The Development of Strategic Guidance for Jetties and Slipways within the Poole Harbour SPA

Report from JUST ECOLOGY to ENGLISH NATURE

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1.0 EXECUTIVE SUMMARY

1) The study was conducted in order to assist English Nature in responding to planning applications for jetty and slipway construction along the North Shore of Poole Harbour. The Harbour is protected under national and European legislation/agreements (SSSI, SPA and Ramsar) because it is a key site for coastal waterfowl, supporting in excess of 23,000 waterfowl each year.
2) English Nature has an obligation to protect the integrity of the Poole Harbour SPA, ensuring that there is no deterioration of the Harbour that prevents the site from supporting the bird populations for which it was designated. The purpose of this study is so that English Nature can develop a more strategic approach to statutory consultations for jetties and slipways in the Harbour, can be consistent and guard against any overall adverse effect on the SPA.
3) Survey methodology included a desk study and consultation with English Nature and key stakeholders, and a field study to map the habitats, land use and bird usage along the North Shore. Bird surveys were conducted to identify areas of high importance to winter waterfowl with emphasis on species of International and National importance. Records were made of bird use within sectors selected according to habitat type and land use and potential disturbance factors. Initially a total of sixteen sectors were identified.
4) Bird surveys were conducted to investigate how the foreshore is used by key species of waterfowl in relation to existing jetties and slipways, and therefore disturbance factors. The aim was to identify the relative importance of intertidal areas to waterfowl at all stages of the tidal cycle, with emphasis on:
    - The main roosting/loafing/feeding sites (including species composition, numbers and duration of use)
    - The influence of disturbance on where birds chose to feed and roost *etc.* and the routes they take around and along the North Shore
    - Identification and location of waterfowl feeding/roosting/loafing on or close to jetties and slipways
    - Disturbance factors and frequency
    - Evidence of jetties and slipways that impede waterfowl usage
5) The survey was conducted between 23rd January – 9th February 2003 to cover weekends and weekdays, throughout the tidal cycle. Two recording forms were designed; one intended to identify main feeding/roosting/loafing sites and movement between sectors, with another aiming to identify disturbance factors and interaction with jetties and slipways.
6) The sixteen sectors/sub-sectors identified by English Nature and Just Ecology used for the bird survey have subsequently been further divided to create a total of twenty sub-sectors following the survey. This is due to recognition of further habitat differences while conducting the survey.

7) The results have indicated that of the twenty sub-sectors, six of them are of high importance or value to key species of waterfowl, nine are of moderate value, and five are of lower value. Key species of waterfowl using the upper beach habitat, *i.e.* potentially near to where jetties and slipways are present, were recorded feeding and roosting in sub-sector C1 (Parkstone/Blue Lagoon), and roosting in sub-sector D2 (Baiter). Most activity, however, was recorded in the intertidal habitat for the other sub-sectors, away from any current jetty/slipway structures.

8) Disturbance was low during the survey and affected mainly non-key species, *i.e.* gulls. Some waterfowl were noted actively avoiding jetties and slipways (and groynes) at Hamworthy and Lilliput, whereas in other sectors (Baiter and parts of Blue Lagoon), jetties and slipways did not appear to discourage waterfowl activities. This may as a result of decreased disturbance due to the time of year, or an increase in the tolerance to disturbance of certain species of waterfowl in these areas.

9) The sub-sectors have been assigned to a policy category ('Policy Area') according to their value to key species of waterfowl, *i.e.* the number of key species of waterfowl recorded using the sectors, and level of disturbance, and also their role in maintaining the integrity of Poole Harbour SPA. The Policy areas are as follows:
    - Policy area 1 (Objection Policy)
    - Policy area 2 (No Objection subject to Conditions Policy)
    - Policy area 3 (No objection Policy)

    The sub-sectors of high value to waterfowl are covered by Policy 1 and include Baiter (D1 and D2), and sub-sectors of moderate value to waterfowl are covered by Policy 2 and include Blue Lagoon/Parkstone Bay (C1, C2 and C3), and the sub-sectors of low value to waterfowl are covered by Policy 3 and include parts of South Sandbanks (A1 and A3).
10) The policies were developed with the following objectives in mind: to streamline English Nature's responses to statutory consultations, and provide a clear indication of English Nature's position with regard to jetty and slipway development along the North Shore. The aims of the policy development are to:
    - Prevent adverse impacts on Poole Harbour SPA whereby its integrity is affected
    - Ensure that English Nature's advice is consistent
11) The policy development involved referring to the following existing policies in order to assess the overall impacts, and significance of those impacts resulting from shore-line development within a Policy area: Department of the Environment Planning Policy Guidance Notes 9 Nature Conservation, and English Nature's advice given under Regulation 33 (2) of the Conservation (Natural Habitats &c.) Regulations 1994 for Poole Harbour European marine site. The policies have been developed to identify areas where new jetties and slipways would affect the integrity of the SPA, areas where new jetties and slipways would not impact upon the integrity of the SPA providing mitigation measures are implemented, and areas where the removal or modification of existing jetties and slipways would benefit the SPA.
12) The policies refer to the character and sensitivity (their importance to waterfowl) of each Policy area and address the potential impact to the SPA, potential for mitigation measures/conditions to offset the negative impacts, and the likely response from English Nature to a proposed development within a Policy area.
13) Although not all parts of the North Shore could be accessed, the research has proved useful in identifying sectors along the North Shore that are valuable to key species of waterfowl and that are potentially sensitive to further development, which may impact negatively upon the integrity of the SPA. A wide range of total numbers of waterfowl was recorded ranging from 700+ to just a few individuals, indicating definite areas of favoured habitat. Policy area boundaries have been defined, as accurately as is possible at this stage, although it is considered likely that future manipulation of these boundaries may be required following further research and investigation.
14) Along with the adoption of these policies, it is suggested that in order to protect the integrity of the SPA, existing structures should be examined and removed or shortened where evidence suggests they are impacting negatively on the integrity of the SPA. Also shoreline households should be discouraged from desiring individual jetties and slipways, and encouraged to share structures instead.
15) Detailed policy statements are provided as well as best practice guidance for jetty and slipway developments.

2.0 INTRODUCTION

2.1 Background

Poole Harbour, situated on the southern coast of England, is an estuarine site with extensive areas of mudflats, saltmarsh and reedbed that support internationally important numbers of migratory, over-wintering and breeding wildfowl and waders (collectively termed 'waterfowl'). Recent estimates indicate that the Harbour supports an average of c. 28,000 wintering waterfowl overall, making it one of the very best of the estuarine sites in the UK (Stroud *et al.* 2001). Largely for its bird populations, the Harbour is designated as a Site of Special Scientific Interest (SSSI) under the Wildlife & Countryside Act 1981 (as amended), as a Special Protection Area (SPA) under the EC Birds Directive and is listed as a Ramsar site under the Ramsar Convention. It is thus both nationally and internationally recognised as a key site for coastal waterfowl.

Some parts of Poole Harbour are subject to considerable development pressure, including, quite often, proposals for new or replacement jetties and slipways from which to launch boats. Some such developments have public access, though often they are associated with private dwellings. Nowhere is such development more apparent than on the North Shore of Poole Harbour, which is an area characterised by residential, recreational and industrial development and is distinctly different in character from the less-developed south and west shores and the islands. Of increasing concern is that new jetties and slipways (and other such structures) have the potential to impact on the way that birds use Poole Harbour and, in combination, these projects may adversely effect the integrity of the SPA.

English Nature is a key statutory consultee on any development proposals that may impact on Poole Harbour, including individual applications for planning permission, Poole Harbour Commissioner licenses and FEPA licenses. In considering these, EN has a legal responsibility to protect the integrity of the Poole Harbour SPA; there must be no deterioration that prevents the site from supporting the bird populations for which it was designated. EN responds to applications on a site-by-site basis at present but seeks to develop a more strategic approach to statutory consultations for jetties and slipways in the Harbour. The aim is to provide clear guidance to potential developers, to be consistent and, ultimately, to guard against any overall adverse effect on the SPA. This is the overall purpose of this contract.

2.2 Objectives and report content

JUST ECOLOGY was commissioned by English Nature to:

- Carry out research into jetty and slipway development within specific areas on the North Shore of Poole Harbour
- Assess bird usage within these areas and therefore the potential for conflict between birds and jetty/slipway development
- To develop strategic guidance and area specific policies with a view to protecting the integrity of the SPA

The areas of study, as defined by EN, are shown in Figure 2.1. Eight areas of shoreline were included, from Sandbanks in the east to Lytchett Bay in the west. These areas were assigned names for ease of reference in the text that follows (see also Figure 2.1).

The results of our work are reported here with Chapter 3 presenting development/disturbance characterisation work; Chapter 4 summarising bird usage information; and Chapter 5 the work on policy and guidance. Overall discussion, conclusions and recommendation are presented in Chapter 6. Detailed policy statements are included within the appendices to this report.

3.0 DEVELOPMENT & DISTURBANCE CHARACTERISATION

3.1 Introduction

The end point of this research is appropriate policy for jetty and slipway development that would distinguish between areas of varying importance for Poole Harbour's bird populations and actual and potential jetty/slipway development. It follows that it is important to have an understanding of the distribution of birds within the Harbour (in our case the North Shore only) and this is the subject of Chapter 4 in this report. It follows also that it is important to consider differences in the relative degree of disturbance to birds in various parts of the Harbour, since this is likely to be an important factor influencing bird utilisation and policy application. For example, it would be inappropriate to strictly object to jetty/slipway development in an area of Poole Harbour that cannot in fact be utilised by the birds on account of repeated disturbance from another source. Thus, disturbance characterisation was considered important, as too was information on the current extent of jetty/slipway development and the potential for new developments of this kind.

3.2 Methods

Desk study, consultation and field survey were the methods deployed to carry out this part of the research. We consulted with English Nature and a defined group of 'key stakeholders'[1] in order to gather published or unpublished information that related to habitats, land-use or development in Poole Harbour, though, in fact, only a small amount such information was available (Ordnance Survey data; aerial photographs from 1997; some published work – *e.g.* Gray 1985). We therefore proceeded with field survey to gather relevant information and two JUST ECOLOGY surveyors undertook this survey on 28th and 29th November 2002.

The primary objective for the field survey was to map the current extent of foreshore developments and the positions of jetties and slipways. Importantly, we used a GPS unit (accurate to 3m) to record the positions of all jetties/slipways that could be accessed (many couldn't because they were located on private land) and this information was combined with locations from maps and aerial images (which were verified in the field) to produce a current picture of the extent of jetty/slipway development in the North Shore study areas. For jetties/slipways, which we could access in the field we also:

- Assigned each a unique code
- Classified as public/private
- Recorded type, *i.e.* description of construction materials
- Recorded any evidence of bird usage

During the field survey we also took the opportunity to record other habitat or land-use information, as follows:

Land use	Classification of land immediately inland of shoreline (to 50m)	Categories: Industrial; Residential; Recreational; Agricultural; Nature Conservation; Other (specified)
	Positions of public access points, marinas, boat yards *etc.*	
Shoreline	Classification of shoreline edge	Hard shore categories: Walling; Sheet piling; Gabions; Other (specified). Soft shore categories: Saltmarsh; Reedbed/wetland; sand; shingle; other (specified)

[1] Dorset Bird Club; Dorset Environmental Records Centre; Dorset Wildlife Trust; Poole Harbour Commissioners; Poole Harbour Study Group; Royal Society for the Protection of Birds.

Intertidal	Assessment of relative exposure	Categories: Exposed; Moderately exposed; Sheltered; Very sheltered
	Recording of substrate type	Categories: Boulders, shingle, sand, muddy sand, sandy mud, mud, *Spartina* marsh, upper salt marsh, reed
Disturbance potential	Evidence of use per inland, intertidal and offshore zone	Categories: Anglers; Jet skiers; Yachts and boats; Scuba divers; Wind surfers; Wildfowlers; General public (walkers, dog walkers *etc.*)
	Ranking of disturbance levels per sector	Categories: High; Medium; Low.

After field survey, these data were transferred to a purposely built MapInfo GIS application and associated databases and used together with information from other sources (*e.g.* aerial photographs, OS data, published studies *etc.*) to produce an up-to-date disturbance and development profile for the North Shore of the Harbour. Sectors of relative similarity were defined, with these being adopted for the bird use evaluations presented in Chapter 4. Fixed-point digital photography was used to make a record of the current characteristics of each sector/sub-sector (*i.e.* land use, habitats, jetty/slipway development) as a baseline for future recording.

3.3 Habitats, land use and development overview

Poole Harbour is a bar-built estuary of nearly 4000 ha, with some 83km of shoreline (Stroud *et al.* 2001). The unusual micro-tidal regime (with a double high water, small tidal range *etc.*) means that a significant body of water is retained throughout the tidal cycle. The Harbour therefore exhibits many of the characteristics of a lagoon. Two, low-lying sandy spits mark the Harbour entrance, with the western spit comprising of dune heathland and the eastern one (Sandbanks Spit) supporting extensive recreational and residential development.

Approximately 80% of the Harbour area comprises intertidal fine-grained mud and sand flats and, away from the North Shore that has become urbanised through the growth of the town of Poole, there are fringes of saltmarsh and reedbed (Gray 1985). Five islands are to be found in the Harbour, by far the largest of which is Brownsea Island. The Harbour contains a great variety of shorelines types ranging from reed- and marsh-covered mudflats to sandflats and shingle beaches.

Away from the North Shore of the Harbour, agriculture, nature conservation and forestry are the major land use types along the shoreline, with small pockets of recreational and industrial land use types also (Gray 1985). This contrasts with the North Shore where residential, recreational and industrial land uses predominate. As a consequence the North Shore of the Harbour is where the vast majority of jetties and slipways are found, with public jetties/slipways associated with the main recreational areas and private jetties/slipways associated with the more prestigious of the residential areas.

3.4 Area-by-area overviews

In an earlier study, Poole Harbour was divided into 13 areas for the purposes of describing habitats, land-use and bird use (Gray 1985), with five units covering the North Shore areas adopted for our own study. In Figure 2.1 we show the relationship between Gray's divisions (in blue) and English Nature's study sectors (in red) and now provide area-by-area accounts based on this earlier study, our field survey results and information from other sources. We propose some further divisions of the sectors into sub-sectors to arrive at areas that are relatively similar in character with respect to jetty and slipway development (actual and potential) and associated levels of disturbance.

3.4.1 Sandbanks

Almost the entire shoreline of this wide sandy bay is protected by concrete or stone embankments. A small area of saltmarsh is a remnant of more extensive marsh in this area. Flanked by two large yacht clubs, the

bay enclosed by the Sandbanks peninsula is a focus for water-based recreation. The intertidal area is used for mooring pleasure craft, and the beach is used a lot by day-trippers and local residents. The main part of the Bay is designated as a windsurfing zone. Large numbers of people are attracted to Sandbanks throughout the year. Consequently, this section of shoreline is one where people and birds interact to an unusually large degree (Gray 1985).

