



Solent Disturbance and Mitigation Project Phase III: Towards an Avoidance and Mitigation Strategy



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Solent Disturbance & Mitigation Project:
Phase III, Mitigation Report



Date: 24th May 2013

Version: Final

Recommended Citation: Liley, D. & Tyldesley, D. (2013). Solent Disturbance and Mitigation Project: Phase III. Towards an Avoidance and Mitigation Strategy. Unpublished report. Footprint Ecology/David Tyldesley & Associates

Summary

This report is the last part (Phase III) of the Solent Disturbance and Mitigation Project (SDMP). We consider avoidance and mitigation measures relating to the particular impacts associated with new development and provide our advice to the Solent SDMP partners. Mitigation measures are necessary to protect the European Site (Special Protection Area (SPA) and Ramsar) interests on the Solent (including the north shore of the Isle of Wight), and the focus of the report is recreational disturbance to the wintering and passage waterfowl interest. The need to address mitigation follows from previous studies, including a review of the issues (Phase I) and detailed fieldwork and modelling (Phase II) relating to bird disturbance. Modelling suggests that current access levels are sufficient to result in mortality to the wintering bird interest on the Solent, and predicted increases in access levels (as a result of new housing) will exacerbate these impacts. In this report we consider how a mitigation and avoidance strategy might look and function. The report provides the framework for how a detailed, costed plan could be established.

The issues relating to recreation impacts are complex. The study area is some 250km of shoreline, encompassing a wide range of habitats (from inlets to open coast) and includes three different SPAs (each with slightly different interests). Levels of current access and future changes (predicted as a result of new housing) vary along the coastline. The coast is popular with local people and enjoyed for a wide range of activities, and access to the coast is important to the local economy. While much of the access takes place regardless of the wildlife interest, that wildlife interest is also a part of the specific draw for many people. New housing will increase the number of local residents, many drawn to live in the area because of the surrounding countryside.

Local authorities have a legal duty to ensure no adverse effects on the integrity of the European Sites occur as a result of their strategic plans or planning decisions. Impacts from increased recreation will be gradual and take place over an extended period. While mitigation measures might seek to control or limit access in some areas, the overall aim should be to enhance the existing recreation experience and provide opportunities such that access and nature conservation interests are not in conflict.

We consider the following to be key threads of a mitigation package:

- A delivery officer
- A team of wardens/rangers
- A coastal dog project
- A review of parking
- A review of watersport zones/watersport access
- Codes of conduct pack
- Series of site specific projects
- Watersport permits & enforcement
- SANGs/additional gi/alternative roost sites

Each thread is considered within the report in detail. We consider the delivery officer, wardening team and coastal dog project to be elements that could be instigated quickly and easily, and these would have a broad geographic remit. They represent 'quick wins'. Work on the reviews and codes of conduct pack could be led by the delivery officer and be completed relatively easily, and are also relatively short term. A series of site specific and more local projects would then follow, as opportunities and need required, and these could be phased with development. We set out what such projects might involve. They would in part be informed by the reviews of parking and zoning.

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Acknowledgements

This report was commissioned by Portsmouth City Council on behalf of a partnership of local authorities. We are grateful to David Hayward (Portsmouth City Council) for overseeing the commissioning of the work.

A workshop was held on the 29th November 2012 in Havant, and at this workshop the outline for this report was presented and a series of groups considered in detail site specific projects relating to individual sections of the coast. We are grateful to Karen McHugh (Solent Forum) for helping organise the event and to Julie Boschi (Havant Borough Council) for hosting the workshop. We are grateful to all those who attended the workshop and contributed their time, ideas and provided useful discussion. David Hayward, Helen Fearnley (Footprint Ecology), Karen McHugh and Ed Rowsell (Chichester Harbour Conservancy) kindly led group discussions at the event and our thanks to them for the extensive note taking.

Data relating to the Solent Strategy and the important wader and brent goose sites were from the Hampshire Wildlife Trust and our thanks to Debbie Whitfield (HWT) for providing copies of the data for us.

A number of people have provided useful discussion and thoughts, in particular our thanks to the authors of the previous parts of the SDMP – Ralph Clarke (Bournemouth University), Helen Fearnley and Richard Stillman (Bournemouth University), whose considerable input has provided the platform for this work. A draft version of this report was circulated in February 2013 and we are grateful for the many comments received. We also acknowledge the range of people that contributed to the poll regarding the efficacy of measures to reduce disturbance.

1. Introduction

Overview

- 1.1 This report forms Stage III of the Solent Disturbance and Mitigation Project. The report considers avoidance and mitigation measures relating to the particular impacts associated with new development and it focuses on increased recreational disturbance to wintering and passage waterfowl. Such measures are necessary to protect the SPA and Ramsar site interests on the Solent (including the north shore of the Isle of Wight), and this report follows Phases I and II of the Project, which have included a review of the issues (Phase I) and detailed fieldwork and modelling (Phase II) relating to bird disturbance. The aim of the report is to consider how a mitigation and avoidance strategy might look and function. In this introduction section we consider the background to the work and the legislative context.

Background

- 1.2 A critical issue for UK nature conservation is how to accommodate increasing pressure for new homes and other development without compromising the integrity of protected sites. There is now a strong body of evidence showing how increasing levels of development, even when well outside the boundary of protected sites, can have negative impacts on the sites. The issues are particularly acute in southern England, where work on heathlands (Mallord 2005; Underhill-Day 2005; Liley & Clarke 2006; Clarke, Sharp, & Liley 2008; Sharp *et al.* 2008) and coastal sites (Saunders *et al.* 2000; Randall 2004; Liley & Sutherland 2007; Clarke *et al.* 2008; Liley 2008; Stillman *et al.* 2009) provides compelling indications of the links between housing, development and nature conservation impacts.
- 1.3 The issues are not straight forward. Increased access and recreational disturbance are one of the relevant issues associated with new development. In the past access and nature conservation have typically been viewed as opposing goals (Adams 1996; Bathe 2007) to the extent that nature reserves often restricted visitor numbers and access (e.g. through permits, fencing and restrictive routes). It is now increasingly recognised that access to the countryside is crucial to the long term success of nature conservation projects and has wider benefits such as increasing people's awareness of the natural world and health benefits (English Nature 2002; Alessa, Bennett, & Kliskey 2003; Morris 2003; Bird 2004; Pretty *et al.* 2005). Therefore, there is the potential for conflict where high human populations occur alongside areas of conservation importance, particularly where there are existing rights of access to those sites.

The Solent

- 1.4 This contract focuses on the Solent shoreline between Hurst Castle and Chichester Harbour, including the north shoreline of the Isle of Wight, a length of shoreline totalling some 250km. The wintering bird interest is summarised by Stillman *et al.* (2009) and also repeated in this document within [Appendix 1](#). It includes three SPAs: the Solent & Southampton Water SPA, Chichester and Langstone Harbours SPA and Portsmouth Harbour SPA.

Previous Studies within the Solent Disturbance and Mitigation Project

- 1.5 The shoreline is heavily populated and includes urban centres such as Southampton and Portsmouth. New housing levels may be in the region of 82,000¹ dwellings in the period through to 2026. Much of this development will be within a short distance of the coast.
- 1.6 It is this level of growth and the existing high local population that has prompted concern regarding likely significant effects to the European sites. In order to understand the issues in more detail, to inform future assessments and the evidence base to underpin strategic plans, a series of studies have already taken place. These largely focus on the impacts of increased recreation to the wintering bird interest. The studies have been designed to ensure that the in-combination effects of development across a wide area can be considered.
- 1.7 This work has involved the desk-based Phase I (Stillman *et al.* 2009), and followed by Phase II work that included on-site visitor fieldwork (Fearnley, Clarke, & Liley 2010); ornithological fieldwork (Liley, Stillman, & Fearnley 2010); a postal household survey (Fearnley, Clarke, & Liley 2011) and detailed modelling drawing on the other reports (Stillman *et al.* 2012).
- 1.8 The modelling work has indicated that there are current impacts from disturbance, at least for Southampton Water. Disturbance from current housing was predicted to reduce the survival of Dunlin, Ringed Plover, Oystercatcher and Curlew. Increased visitor numbers as a result of future housing was predicted to further reduce the survival of Dunlin and Ringed Plover (see Stillman *et al.* 2012 for full details).

