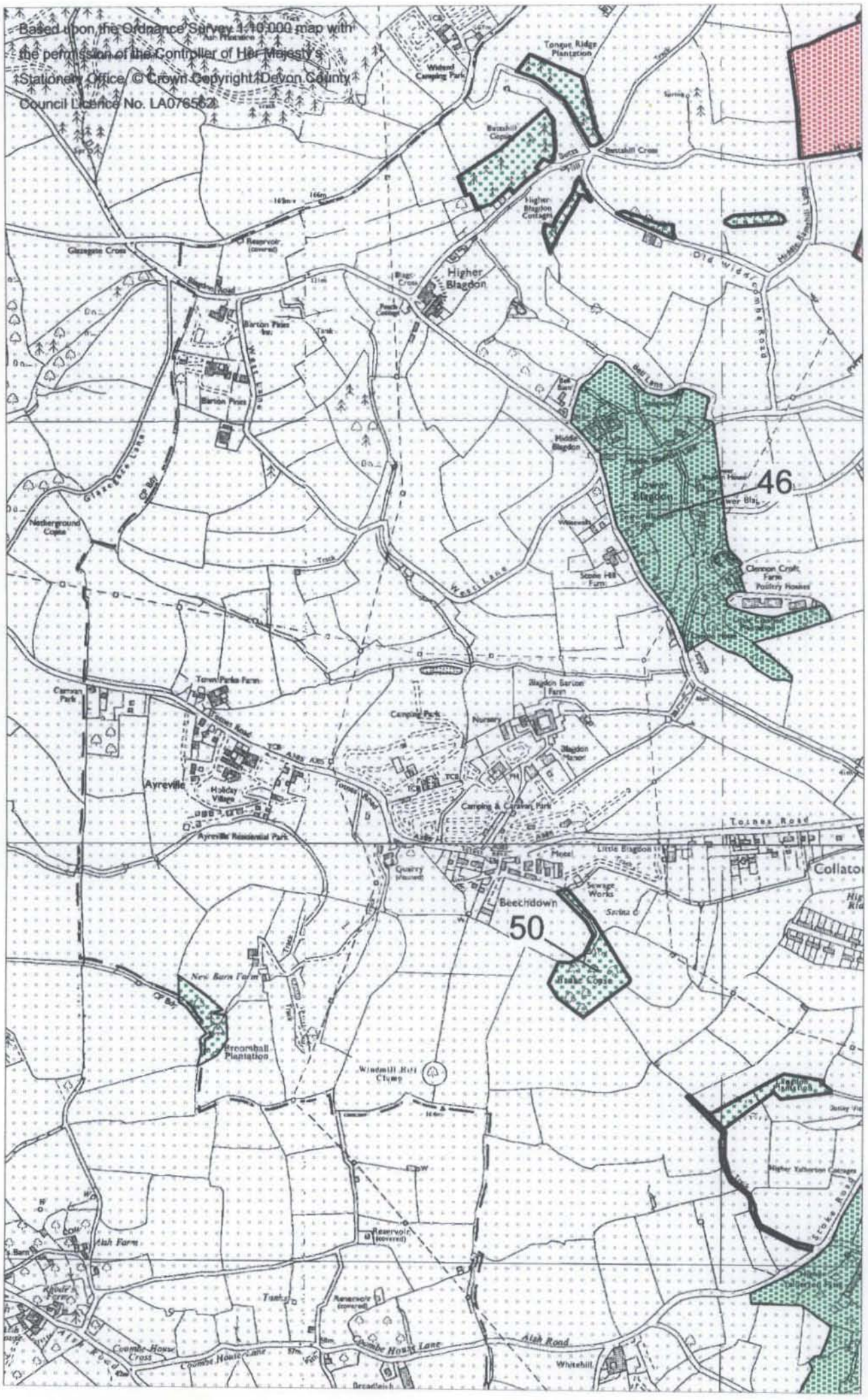
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Higher Blagdon
Middle Blagdon
Lower Blagdon
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Beechdown
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Ayreville
Holiday Village
Ayreville Residential Park
Blagdon Barton Farm
Blagdon Manor
Camping & Caravan Park
Torbay Road
Little Blagdon
Sewage Works
Windmill Hill
Combe House Lane
Ash Road