Two sectors of shoreline within Sandbanks were identified for study by English Nature: South Sandbanks and Lilliput. South Sandbanks is a predominantly residential and recreational area (Figure 3.1a) with a relatively narrow sandy and shingly beach, with restricted public access. There is a relatively high density of jetties/slipways associated with the private gardens present, especially on the northern shoreline (Figure 3.1b). With the Royal Motor Yacht Club to the north of this stretch plus other clubs/marinas, there is much potential for bird-people interactions. The central boat yard and yacht club divides the sector into a mostly residential, more southerly part and a mostly recreational more northerly part, though each has relatively high disturbance potential (from people, boats, yachts and ferries). Two sub-sectors are proposed (A1 and A2) on account of these differences (see Figure 3.6).

At the northern extreme of the Sandbanks area is Lilliput, lying south-east of the Poole Harbour Yacht Club Marina. Private residences flank the beach in this area (Figure 3.1a). In this sector there is a wide firm sand beach giving way to a boulder strewn and, in places, muddy beach extending towards the East Dorset Sailing Club. Much of the upper limit of this shore is marked by private gardens, small sea walls and a low density of jetties and slipways (Figure 3.1b). Some disturbance to birds from the gardens and the sailing clubs appears inevitable in this area. The sector is relatively uniform in character.

3.4.2 Parkstone

The shoreline from Poole Quay (west) to the Poole Harbour Yacht Club Marina (east) includes the two embayments of Parkstone Bay and the Blue Lagoon. Apart from these bays the intertidal fringe is narrow and exposed for relatively short periods. The variable substrates include gravels in the east to fine sands and muds in the west. There is an abundance of artificial embankments, comprised of loose rock, stone and concrete faced walls, metal pylons and gabions.

Within the Parkstone unit, the Blue Lagoon and the south-east of Parkstone Bay were identified for study by English Nature (Figure 2.1). The Blue Lagoon area is surrounded by residential properties (Figure 3.2a) and contains much *Spartina* marsh. On the western shore, there is a high density of jetties/slipways but few elsewhere, either within the lagoon or outside of it (Figure 3.2b). Although there is a high density of jetties in this area, the jetties are small, fairly short and simple structures associated with the residential houses along this section of the North Shore. There is a sailing club to the north. To the west of the lagoon entrance, residential properties are protected by concrete and stone walls along a narrow sandy beach with breakwaters (groynes). Towards the western end, only two small jetty structures occur; however, elsewhere no jetties or slipways occur in the area. The western end is this sector is under recreational use with many boats and yachts within a marina. A small number of jetties/slipways occur here. Here, our proposal is to define three sub-sectors (see Figure 3.6): Area C1 representing the lagoon itself (a marshy environment); Area C2 the open beach from the lagoon entrance to the Poole Harbour Yacht Club Marina; and, Area C3 the marina itself and boat yards. Both C1 and C2 areas are likely to be subject to future jetty and slipway proposals, and boats and jet skis use the areas immediately offshore.

A second section of shoreline for survey within Parkstone is Baiter. This narrow intertidal fringe consists mainly of poorly sorted sediments dominated by gravels. In the west, soft muddy sediments are replaced to the east by a flat, firm gravel and mud which gives way to a narrow sandy beach below a low earth cliff. There is a slipway for the public launch of boats at Baiter (Figure 3.2a), with a predominantly industrial land use in the west and recreational land use in the east (*i.e.* large public recreational ground). Very few jetties/slipways exist in the Baiter area but there seems greater potential for them in the recreational than in the industrial sector. We propose to divide the Baiter sector in two to reflect these differences: Area D1 to the west (industrial sector) and Area D2 to the east (recreational sector) (see Figure 3.6).

3.4.3 Holes Bay

Holes Bay is an almost enclosed muddy northern arm of the Harbour, much affected over the years by land reclamation and the spread and subsequent decline of *Spartina* salt marsh. The east shore of the Bay is mainly industrial in character and the west (residential – southern half) or agricultural/ recreational (northern half). The Bay is lined with artificial sea walls, boulder embankments and quay, but transitions to low flood banks and to natural rises in the land occur in western and north-western parts. The shelter of the Bay attracts a large number of boat owners and Cobbs Quay is a focus for boat-building and a marina for larger private pleasure craft.

The south-east part of Holes Bay was identified for study by English Nature and is an area of industrial land use with various pilings, wharves and jetties making up the dockland frontage of West Quay down to Poole Bridge (Figure 3.3a). Short pontoons exist here, but no jetties/slipways as such (Figure 3.3b) This section is dominated by the main channel into the Bay, which experiences considerable boat traffic and muddy and marshy habitats occur at the northern extreme. This sector is industrialised and is relatively uniform overall.

A substantial portion of the western shore of the Bay was chosen by EN for study, flanked mostly by residential areas. In the centre lies Cobbs Quay boatyard and to the north and south, a mix of muddy creeks, *Spartina* marsh and upper salt marsh (Figure 3.3a). In several places the marshes are backed by private residences and public amenity areas. These are mainly private small-scale boat moorings within the creeks in the marsh associated with the private residences. Apart from within the boatyard, there are no/few jetties/slipways (Figure 3.3b). In this sector we propose to adopt three sub-sectors in order to separate the Cobbs Quay boatyard area (F2 – industrial/ recreational) from the residential areas to the north (F1) and south (F3) (see Figure 3.6).

3.4.4 Hamworthy

Hamworthy is the area from Rockley Point eastwards to a yacht marina at Lower Hamworthy and consists of a relatively narrow strip of mainly sand and gravel beaches. Residential or recreational land uses predominate in this area, and the beaches are popular at all times of the year. Slipway, piers and boatyards are concentrated in the central area around Lakeside (from where the Royal Marines train). To the east there are several slipways from which small craft can be launched.

The area identified as Lower Hamworthy was identified for study by English Nature. Here the shore is flanked by private residences and the recreation ground at Hamworthy (Figure 3.4a), each protected by stone, brick and concrete sea walls. There is a pier at the western end of this stretch and the Lakeside Boatyard area lies just to the east. From Lakeside to the boulder embankment of the marina marking the eastern end, a gravel beach is exposed. The gravel is fringed to landward by a gently shelving sandy beach, popular with walkers and bathers. There is a medium density of jetties/slipways in this area, associated with private dwellings and the Lakeside area (Figure 3.4b). Two sub-sectors are proposed to separate the more easterly recreational areas (G1) from the more westerly residential areas (G2) (see Figure 3.6).

A second study section is situated to the west at Rockley Sands and this extends round into Lytchett Bay. At this end of the Hamworthy unit, the beach is flanked by a high natural cliff of Bagshot deposits, the toe of which, at the eastern edge, marks the high tide level. At the western end is a sand spit, and the wide sandy beach above the spit mark is a much used recreational area (Figure 3.4a). There is a holiday park here and a water-skiing zone offshore, but the channel entrance area into Lytchett Bay is a designated quiet zone. Only two, small jetties/slipways exist (Figure 3.4b). Here it is proposed to separate the wide sandy shore section from east to Rockley Spit from the section within Lytchett Bay. The former is largely recreational lands and is defined as sub-sector H1. By contrast the section within Lytchett Bay is largely residential and consists of a different habitat type (see below).

3.4.5 Lytchett Bay

Lytchett is considerably less modified than Holes Bay, with the west shore being mainly agricultural in nature and the east being a mix of residential and recreational areas. The east shore is more frequently visited by people, with easy access to a relatively open, sandy shoreline. Small craft are moored and used more on the east shore where the substrates are generally firmer than on the western shore.

Only the south-east corner of the Bay is included within the study areas defined by English Nature and this is a largely residential part of the Bay (Figure 3.5a). Mud, sandy-mud, boulder patches and a small area of salt marsh occur in this area, with no jetty and slipway development in this area so far (Figure 3.5b). This area is adopted as sub-sector H2 (see Figure 3.6).

3.5 Summary of sectors adopted

Though there is great variability in the land-use, habitats and the potential for disturbance (both water- and land-borne) across the North Shore of Poole Harbour, a total of sixteen sectors/sub-sectors have been defined on the basis of habitats, land use and disturbance profiles. The key properties of the sectors/sub-sectors are summarised in Table 3.1, and are shown in Figure 3.6.

Table 3.1: Development and disturbance characterisation for parts of the North Shore of Poole Harbour

Sector		**Sub-sector**	**Predominant land use**	**Current jetty & slipway development**	**Potential jetty & slipway development**	**Potential disturbance profile**
A	South Sandbanks	A1	Residential	Medium density	High potential	Low: commercial boats, people
		A2	Residential	Low/Medium density	Moderate potential	Moderate: boats, people
B	Lilliput	None	Residential	Low density	High potential	Medium: marinas, yacht clubs
C	Blue Lagoon/ Parkstone Bay	C1	Residential	High density	High potential	Low: yacht clubs, people
		C2	Residential	Two small jetties. Groynes	High potential	Low: yacht clubs, people
		C3	Recreational	Low density	Low potential	High: boats, jet skis, marina, people
D	Baiter	D1	Industrial	Low density	Low potential	Low: people
		D2	Recreational	Low density	Low potential	High: public slipway, boats, jet skis, people
E	South-east Holes Bay	None	Industrial	Low density	Low potential	Medium: commercial boats, yachts, people
F	West Holes Bay	F1	Residential	Low density	Low potential	Low: yachts, people
		F2	Industrial	High density	High potential	High: Major boat yard, marina, people
		F3	Residential	Low density	Low potential	Low: yachts, people
G	Lower Hamworthy	G1	Recreational	None.	Low potential	Medium: marina, people, recreational area
		G2	Residential	High density	High potential	Low: marina, people
H	Rockley Sands/ South-east Lytchett Bay	H1	Recreational	Low density	Low potential	High: holiday park, people, water-skiing
		H2	Residential	None.	Low potential	Low: people

Half of the sixteen sectors/sub-sectors of the North Shore of Poole Harbour appear to experience medium to high levels of disturbance; the remainder only relatively low levels. Disturbance levels are clearly an important factor that might influence the usage of the sectors by particular waterfowl species and this is examined further through field survey in Chapter 4 of this report.

As Table 3.2 shows, jetty and slipways development seems not to have taken place in areas with low potential for this type of development, *i.e.* sectors/sub-sectors without private dwellings on the foreshore, sectors with extensive salt marsh *etc.*. By contrast, such developments have occurred to an extent that there are medium to high densities of jetty/slipway structures in five of the sixteen sectors/sub-sectors, with an apparently high potential for further development in these areas. Indeed, in these areas, it would be prudent to consider the possibility that all properties adjacent to the shore may seek permission to have a jetty/slipway, with obvious implications for policy formulation.

Table 3.2: Record of current and potential jetty/slipway development for parts of the North Shore of Poole Harbour

		Potential jetty/slipway development	
		Low potential	High potential
Current jetty/slipway development	None	B2, G1, H2	E2
	Low density	C3, D1, D2, E1, F1, F3, H1	A2, B1, C2, G3
	Medium density		A1
	High density		A3, C1, F2, G2

In the following Chapter, bird usage information is presented and assessed in order to examine the relative importance of these sectors to priority bird species.

4.0 BIRD UTILISATION

4.1 Introduction

The objective of this part of the work was to summarise what is currently known about bird usage of the sectors/sub-sectors identified above, and to supplement this with new field survey information where necessary. In carrying out field survey, the opportunity was taken to gather further information on the relative levels of disturbance and also to investigate how the foreshore is used in relation to existing jetty/slipway structures, for example feeding underneath existing structures, adopting flightlines that avoid existing structures or utilising structures themselves for roosting.

It is already established that Poole Harbour as a whole is a site of international importance for its bird populations. More specifically, the Harbour supports:

- Internationally important populations of regularly occurring Annex 1 (EC Birds Directive) species:

    - Avocet *Recurvirostra avosetta* – *e.g.* 459 in winter (Stroud *et al.* 2001)
    - Mediterranean gull *Larus melanocephalus* – *e.g.* 5 pairs breeding (Stroud *et al.* 2001)
    - Common tern *Sterna hirundo* – *e.g.* 155 pairs breeding (Stroud *et al.* 2001)

    Other Annex 1 waterfowl species that regularly occur in the Harbour include golden plover *Pluvialis apricaria*, sandwich tern *Sterna sandvicensis*, Bewick's swan *Cygnus columbianus bewickii*, black-throated diver *Gavia arctica*, red-throated diver *G. stellata*, slavonian grebe *Podiceps auritus* and ruff *Philomachus pugnax*.

- Internationally important populations of regularly occurring migratory species:-

    - Black-tailed godwit *Limosa limosa* – *e.g.* 1,576 on passage (Stroud *et al.* 2001)
    - Shelduck *Tadorna tadorna* – *e.g.* 3,569 on passage (Stroud *et al.* 2001)

- An internationally important assemblage of waterfowl:-

    - Regularly supports over 20,000 wintering waterfowl, *e.g.* 28,426 in winter (Stroud *et al.* 2001). This assemblage includes all the internationally important regularly occurring migratory or Annex 1 wintering species as well as species present in nationally important numbers or species whose populations exceed 2,000 individuals.

- Nationally important populations of many species in winter or on migration, including dunlin *Calidris alpina*, cormorant *Phalacrocorax carbo*, dark-bellied brent goose *Branta bernicla bernicla*, teal *Anas crecca*, goldeneye *Bucephala clangula*, red-breasted merganser *Mergus serrator*, curlew *Numenius arquata*, spotted redshank *Tringa erythropus*, greenshank *Tringa nebularia*, redshank *Tringa totanus*, pochard *Aythya ferina*, little egret *Egretta garzetta* and black-headed gull *Larus ridibundus*.

Whilst some emphasis is, understandably, placed on the above waterfowl populations and the associated assemblage, it is important to note that the Harbour supports other important birds (*e.g.* birds of prey, passerines *etc.*) and that its importance is evident at all times of year – during the breeding and wintering periods, as well as during the times of migration. These aspects need to be borne in mind.

4.2 Methods

4.2.1 Desk work and consultations

As with the development characterisation work described in Chapter 3, we commenced by consulting with English Nature and the other key stakeholders in order to gather any published or unpublished information that related to the birds of Poole Harbour. A number of useful studies were located (*e.g.* Collins 1985, 1986; Goss-Custard *et al.* 1983, 1984; Morrison 2001; Pickess & Underhill-Day 2002) from which we extracted any relevant, North Shore, information on numbers, roosting sites, feeding areas, flight lines *etc.*. This initial information was discussed at a meeting with local ornithologists held on 7th January 2003[2], and from this meeting further information and verification was sought and supplied. Project maps were supplied and annotated with information regarding main/regular roosting and loafing areas, significant species and numbers, disturbance type and levels. Flight line information and tidal effects were also discussed. The opportunity was also taken to discuss the relative priorities for further field survey in order to fill gaps in the available information and to collect other useful data.

4.2.2 Priority questions for policy

In designing the bird fieldwork, account was taken of the priority information requirements for policy formulation. Drafting of policy for Poole Harbour (which is the focus of Chapter 5) had already commenced and answers to some priority questions were sought. The aim, therefore, was to address these questions, at least in part, by the fieldwork. Thus:

General:

- What is the relative importance of the various intertidal areas to feeding birds at various stages of the tidal cycle?
- Where are the main roosts/loafing sites, which species use them and in what numbers?
- What influence does disturbance have on where birds choose to feed and roost?
- What routes are taken by birds moving around the North Shore?