The peer review

- 1.9 Given the large volume of previous studies and the relative complexity of the modelling work used to explore the impact of future housing, Natural England commissioned a scientific peer review of the Solent Disturbance and Mitigation Project. This review (ABP Marine Environmental Research Ltd. 2012), was finalised in December 2012. Natural England has written to the relevant local authorities² and in the letter concludes “Our advice is that the likelihood of significant effect, in combination arising from new housing development around the Solent cannot be ruled out.” The Solent Forum understands that Natural England wish to work in partnership with local authorities to develop effective solutions.

The legislative context and the need for a mitigation strategy

- 1.10 Where the nature conservation interest is designated as a European Protected site (SAC, SPA or Ramsar) there are particular implications. European sites are protected through the provisions of the Conservation of Natural Habitats and Species Regulations 2010 (SI no. 490), which transpose both the Habitats Directive (Council Directive 92/43/EEC) and the Wild Birds Directive (Council Directive 2009/147/EC) into UK law.
- 1.11 With respect to the impacts of access on relevant sites, Regulation 61 ensures that competent authorities can only agree to a plan/project which is likely to have a significant effect (alone or in-combination) after having determined that it will not adversely affect the

¹ Figure drawn from contract brief

² Letter from Simon Thompson dated 7th February 2013

integrity of any European site (subject to imperative reasons of over-riding public interest and consideration of alternative solutions). Impacts associated with recreational activities that can be linked to plans or projects should therefore be avoided through the correct application of Regulation 61 by competent authorities. Regulation 61 applies to all European sites and therefore covers both SACs and SPAs (listed Ramsar features are also protected as a matter of government policy). New development and strategic development plans must therefore address any impacts of increased recreation to European sites.

- 1.12 The test of “likely significant effect” is often described as a coarse filter, a first stage in the assessment process to identify which plans or projects could possibly affect a site significantly and therefore require further, detailed assessment. The consideration of likely significant effect must be based on sound judgement. This work (and the bulk of the Solent Disturbance and Mitigation Project) focuses on wintering waterfowl and the impacts of recreational disturbance. The birds are present from late summer through to March, and feed on invertebrates or vegetation in the intertidal and other wetland habitats. Tens of thousands of birds are present over the winter and they are highly mobile over the winter period, responding to availability of food, tidal conditions and the weather. Recreational disturbance has the potential to affect such birds in a range of different ways, for example:
- Physiological impacts, such as increased stress
 - Redistribution of birds within the estuary, in response to the presence of people. Redistribution can be short-term – response to individual disturbance events – or more chronic, with birds simply avoiding using otherwise suitable habitat
 - Reduced intake rate due to responding to disturbance, and having to feed in areas with lower amount of food etc.
 - Increased energy expenditure as a result of birds flying to different areas to feed and being flushed while feeding and roosting. Disturbance may also increase stress levels/heart rate etc which may also have consequences for energy expenditure
- 1.13 On a single site, localised disturbance in a small part of the site for a small amount of time is unlikely to result in a likely significant effect, as birds are highly mobile, and on a large site there will be many options where birds can feed. Temporarily switching to other locations within an estuary will take seconds, and the impact from a single brief event will therefore be negligible.
- 1.14 More chronic disturbance, regularly affecting larger parts of sites, will have more serious effects. Disturbance can be considered as similar to habitat loss (Sutherland 1996) or even worse because the flushing has energetic costs that would not be incurred if the habitat was simply not available to the birds at all (West *et al.* 2002). On a busy estuary site, where a wide range of activities take place throughout the day, across tide states and over different parts of the estuary, significant proportions of the habitat may be unavailable to the birds. Thinking of disturbance like this, purely in terms of habitat loss, it follows that if the area available to the birds is reduced, birds are forced to redistribute and it is likely they will end

up feeding in locations with reduced amounts of food and possibly more interference from other birds due to the reduced amount of space.

- 1.15 Some may argue that the impact of disturbance is low for wintering waterfowl because increased mortality is not apparent (i.e. birds aren't recorded dying) or a marked drop in numbers (that can be linked directly to disturbance) recorded. Of course, individual birds may well be able to compensate by modifying their behaviour (Swennen, Leopold, & Bruijn 1989), for example feeding for longer (Urfi, Goss-Custard, & Lev. Dit Durell 1996), feeding at night (Burger & Gochfeld 1991; McNeil, Drapeau, & Goss-Custard 1992) or temporarily switching to other estuaries/sites. In such cases the birds may still survive, but with increased pressure put on the system it is likely to be more vulnerable in the long-term, and the 'slack' in the system greatly reduced. There is evidence that the bird breeding success and migration patterns are linked to the quality of the wintering sites (Gill *et al.* 2001) so gradual deterioration on wintering sites might link to reduced breeding success, or even the number of birds able to migrate back to the breeding grounds at the end of each winter (Goss-Custard *et al.* 2002).
- 1.16 It can be seen that there is the potential that a site's ability to support a given number of birds can be compromised as a result of disturbance. The on-site disturbance fieldwork within the Solent Disturbance and Mitigation Project revealed a wide range of recreational activities were causing disturbance. The visitor survey work and household survey reveal the clear links between where people live and recreational use. Using these data, the modelling component of the Solent Disturbance and Mitigation Project found that disturbance resulted in the redistribution of birds and predicted that disturbance levels (based on the current housing scenario, i.e. current population) were at a level to reduce the survival of dunlin, ringed plover, oystercatcher and curlew within the Southampton Water. Increased visitor numbers were predicted to further reduce the survival of Dunlin and Ringed Plover. Even if the current visitor numbers were halved, mortality impacts were still predicted by the model for oystercatcher and curlew. In the modelling report the impact of disturbance on the birds is considered in terms of mortality – i.e. the number of birds dying over a winter given particular scenarios/parameters. This is of course a particularly stringent approach to considering likely significant effects, as even if birds were not dying, a marked redistribution of the birds and loss of habitat are significant effects in their own right because they would undermine the conservation objectives.
- 1.17 With the likely significant effect test needing to consider impacts over the lifetime of the development – impacts in perpetuity – it is clear that, without counter acting measures in place, the proposed levels of housing development set out within the relevant local authorities' strategic plans will have a likely significant effect on the wintering bird interest.
- 1.18 Appropriate Assessment will therefore be required and competent authorities can only agree to a plan/project which is likely to have a significant effect (alone or in-combination) after having determined that it will not adversely affect the integrity of any European site (subject to imperative reasons of over-riding public interest and consideration of alternative solutions). Such assessment will therefore need to incorporate the options to avoid and reduce impacts from disturbance if the plans are to be adopted.

- 1.19 Also relevant is Article 6(2) of the Habitats Directive, which requires Member States to take appropriate steps to avoid, in the SACs and SPAs, the deterioration of natural habitats and the habitats of species as well as disturbance of the species for which the areas have been designated. Article 6(2) states that “member states shall take appropriate steps to avoid.... deterioration of natural habitats.... as well as disturbance of the species...”; the wording therefore puts a responsibility on the member state to address such issues where they arise.
- 1.20 Furthermore in 2012, regulation 9A was added to the Conservation of Habitats and Species Regulations 2010 which, in summary, requires the local planning authorities to take steps they consider appropriate to secure the objective of the preservation, maintenance and re-establishment of a sufficient diversity and area of habitat for wild birds in the UK, for example by means of the upkeep, management or creation of such habitat, whether in or outside a SPA.

Aims of this report

- 1.21 It is therefore necessary for the local authorities around the Solent to consider how measures could be established to mitigate for the cumulative impacts of recreational disturbance. This report considers the issue in detail and sets out to:
- a. List possible mitigation measures that may reduce disturbance impacts to wintering waterfowl
 - b. Identify particular measures that are likely to be effective and represent cost effective and practical approaches to resolving the issues
 - c. Identify measures which could be established rapidly if required – ‘quick wins’
 - d. Consider how a mitigation strategy might work, addressing issues relating to governance, ‘zone of influence’, joint working across different authorities, and the practicalities of delivery.

2. Guiding Principles

Overview

- 2.1 In the previous section we have set out the legislative context and the need for mitigation. In this section we set out the guiding principles for the rest of the report. These guiding principles essentially provide the framework for the mitigation strategy developed in later sections.