Whitehill
Broadleigh
Higher Yalberton Cottages
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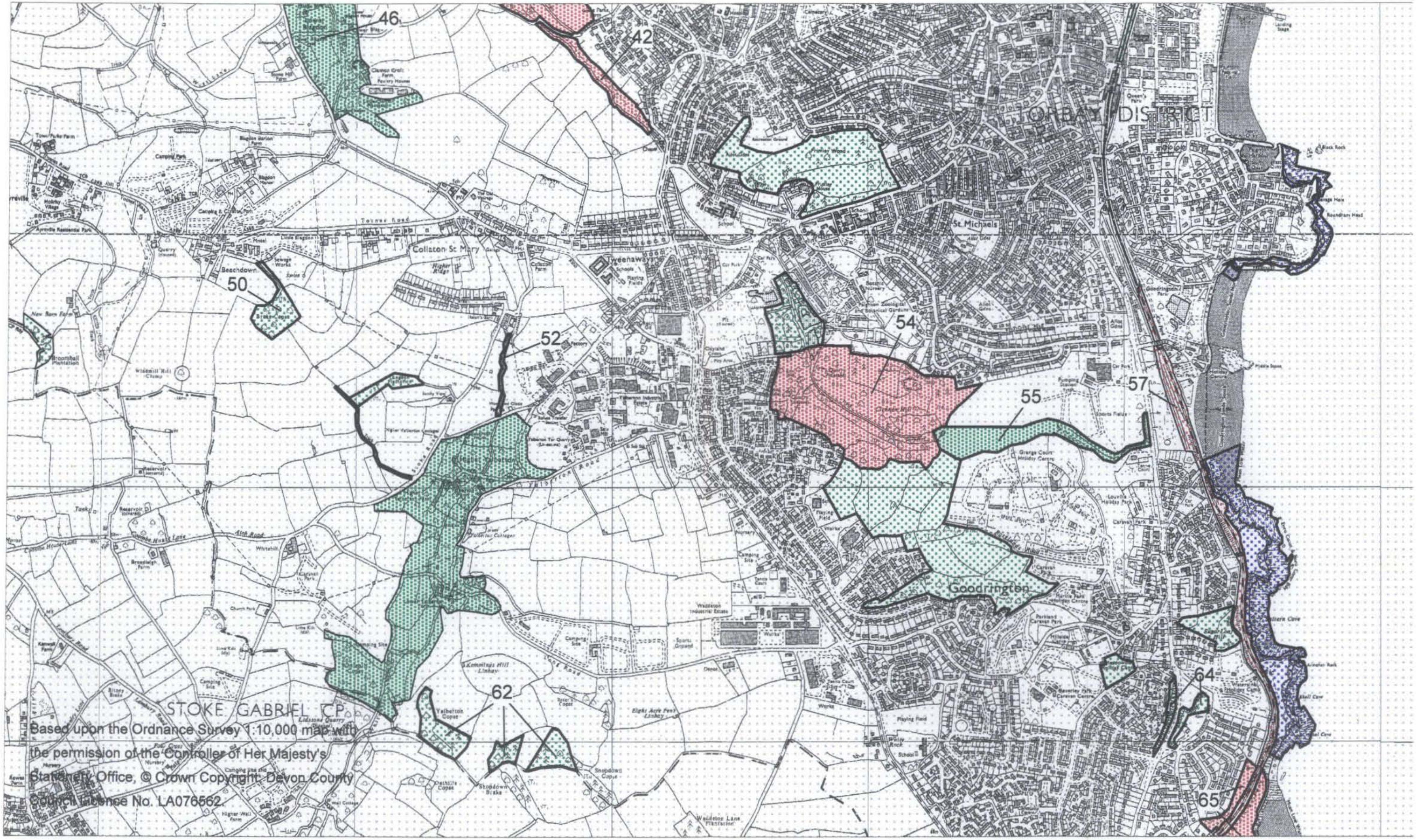
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TORBAY DISTRICT
Collaton St Mary
St Michaels
Goodrington
STOKE GABRIEL CP
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Broadsands

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Galmpton

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