Feeding birds & jetties:

- Which species feed close to existing jetties/slipways, in what numbers and where?
- Are these birds subject to disturbance from jetty/slipway usage and with what frequency?

Roosting birds & jetties:

- Which species make use of jetties/slipways for roosting/loafing, in what numbers and where?
- Are roost/loafing birds subject to disturbance from jetty/slipway usage and with what frequency?

Movements by birds & jetties:

- Is there evidence to suggest that jetties/slipways impede movements in any way?

It must be emphasised that the fieldwork would provide only a 'snap-shot' of bird usage and was unlikely to address these questions in full. Any results would therefore need to be interpreted accordingly.

4.2.3 Winter bird survey

Bird survey work was undertaken on eight dates between 23rd January and 9th February 2003, with four week-day visits and four week-end visits. Two ornithologists were involved on all occasions, with observations made from dawn to dusk and throughout the tidal cycle.

[2] Key consultees were Shaun Robson, County Recorder for Dorset, and Steve Smith, the Wetland Bird Survey Count Co-ordinator for Poole Harbour. Several other local birdwatchers were also present who have extensive knowledge of the use of the North Shore of Poole Harbour by key bird species.

In preparation for the fieldwork, the North Shore areas of Poole Harbour were divided into 14 count sectors (Figure 4.1), half of which were upper shore areas with jetties/slipways (the 'J' sectors) and half of which were intermediate and lower shore areas (the 'S' sectors). Sectors were surveyed in rotation during each fieldwork day, sampling all on various days (week-days and week-ends) and throughout the tidal cycle. Two categories of observations were made.

In both the 'J' and the 'S' sectors, the following information was collected by means of a purposely-designed Recording Form A (see Section 8.1) and maps:

- The numbers of each species feeding or loafing within each sector/sub-sector
- Assessment of the relative level of disturbance potential in each sector/sub-sector per visit (high, medium and low) and recording of disturbance factors noted
- The locations of roosts/loafing groups and the recording of the numbers of each species present
- Details of movements between areas, including routes taken, heights, numbers and species involved.

In the 'J' sectors only, the following additional information was collected by means of the purposely-designed Recording Form B (see Section 8.1) and maps:

- For roosts/loafing groups on jetties:
    - The jetty/slipway identity, the details of the structure being used and the numbers/species involved.
    - The duration of usage of each structure to provide an insight into relative degree of disturbance.
    - Details of any disturbance events (*e.g.* source, impact, consequence), distinguishing between jetty/slipway disturbance and other disturbance.

- For feeding birds:
    - The locations of groups of priority species (*i.e.* international and national species) and the numbers/species involved.
    - Duration of usage of each area by the feeding group to provide an insight into relative degree of disturbance.
    - Details of any disturbance events (*e.g.* source, impact, consequence), distinguishing between jetty/slipway disturbance and other disturbance.

- For commuting birds:
    - Details of movements between areas, including routes taken, heights, numbers and species involved.
    - In each case, whether jetties/slipways are obviously avoided (and to what extent), over-flown (with heights) or under-flown.

English Nature approved the methodology before the fieldwork was commenced.

4.2.4 Information analysis

The desk work and field survey information was used to assess the relative importance of each sector to high priority bird species and to the waterfowl assemblage as a whole. Disturbance information collected was used to verify or alter the relative disturbance rankings presented in Chapter 3. Field survey

information was analysed to see if there was any evidence for an interaction, either positive or negative, between birds and existing jetty and slipway structures. All bird data collated were processed within spreadsheet and GIS applications and were available to inform and support policies developed for specific compartments (Policy areas) of the site, as described in Chapter 5.

4.3 Area-by-Area overviews

The following sources of information were used to provide an overview of bird usage in each of the sectors: Collins (1985, 1986); Gray (1985); Pickess & Underhill-Day (2002); Goss-Custard & Durell (1983); Goss-Custard & Durell (1984); Morrison (2001); Wetland Bird Survey (WeBS) (1999-2000).

In addition to the published material, information has also been obtained from meetings and discussions with birdwatchers in the area who have extensive local knowledge and from our own field survey data using local ornithological surveyors.

Information on key species and numbers relating to the North Shore specifically researched for this project is limited this is largely due to the fact that the area is already heavily developed and therefore under-watched, and that any information that does exist relates mainly to birds found in the intertidal areas. Existing information suggests the majority of birds frequent the southern sections of Poole Harbour (WeBS 2000)

To provide an overview of each area, five year means (WeBS 95-2000), have been extracted for Poole Harbour for key species to enable the numbers of birds utilising the North Shore during the field survey to be considered in the context of the Harbour as a whole. All gull species have been omitted as they are not included as part of the waterfowl assemblage in SPA designation.

The field data is presented in summary table form within each area overview. Field data was based on a minimum of eight days survey for all sectors and is included to provide a 'snapshot' of the relevant activities of bird species recorded within the appropriate sectors.

4.3.1 Sandbanks/Lilliput

Bird species and activity (records and field survey information) - The main species that occur within the Sandbanks area surveyed are bar-tailed godwit, oystercatcher, ringed plover, dunlin, curlew, redshank and dark-bellied brent goose. All of these species feed on the mud at low tide, and the area is considered to be an important feeding ground for both ringed plover and bar-tailed godwit. There is a small area of *Spartina* marsh, which is used as a roost site located in the bay. The remnant *Spartina* marsh was used regularly by roosting bar-tailed godwits but it is now known that they favour roosting on Brownsea Island (S. Smith, pers. comm).

The field survey recorded fourteen species within these sectors and within the upper beach, lower beach and intertidal sectors during the full tide cycle. These were: great crested grebe, great northern diver, cormorant, shag, dark-bellied brent goose, red-breasted merganser, oystercatcher, purple sandpiper, redshank, greenshank, bar tailed godwit, curlew, razorbill and goldeneye.

Disturbance levels and factors - The area as a whole is heavily used for both recreational and commercial activity and therefore relatively disturbed. The main elements of disturbance activity are windsurfing, jet skis and bait digging. Dogs are also a primary source of disturbance.

Tables 4.3a and 4.3b present the results of the field survey and compares the numbers of birds recorded with the overall harbour figures where known.

Table 4.3a: Sandbanks (Sector A)

SPECIES	Total Max Count (date)	Harbour Popn.	% of Harbour Popn.	Sub-sector A1		Sub-sector A2	
				Roosting/ loafing	Feeding	Roosting/ loafing	Feeding
Great northern diver	2 (1.02.03)				2		1
Cormorant	2 (25.01.03)	397	0.5		2		
Shag	2 (25.01.03)				2		
Red-breasted merganser	8 (30.1.03)	427	1.8		8		3
Purple sandpiper	3 (1.02.03)				3		
Oystercatcher	6 (30.01.03)				1		6
Curlew	2 (30.01.03/2.02.03)	1617	0.12				2
Redshank	1 (23.01.03)	1120	0.08				1
Greenshank	1 (23.01.03)						1
Razorbill	1 (1.02.03)				1		
Goldeneye	2 (31.1.03/31.1.03)	262	0.76		2		
Total of maximum counts	30				21		14

Table 4.3b: Lilliput (Sector B)

SPECIES	Total Max Count (date)	Harbour Population	% of Harbour Population	Sector B	
				Roosting/loafing	Feeding
Red-breasted merganser	18 (1.2.03)	427	4.2	4	18
Dark-bellied brent goose	62 (23.1.03)	1441	4.3		62
Curlew	1 (25.1.03)	1617	0.06		1
Great crested grebe	3 (26.1.03)				3
Oystercatcher	3 (25.1.03)				3
Bar-tailed godwit	83 (25.1.03)				83
Redshank	1 (30.1.03/24.1.03)	1120	0.26	1	
Mediterranean gull	1 (31.1.03)			1	
TOTAL of maximum counts	172			6	170

From the results it is clear that Sandbanks (sub-sectors A1 & A2), though used for feeding purposes, supports rather few birds overall, being most significant for red-breasted merganser. Lilliput (sector B) does somewhat better, and is of most significance for red-breasted merganser and dark-bellied brent goose. Small numbers of birds roost in the Lilliput sector.

4.3.2 Parkstone/Baiter

Bird species and activity (records and field survey information) - The main species that occur here are ringed plover, oystercatcher, dunlin and redshank. Dunlins occur just as the mud begins to appear and before all mud is covered. The adjoining recreational playing fields are utilised by oystercatchers as a feeding area. There is a known wader roost on the stone walling at Parkstone Yacht Club with up to 600 dunlin and 75 ringed plover (S. Robson, pers. comm). The Blue Lagoon, a sheltered marshy area, attracts small numbers of redshank, ringed plover and curlew (S. Smith, pers. comm.)

The field survey recorded fifteen species within the Blue Lagoon and Parkstone sectors. These were: shelduck, dark-bellied brent goose, little egret, cormorant, shag, red-breasted merganser, goldeneye, oystercatcher, curlew, redshank, dunlin, mallard, mute swan, ringed plover and kingfisher.

The additional section of shoreline within the Parkstone Bay area is Baiter (Sector D). The main species that occur here are oystercatcher and dunlin. This area is also used as a feeding and loafing habitat when the mudflats are covered at high water. The extensive grassland area inland is used as a feeding and roosting area by dunlin and oystercatcher, and also small numbers of brent geese, whereas the immediate shoreline is favored by turnstone. The recreational grassland area is used primarily as a roosting and loafing area, although some feeding does occur here particularly when the area is wet. The relatively new breakwater at Poole Quay is also a regular roosting site, primarily used by dunlin and cormorants.

The field survey recorded eighteen species of waterfowl within this sector. These were: dark-bellied brent goose, little grebe, great crested grebe, cormorant, shag, great northern diver, mute swan, shelduck, red-breasted merganser, goldeneye, oystercatcher, turnstone, redshank, dunlin, ringed plover, grey plover, golden plover and Mediterranean gull.

Disturbance levels and factors - The area of playing fields at Parkstone is regularly used by feeding and loafing birds, especially oystercatchers; however, the fields are readily disturbed by human activity such as dog walking.

The public slipway at Baiter, and the associated recreational grassland, is heavily used by the public, and the waterfowl are easily disturbed by dog walkers, traffic and any launching activity along the shoreline.

Tables 4.3c and 4.3d present the results of the field survey and compares the numbers of birds recorded with the overall harbour figures where known.

The Blue Lagoon/Parkstone area is clearly important for both roosting and feeding waterfowl, and especially for shelduck, dark bellied brent goose, red-breasted merganser, redshank and dunlin. The Baiter area supports similar numbers overall, though mainly of roosting/loafing birds, with the key species there being dark-bellied brent goose, cormorant, red-breasted merganser, goldeneye and dunlin.

Table 4.3c: Blue Lagoon/Parkstone (Sector C)

SPECIES	Total Max Count (date)	Harbour Population	% of Harbour Population	Sub-sectors					
				C1		C2		C3	
				Roosting /loafing	Feeding	Roosting /loafing	Feeding	Roosting /loafing	Feeding
Shelduck	47 (24.2.03)	3079	1.53	4	47	2		1	
Dark-bellied brent goose	30 (24.1.03)	1441	2.08		20			19	30
Little egret	1 (24.1.03/25.2.03/ 26.1.03/31.1.03 /1.2.03/2.2.03)			1	1	1	1	1	
Cormorant	3 (24.1.03)	397	0.76			1		3	
Shag	2 (23.1.03/24.1.03)							2	
Red-breasted merganser	13 (23.1.03)	427	3.04	2	11		21	1	2
Goldeneye	2 (23-26.1.03 /31.1.03/1.2.03/2.2.03)	262	0.76	2	2		2		2
Oystercatcher	72 (25.1.03)			40	32	21		2	72
Curlew	11 (31.1.03)	1617	0.68	2	11	1			
Redshank	19 (25.1.03)	1120	1.70	19	3	3			15
Dunlin	200 (25.1.03/31.1.03/1.2.03)	6527	3.06		200				
Mallard	2 (25.1.03)				2				
Mute swan	1 (25.1.03)							1	
Ringed plover	1 (25.1.03)			1					
Kingfisher	1 (24.1.03)				1				
TOTAL of maximum counts	405			71	329	29	24	30	121

Table 4.3d: **Baiter (Sector D)**

SPECIES	Total Max Count (date)	Harbour Population	% of Harbour Population	Sub-sectors			
				D1		D2	
				Roosting /loafing	Feeding	Roosting /loafing	Feeding
Dark-bellied brent goose	171 (30.1.03)	1441	11.8	2	40	82	171
Little grebe	1 (23.1.03/24.1.03)			1	1		
Great crested grebe	2 (23.1.03/24.1.03)				2		2
Cormorant	24 (23.1.03)	397	6.04	24		8	
Great northern diver	1 (23.1.03/25.1.03)			1	1		
Red-breasted Merganser	12 (24.1.03/30.1.03)	427	2.8		2		12
Goldeneye	6 (31.1.03)	262	2.29		2		6
Oystercatcher	163 (30.1.03)			13	3		163
Turnstone	17 (25.1.03)			7	10		17
Redshank	1 (31.1.03)	1120	0.08				1
Dunlin	490 (23.1.03)	6527	7.5	490		60	200
Shag	1 (24.1.03)						1
Mute swan	3 (31.1.03)			3			
Ringed plover	15 (24.1.03)			15		3	6
Grey plover	1 (24.1.03)						1
Golden plover	1 (30.1.03)					1	
Shelduck	2 (30.1.03)	3079	0.06				2
Mediterranean gull	1 (24.1.03/31.1.03)			1			1
TOTAL of maximum counts	912			557	61	154	583

4.3.3 West Holes Bay

Bird species and activity (records and field survey information) - The main species occurring here are redshank, dunlin, curlew, ringed plover, black-tailed godwit, oystercatcher, teal, shelduck and pintail. Holes Bay is considered to be the most important area for redshank in the Harbour, with an average of 44% of the Harbour population found here at low water (Pickess & Underhill-Day 2002). The northern sector of the Bay, north of the railway line, tends to attract the majority of birds. However, the southern section is also used by feeding birds during the rising and falling tides. Substantial numbers of dunlin occur here, as do black tailed godwits especially on spring passage. The areas of *Spartina* marsh are often used as roosting and loafing sites. Holes Bay is also important during severe weather due to the sheltered position and the shallow water (*e.g.* Collins 1985).

The field survey recorded ten species of waterfowl within both sectors. These were: Canada goose, grey heron, little egret, shelduck, teal, wigeon, oystercatcher, dunlin, curlew and redshank.

Disturbance levels and factors - Disturbance is largely confined to the southern half of the Bay with regular boat traffic and the presence of Cobbs Quay. The western shore, apart from the Quay, is little disturbed as access to the mudflats is limited due to the presence of wide creeks.

Tables 4.3d and 4.3e below present the results of the field survey and compares the numbers of birds recorded with the overall harbour figures where known.