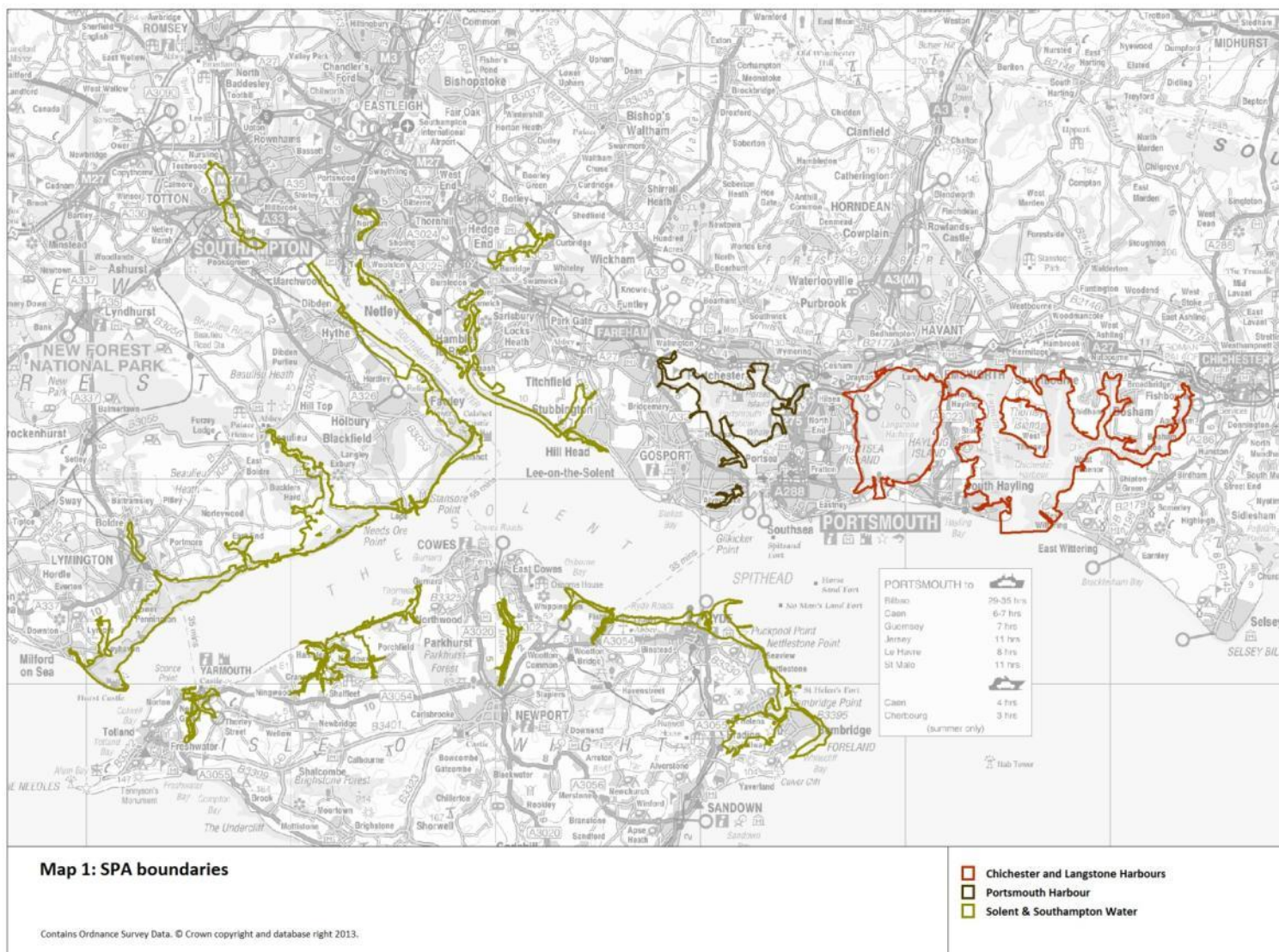
Key Principles

- 2.2 In this report we focus on wintering waterfowl and the three SPAs mentioned above. Additional consideration (and potential mitigation measures) may be necessary for the SAC interest, Ramsar interest (apart from the wintering waterfowl) and the breeding bird interest within the Solent, but are not considered here.
- 2.3 We focus on the impacts of new housing in terms of increased recreational use/increased presence of people, their pets etc. We do not consider mitigation measures that relate to other possible impacts of urban development (such as water quality, impacts of buildings on flight lines etc). Such impacts may need to be addressed in other ways. Similarly the focus of the mitigation is on new residential development (noting that the evidence base indicates that the existing levels of access are having impacts on the wintering bird interest of the SPAs). While some of the measures may also address impacts from tourism (for example a requirement to keep a dog on a lead would apply to all visitors, not just residents), it is recreational use from residents that is addressed.
- 2.4 Changes in recreational use – from new residents – will be gradual, meaning that the existing impacts will increase. As development levels increase it will be expected that the number of people in the general area will increase and such changes will happen slowly over time.
- 2.5 In order for development to proceed, mitigation must provide the confidence that there will be no adverse effect on the integrity of the European sites, as a result of cumulative effects of new development (which will come forward across a wide geographic area over a number of years). The overall aim of mitigation should therefore be to ensure that disturbance levels do not increase. This is different from ensuring that the levels of access do not increase, as people are visiting the countryside more (e.g. TNS Research International 2011) and therefore even if the population size was to remain constant, an increase in access levels over time might be expected. Furthermore, disturbance levels will relate to how people behave on sites, and it is therefore potentially possible for some areas of sites to support increased levels of access without disturbance increasing within the SPA. As a simple example, re-routing access such that visitors walk behind a seawall might, at a particular location, mean that many more people could use the path and overall a possible net decrease in disturbance levels be observed.
- 2.6 Mitigation measures will need to work in perpetuity, and therefore there is a need for mitigation measures to last. It is difficult to be confident of how the coastline, the distribution of birds, the distribution of prey and access patterns may change over such time periods. Different weather conditions may result in people using the coast differently and

result in seasonal shifts in bird numbers and access levels. As such any mitigation package needs to be able to respond to circumstances and carefully monitor changes, to provide an early warning of the need to adapt.

- 2.7 We focus on the SPA sites, which are Solent & Southampton Water SPA, Chichester and Langstone Harbours SPA and Portsmouth Harbour SPA. The extent of these SPA sites is shown in Map 1. The interest features of these sites are summarised in [Appendix 1](#). It is important to note that mitigation measures may relate to areas outside the SPA boundaries. This is because enhancement of access outside the SPA may draw people that would otherwise visit the SPA, and therefore relate to access use within the SPA. Furthermore some areas outside the SPA may be used by the SPA bird interest features, for example brent geese will feed on a range of sites outside the SPA boundary. Measures relating to the birds on these areas will still be relevant to the SPA.
- 2.8 We recognise that access to the countryside is important, bringing widespread benefits including health, education, inspiration, spiritual and general well-being (English Nature 2002; Bird 2004; Pretty *et al.* 2005, 2007; CABE Space 2010; Moss 2012). In fact access is likely to be important in the management of the sites for nature conservation, as people are more likely to want to be involved with and protect local sites if they have close links with these sites. While mitigation measures might seek to control or limit access in some areas, the overall aim should be to enhance the existing recreation experience and provide opportunities such that access and nature conservation interests are not in conflict.
- 2.9 The scale of change in visitor numbers, predicted as a result of new housing, is a 13% increase (this is the median value from all the sections). The change for individual sections ranges from 4% to 84%. These estimates are based on the locations of new development provided by the relevant Solent authorities and the modelling based on the Household Survey results. Such estimates are derived – of course – from current data. Socio-economic changes, changes in weather patterns, demographic changes and changes to local infrastructure will all influence access patterns, and as such the figures give a rough guide. The lowest percentage increases (less than 10%) in visitor numbers were predicted to be to the west of Southampton Water, an area in which current visitor rates were also predicted to be relatively low. Percentage increases in visitor rates within Southampton Water and to the east (including Portsmouth, Langstone and Chichester Harbours) were higher, and generally in the range 10 to 20%. Predicted percentage increases in visitor numbers were highest on the Isle of Wight, ranging from 25 to over 80%. Predicted changes in the absolute number of visitors did not show such a clear pattern between different locations. The highest absolute increases were on the Isle of Wight (where large percentage increases were predicted), and on the open sections of the northern shore of the Solent where predicted current visitor rates were high.

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3. Options for Mitigation

- 3.1 In this section we provide an overview of the different measures that could form part of a mitigation package to reduce disturbance impacts at coastal sites. By mitigation in this context we mean measures that would either avoid or reduce the potential effects of disturbance.
- 3.2 A range of measures can be used to minimise the potential negative impacts of recreation. These include careful location of development, influencing which sites people visit, where people go within sites and how they visit. We set out a summary 'long' list of possible options in Table 1. These options range from soft measures and proactive work with local residents, to enforcement. The table simply sets out all the possible ways in which disturbance might be reduced. Individual measures may not necessarily be compliant with the Habitat Regulations.
- 3.3 Some mitigation measures can be described as either off-site or on-site measures. However, others such as the promotion of visitor awareness of issues, or habitat creation, may fall into both categories. Therefore this distinction is only made where useful in organising the measures presented in Table 1.

Table 1: Broad overview of ways to reduce disturbance. Note that some of these may not necessarily be compliant with the Habitat Regulations, for example habitat management within European sites to enhance the habitat for the interest features would not count as 'mitigation'.

	Management option	Description
1. Habitat Management		
1a	New habitat creation	Creation of new habitat for the interest feature in areas away from parts of the site with recreation pressure (see also zoning).
1b	Habitat management	To improve existing habitat within the SPA to provide alternative breeding/roosting/feeding sites.
2. Planning & Off-site Measures		
2a	Locate development away from sensitive sites	Much recreational use of sites is local, for example from people living within a short drive or walk of sites. Planning development at a strategic level is a way to reduce the long term future pressures of increased recreation from development.
2b	Management of visitor flows and access on adjacent land (outside European site)	Planting, screening, careful routing, provision of access infrastructure (boardwalks, marked paths, steps etc) around the periphery and outside European sites can influence how people access sites.
2c	Provision of suitable alternative greenspace sites ('SANGs')	SANGs, sited away from designated sites, have the potential to draw users away from designated sites. Alternative sites need to be tailored to provide a viable and attractive alternative destination, matching the draw of the relevant designated site or providing a near equivalent recreational experience in a more convenient location.
2d	Provision of designated access points for water sports	Provision of public slipways, trailer & vehicle access to shore etc in predetermined locations where boat access is likely to be away from nature conservation interest.

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	Management option	Description
2e	Enhance access in areas away from designated sites	At a reasonably strategic level it should be possible to encourage people to change access patterns by enhancing access provision at less sensitive sites and not enhancing provision at sensitive locations. Users can be encouraged to locations through the provision of attractions/facilities such as toilets, food, improved walking surfaces, hides etc. Demand can be managed through modification of parking fees and parking capacities, restriction of on-road parking, wardening etc.
3. On-site Access Management		
3a	Restrict/ prevent access to some areas within the site	Potential to restrict access at particular times, e.g. high tide and particular locations (roost sites). Temporary fencing, barriers, diversions etc all possible.
3b	Provide dedicated fenced dog exercise areas	Allowing dogs off leads etc in particular locations that are not sensitive for nature conservation or other reasons may increase their attractiveness to dog walkers.
3c	Zoning	Designated areas for particular activities. Often zones are set out in a code of conduct and prevention of use for the areas outside the zones is enforced through byelaws.
3d	Infrastructure to screen, hide or protect the nature conservation interest	Screens, hides, embankments etc are commonly used to direct visitors along particular routes and screen people from birds or other features vulnerable to disturbance. Such infrastructure can also provide enhanced viewing facilities and opportunities for people to get close to wildlife without causing disturbance. Path design can enhance the extent to which people stray or roam from the path. Boardwalks etc. can protect vulnerable habitats.
3e	Management of car-parking	Car-park spaces can be redistributed around a site, parking closed in some areas, parking fees modified (e.g. encouraging people not to stay too long) or a permit system be instigated to limit use of car-parks
3f	Path design and management	Surfacing, path clearance and other relatively subtle measures may influence how people move around a site and which routes they select.
4. Education and Communication to Public/Users		
4a	Signs and interpretation and leaflets	Provision of informative and restrictive signs, and interpretive boards. Directions to alternative less sensitive sites. General information on the conservation interest to highlight nature conservation interest/importance.
4b	Codes of Conduct	Guidance on how to behave to minimise impacts is promoted at a range of sites, through websites, leaflets, interpretation etc. These are sometimes enforced by byelaws and other control measures (see section 5).
4c	Wardening	In addition to an enforcement role (see 5d below) wardens can provide a valuable educational role, showing visitors wildlife etc.
4d	Provision of information off-site to local residents and users.	Local media, newspapers etc can provide means to highlight conservation importance of sites and encourage responsible access. Educational events, provision of items for local TV/other media. Information can be made available in local shops, tourist centres etc. Potential to promote non-designated sites, for example through web / leaflets listing, for example, dog friendly sites.

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	Management option	Description
4e	Contact with relevant local clubs	Agreed codes of conduct and self-policing can be set up with individual groups and provide a means of ensuring users are aware of how to act responsibly (e.g. water-sports club revoking membership for anyone caught speeding)
4f	Establishment of Voluntary Marine Reserves (VMRs)	By agreement of interested parties.
4g	Off-site education initiatives, such as school visits etc	
5. Enforcement		
5a	Covenants regarding keeping of pets in new developments	Covenants prohibiting the keeping of cats and / or dogs for example in circumstances where the restriction can be fully enforced
5b	Legal enforcement	Byelaws can be established by a range of bodies including local authorities, the MOD, National Trust, Parish Councils etc. Other options include special nature conservation orders, dog control orders or prosecution under SSSI legislation.
5c	Wardening	Wardens have both educational (see 4c above) and enforcement roles. With respect to the later, wardens can provide direct contact and intervene when they observe particular activities (such as dogs off the lead on mudflats). The ability of a warden to control disturbing activities is clearly related to whether control measures are in place, and their nature. The more specific and statutory in nature the control, the greater the potential for enforcement by a warden.
5d	Limiting visitor numbers	Visitor numbers capped, for example through tickets, permits or a similar system.

4. Selecting Measures relevant and applicable to the Solent

- 4.1 A strategic approach to mitigation and avoidance measures has been established at a range of heathland sites such as the Dorset Heaths and the Thames Basin Heaths, and these provide useful precedents from other parts of the UK (these are considered in more detail in later sections of this report). In terms of coastal sites there is no similar precedent (but we note measures are being currently considered around the Exe Estuary in Devon), and there is therefore relatively little information on what measures may be effective (but see Saunders *et al.* 2000; Liley *et al.* 2011).

Expert scoring on effectiveness

- 4.2 To help inform our recommendations we therefore circulated a list of measures relating to resolving bird disturbance impacts on coastal sites to a range of 'experts', including site managers, national policy advisors, academic ornithologists and professional ornithologists.
- 4.3 The poll was circulated via the internet, and each expert was asked to identify which measures s/he considered to have some likelihood of reducing disturbance. The poll (reproduced in [Appendix 2](#)) asked users to consider an (unnamed) estuary on the south coast where there were concerns relating to increased access as a result of new housing development. The poll included a list of measures and each person was given a range of options (for each measure) as to whether there was a likelihood that measure will reduce impact/levels of disturbance or whether it was Unlikely to reduce disturbance impacts at all
- 4.4 A total of 19 responses were received. An overall, cumulative score was derived by giving those responses that indicated likelihood of success a weighting of 3 or 1 depending on the response given. From 19 responses the maximum score would therefore be 57. Measures are listed with their overall score in Table 2 and shown graphically (and ranked) in Figure 1. It can be seen that the creation of alternative roost sites where no disturbance was the measure with the highest score (39). Other high scoring measures included: Restrict access to parts of site (e.g. temporary fencing around roost sites) (34); ensuring development set well away from the SPA boundary (33); Wardens on site to ask people to behave differently (33); creation of additional foraging habitat (e.g. managed retreat) (31); provision of new facilities for watersports away from the estuary (30); Paths routed below and inland of seawall or shoreline (30) and Wardens/rangers on site to show people wildlife (30).
- 4.5 It is important to note that no single measure was thought to be totally effective and while some measures scored relatively highly, there was some disparity between respondents. This would suggest that successful mitigation will be best achieved through a package of measures that provides a range of different approaches. These will need to be carefully targeted and monitoring will be necessary to ensure their effectiveness.