Table 4.3d: South-east Holes Bay (Sector E)

SPECIES	Total Max Count (date)	Harbour Population	% of Harbour Population	Sub-sector E	
				Roosting/loafing	Feeding
Shelduck	20 (7.2.03)	3079	0.65		20
Teal	4 (7.2.03)				4
Curlew	11 (7.2.03)	1617	0.68		11
Oystercatcher	62 (7.2.03)				62
Redshank	27 (7.2.03)	1120	2.41		27
TOTAL of maximum counts	124				124

Table 4.3e: West Holes Bay (Sector F)

SPECIES	Total Max Count (date)	Harbour Population	% of Harbour Population	Sub-sectors					
				F1		F2		F3	
				Roosting/ loafing	Feeding	Roosting/ loafing	Feeding	Roosting/ loafing	Feeding
Redshank	46 (7.2.03)	1120	4.10	10	46	11			24
Curlew	25 (23.1.03)	1617	1.55	2	19	25		1	14
Shelduck	93 (8.2.03)			29	76			9	93
Little egret	1 (23.1.03/ 25.1.03/26.1. 03/6.2.03)								1
Oystercatcher	18 (7.2.03)				18				17
Canada goose	9 (26.1.03)			9				7	
Grey heron	1 (25.1.03)							1	
Teal	18 (8.2.03)				18				
Wigeon	17 (7.2.03)				17				
Dunlin	120 (7.2.03)	6527	1.84		120				
TOTAL of max. counts	348			50	314	36		18	149

The south-east section of Holes Bay appears to be of marginal importance to waterfowl, with only small numbers of feeding shelduck, oystercatcher and redshank. On the western shore of Holes Bay, slightly larger numbers of birds are present (feeding flocks and small roosts) with the principal species here being redshank, curlew, shelduck and dunlin.

4.3.4 Hamworthy

Bird species and activity (records and field survey information) - This area of shoreline is not utilised by any significant numbers of birds (S. Smith, pers. comm.), although occasionally small numbers of shorebirds feed on the limited mud available at low tide. The area supports large numbers of feeding, roosting and loafing gulls. Off shore there can be significant numbers of red-breasted mergansers.

The field survey recorded four species in the sectors. These were: mute swan, cormorant, little egret and oystercatcher.

Disturbance levels and factors - The length of shoreline between lower Hamworthy and Rockley Point is heavily used by the public and dog walkers. This, combined with the limited shoreline and exposed mud, considerably reduces the amount of suitable undisturbed habitat for waterfowl.

Table 4.3f below presents the results of the field survey and compares the numbers of birds recorded with the overall harbour figures where known. Small numbers of bird were recorded with little of any note.

Table 4.3f: **Lower Hamworthy (Sector G)**

SPECIES	Total Max Count (date)	Harbour Population	% of Harbour Population	Sub-sectors			
				G1		G2	
				Roosting /Loafing	Feeding	Roosting /Loafing	Feeding
Oystercatcher	22 (8.2.03)				6	22	18
Little egret	1 (6.2.03/7.2.03/ 8.2.03/9.2.03)	83	1.20				1
Mute swan	7 (6.2.03)					7	
Cormorant	1 (7.2.03)	397	0.25			1	
TOTAL of maximum counts	31				6	30	19

4.3.5 Lytchett Bay

Bird species and activity (records and field survey information) - The main species of waterfowl that occur here are redshank, dunlin, oystercatcher, curlew, shelduck, teal and black-headed gull. The area is considered an important feeding area for redshank. The spit located in the south-eastern part of the Harbour is used as a roost site for redshank, dunlin, and oystercatcher, and areas of *Spartina* are used as roost sites by redshank and curlew. There is an occasional roost of oystercatchers on the playing fields at Turlin Moor.

The field survey recorded eleven species of waterfowl within the sectors. These were: grey heron, little egret, shelduck, wigeon, teal, oystercatcher, redshank, spotted redshank, curlew, dunlin and common sandpiper.

Disturbance levels and factors - The eastern half of the Bay suffers from human disturbance due to the adjacent residential area. There is a small amount of boat activity in the southern part of the Bay.

Table 4.3g below presents the results of the field survey and compares the numbers of birds recorded with the overall harbour figures where known. The mostly feeding birds recorded included relatively important concentrations of redshank, shelduck, teal and little egret, mostly feeding in sub-sector H2.

Table 4.3g: Rockley Sands/Lytchett Bay (Sector H)

SPECIES	Total Max Count (date)	Harbour Population	% of Harbour Population	Sub-sectors			
				H1		H2	
				Roosting /Loafing	Feeding	Roosting /Loafing	Feeding
Redshank	121 (25.1.03)	1120	10.8				121
Curlew	16 (6.2.03)	1617	0.98		1		16
Oystercatcher	27 (7.2.03)				5		27
Shelduck	48 (8.2.03)	3079	1.55				48
Teal	21 (6.2.03)	1522	1.37			4	21
Little egret	2 (9.2.03)	83	2.4		1		2
Dunlin	23 (6.2.03)	6527	0.35				23
Wigeon	5 (6.2.03)						5
Grey heron	1 (25.1.03)				1		
Common sandpiper	1 (23.1.03)						1
Spotted redshank	1 (8.2.03)						1
TOTAL of maximum counts	266				8	4	265

4.4 Summary of importance of North Shore Sectors for waterfowl

Table 4.4 below details the relative importance of sectors for waterfowl along the North Shore of Poole Harbour SPA. The relative importance assigned to each sector (high, medium or low) has been derived as follows:

- High importance – appears to support a total of 500+ individual waterfowl
- Medium importance – appears to support a total of 100 - 499 individual waterfowl
- Low importance – appears to support a total of 1 - 99 individual waterfowl

Table 4.4: Summary of relative importance of sectors for waterfowl along the North Shore

Sector		Sub-sector	Total Waterfowl	Key Species	Primary use: Feeding/Roosting	Relative importance High/Medium/Low
A	South Sandbanks	A1	21	Red-breasted merganser	Feeding (mostly in intertidal habitat)	Low
		A2	14	Oystercatcher	Feeding (mostly in intertidal habitat)	Low
B	Lilliput	None	170	Brent goose Bar-tailed godwit Red-breasted merganser	Feeding	Medium
C	Blue Lagoon/ Parkstone Bay	C1	337	Red-breasted merganser Dunlin	Feeding	medium
		C2	53	Oystercatcher Redshank Shelduck	Roosting/Loafing	Low

Sector		Sub-sector	Total Waterfowl	Key Species	Primary use: Feeding/Roosting	Relative importance High/Medium/Low
		C3	151	Brent goose Oystercatcher Redshank	Feeding	Medium
D	Baiter	D1	618	Dunlin Oystercatcher Ringed plover	Roosting/Loafing (mostly in intertidal habitat)	High
		D2	737	Brent goose Oystercatcher Dunlin	Feeding (mostly in intertidal habitat)	High
E	South-east Holes Bay	None	124	Shelduck Oystercatcher Redshank	Feeding (mostly in intertidal habitat)	Medium
F	West Holes Bay	F1	364	Shelduck Redshank Curlew Dunlin	Feeding (mostly in intertidal habitat)	Medium
		F2	36	Redshank, Curlew	Roosting	Low
		F3	167	Shelduck Oystercatcher Redshank	Feeding (mostly in intertidal habitat)	Medium
G	Lower Hamworthy	G1	6	Oystercatcher	Feeding (mostly in intertidal habitat)	Low
		G2	49	Oystercatcher	Feeding	Low
H	Rockley Sands/ South-east Lytchett Bay	H1	8	Oystercatcher	Feeding (mostly in intertidal habitat)	Low
		H2	269	Redshank Shelduck Teal Dunlin	Feeding (mostly in intertidal habitat)	Medium

4.5 Waterfowl use of the upper beach and interactions with jetties and slipways

As part of the field survey, information was gathered on the occurrence of waterfowl within the upper beach habitats and the interactions of birds with jetties and slipways (see Section 8.1 - Recording forms A & B). It was also noted where waterfowl interacted with groynes.

The survey concentrated upon the key species within the Harbour (i.*e.* internationally and nationally important species). All gulls (with exception of Mediterranean gull – an Annex 1 species) were omitted as they are not included as part of the waterfowl assemblage.

Analysis of field information concentrated on waterfowl recorded in the upper beach area where the jetties and slipways are located. For each survey key species of waterfowl were recorded within the upper beach habitat. The majority of individual waterfowl using upper beach habitat were recorded within sub-sector C1 (Blue Lagoon/Parkstone Bay) (Table 4.5), where they were both feeding and roosting. This is a sector with a high density of jetties/slipways (see Chapter 3). However, the upper beach in sub-sector D2, which has a low density of jetties/slipways, was evidently favoured as a roosting site. In sector B, one individual Mediterranean gull was recorded roosting within the upper beach habitat, whereas the majority of other waterfowl species avoided this area.

In the sectors D1, E, G1 and G2, no key species were recorded roosting or feeding in the upper beach area. For these sectors, most bird activity was noted in the intertidal habitat. It was also noted that the upper and lower shores did not exist in sector E, and to some extent sectors G1 and G2 (S. Morrison, pers. comm.). Observations in sub-sectors C1, C2 and C3 during the survey

period showed that there were higher numbers of birds in C1 (the Blue Lagoon), which is sheltered and largely disturbance free (J Lidster, pers. comm.).

Table 4.5: Records of waterfowl using upper beach within sectors

Sector	Key Species found in the Upper Shore	Activity, maximum number recorded with date			
		Roosting/Loafing	Max count of individual waterfowl	Feeding	Max count of individual waterfowl
A1	PS		0	3 (1.2.03)	4
	OC			1 (26.1.03)	
A2	OC		0	2 (24.1.03)	2
B	MU	1 (31.1.03)	1		0
C1	CU	2 (30.1.03)	95+	1 (26.1.03)	47+
	RM	2 (23.1.03)			
	RK			3 (26.1.03)	
	RP	1 (26.1.03)			
	OC	40+ (30.1.03)		3 (2.2.03)	
	SU	30+ roosting and feeding (30.1.03)			
	DN			40+ (24.1.03)	
	BG	20+ roosting and feeding (30.1.03)			
C2	L		25	1 (24.1.03/25.1.03)	1
	OC	21 (24.1.03)			
	RK	3 (24.1.03)			
	CU	1 (24.1.03)			
C3	OC		0	7 (26.1.03)	22+
	RK			15+ (26.1.03)	
D2	BG		1	171+ (30.1.03)	557+
	OC			163+ (30.1.03)	
	SU			2 (30.1.03)	
	DN			200+ (30.1.03)	
	TT			13 (24.1.03/1.2.03)	
	GP	1 (30.1.03)			
F1	RK	10+ (23.1.03)	15+		0
	SU	3 (23.1.03)			
	CU	2 (23.1.03)			
F2	RK	11+ (23.1.03)	26+		0
	CU	25 (23.1.03)			
F3	L	1 (23.1.03)	11	1 (23.1.03)	1
	SU	9 (23.1.03)			
	CU	1 (23.1.03)			

Species Codes: RK= Redshank, SU = Shelduck, CU = Curlew, CA =Cormorant, BG = Dark-bellied brent goose, DN=Dunlin, GP=Golden plover, L=Little egret, TT=Turnstone, PS=Purple sandpiper, MU=Mute swan

4.6 Summary of disturbance levels, impacts and agents

During the survey, information was gathered on disturbance levels, impacts and agents. There were no recorded disturbances noted for key species within the upper beach area within any of the sectors. Any disturbance that was recorded was of non-key species and involved mainly gulls. For sectors E-H, the disturbance agent was mainly down to users of the shore/intertidal habitats (S. Morrison, pers. comm). The primary disturbance agents recorded during the survey (affecting only non key species) were walkers, dog walkers, bait diggers, fishing boat, anglers, windsurfing, kite sailing and speedboats.

The field survey does not demonstrate that waterfowl (mainly non-key species) necessarily avoid the jetties and slipways in some sectors, as the data in Table 4.5 indicate. However, S. Morrison commented that the only observed effects of jetties and slipways on birds was at Hamworthy (sub-sectors G1 and G2) and Lilliput (sector B), where feeding waterfowl kept to the large gaps between jetties and quays, avoiding feeding on slipways and within an area of groynes and jetties. This is likely to be due to the obstruction of sight-lines around the structures, including groynes, occurring within the sectors (S. Morrison, pers. comm.). Where waterfowl were recorded roosting and/or feeding in close proximity to jetties and slipways (Baiter – sub-sector D2), or groynes in the case of sub-sector C2, it is likely that these species are more tolerant of disturbance factors, and that the disturbance levels are lower during the winter months.

5.0 STRATEGIC GUIDANCE & PROPOSED POLICY

5.1 Introduction

Increased pressure on the ecology of Poole Harbour is being experienced due to continued industrial and urban development, particularly along the North Shore. It has become increasingly popular for individual properties along the shore-line, particularly Poole and Hamworthy, Sandbanks and Lytchett Bay, to construct individual private jetties and slipways. These existing and proposed new structures have the potential to impact on the ecology within the area, in this case the Annex 1 bird species and those of International and National importance, either through disturbance, direct loss of foraging and roosting/loafing habitat, or loss of sight and flight-lines along traditional foraging locations or movement routes.

It is evident therefore that some form of control and assessment of the North Shore development within Poole Harbour SPA is required in order to prevent potential degradation of the SPA in terms of Annex 1 bird species and others known to regularly use the harbour area. English Nature is obliged to protect the integrity of Poole Harbour SPA under Regulation 33 (2) of the Conservation (Natural Habitats &c.) Regulations 1994. The integrity of a site is defined as being 'the coherence of its ecological structure and function, across its whole area, that enables it to sustain the habitat, complex of habitats and/or the levels of populations of the species for which it was classified' (Department of the Environment Planning Policy Guidance Notes 9 Nature Conservation 1994).

It is understood that several important factors are involved in maintaining the integrity of the SPA. These include the current extent and distribution of suitable feeding and roosting habitat; sufficient prey availability; minimum disturbance, and consistent water quality and salinity to maintain habitats and ecosystems used by bird species.

The Regulation 33 package has been developed to assist relevant and competent authorities, in this instance English Nature, who has responsibilities to implement the Habitats Directive, to:

- Understand the international nature conservation importance of the site, underlying physical processes and the ecological requirements of the habitats and species involved
- Advise authorities as to the conservation objectives for the site and operations which may cause deterioration or disturbance
- Set the standards against which the condition of the site's interest features (the habitat or species for which the site has been selected) can be determined and undertake compliance monitoring to establish whether they are in favourable condition
- Develop, if deemed necessary, a management scheme to ensure that the features of the site are maintained

As a result of this, policies have been developed in order to ensure the continued protection and maintenance of the integrity of Poole Harbour SPA.

5.2 Policy Objectives

JUST ECOLOGY has developed the policies in conjunction with English Nature in order to streamline English Nature's responses to statutory consultations, and to provide a clear indication to potential applicants and competent authorities of English Nature's position with regard to jetty and slipway development along the North Shore. The principle aims of this approach are to:

- Prevent a cumulative, in combination, adverse impact on the SPA whereby its integrity is affected
- Ensure that English Nature's advice is consistent

The habitat surveys (Chapter 3) and winter waterfowl surveys (Chapter 4) have provided information on the habitat type, present land use and level of disturbance the North Shore experiences; the species, numbers, distribution and activity of the winter waterfowl, and other bird species of International and National importance, along this section. The consultations and survey data have identified the areas of high ecological sensitivity for bird species, *i.e.* the areas along the North Shore that are important for feeding, roosting/loafing and shore-line that is infrequently disturbed. These are the areas most at risk from negative impacts resulting from jetty and slipway developments, and in which such developments might affect the integrity of the SPA should development occur prior to appropriate consultation.