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Table 2: Overall score for different measures from internet poll with a selection of experts

Measure	OVERALL SCORE
Habitat Management Measures.	
Creation of alternative roost sites where no disturbance	39
Creation of additional foraging habitat (e.g. managed retreat)	31
Planning and Off-site Measures.	
Ensure development set well away from SPA boundary	33
Provision of alternative sites for recreation activity "SANGs"	29
Provision of new facilities for watersports away from the estuary	30
On-Site Access Management.	
Restrict access to parts of site (e.g. temporary fencing around roost sites)	34
Provision of fenced areas for dog exercise	12
Dedicated zones for watersports	31
Marked routes on shore/inland for particular activities (dog walking, horse riding, cycling etc)	21
Hides for people to view wildlife	25
Screening (vegetation or e.g. wooden panels) along shoreline paths to hide people/dogs from birds	24
Paths routed below and inland of seawall or shoreline	30
Reduction in car-park spaces in areas where disturbance may occur	12
Increase car parking charges at targeted car parks to reduce their use	12
Surfaced paths to draw people away from shore/redirect people	23
Wardens on site to ask people to behave differently	33
Dog control orders to keep dogs on leads in targeted areas	31
Speed limit (10 knots) on water enforced with byelaws	12
Education and Awareness Raising	
Signs and leaflets about wildlife interest and impacts of disturbance	18
Signs asking people to behave differently to reduce disturbance	10
Voluntary codes of conduct developed with local user groups	20
Wardens/rangers on site to show people wildlife	30
Raising awareness of wildlife interest and disturbance impacts through local media (press etc)	18
Education initiatives such as school visits, attending local fairs etc to raise awareness of wildlife interest	18

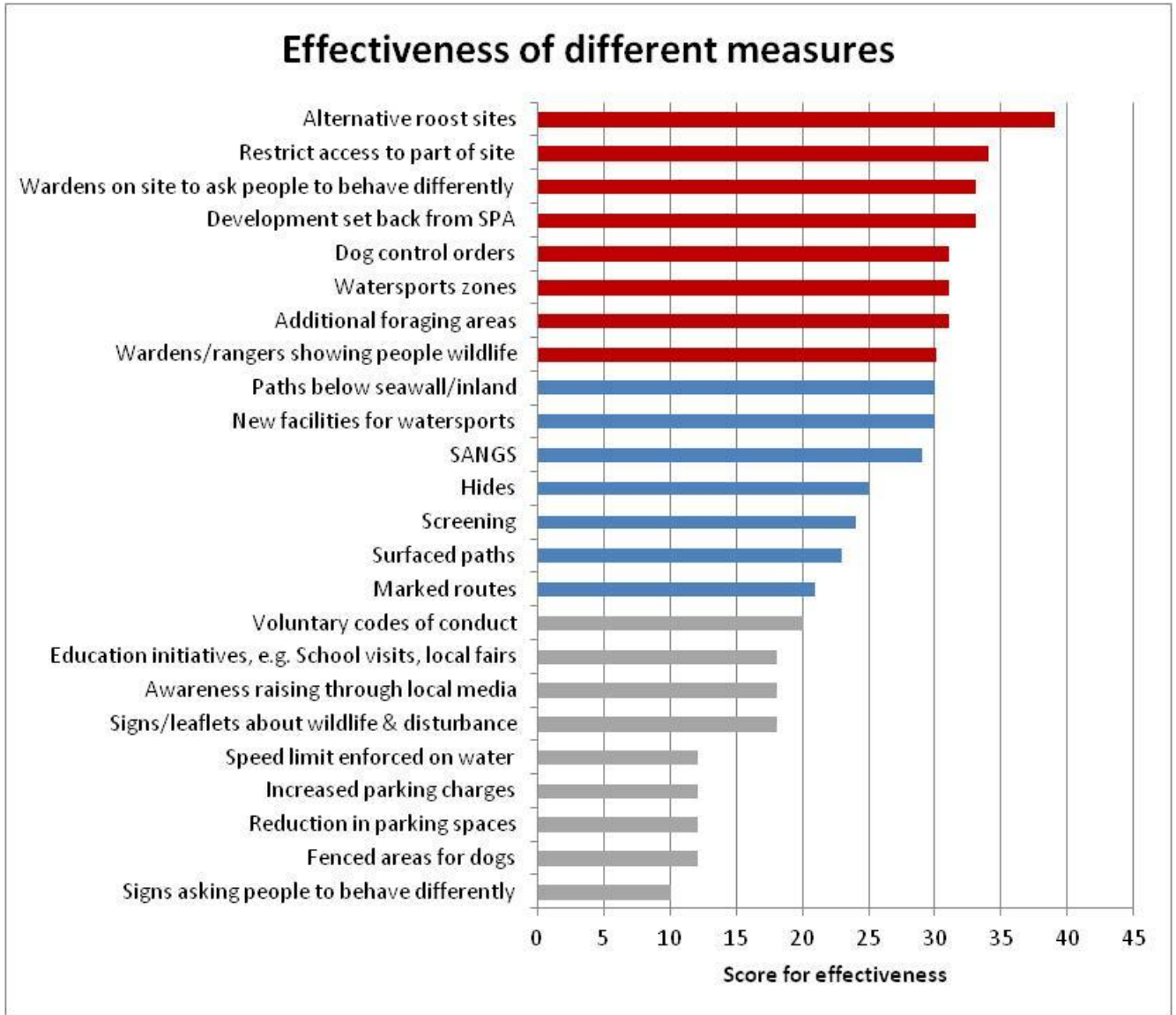


Figure 1: Overall scores for different measures, from the internet poll with experts. Colours reflect scores, such that measures coloured in red are those were scored reasonably high (30 or above) and those in grey ones with a relatively low score (20 or below).

Overall Assessment

4.6 Based on our understanding of the Solent, drawing on our knowledge of the practicalities and merits of the different approaches, and our experience of mitigation strategies developed for heathland sites, we have considered each measure in detail and categorised them according to:

- Activities/types of access relevant for
- Likely effectiveness (drawing in part from the expert scores)
- Practicality of delivery
- Scale
- Mechanisms for delivery
- Timescale
- Cost

4.7 We have summarised this information in a matrix, which forms [Appendix 3](#). From this matrix we can identify which measures might be relatively easy to implement, are likely to be relatively cheap to implement and we can identify those measures which could be considered 'quick wins'. Some options stand out as being particularly costly or difficult to implement. Using the matrix we can therefore draw a number of broad conclusions which are summarised below.

Shore-based access: site-specific projects

4.8 There are a range of management measures that relate to shore based access which would be relatively easy to implement and potentially low-cost, but they are mostly quite local and site specific. As such they could work to resolve issues in particular locations, enhance access in particular places and be carefully targeted. They all require some work 'on the ground', working with local landowners, rights of way officers and other relevant stakeholders, and as such could be considered as a series of individual small projects:

- Management of visitor flows on adjacent land
- Paths rerouted inland/below seawall
- Screening
- Path management
- Restricting access at particular locations (such as temporary fencing near wader roosts)

4.9 We therefore consider these kind of approaches as having merit, but requiring careful planning and they could be phased/targeted as resources allow and as issues arise.

Parking

4.10 Management of parking (reducing/redistributing spaces/closing parking locations/review of charging) is a means of managing access over a wide area, and applies to a wide range of different access types. However, as with the above, careful work is needed initially to review existing parking, map parking and identify changes, particularly important given the relatively low score given to parking measures in the expert scoring. An important element in this work is the need to ensure a consistent approach across local authorities and others responsible for parking. Changes to parking may also be unpopular with some users, so would need to be undertaken carefully and considerately. It would be necessary to predict and monitor likely displacement to ensure that the pressure did not merely move from one sensitive area to another. Conducting a review, producing a car-parking 'plan' and liaising with users would all necessitate a degree of staff time.

Warden/ranger posts

4.11 Wardens appear twice in the matrix in [Appendix 3](#), as people out 'on-site' can have an engagement role (talking to visitors, showing people wildlife, explaining issues etc.) and/or an enforcement role. Establishing a warden presence is relatively easy to implement, but employment costs over a long-period (in perpetuity) are high. If wardens have an enforcement role, then there is a need for clear guidance to users and legislative support to provide the scope for enforcement.

- 4.12 The presence of a warden on-site, asking people to behave differently, and the wardens on-site to show people wildlife were both measures that were scored relatively highly in the expert poll (Figure 1), and there is published evidence of their effectiveness, for example in resolving impacts from access for breeding terns (Medeiros *et al.* 2007). Given that warden/rangers could undertake monitoring and also work closely with stakeholders on other projects, an on-site presence, at least in the early part of any strategy, would seem a sensible use of resources. It will be important to ensure that the warden/rangers have powers to enforce byelaws etc. as required over time.

Watersports and water-based activities

- 4.13 There are a range of measures relating (mostly) to water-based activities which are mostly quite local and site specific, but seem reasonably cost-effective and easy to implement. As with some of the shore-based measures they would require some work 'on the ground', including work with local stakeholders, to plan and set up. They include

- Zones
- Enforcement of speed limit on water
- Codes of conduct

- 4.14 Codes of conduct provide a means of clearly conveying messages about where to undertake different activities and how to behave and could be developed for a selection of specific activities or locations.

Dogs

- 4.15 Dog-walkers represent a particularly large user group and dogs-off leads are one of the particular activities highlighted in the evidence-base. Dogs off leads, and dogs off-lead on the intertidal in particular, were responsible a high proportion of the observed events where birds were flushed. Options that relate specifically to dogs include:

- Raising awareness of issues relating to dogs off leads
- Provision of alternative locations for dog walking
- Providing options (such as inland routes) where there are limited issues with disturbance
- Providing dedicated areas, such as fenced exercise areas or dog agility courses
- Dog-control orders

- 4.16 Of these, new locations are likely to be expensive to secure in-perpetuity (see below); and dog control orders may take some time to establish and be unpopular with users. The provision of different route options is site-specific and would require staff-time on the ground. Dedicated areas for dogs, such as fenced exercise areas is also very site-specific and would require careful choice of sites, design etc. Raising awareness of issues relating to dogs off leads could be done with a single, Solent-wide project and could represent a 'quick win', with other measures following as necessary and after detailed site-by-site consideration.

Education, outreach and awareness raising

4.17 Education initiatives, such as interpretation, guided walks, wardening, school visits, community events etc., are widely undertaken at many countryside sites and enhance people's visits to sites and their understanding of the local area. Such approaches are proactive, rather than reactive, but unlikely to solve problems in the short term and depend largely on the audience and style of communication. There was generally relatively low scores for these kinds of measures from the expert panel. Such approaches therefore potentially are likely to give little confidence in the short-term of reducing disturbance impacts, but they may have wider or longer-term benefits. The only 'quick-wins' would be specific projects involving raising visitors awareness raising of particular issues, such as dogs off-leads, and implemented over a wide geographic area.

Measures that may be difficult to justify or implement

4.18 A few measures stand-out in that they are particularly complex, costly or likely to have particular issues associated with them. These include:

- Development set well back from SPA boundary – development exclusion zones
- Visitor numbers 'capped'
- Hides for people to view wildlife
- SANGs

4.19 Ensuring development does not take place around sensitive sites effectively avoids issues relating to the impacts of development. There are now precedents around the UK where SPA and SAC sites have a development exclusion zone clearly set out within overarching plans. For example local authorities around the Dorset Heaths, Thames Basin Heaths, Breckland, Ashdown Forest and Wealden Heaths have all included 400m zones around their heathland sites. Establishing such a zone with respect to disturbance issues and coastal sites is much more difficult, as recreational users travel from a wide area to visit and use coastal sites, and the scale of zone required would therefore be huge. There are also practical considerations as each local authority is at different stages in their relevant plans. A 'sterile' zone of no development around the SPAs would embargo the vast majority of development across the Solent, encompassing ports, city centres, town centres, very built up residential areas and contaminated brownfield sites. Development would potentially be halted or pushed greenfield sites whilst also preventing regeneration of urban centres. We therefore suggest this approach does not merit further consideration with any large buffer. One possible way in which it might be applied is by a series of small exclusion zones (say 400m) around sensitive access points.

4.20 Capping visitor numbers is also problematical. Permits or similar systems are used in other countries (see Newsome, Moore, & Dowling 2002 for details and a review), and occasionally within the UK. In general, however, the approach is applicable to wilderness areas or sensitive nature reserves and has largely lost favour within the UK. At most locations around the Solent there are existing rights of access and controlling access in such a way along the coastline is not worth further consideration here.

4.21 Hides provide visitors with an opportunity to view wildlife, but are likely to only reduce disturbance in very specific locations, where visitors are specifically interested in the

wildlife, and in trying to view it they cause disturbance. In most cases costs are not likely to be justified in terms of the reduction in disturbance achieved.

- 4.22 The provision of Suitable Alternative Natural Greenspace ‘SANGs’ and other additional green infrastructure is a potentially appealing solution to resolving disturbance impacts. By providing additional space for visitors, it would seem intuitive that an area can support more visitors. In terms of visitors to the coast, alternative sites are most likely to work for types of access that are not dependent on particular coastal features – for example visitors who are simply drawn to sites because it is the nearest open space to their home, or because it is a convenient place to walk the dog and let the dog off a lead. The options to create alternative sites that provide alternatives dramatic coastal scenery, locations to kitesurf or beautiful beaches are likely to be limited. Given the high cost of purchasing land and securing management in perpetuity, SANGs are therefore not ‘quick wins’ and should be carefully selected, targeted if other options are unlikely to come forward or have been tried and proven unsuccessful. Taking a long view, SANGs may have a longer term and more strategic role in mitigation compared to other measures, and must clearly be carefully considered on a site-by-site basis and targeted. Opportunities for SANGs delivery may come forward through existing sites (potentially already in local authority or county council ownership) or when directly linked to individual, large developments.

Considering the measures in relation to the Solent

- 4.23 Having considered individual measures in detail it is necessary to consider the geography, SPA interest and access use of the Solent shoreline. In [Appendix 4](#) we summarise details of the Solent shoreline. The table is based on the 103 sections used in previous parts of the Solent Disturbance and Mitigation Project. The sections have been derived primarily using WeBS³ boundaries, but joining WeBS sections to generate larger sections that are relatively discrete, with boundaries that reflect particular changes in the character, access infrastructure or extent of access.
- 4.24 We show these sections in Maps 2 and 3. Map 2 shows the sections and the labels allow cross-referencing with [Appendix 4](#). In Map 3 we show the sections in relation to the SPA boundaries and also in relation to Important Brent Goose Sites and Important Wader Sites. These latter two terms relate to the Solent Waders and Brent Goose Strategy which identifies individual sites around the Solent that are important for feeding brent geese or for feeding/roosting waders. The boundaries for these sites were provided by the Hampshire and Isle of Wight Wildlife Trust and further details can be found in the strategy⁴ and in the background document (Liley & Sharp 2010).
- 4.25 [Appendix 4](#) summarises the individual sections with highest predicted changes in access (as a result of new housing), types of access that are known to be a particular feature of the section, other factors that may be important (such as SSSI or SAC interest). Much of this

³ ‘WeBS’ is the wetland bird survey, a national survey of waterfowl run by the BTO and conducted by volunteers

⁴

http://www.solentforum.org/forum/sub_groups/Natural_Environment_Group/Waders%20and%20Brent%20Goose%20Strategy/