From this information, the policies have been developed for the North Shore in order to identify the areas where English Nature would object to a development proposal, where an objection would be raised subject to conditions, and where no objection would be raised. Identification of the policies are as follows:

- Areas where new jetties and slipways would be likely to significantly affect the SPA, *i.e.* areas where structures down to permanent water would have an adverse impact, alone or in combination, on the SPA, therefore having an adverse effect on the integrity of the SPA. This represents a policy of objection from English Nature.

- Areas where new jetties and slipways, provided that they are restricted to specific lengths, are unlikely to significantly affect the SPA, *i.e.* the length that jetties or slipways should be restricted in order to prevent an adverse impact, alone or in combination with other foreshore structures, on the SPA. The policy for this type of development would be an objection from English Nature, subject to conditions. This objective will require detailed prescriptions for specific units of the shore perhaps best achieved by providing a line on the foreshore representing the length of structures that would be allowable.

- Areas where the removal or a reduction in the length of a particular structure or structures on the foreshore would be desirable, such as by providing a line on the foreshore representing the length of structures, in order to significantly increase suitable habitat and enhance the value of the foreshore to feeding or roosting birds. This objective aims to achieve an enhancement to the current situation and will be invaluable for determining retrospective applications and renewals of licences.

  Should planning application for jetties and/or slipways be made in these areas, providing no negative impacts were perceived on the SPA, English Nature's policy would be to raise no objection to the development. Where remedial mitigation work was proposed to benefit the SPA, English Nature would support the proposals.

- Areas where the construction of additional jetties and slipways down to permanent water would not cause a negative impact, alone or in combination, on the integrity of the SPA. English Nature's policy would be not to object to these proposals, and would not require an appropriate assessment or further consultation.

Potential generic impacts on Annex 1 bird species, and others, resulting from jetty and/or slipway construction are detailed below. The negative impacts have been linked, where possible, to the 'attributes' and 'targets' set out in the Favourable Conditions Table of the English Nature's advice given under Regulation 33 (2) of the Conservation (Natural Habitats &c.) Regulations 1994. The table is intended to supplement the conservation objectives in relation to the management of activities and requirements on monitoring the condition of the site and its features.

Negative

- Restriction of views for foraging/loafing/roosting birds, the 'attribute' being no obstructions to view lines. The majority of waterfowl require at least 200m of

unrestricted views for these activities (English Nature's advice given under Regulation 33 (2) of the Conservation (Natural Habitats &c.) Regulations 1994). This may lead to insecurity and a reduction in feeding efficiency and increased energy expenditure of waterfowl. The 'target' is that there should be no increase in obstructions to existing bird view lines.

- Disruption of flight-lines. The majority of wintering and breeding birds require clear flight-lines to follow to favoured habitats. They may potentially be deterred or obstructed from using traditional flight-lines as a result of shore-line construction. Longer routes may be taken, with implications for energy use, or more hazardous routes.

- Temporary disturbance during construction works, and long-term intermittent disturbance during jetty and/or slipway use causing an area to be unavailable to feeding waterfowl. The disturbance factor is a selected characteristic, i.e. attribute, able to provide an indication of the condition of the area, in this case disturbance to waterfowl in feeding and roosting areas. The 'target' is to ensure that there is no significant reduction in bird numbers attributable to disturbance.

- Causing a reduction in total habitat within Poole Harbour SPA, and therefore loss of foraging potential causing increase in energy use during foraging. The extent and distribution of habitats would be the attribute for this potential impact, and the target would be that there should be no decrease in the extent of habitat used by waterfowl from an established baseline.

- Structures creating shade and increased abrasion from wave action resulting in habitat deterioration in localised areas along the shore-line, and therefore a decrease in foraging potential. The attribute in this case would be the loss of food available to foraging bird species, and the target is to maintain the presence and abundance of prey species.

- Creating an increase in the demand for future associated dredging causing a direct or indirect change to the physical quality of the environment or habitat, with implications for the abundance or availability of invertebrate foods. Again the attribute would be the loss of food available to foraging birds, and the target is to maintain the presence and abundance of prey species.

Positive

- Jetties and slipways potentially used by birds as secure (disturbance free) roosting/loafing sites.

- Depending on design and age, some jetties and slipways may provide limited foraging potential by providing a substrate for food sources to use.

It should be noted that these impacts are generic and are likely to alter depending on the exact location, design and materials used in any individual jetty/slipway construction proposal. Jetty design and construction is discussed within Chapter 8 (Appendix 8.3) of this report.

The policies are based on the assumption that all properties will eventually acquire a jetty or slipway where they are permitted to do so, and the precautionary principle (to minimise risk of potentially significant adverse environmental impacts).

5.3 Policy Framework

The policy criteria are based on the known existing conditions along the North Shore of Poole Harbour SPA as detailed in Chapter 3 of this report, and the potential impacts and their significance to waterfowl perceived as a result of jetty and/or slipway construction along the North Shore area.

The North Shore sectors, based on the habitats, land use and disturbance profiles as described in Section 3.5, have been grouped into 'Policy areas', either Policy area 1, Policy area 2 or Policy area 3 depending on their level of perceived ecological value for key waterfowl species, and therefore their sensitivity to disturbance from jetty and slipways development and associated activities. The ecological sensitivity rating ranges from being of very high sensitivity to very low sensitivity.

Table 5.1 below details the calculation of the ecological sensitivity of a Policy area along the North Shore of Poole Harbour SPA.

Table 5.1: Calculation of the Ecological Sensitivity of a Policy area in terms of Waterfowl use along the North Shore of Poole Harbour SPA

Policy area	**Importance for Foraging**			**Importance for Roosting/Loafing/ Breeding**			**Importance for Unobstructed Flight-lines**			**Level of Disturbance**			**Ecological Sensitivity**
	High	Mod	Low	High	Mod	Low	High	Mod	Low	High	Mod	Low	
1	** - *			** - *			** - *					*	Very High to High
2		*			*			*			*		Moderate
3			** - *			** - *			** - *	** - *			Very Low to Low

Table 5.2 below summarises how each sector/sub-sector qualifies to be in either Policy area 1, 2 or 3.

Table 5.2: Summary of Policy area classification, according to their Ecological Sensitivity

Policy area 1	Comprises of sectors of high to very high importance to waterfowl. Generally Moderate or low concentration of existing jetties and slipways, although may occasionally contain higher jetty and slipway numbers, and low disturbance levels.
Policy area 2	Comprises of sectors of moderate importance to waterfowl. Generally higher to moderate (occasionally low) concentration of existing jetties and slipways, and/or moderate to low disturbance levels.
Policy area 3	Comprises of sectors of low to very low importance to waterfowl. Generally higher to moderate (sometimes low) concentration of existing jetties and slipways, and/or moderate to high disturbance levels.

5.4 Placement of sector/sub-sector into a Policy area

Following the completion of the survey the sixteen sectors/sub-sectors identified by English Nature and JUST ECOLOGY used for the bird utilisation and disturbance survey, have been further divided to create a total of twenty sectors/sub-sectors. This is due to the recognition of further subtle habitat differences and area uses noted while conducting the bird utilisation survey. The additional sub-sectors are as follows:

- A2 (part of South Sandbanks) – An additional sub-sector has been added in this sector so that A1 has been divided into two (A1 and A2). A1 now extends from the harbour mouth to North Haven Point, and A2 includes areas of intertidal habitat used occasionally by birds disturbed from Whitley Lake. What is now A3 was originally called A2.
- B1 (Lilliput) – This sector has been divided into sub-sectors B1 and B2, where B1 is the area adjacent to Even Hill and is seen to be a continuation of Whitley Bay, and therefore has less potential for jetties and/or slipways.
- E2 (South-east Holes Bay) – This sub-sector runs east-west across the top of the sector and encompasses an area of intertidal remnant saltmarsh and mudflats, which is relatively undisturbed. At this time it is adjacent to a disused industrial compound and may in the future be subject to housing development therefore creating a high potential for jetty and/or slipway development should housing occur here.
- G3 (Lower Hamworthy) – This new sub-sector occurs to the west of the Marine Base.

The total number of sub-sectors is therefore twenty. This has been taken into account when analysing the survey results and assessing the importance of each sector/sub-sector in terms of bird utilisation along the North Shore of Poole Harbour SPA. Refer to Figure 5.1 for the location of the twenty sub-sectors.

Target Notes:
A number of target notes have also been made to identify particularly important habitats within sub-sectors, or small parcels of land that do not fall neatly within the description of the sub-sector in which it is found.

The target notes are identified as red target symbols depicted on Figure 5.2. In some cases the presence of a target note has increased the value of a sub-sector, enabling them to be covered by an 'objection' or 'no objection subject to conditions' policy.

The following target notes have been made:

- Target Note 1 – this target note is situated within the shoreline of sub-sector A2. This habitat has been highlighted due to its potential importance to waterfowl during times of disturbance from the Whitley Lake area. It is therefore considered that this sub-sector

should be protected from potentially damaging development proposals through the inclusion of conditions such as a restriction of the lengths of permitted structures (see Policy 2 – Appendix 8)

- Target Note 2 – this target note is situated within sub-sector B1. It comprises a small beach and sand dune area nestled in the corner of this sub-sector adjacent to the landing stage. As this feature falls within a Policy 1 area, no structures would be permitted (see Policy 1 – Appendix 8)
- Target Note 3 – situated within sub-sector C3, this target note indicates an area of importance to waterfowl that should be acknowledged when structure proposals are considered. In this area, the open section of foreshore should be retained in order to maintain the integrity of the harbour. Structures should therefore be avoided in this area, *i.e.* either refused or kept to a length of 10m
- Target Note 4 – this target note highlights sub-sector F3. Although this sub-sector is not of the highest value to waterfowl, it has been identified as being important in terms of maintaining the integrity of the harbour by providing connectivity in terms of potential wintering waterfowl habitat. This sub-sector has therefore been 'up-graded' so that it falls within Policy area 1 (Objection Policy)
- Target Note 5 – this target note highlights sub-sector G2, particularly where the shoreline is free of structures. The two adjacent existing structures are large concrete slipways against the sea wall. This sub-sector has been target noted as it has been identified as being important in terms of maintaining the integrity of the harbour. This is due to the potential importance of this area to waterfowl by offering mainly unobstructed flight and sightlines. Connectivity along the North Shore via this sub-sector is also considered important for waterfowl. G2 falls within Policy area 2 so that conditions would apply to any structure proposals made in this sub-sector (see Policy 2, Appendix 8)

The twenty sectors/sub-sectors along the North Shore of Poole Harbour can be assigned a Policy area based on the field survey and waterfowl survey data collected (Chapter 3 and 4) and target notes, where made. The placement of each sector/sub-sector into a Policy area is based on their present level of disturbance, density of jetties and/or slipways, and their value as foraging/loafing/roosting sites for waterfowl, particularly Annex 1 species. Table 5.3 below details the placement of the sub-sectors, and the qualification of their placement, into a Policy area.

Table 5.3: Placement of sectors into a Policy area according to their ecological sensitivity in terms of value to waterfowl and present levels of disturbance

Sector		Sub-sector	Policy area	Qualification
A	South Sandbanks	A1	3	Low disturbance level, moderate density of jetty and slipways, high potential for more. Low numbers of Key species of waterfowl supported (mainly feeding) somewhat restricted to the intertidal habitat
		A2	2	Areas of intertidal habitat are only used occasionally by birds when disturbed from Whitley Lake. Wash of boats limits value. Need to maintain area of shore (preferably open area within middle of unit) open as a temporary refuge. Target Note 1
		A3	3	Potentially high disturbance levels (although none recorded during surveys), high density of jetties and slipways, high potential for more. Low numbers of waterfowl supported (mainly feeding) although somewhat restricted to the intertidal habitat
B	Lilliput	B1	1	Potential moderate disturbance to sub-sector (although none recorded during surveys), presently low density of jetty and/or slipway development but high potential for future development. Relatively important sub-sector for roosting and feeding key species of waterfowl (moderate numbers recorded). Target Note 2
		B2	2	As above but apparently less important to waterfowl
C	Blue Lagoon/ Parkstone Bay	C1	2	High density of existing jetty and slipway structures, although low to moderate disturbance levels. High importance to key species of waterfowl for feeding and roosting, including within upper beach area
		C2	2	Low disturbance, very few existing jetties but high potential for future development. Low to moderate importance to key species of waterfowl feeding and roosting, including within upper beach area
		C3	2	Potentially high disturbance levels (although not recorded during the surveys), likely to discourage waterfowl at busy times of year, even though low present development. Moderately high numbers of key species of waterfowl recorded feeding and roosting within this sub-sector, including within upper beach area. Target Note 3
D	Baiter	D1	1	Low disturbance levels, low present development with equally low potential for development. Very high numbers of key species waterfowl recorded within intertidal habitat of sub-sector feeding and roosting
		D2	1	Potential for high disturbance levels (although none recorded during surveys) even though low present development. Very high numbers of key species waterfowl recorded feeding within intertidal habitat of sub-sector. Also recorded using upper beach area

Sector		Sub-sector	Policy area	Qualification
E	South-east Holes Bay	E1	3	Very limited intertidal habitat suitable for waterfowl to utilise. Limited potential that further disturbance would negatively affect waterfowl within this sub-sector
		E2	2	Potential for moderate disturbance levels, with a low density of existing jetty and slipway structures. Sub-sector supports moderate numbers of key species waterfowl feeding. There is a lack of upper and lower shore in this sub-sector restricting waterfowl activities further making this sub-sector sensitive to further development
F	West Holes Bay	F1	1	Low disturbance levels, low present development with equally low potential for development. This sub-sector supports moderate to high numbers of key species of waterfowl; the majority of which were recorded feeding in the intertidal habitat
		F2	3	Potential for high disturbance level due to high density of jetties and slipways (although disturbance not recorded during surveys). Low numbers of key species of waterfowl recorded during the surveys roosting within the upper beach part of sub-sector
		F3	1	Low disturbance levels, low present development. Relatively important sub-sector for feeding key species of waterfowl (moderate numbers recorded) within the intertidal habitat of this sub-sector. Target Note 4
G	Lower Hamworthy	G1	2	Potential for moderate disturbance levels; low density of existing jetty and slipway structures. Limited upper and lower shore habitat. Low numbers of waterfowl recorded feeding within the intertidal habitat. Additional structures likely to cause interruption of sight/flightlines around the harbour
		G2	2	Low disturbance levels, high density of existing jetty and slipways with high potential for further development. Lack of upper and lower shore habitat, although Low numbers of waterfowl recorded feeding within the intertidal habitat. Additional structures likely to cause interruption of sight/flightlines around the harbour. Target Note 5
		G3	2	As above. Additional structures likely to cause interruption of sight/flightlines around the harbour
H	Rockley Sands/ South-east Lytchett Bay	H1	3	Potentially high disturbance levels during holiday season (none recorded during surveys); low density of jetties and slipways, low potential for more. Low numbers of waterfowl recorded (mainly feeding) restricted to the intertidal habitat
		H2	1	Low disturbance levels, low present development with equally low potential for development. This sub-sector supports relatively high numbers of key species of waterfowl; the majority of which were recorded feeding in the intertidal habitat

5.5 Calculation of significance of impacts

The significance of the potential impacts on waterfowl along the North Shore Poole Harbour perceived as a result of the jetty and/or slipway construction is derived as follows.