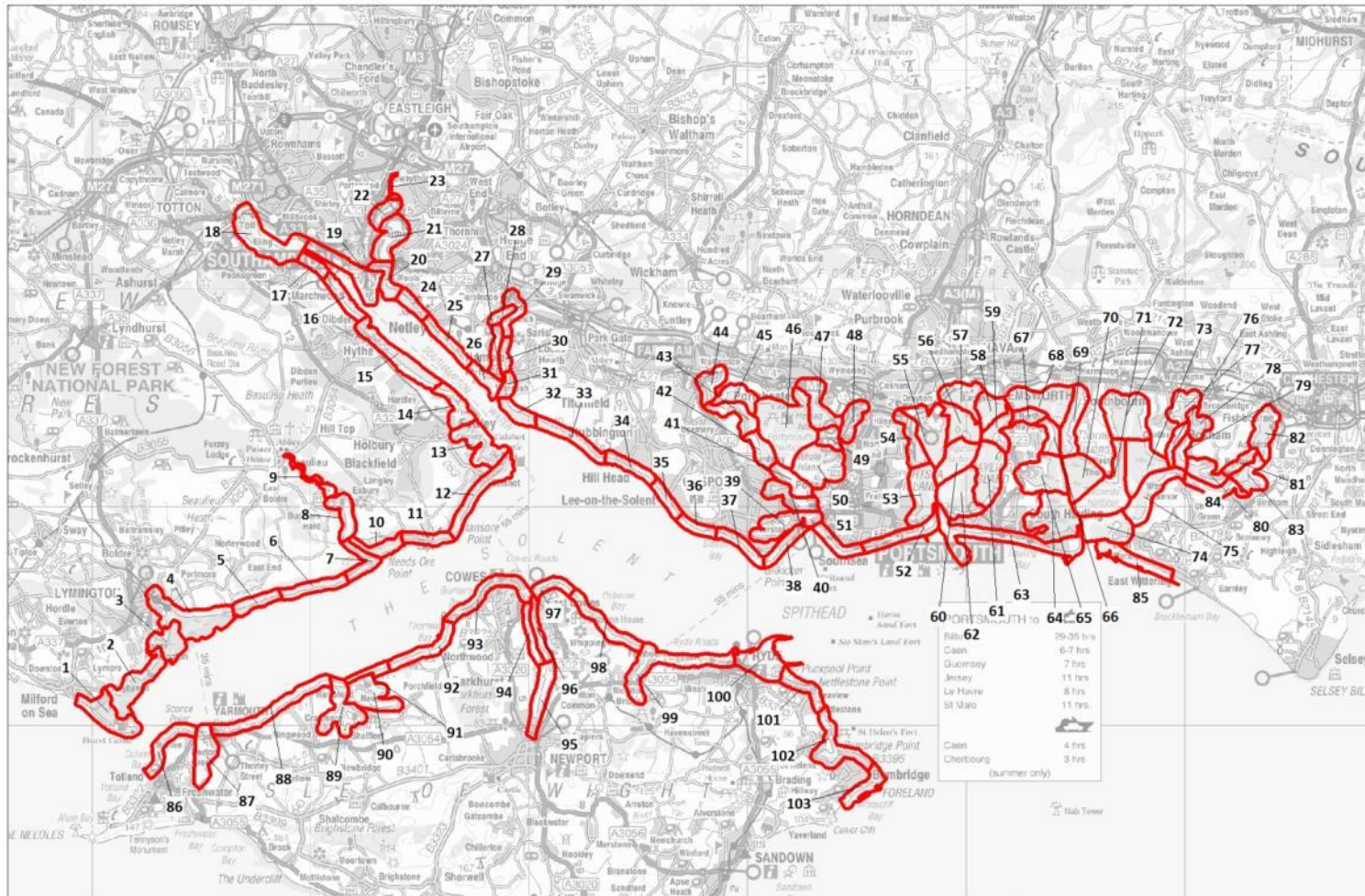
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information is summarised from previous elements of the Solent Disturbance and Mitigation Project, and supplemented by information held with a range of local authority, NGO and other stakeholders in late November 2012. The table is not intended to be a comprehensive assessment of each section, but provides the context for later sections of the report. In particular we highlight the following as relevant to mitigation measures:

- Only three sections (81,43 and 6) have no public access or severely restricted access.
- Nine sections do not intersect any SPA boundary at all and a further 11 sections are have significant parts of their shoreline outside the SPAs
- A total of 52 sections contain an important wader site and a total of 84 sections contain an important brent goose site.
- Five of the sections that are entirely outside the SPA do contain important brent goose sites, indicating that only 4 sections in total (sections 97, 35, 23, and 17) are entirely outside the SPAs and would appear to have limited links with the SPA interest.
- The majority (75) of sections also intersect with an SAC boundary, indicating that many sections are also important for other nature conservation interests besides birds.
- Current access levels are highest around the main settlements and urban centres – Portsmouth, Southampton. Some sections such as Hurst Spit (section 1) also have high current access.
- The median change in access levels is a 13.4% increase. The percentage increase tends to be highest on the Isle of Wight and lowest along the New Forest shoreline.
- Twenty-one different sections have been identified as ones where bait digging takes place regularly; 34 sections are identified as ones where boating/canoeing occurs frequently; 34 sections are identified as ones with regular or particularly high numbers of dog walkers and 12 sections are highlighted as ones important for watersports.
- There are over 14,000 formal car-park spaces across all sections and three sections (63,82 and 87) have more than 1000 formal parking spaces. This is data that has not been ground-truthed (see Stillman *et al.* 2009 for details) and does not take into account informal parking and roadside parking in residential areas.

4.26 Drawing further from the data in [Appendix 4](#), there are a range of different ways to highlight sections which might be considered particularly sensitive, at least as a focus for future mitigation. In Map 4 we have highlighted sections which will see the biggest change in access and that also (at least in part) contain the SPA or important brent goose sites. We also highlight those sections where the current levels of access are above the visitor rate (of 30 people per ha per day) used as a rough threshold in the modelling report. The sections that are dark green on the map are those where there is either very restricted access or that are outside the SPA.

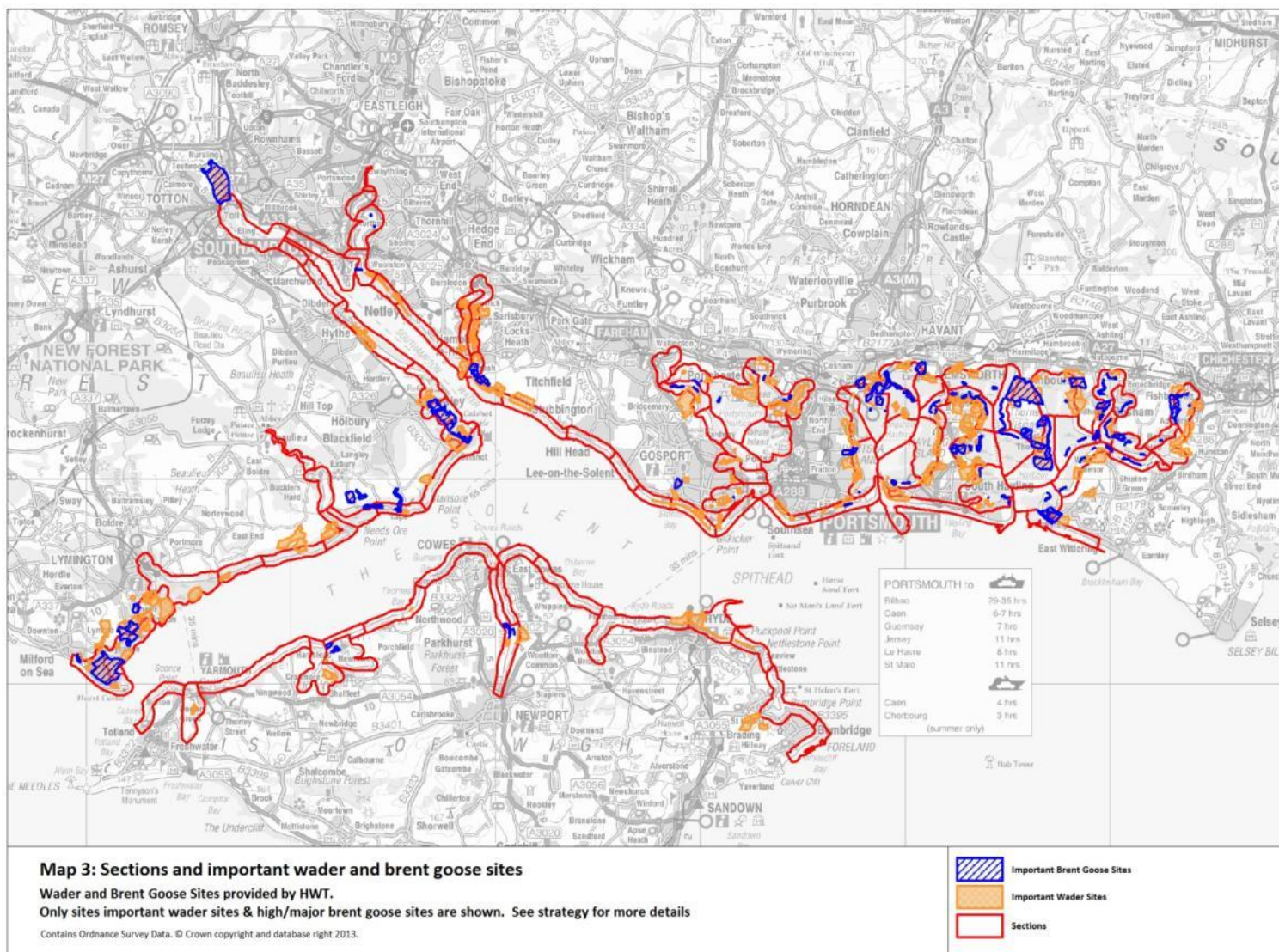
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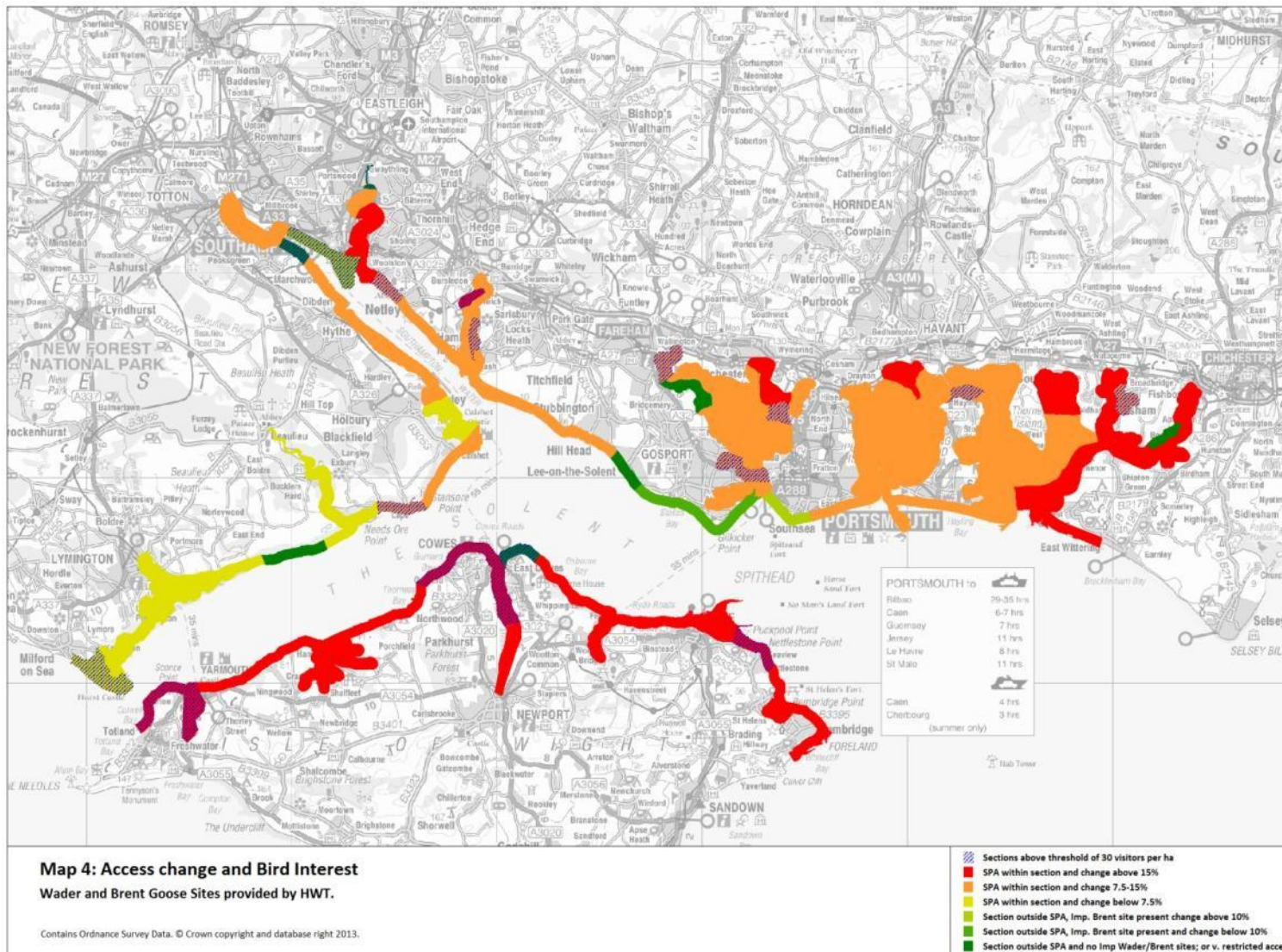
Map 2: Sections (used primarily in the Household Survey and the modelling work)