The importance of a sector/sub-sector to key species of waterfowl, in which one or more sectors may be included, is a major determinant of the significance of potential impacts brought about by any development. The second most important determinant of the significance of impact/s is the 'scale of effect', such as the magnitude of the impact/s and the time scale, *e.g.* size of development, duration and frequency of disturbance *etc.*

The description of terms relating to the significance of potential impact/s is detailed below in Table 5.4.

Table 5.4: Description of terms relating to significance of impacts

Significance	Description
None	There would be no significance in terms of any impact/s on maintaining the integrity of Poole Harbour SPA
Low	The significance of impact/s would have a negligible effect on maintaining the integrity of Poole Harbour SPA
Moderate	The significance of impact/s would have a moderate negative effect on maintaining the integrity of Poole Harbour SPA
High	The significance of impact/s would have a large negative effect on maintaining the integrity of Poole Harbour SPA

To determine the significance of any given impact, the first step in the assessment is to cross-tabulate the 'scale of effect' with the Sector's importance to key species of waterfowl (Table 5.5 below). This can be used to determine the initial significance of impact/s based on the value of each Sector to waterfowl, and the scale of effect. The significance ranges from low to very high.

Table 5.5: Cross-tabulation of the 'scale of effect' and the sub-sectors importance to waterfowl along the North Shore of Poole Harbour

Scale of Effect (Impact)	Importance of sub-sector to waterfowl		
	Very high to high	**Moderate**	**Low to very low**
Large	Very high significance	High significance	Moderate significance
Medium	Very high/high significance	High/moderate significance	Moderate to low significance
Small	High to moderate significance	Moderate/low significance	None to Low significance

This framework is provided as a guide to how English Nature has formed its opinion (policy) for the sectors along the North Shore of Poole Harbour. This opinion will then set out the response of English Nature to future applications. For example, if the application is covered by a pre-formed policy then English Nature would not object and the application would not require an Appropriate Assessment. If, however, the application was not covered by a policy derived by the framework, and was considered likely to result in negative impacts on the integrity of Poole Harbour SPA, English Nature would object and would only remove this objection if substantive new information could be provided through the process of an Appropriate Assessment that undermined the policy adopted. In this case English Nature would change the policy for that unit to reflect this new information, and withdraw its objection.

5.6 Policy Structure

As a result of the collated survey information and the identification of the sectors/sub-sectors along the North Shore the policies can be used to classify areas according to:

- Whether existing structures should be modified to increase their conservation opportunities
- Whether proposed structures would have any significant effect on the integrity of the SPA
- Whether proposed structures would have any significant effect on the integrity of the SPA providing the designs were altered
- Whether proposed structures would be likely to have an adverse impact on the integrity of the SPA regardless of the design

Each policy refers to the following:

- The character and sensitivity (importance to waterfowl) of each sector/sub-sector identified
- The potential impact on any interest features within the SPA
- The significance of the potential impacts on the sector/sub-sector and SPA as a whole
- What mitigation measures and conditions would be expected in order to offset the negative impacts potentially experienced
- The likely reaction of English Nature to the development proposals within each category area

Generic Policy Content - the following points are relevant to each of the individual policies:

- Assessment of Impacts and Significance
  In order to assess the overall impacts, and significance of those impacts resulting from shore-line development within a Sector, the following policies have been cross-referenced: Department of the Environment Planning Policy Guidance Notes 9 Nature Conservation, and English Nature's advice given under Regulation 33 (2) of the Conservation (Natural Habitats &c.) Regulations 1994 for Poole Harbour European marine site.

- Potential Significance of Impacts to Policy area
  The potential impacts as a result of proposed jetty and/or slipway construction along the shore-line are detailed in paragraph 5.2.4. The significance of these impacts for **individual** and also **multiple** jetty and slipway construction for the Policy areas are detailed in tables within each individual policy. The significance is based on the 'Calculation of significance of impacts' detailed in paragraph 5.5. It should be noted that the significance of the impacts is based on worst-case scenario.

- Potential for Implementation of Mitigation Measures
  Mitigation measures aim to reduce the ecological impacts of jetty and/or slipway development highlighted above to a non-significant level, where possible and practicable. Mitigation measures should include proposals for avoidance, specialised and appropriate design, and ideally compensation for any loss of habitat. They are recommended for development proposals in order to safeguard the long-term favourable conservation status of waterfowl and the habitats for which the area has been designated a SPA.

  PPG9 states that where there is risk of damage to a designated site as the result of development, the planning authority could use conditions or planning obligations in the interest of nature conservation.

It is recommended that for each Policy area, particularly sectors/sub-sectors covered by Policy 1 and 2, existing structures should be examined in order to assess the impacts on the SPA resulting in their existence. This may be particularly important where different Policy areas abut each other, where construction in one Policy area may impact on another Policy area along the North Shore, for example newly constructed jetties in sectors/sub-sectors covered by Policy 3 disrupting traditional flight-lines into sectors/sub-sectors covered by Policy 1.

Where it is proven that a negative impact is evident, English Nature should seek the removal of structure/s, or modification of the structure/s in order to reduce the existing impacts and increase the favourability of the Policy area to waterfowl.

Table 5.6 below details the Policies and the criteria considered within each Policy, for example the existing or potential use by waterfowl, and the present level of disturbance and obstruction to waterfowl activities. The individual policies describe the principle reasoning behind an objection, the conditions, or where no objection has been raised.

Table 5.6: Policies relevant for each Policy area according to level of importance to waterfowl and present disturbance or obstruction to waterfowl activities		
Policy area 1: of high importance for waterfowl; areas particularly vulnerable to future development proposals; sector/sub-sector (or immediate surroundings) may already be subject to some development/disturbance, therefore sensitive to any increase in disturbance; may contain target noted area/feature up-grading sub-sector into a Policy area 1	**Policy area 2**: of moderate importance for waterfowl; may offer refuge to waterfowl from other, higher value sectors/sub-sectors when disturbed; other factors include limited habitat availability due to short tidal exposure, presence of adjacent structures or features causing disturbance *etc.*; may contain target noted area/feature up-grading sub-sector into a Policy area 2	**Policy area 3**: of low importance for waterfowl; limited valuable habitat available to waterfowl, possibly due to lack of suitable substrate or increased disturbance as a result of residential or recreational activities
Policy area 1 **Objection** (Policy 1)	Policy area 2 **Objection subject to conditions** (Policy 2)	Policy area 3 **No Objection** (Policy 3)

Table 5.7 below summarises which Policy covers each Policy area containing the sectors for the North shore of Poole Harbour SPA.

Table 5.7: Summary of Policies, Policy areas and sectors		
POLICY	**POLICY AREA**	**SECTOR/SUB-SECTOR**
Policy 1	1	B1 - Lilliput D1 – Baiter D2 – Baiter F1 – West Holes Bay F3 - West Holes Bay H2 – Rockley Sands/ S-E Lytchett Bay

Table 5.7: Summary of Policies, Policy areas and sectors		
POLICY	**POLICY AREA**	**SECTOR/SUB-SECTOR**
Policy 2	2	A2 – South Sandbanks B2 – Lilliput C1 – Blue Lagoon/Parkstone Bay C2 - Parkstone Bay C3 - Parkstone Bay E2 – South-east Holes Bay G1 – Lower Hamworthy G2 – Lower Hamworthy G3 - Lower Hamworthy
Policy 3	3	A1 – South Sandbanks A3 - South Sandbanks E1 - South-east Holes Bay F2 – West Holes Bay H1 – Rockley Sands/S-E Lytchett Bay

Figure 5.2 details the Policy areas along the North Shore. The individual policies are detailed in Chapter 8 (Appendix 8.2)

A description for each Policy area in terms of the area it covers and the extent of the sub-sectors within that policy area is given within each of the policies detailed in Appendix 8.2, and are shown on Figure 5.2.

For Policy area 2, a detailed list of conditions is given for each sub-sector that fall within this policy. Both Policy areas 2 and 3 will automatically contain a condition that best practice should be adhered to for any proposed design and construction of any jetty and slipway along the North Shore of Poole Harbour SPA.

6.0 GENERAL DISCUSSION & CONCLUSIONS

Although the winter waterfowl survey was limited in terms of time, being conducted during January-February in one winter, with a total of eight or nine visits, it has provided useful information upon which the Policy areas and policies have been established. The identification of the Policy areas and policies are therefore based on a 'snap-shot' survey of the North Shore and are likely to require modification over time to accommodate new relevant data occurring from future surveys, or as a result of Appropriate Assessments, where applicants have contended the policy prescribed for a particular Policy area affecting their desired development. It should also be noted that parts of the North Shore remained inaccessible, therefore accurate identification and verification of structures/habitats could not be made in these sectors.

In general, the survey appears to indicate that the North Shore has definite areas of high quality feeding and, to a lesser extent, roosting, habitat that supports a high number of key species of waterfowl in some cases, *e.g.* Blue Lagoon and Baiter. A total of six sub-sectors are contained in Policy areas 1 indicating their importance to waterfowl along the North Shore due to the presence of feeding habitats and lack of disturbance in these areas at the time of the surveys. These sectors are relatively un-developed and experience fewer disturbances than other areas. It is evidently a combination of factors benefiting the waterfowl within Policy area 1, including unobstructed sight-lines, presence of prey species, lack of regular disturbance *etc.*, and potentially increased tolerance of waterfowl to certain disturbance factors, although not all of these factors were investigated during this survey.

The majority of the remaining sub-sectors are covered by Policy area 2, with the remaining five in Policy area 3. The reason for this is that key species of waterfowl were recorded either feeding or roosting within all of the sectors, albeit in greatly differing numbers ranging from 700+ to just eight individuals. Therefore each sub-sector is valuable to waterfowl to a greater or much lesser degree. Had waterfowl repeatedly not been recorded within one or more of the sectors, then it would have qualified to be classed within Policy area 3, as it would appear to offer no value to waterfowl along the North Shore. In this case development within that Policy area would not affect the integrity of Poole Harbour SPA. Sub-sector C1 in Policy area 2 already has a relatively high level of existing jetties and slipways, although these structures appear not to deter waterfowl from feeding and/or roosting within the intertidal habitat further down the shore, and around the existing structures and upper beach habitat.

The recorded disturbance factors were low at the time of the survey, and any recorded disturbance mainly affected non-key species such as gulls. Some disturbance was noted to affect sectors E to H inclusive; however, the impact on waterfowl using these sectors appears to be minimal, as the majority of the sectors remain important to waterfowl. The only sectors along the North Shore where waterfowl were thought to be avoiding structures including jetties and slipways were Hamworthy (G1, G2 and G3) and Lilliput (B1 and B2). In places waterfowl were noted feeding in the wide gaps between the structures, probably in order to retain clear sight-lines. These sectors may be more sensitive to further jetty and slipway construction, due to the fact that further obstruction to sight-lines and associated disturbance may deter the birds from using that habitat altogether.

A number of factors may influence, or prompt a change to the policy and Policy area criteria, other than those previously mentioned. This is likely to be inevitable due to the fact that Poole Harbour is a dynamic natural system and that humans may shift their interest in the Harbour. In order to maintain the integrity of the SPA now and in the future, the following suggestions should be considered when addressing requests for individual jetties and slipways:

- The examination of existing jetties and slipways to monitor poorly designed and illegal structures (in terms of waterfowl), and the removal or remedy of existing structures to improve conditions for waterfowl
- Encourage multiple use of existing and proposed jetties and slipways, *i.e.* one structure per 3+ households

It is perceived that the policies developed as a result of this survey and assessment will be of use as a guide when addressing development proposals. In order to maintain accuracy regarding the Policy areas and the policy content it is deemed that regular future survey work for actual occurrence of waterfowl (Annex 1, International and National species and populations) within the sectors, and associated disturbance factors will be necessary. Observations on the successes of the policies over time would also prove beneficial when determining the management and maintenance of Poole Harbour SPA.

7.0 REFERENCES

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8.0 APPENDICES

8.1 BIRD SURVEY RECORDING FORMS

POOLE HARBOUR BIRD SURVEY - RECORDING FORM A

Use this form for 'basic recording' in all sectors (see footnotes also)

Part 1: Counts/positions of birds within this sector

Use this part of the form to make a record of all birds within this sector at the time of the survey.

Date:		**Sector code[3]:**		**Observer:**	
Start time: **Finish time:**		**Weather:**			
Tide status:		**Disturbance level (high, medium, low, none)[4]:**		**Disturbance factors[5]:**	
Species	**Approx. total no.**	**Approx. no. Roosting**	**Approx. no. Loafing**	**Approx. no. Feeding**	**Location: Map reference point[6]**

Part 2: Movements of birds between sectors

Use this part of the form to make a record of any significant movements of birds between sectors observed at the time of the survey.

Movement record: Map reference line[7]	**Species involved with approx. numbers in brackets[8]**	**Approx. height above ground[9]:**

[3] Adopt the sectors and sector codes shown on the sector maps

[4] Assess the overall level of disturbance to birds within this sector on this visit

[5] Record what the agents of disturbance were

[6] Plot the general location of the birds (central point) within the sector and use a code (e.g. G1 – meaning group 1) to cross-reference to the recording form. Make sure to add the date, sector code and times of survey to the field map also.

[7] Plot any movements (flights) of the birds recorded by means of a line on the field maps and use a code (e.g. F1 – meaning flight 1) to cross-reference to the recording form. Make sure to add the date, sector code and times of survey to the field map also.

[8] For example, a flock of 100 bar-tailed godwit and 200 redshank would be recorded as: BA(100)+RK (200).

[9] Recorded as low (less than 20m); medium (20-100m); high (>100m) - above ground for most of the flight.

POOLE HARBOUR BIRD SURVEY - RECORDING FORM B

Use this form for 'additional recording' in sectors with jetties/slipways only (see footnotes)

Part 1: Counts/positions of birds on or close to jetties/slipways and disturbances

Use this part of the form to make a record of birds using jetties/slipways for roosting or loafing or flock feeding close by

Date:	**Sector code[10]:**	**Observer:**
Start time: **Finish time:**	**Tide status:**	
Weather:		

Location: Map reference point[11]	**Roosting, loafing or feeding group**	**Species, with approx. numbers in brackets[12]**	**Approx. duration of use (minutes)[13]**	**No. of disturbances[14]**	**Disturbance agents and impacts[15]**

Please turn over

[10] Adopt the sectors and sector codes shown on the sector maps

[11] Plot the exact location of the birds within the sector and use a code (e.g. G1 – meaning group 1) to cross-reference to the recording form. It is important to identify the actual jetty/slipway being used by roosting or loafing birds. Make sure to add the date, sector code and times of survey to the field maps also.

[12] For example, a roost of 100 turnstone and 10 redshank would be recorded as: TT(100)+RK (10).

[13] Keep an eye on the flock, though not necessarily continuously. We are interested in approximately how long a group is able to use a structure or feed close by.

[14] How many times were the birds disturbed (i.e. forced to take flight)?

[15] For each disturbance event separately, record the source of disturbance (e.g. 1 = user of jetty/slipway; 2 = user of beach/intertidal; 3 = user of water), type of disturbance (*e.g.* angler, jet ski, yacht, boat, ship, scuba, wind surfer, wildfowler, walker, dog-walker, bird of prey *etc.*) and impact (*e.g.* 1 = birds took flight – all returned); 2 (birds took flight – not all returned); 3 (birds took flight – none returned). For example, "2/dog walker/3" would mean a disturbance from a dog walker on the nearby beach that resulted in all birds leaving altogether. Please use "?" where sources of disturbance are unknown.

Part 2: Movements of birds within sectors with jetties/slipways

Use this part of the form to make a record of any significant movements of birds within sectors with jetties/slipways

Movement record: Map reference line[16]	**Species involved with approx. numbers in brackets[17]**	**Approx. height above ground[18]:**	**Effect of jetties/slipways[19]**

[16] Plot any movements (flights) of the birds recorded by means of a line on the field maps and use a code (*e.g.* F1 – meaning flight 1) to cross-reference to the recording form. Make sure to add the date, sector code and times of survey to the field map also.

[17] For example, a flock of 75 ringed plover and 20 redshank would be recorded as: RP(75)+RK (20).

[18] Recorded as low (less than 20m); medium (20-100m); high (>100m) - above ground for most of the flight.

[19] Record whether jetties/slipways were obviously avoided, over-flown or under-flown, i.e. what effect did jetties/slipways have on movements, if any?

8.2 POLICIES

Policy 1, Policy area 1 - Objection

Policy area 1 Description – Refer to Figure 5.2 for location of Policy area 1 along the North Shore of Poole Harbour. The following sub-sectors qualify for inclusion in Policy 1:

B1 - Lilliput
D1 – Baiter
D2 – Baiter
F1 – West Holes Bay
F3 - West Holes Bay
H2 – Rockley Sands/ S-E Lytchett Bay

The Policy area is of high importance to waterfowl either for foraging, roosting/loafing, supporting high numbers of key species, due to the presence of suitable habitat and general lack of modification in most qualifying sectors. This Policy area experiences limited disturbance as a result of human activity such as noise, human presence, competition for prey species (bait digging, fishing), and commercial disturbance such as water sports, although the potential for disturbance is higher in some sub-sectors.

On the whole, the sub-sectors covered by Policy 1 have undergone limited development associated with private use such as jetties and slipways, and retain a relatively high level of unobstructed flight-lines and sight-lines for birds accessing and foraging within the Policy area. This Policy area is considered to be sensitive to further development, as it is likely that additional disturbance of the sectors associated with development and use would impact on important waterfowl species and numbers presently using the sectors, particularly those using the upper beach areas such as in sub-sector D2. Sub-sectors B1 and F3 would normally qualify to fall within Policy area 2; however, they both contain a target note identifying the sub-sectors' importance in maintaining the integrity of Poole Harbour SPA, and have therefore been included within Policy area 1.

Potential Significance of Impacts to Policy area 1

The significance of these impacts for **individual** and also **multiple** jetty and slipway construction for this Policy area is detailed in the Table 8.2.1 below.

Table 8.2.1: Significance of impacts for individual and multiple jetty and/or slipway construction

Potential impacts resulting from proposed development	**Significance of Impact**	
	Individual Development Proposal	**Multiple Development Proposals**
Restriction of views for foraging/loafing/roosting birds	High	High to Very High
Disruption of flight-lines	High	High to Very High
Temporary disturbance during construction works; long term intermittent disturbance during jetty and/or slipway use	High	High to Very High
Loss of habitat within Poole Harbour SPA	Moderate - High	High
Structures creating shade and increased abrasion from wave action resulting in habitat deterioration	Low – Moderate	Moderate - High
Creating increase in demand for future associated dredging	Low – Moderate	Moderate - High

Assessment of Impacts and Significance

Table 8.2.2 below highlights the key points of those legislation policies and whether the development proposal/s therefore creates conflict in maintaining the integrity of the SPA.

Table 8.2.2: Legislation policy and Target key aspects in the maintaining integrity of Poole Harbour SPA compared to the potential impacts of proposed development proposal/s		
Key Legislation Policy and Targets	**Potential Impacts arising from development (individual and multiple) relating to key points**	**Conflict in maintenance of SPA Integrity**
PPG9 Article 4 of the Birds Directive requires that special measures are taken to conserve the habitat of species listed in Annex 1 in order to ensure survival and reproduction in their area of distribution. Similar measures are to be taken in respect of regularly occurring migratory species not listed in Annex 1	• Potential habitat loss for foraging, roosting/loafing • Potential interruption of flight and sight-lines causing displacement of waterfowl	Yes
Consideration should be made as to whether the effect of the proposal on the site, either individually or in combination with other proposals, is likely to be significant in terms of ecological objectives for which the site was classified or designated	• Potential for development to have significant negative impacts on the Policy area and therefore on the waterfowl. This is deemed as being negative on the ecological objectives for which the site was designated	Yes
Regulation 33 (2) Habitat Directive require that actions are taken to avoid significant disturbance to species for which the site was designated	• As above	Yes
All sub-features of intertidal habitats (shallow inshore waters, intertidal sediment communities, saltmarsh communities, reedbeds) – there should be no significant decrease in numbers or displacement of wintering and breeding birds attributable to disturbance	• Potential for displacement of wintering and breeding birds due to disturbance associated with development and its use in the short and long-term • Structure/s may potentially discourage birds from foraging within a sensitive Policy area through obstruction of flight and sight-lines • Potential to cause long-term habitat deterioration	Yes
All sub-features – there should be no increase in obstructions to existing bird view lines, subject to natural change	• Structure/s are likely to cause disruption to sight-lines	Yes
All sub-features – there should be no decrease in extent of habitat from the established baseline, subject to natural change	• Structure/s would result in the loss, however limited, of habitat used by waterfowl for foraging, roosting/loafing/breeding	Yes
All sub-features - presence and abundance of food should not deviate significantly from established baseline, subject to natural change	• Potential habitat loss resulting in reduced foraging availability • Environmental changes in the immediate habitat surrounding a structure such as shading, temperature change and pollution inc. leaching from materials, however small, may result in the overall decrease of food availability	Yes

It can be determined from the above legislation policies that any development within sub-sectors covered by Policy 1 is likely to have a significant negative impact on the integrity of the SPA as a whole, and would be likely to oppose the objectives for which the site was originally designated, and would be likely to oppose the objectives set out in the Favourable Conditions table (English

Nature's advice given under Regulation 33 (2) of the Conservation (Natural Habitats &c.) Regulations 1994), and oppose the objectives for which the site was originally designated.

English Nature's objection to a proposed jetty or slipway development in this Policy area would be based on the current assessment (detailed above). If the applicant requires, the relevant authority would undertake an Appropriate Assessment with regard to waterfowl in order to adequately assess the potential impacts resulting from development within this Policy area. This may provide additional information for English Nature to reassess the policy. If an Appropriate Assessment were provided by the applicant, and English Nature were satisfied with its quality, English Nature may withdraw the objection and amend the policy for that particular policy unit accordingly.

Potential for Implementation of Mitigation Measures

For this Policy area, it is considered that regardless of mitigation measures and/or compensatory measures, any jetty and/or slipway development would potentially have a long-term negative impact on waterfowl using the Policy area and habitats on which the structure/s were built.

Likely Response from English Nature to a proposal for jetty and/or slipway development within this Policy area

Objection - It is considered that any proposal for jetty and/or slipway development within this Policy area should be met with objection on the grounds that compensatory mitigation measures, conditions or planning obligations would not adequately protect the integrity of the SPA, and that unacceptable, possibly irreversible damage to the SPA would be experienced, opposing the objectives set out in the Favourable Conditions table as mentioned above.

Policy 2, Policy area 2 - Objection subject to conditions

Policy area 2 Description - Refer to Figure 5.2 for location of Policy area 2 along the North Shore of Poole Harbour. The following sub-sectors qualify to be covered by Policy area 2:

A2 – South Sandbanks
B2 – Lilliput
C1 – Blue Lagoon/Parkstone Bay
C2 - Parkstone Bay
C3 - Parkstone Bay
E2 – South-east Holes Bay
G1 – Lower Hamworthy
G2 – Lower Hamworthy
G3 - Lower Hamworthy

The sub-sectors covered by Policy 2 (listed above) are of moderate importance to waterfowl mainly for foraging due to its associated suitable habitats, although it may experience disturbance to a greater of lesser degree, particularly C3, as a result of human activity such as noise, human presence, competition for prey species (bait digging, fishing), and commercial disturbance such as water sports, and supports moderate numbers of key species of waterfowl foraging within the sub-sectors. This Policy area is likely to offer waterfowl alternative, moderately sub-optimal habitat, where either bird numbers are high or where disturbance has forced displacement of birds from sub-sectors covered by Policy 1, *i.e.* of higher quality and suitability for their requirements.

Several of these sub-sectors contain target notes (A2, C3 and G2) indicating areas of important habitats or particular features occur within them. Although the target noted feature is not significant enough to up-grade the sub-sector to Policy area 1, it remains an important factor when considering development proposals within these areas.

Potential Significance of Impacts to Policy area 2
The significance of these impacts for **individual** and also **multiple** jetty and slipway construction for this Policy area is detailed in the Table 8.2.5 below.

Table 8.2.5: Significance of impacts for individual and multiple jetty and/or slipway construction

Potential impacts resulting from proposed development	**Significance of Impact**	
	Individual Development Proposal	**Multiple Development Proposals**
Restriction of views for foraging/loafing/roosting birds potentially leading to reduction in feeding efficiency of waterfowl	Moderate	Moderate - High
Disruption of flight-lines potentially deterring or obstructing use of traditional flight-lines as a result of shore-line construction	Moderate	Moderate - High
Temporary disturbance during construction works; long term intermittent disturbance during jetty and/or slipway use causing part of Policy area to be unavailable to feeding waterfowl	Moderate	Moderate - High
Causing reduction in total habitat within Poole Harbour SPA	Moderate	Moderate - High
Structures creating shade and increased abrasion from wave action resulting in habitat deterioration in localised areas along the shore-line, and therefore decrease in foraging potential	Low – Moderate	Moderate
Creating increase in demand for future associated dredging causing a direct or indirect change to physical quality of environment or habitat	Low – Moderate	Moderate

Assessment of Impacts and Significance

Table 8.2.6 below highlights the key points of those legislation policies and whether the development proposal/s therefore creates conflict in maintaining the integrity of the SPA.

Table 8.2.6: Legislation policy and Target key aspects in the maintaining integrity of Poole Harbour SPA compared to the potential impacts of proposed development proposal/s

Key Legislation Policy and Targets	Potential Impacts arising from development (individual and multiple) relating to key points	Conflict in maintenance of SPA Integrity
PPG9 Article 4 of the Birds Directive requires that special measures are taken to conserve the habitat of species listed in Annex 1 in order to ensure survival and reproduction in their area of distribution. Similar measures are to be taken in respect of regularly occurring migratory species not listed in Annex 1	• Potential habitat loss for foraging, roosting/loafing and breeding • Potential interruption of flight and sight-lines causing displacement of waterfowl	Possible
Consideration should be made as to whether the effect of the proposal on the site, either individually or in combination with other proposals, is likely to be significant in terms of ecological objectives for which the site was classified or designated	• Potential for development to have negative impacts on the Policy area. This is deemed as being negative on the ecological objectives for which the site was designated	Possible
Regulation 33 (2) Habitat Directive require that actions are taken to avoid significant disturbance to species for which the site was designated	• As above	Possible
All sub-features of intertidal habitats (shallow inshore waters, intertidal sediment communities, saltmarsh communities, reedbeds) – there should be no significant decrease in numbers or displacement of wintering and breeding birds attributable to disturbance	• Potential for displacement of wintering and breeding birds due to disturbance associated with development and its use in the short and long-term • Structure/s may potentially discourage birds from foraging within Policy area through further obstruction to flight and sight-lines • Potential to cause long-term habitat deterioration	Possible
All sub-features – there should be no increase in obstructions to existing bird view lines, subject to natural change	• Structure/s may cause disruption to sight-lines	Possible
All sub-features – there should be no decrease in extent of habitat from the established baseline, subject to natural change	• Structure/s may result in the loss of habitat used by waterfowl for foraging, roosting/loafing/breeding	Possible
All sub-features - presence and abundance of food should not deviate significantly from established baseline, subject to natural change	• Potential habitat loss resulting in reduced foraging availability • Environmental changes in the immediate habitat surrounding a structure such as shading, temperature change and pollution inc. leaching from materials, however small, may result in the overall decrease of food availability	Possible

It can be determined from the above legislation policies and the potential significance of impacts discussed in section 5.5, that any jetty and/or slipway development within this Policy area could potentially have a negative impact on the integrity of the SPA as a whole, and may oppose the objectives for which the site was designated originally, and the Favourable Conditions table detailed

in English Nature's advice given under Regulation 33 (2) of the Conservation (Natural Habitats &c.) Regulations 1994.
Likely Response from English Nature to a proposal for jetty and/or slipway development within this Policy area

Objection subject to conditions - It is considered that any application for jetty and/or slipway development within this Policy area should be considered carefully on the grounds of proposed appropriate mitigation measures designed to offset perceived negative impacts on the Policy area and bird species. It is possible that there is a lack of data for this Policy area for a final decision to be made, and it is likely that the decision would be based on an individual evaluation and be subject to applied conditions.

Where inadequate mitigation is proposed, *i.e.* where mitigation measures do not adequately reduce the impacts to a non-significant level, the application should be refused as it is considered that the integrity of the SPA could not be adequately protected.

Conditions:

For Policy area 2, it is considered that there is potential for conditions and mitigation measures to offset some of the negative impacts of jetty and/or slipway development. However, it is considered that some negative impacts on waterfowl using the Policy area could potentially remain following development within the sub-sectors.

The proposed conditions for jetty and/or slipway applications in the Policy area would include following the best practice guidance as set by English Nature for jetty and slipway design.

Sub-sector	Comment	Condition
A2	• In this sub-sector birds disturbed from Whitley Lake use occasionally areas of intertidal habitat • Boat wash limits value to waterfowl to some degree • The area of shoreline should be maintained as a temporary refuge to birds from disturbed areas, therefore aim to maintain open area within middle of sub-sector • Existing structures longer than policy advice should be identified	• Restrict length of any proposed structure (jetty/slipway) to the shortest existing structure in use (*i.e.* 10m) • Existing structures exceeding 10m are in conflict with this policy
B2	• Presently low density of structures but high potential for future development • Potentially a relatively important sub-sector for roosting and feeding key species of waterfowl • Existing structures longer than the policy allows should be identified and potentially dealt with appropriately	• Restrict length of proposed structures to 10m, or allow slipways only where they are situated within shore line gardens • Limit vessel types allowed adjacent to this sub-sector to small craft with small engines • Restrict use of structure to summer only (*i.e.* seasonal use) to prevent disturbance to wintering waterfowl • Lilliput Pier and the landing stage are in conflict with this policy

Sub-sector	Comment	Condition
C1	• High density of existing jetty and slipway structures, although low to moderate disturbance levels • High importance to key species of waterfowl for feeding and roosting, including within upper beach area • Areas of fringing reed on eastern shore of Blue Lagoon appear of value in reducing disturbance to birds. • Existing structures longer than policy advice should be identified	• 10m jetty would be permitted if mooring owned by the same person is removed, otherwise no structure would be permitted – aim is to prevent an increase in overall traffic within the harbour • General policies for the lagoon include restricting the use and launching of jet skies particularly in winter to reduce disturbance to wintering waterfowl
C2	• Lower numbers of existing structures in this sub-section • Issues similar to sub-sector B2 although jetty length may need to be further restricted as width of intertidal area is narrower	• Restrict length of structures to 10m • Consider slipways where they are situated within shore line gardens
C3	• The target noted area between Weston's Point and the Landing Stage should be kept as viable bird habitat • Low present development; experiences pressures of disturbance from human recreational activities	• Slipways only will be permitted within target noted area • No infilling of sub-sector will be permitted • Outside of target noted area - restrict length of structures to 10m
E2	• No, or low density of existing structures on mudflats within this sub-sector, although it is sensitive to further development due to potential adjacent housing development • Necessary to minimise disturbance to this sub-section in order to maintain the integrity of the bay area	• Consider slipways only, particularly where they are situated within shore line gardens • If jetties permitted restrict length of structures to 10m • Restrict type of watercraft using the sub-sector, *i.e.* small engined craft only, no jet skis *etc.*
G1	• Low density of existing jetty and slipway structures. Limited upper and lower shore habitat, therefore sensitive to further development • Additional structures likely to cause interruption of sight/flightlines around the harbour	• Consider slipways recessed into gardens where protection against flooding would allow • Jetties should be avoided or kept to maximum length of 10m
G2	• Similar in character to sub-sector G1 although with more potential for development • Target noted area highlights this part of the sub-sector as being particularly sensitive to disturbance and further development • Additional structures likely to cause interruption of sight/flightlines around the harbour	• Within the target noted area consider slipways only, recessed into gardens where protection against flooding would allow • Area outside of target note, limit any permitted structures to 10m in length

Sub-sector	Comment	Condition
	• The two existing structures to the east of this sub-sector are in conflict with this policy. • Could potentially allow infilling of structures to the west of the sub-sector providing jetties were kept to a maximum length of 10m	
G3	• The Pier opposite the car park is identified as being in conflict with this policy • As with G2. Additional structures are likely to cause interruption of sight/flightlines around the harbour	• If jetties permitted restrict length of structures to 10m

Policy 3, Policy area 3 - No Objection

Policy area 3 Description – Refer to Figure 5.2 for location of Policy area 3 along the North Shore of Poole Harbour.

The following sectors qualify to be covered by Policy area 3:

A1 – South Sandbanks
A3 - South Sandbanks
E1 - South-east Holes Bay
F2 – West Holes Bay
H1 – Rockley Sands/S-E Lytchett Bay

The survey has identified that the sub-sectors covered by Policy 3 are of low to negligible value to key species of waterfowl for feeding, due to the low numbers recorded within the sectors. Development associated with private use such as jetties and slipways is a feature of this Policy area, as both sectors have a high density of existing jetties and slipways, and are likely to experience disturbance associated with their use. The lack of importance of this Policy area may also be due to a direct lack of suitable habitat and other disturbance factors affecting the Policy area associated with recreation and boat use of the SPA, such as water sports and ferry wash.

Potential Significance of Impacts to Policy area

The significance of these impacts for **individual** and also **multiple** jetty and slipway construction for this Policy area is detailed in the Table 8.2.9 below.

Table 8.2.9: Significance of impacts for individual and multiple jetty and/or slipway construction

Potential impacts resulting from proposed development	**Significance of Impact**	
	Individual Development Proposal	**Multiple Development Proposals**
Restriction of views for foraging/loafing/roosting birds potentially leading to reduction in feeding efficiency of waterfowl	None - Low	Low
Disruption of flight-lines potentially deterring or obstructing use of traditional flight-lines as a result of shore-line construction	Low	Low - Moderate
Temporary disturbance during construction works; long term intermittent disturbance during jetty and/or slipway use causing part of Policy area to be unavailable to feeding waterfowl	Low	Low - Moderate
Causing reduction in total habitat within Poole Harbour SPA	Low	Low
Structures creating shade and increased abrasion from wave action resulting in habitat deterioration in localised areas along the shore-line, and therefore decrease in foraging potential	Low	Low - Moderate
Creating increase in demand for future associated dredging causing a direct or indirect change to physical quality of environment or habitat	Low	Low - Moderate

Assessment of Impacts and Significance

Table 8.2.10 below highlights the key points of those legislation policies and whether the development proposal/s therefore creates conflict in maintaining the integrity of the SPA.

Table 8.2.10: Legislation policy and Target key aspects in the maintaining integrity of Poole Harbour SPA compared to the potential impacts of proposed development proposal/s

Key Legislation Policy and Targets	Potential Impacts arising from development (individual and multiple) relating to key points	Conflict in maintenance of SPA Integrity
PPG9 Article 4 of the Birds Directive requires that special measures are taken to conserve the habitat of species listed in Annex 1 in order to ensure survival and reproduction in their area of distribution. Similar measures are to be taken in respect of regularly occurring migratory species not listed in Annex 1	• Limited potential habitat loss for foraging, roosting/loafing and breeding • Limited potential for interruption of flight and sight-lines causing displacement of waterfowl	Limited potential
Consideration should be made as to whether the effect of the proposal on the site, either individually or in combination with other proposals, is likely to be significant in terms of ecological objectives for which the site was classified or designated	• Potential for development to have significant negative impacts on the Policy area. This is deemed as being negative on the ecological objectives for which the site was designated	Limited potential
Regulation 33 (2) Habitat Directive require that actions are taken to avoid significant disturbance to species for which the site was designated	• As above	Limited potential
All sub-features of intertidal habitats (shallow inshore waters, intertidal sediment communities, saltmarsh communities, reedbeds) – there should be no significant decrease in numbers or displacement of wintering and breeding birds attributable to disturbance	• Limited potential for displacement of wintering and breeding birds due to disturbance associated with development and its use in the short and long-term • Structure/s may potentially discourage birds from foraging within Policy area through obstruction of flight and sight-lines	Limited potential
All sub-features – there should be no increase in obstructions to existing bird view lines, subject to natural change	• Structure/s are likely to cause disruption to sight-lines	Limited potential
All sub-features – there should be no decrease in extent of habitat from the established baseline, subject to natural change	• Structure/s would result in the loss, however limited, of habitat used by waterfowl for foraging, roosting/loafing/breeding	Very Limited
All sub-features - presence and abundance of food should not deviate significantly from established baseline, subject to natural change	• Potential habitat loss resulting in reduced foraging availability • Environmental changes in the immediate habitat surrounding a structure such as shading, temperature change and pollution inc. leaching from materials, however small, may result in the overall decrease of food availability	Limited potential

It can be determined from the above legislation policies that any development within this Policy area is unlikely to have a potentially negative impact on the integrity of the SPA as a whole, and be unlikely to oppose the objectives for which the site was originally designated, or oppose the Favourable Conditions table set out in English Nature's advice given under Regulation 33 (2) of the Conservation (Natural Habitats &c.) Regulations 1994.

Likely Response from English Nature to a proposal for jetty and/or slipway development within this Policy area

No Objection - There is evidence to suggest that this Policy area is presently of low to very low importance to waterfowl due to the lack of suitable habitat or the high level of disturbance that is likely to occur here. English Nature would not raise an objection to an application for jetty and/or slipway development within this Policy area on the grounds that additional disturbance or habitat loss would be unlikely to affect the integrity of the SPA.

As with all development within the SPA, best practice with regard to nature conservation and sustainability should be adhered to.

8.3 Best Practice Guidance (Nature Conservation) for Jetty and Slipway Design

8.3.1 Introduction

In this section recommendations are formulated based on our research for measures to minimise the impact of all new jetty/slipway structures on the foreshore along the North Shore of Poole Harbour SPA. These measures are based on existing best practice guidance, where available, and English Nature/Just Ecology experience.

8.3.2 Potential Impacts

Potential negative impacts on Annex 1 bird species arising from the construction of jetties and slipways have been addressed in Chapter 5 of this report.

In brief, the impacts are perceived to be as follows:

- Restriction of views for foraging/loafing/roosting birds
- Disruption of flight-lines
- Disturbance during construction works and jetty and/or slipway use
- Reduction in total habitat within Poole Harbour SPA
- Direct or indirect changes to the physical quality of the habitat, with implications on the foraging potential

Ultimately the impacts may lead to insecurity and a reduction in feeding efficiency and increased energy expenditure of waterfowl. The perceived impacts therefore have the potential to effect the present and future integrity of the Poole Harbour SPA should construction of jetties and slipways be permitted without control or applied conditions, such as mitigation measures, to offset any negative impacts perceived.

It is important that best practice is followed when designing a jetty and/or slipway in such an important area as Poole Harbour. Potential negative impacts can be addressed in the earliest stages, therefore protecting the SPA from further damage (and also probably saving time and cost to the applicants in the long term).

8.3.3 Methods of addressing negative impacts

There are several ways in which to address the identified impacts. These are as follows:

1) Prevent construction of structures within habitats of high importance to waterfowl

2) Minimise habitat loss by restricting the length and size of jetties and/or slipways

3) Prevent or minimise obstruction to flight and sight lines

4) Apply seasonal restrictions on the use of permitted jetties and slipways

5) Use non-toxic materials in jetty and slipway construction (and materials sourced locally, produced sustainably *i.e.* not tropical hardwoods *etc.*)

1) <u>Prevent construction of structures in habitats of high importance to waterfowl</u> – This research has identified the habitats along the North Shore that are of high, moderate and low ecological importance to Annex 1 waterfowl species (and others). It is therefore possible to avoid construction of jetties and slipways within the areas of high importance, and avoid patches of high priority habitat, *e.g.* remnant saltmarsh where there is very little left, and habitats used for foraging, loafing and roosting; restrict construction in areas of moderate importance, and

control construction in areas of low importance, thus assisting to prevent disturbance and habitat loss in areas used by waterfowl to a greater or lesser extent. The policies have been designed to identify proposals that would potentially cause a negative impact upon the integrity of the SPA, and could be refused on those grounds.

2) Minimise habitat loss by restricting the length and size of jetties and/or slipways – As a general rule, habitat loss should be kept to a minimum regardless of how important or unimportant the habitat is to Annex 1 waterfowl. To further nature conservation the entire marine and coastal ecosystem should be protected from unnecessary damage and negative impacts resulting from commercial and leisure activities.

   Ways in which to minimise habitat loss during jetty and slipway design include:

   - Restrict the length, width and total area of structures to a minimum practical dimension, *i.e.* only that needed to fit the purpose for which the jetty/slipway is being produced
   - Use sensitive construction techniques, *i.e.* construction from land and not from the water. This may help prevent impacts from pollution to the seabed, caused by sediment being disturbed, which may also contain stored heavy metals from previous pollution incidents. These contaminants may then be taken up by prey items of waterfowl causing a 'bio-accumulation' effect
   - Sensitive design of structures, *i.e.* the slipways do not need to be solid, instead they could be two parallel strips. The decking on jetties/boardwalks could be open steel mesh design to allow sunlight through, and therefore warmth and better air circulation *etc.*
   - Consideration should also be given to the use of temporary structures rather than permanent ones, *e.g.* floating pontoons, portable tracks, and piled jetties and/or slipways. This would only be possible where the shoreline allows easy access to place and remove the structures. Temporary structures can be removed during the less busy times of the year, *i.e.* the winter months, freeing up habitat that may potentially be utilised by waterfowl during the winter months
   - Jetties and slipways could be shared amongst neighbours, *i.e.* one structure between two or three houses (or more), or more public jetties/slipways could be provided, with incentives for using them.

3) Prevent or minimise obstruction to flight and sight lines – in order to retain clear sight and flight lines important for waterfowl when foraging, loafing, roosting and during movements around the harbour, proposed structures should not be permitted where it is proven that obstruction would impact upon Annex 1 bird species. All permitted structures should be restricted in length and height. In most already built up areas, the length of proposed jetties should not exceed those already in place. Where a structure is proposed in a moderately built up area, it should only be permitted adjacent to existing structures. This provides the opportunity for waterfowl to make use of habitats between jetties and slipways where the distance clear of structures is more than 200m.

   Features such as railings, gates, sheds *etc.* should be prevented where jetties and slipways are permitted adjacent to areas of high and moderate importance to waterfowl. These features are likely to cause further obstruction to flight and sight lines by increasing the vertical height of the jetty.

4) Seasonal restrictions on the use of permitted jetties and slipways – consideration should be given to the proposed use of the jetty and/or slipway and its effect on waterfowl using habitats adjacent to the structures. For example, where structures are used to launch motor craft/jet skis *etc.* there is potential for a high level of disturbance to waterfowl within the aquatic zone. This is likely to be of greater significance at certain times of the year, for example there is substantial disturbance potential for motorised craft to pass through favoured areas for wintering waterfowl along the North Shore *e.g.* grebes and mergansers. By placing seasonal restrictions on the use of

jetties and slipways in certain area highlighted as seasonally sensitive, avoidance of further disturbance is achievable.

5) Use non-toxic materials in jetty and slipway construction – when designing and constructing jetties and slipways, consideration should be given to the use of sustainably produced and local materials, which are non-toxic to marine/estuary ecology. As mentioned above, the structure design can incorporate ways to retain substrate and habitat, *i.e.* open mesh design, two parallel runs on the slipway rather than one solid construction *etc.*, which may ultimately reduce the materials used in their construction.

8.3.4 Discussion

In this report, areas where construction of jetties and/or slipways should be prevented have been identified. In the remaining areas the 'best practice' in terms of nature conservation for jetty and slipway design should be adhered to.

It appears that there is, at present, a lack of information available concerning nature conservation and jetty and slipway design. Research into the possible designs of low impacting jetties and slipways, including materials, would be a considerable benefit when recommending best practice measures appropriate for a particular proposal, based on location, substrate, existing ecology and importance to waterfowl. It is important that nature conservation as a whole is addressed and not just one aspect of it, as ultimately the ecosystem should remain stable in order to benefit all components, including waterfowl.

It may prove necessary to address the issue of illegal jetty and slipway structures constructed along the North Shore without planning permission and without a permit. It is likely that a number of these structures produce a negative impact upon waterfowl and their removal would potentially assist in restoring habitats and thus maintaining the positive status of the SPA.

It is highly recommended that future monitoring be conducted to monitor the success of the best practice guidance, and to identify areas where changes are needed and improvements can be made. Activities that cause disturbance can also be monitored. These are likely to change where trends in harbour use alter, such as water sports, or where visitor numbers increase.

By restricting the numbers of jetty and slipway structures, possibly applying seasonal restrictions and addressing the issue of illegal structures, some progress can be made to the protection of high quality habitats for waterfowl and associated ecosystems. A sensible way to address this, as previously mentioned, is by encouraging the sharing of jetty and slipway facilities between properties. Human nature is such that most households would want private structures; however, if sharing was a viable and attractive alternative to a proposal being refused, it may prove more of a popular option. The Harbour Commission or local authority could explore the possibility of an increase in the number of public jetties/slipways for local residents, possibly with incentives for their use (*e.g.* discounts on permits, mooring fees *etc.*).