Contains Ordnance Survey Data. © Crown copyright and database right 2013.

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5. Outlining a Mitigation Strategy

Overview

5.1 In this section we set out measures we consider could form the framework of a mitigation strategy. As an overview we believe a strategy should contain the following:

- A DELIVERY OFFICER: a dedicated post is required to initiate the elements of the strategy, manage the initial delivery of the mitigation and ensure the necessary procedures, reporting and monitoring is in place.
- A TEAM OF WARDENS/RANGERS: a small, mobile team of wardens is required to provide an on-site presence, talking to visitors, showing people birds and wildlife, helping with the delivery of other elements of the strategy and undertaking monitoring.
- A COASTAL DOG PROJECT: we suggest an 'Solent Dog Project' to engage with dog-walkers, promoting sites for dog walking, providing information on dog-walking around the Solent, a positive means to engage with dog walkers.
- A REVIEW OF PARKING AND ACCESS POINTS: a review of access and parking across the whole Solent shore, accurately recording all parking locations (including informal parking) and assessing each (e.g. counting number of spaces, current charges, checking access to foreshore, presence of slipways/launching points etc.). This will lead to recommendations relating to creating additional parking in some locations, reducing parking in others, revised parking charges and may provide evidence for the exclusion zones (if required).
- A REVIEW OF WATERSPORT ZONES/WATERSPORT ACCESS: in line with recommendations in the strategic guidance for the Solent (water-based recreation)⁵ this would be a positive measure, engaging with usergroups and setting out a series of clearly defined zones with necessary infrastructure.
- CODES OF CONDUCT PACK: In line with the zones above, clear guidance and communication needs to be provided for users, covering watersports and shorebased activities. The development of the codes should be undertaken with users groups, helping to establish clear communication and discussion. The codes should include maps and fit together as a single pack of separate (but complimentary) codes.
- SERIES OF SITE SPECIFIC PROJECTS: In line with the reviews and close working with user groups set out above, a series of site specific projects would then be implemented relating to both shore-based and water-based access. These would include (but not necessarily limited to) path re-routing, creation of new paths, dedicated areas for dogs, enhanced facilities for watersports, marking of dedicated watersport zones, changes to car-parks. These measures could be targeted to particular locations and phased to coincide with development, funding and opportunities.

⁵ http://www.solentforum.org/publications/strategic_guidance/

- **WATERSPORT PERMITS & ENFORCEMENT:** Once the above measures are established, monitoring results will indicate whether further measures are necessary. Various more restrictive options are then available for example dog control orders, permit systems for particular watersports at particular locations and enforcement of byelaws (such as speed limits etc.). These approaches could be introduced as required and targeted as necessary.
- **SANGS/ADDITIONAL GI/ALTERNATIVE ROOST SITES:** these measures are large, costly and are unlikely to be 'quick wins'. As such they should be considered as elements to be adopted at a later part of the strategy, once the above measures have been fully explored. In all cases the ability to undertake such approaches will depend on opportunities, potentially linked to large developments, major projects relating to coastal defence etc.

5.2 We discuss these measures in more detail below.

Delivery Officer

5.3 To ensure rapid deployment of the other measures, and in particular to ensure good, open communication between stakeholders, a delivery officer post is recommended. This is considered a 'quick win' as the post could be established relatively quickly, hosted by a relevant authority. While a proportion of the officer's post would be administrative, a proportion of time would be also allocated to commissioning and delivering projects within the strategy. The Delivery Officer would also provide a point of contact and would establish dialogue with relevant stakeholders at a strategic level, for example through regular meetings.

5.4 The Delivery Officer would potentially be employed on a fixed term contract and would oversee the recruitment of the warden/ranger team, and oversee the other projects that are 'quick wins' including setting up the warden/ranger team and the Dog Project.

Warden/Ranger Team

5.5 Many sites have wardens who fulfil a range of roles, including interacting with the public and education. We envisage a small team of wardens/rangers could operate over the Solent and spend the majority of their time on-site, talking to visitors, influencing how visitors behave and showing people wildlife. The advantage of such an approach is that the staff can focus their time at particular sites/locations as required. This means that as particular projects are set up, as development comes forward, or if access issues become a concern at a particular location, the staff can be present and target their time accordingly. The roles of the team would also include helping with the delivery of site-specific and local projects and monitoring.

5.6 We would envisage around five to seven staff (full-time equivalents) could form a core team. This core team could be supplemented with casual staff if necessary and the size of the team may need to fluctuate over time, depending on levels of development, results from monitoring etc. The core staff could be given a geographic remit such that a staff member covered each of the following:

- the New Forest shoreline from Hurst Castle – Southampton

- the east side of Southampton Water, from Southampton – mouth of Portsmouth Harbour
- Portsmouth Harbour, Portsmouth and the east side of Langstone Harbour
- rest of Langstone Harbour and all of Chichester Harbour
- north shore of the Isle of Wight

- 5.7 While each team member has their own ‘patch’, it would be possible for team members to work together for particular events as required. It would also be ideal if each warden has close links with local stakeholders, landowners and organisations, potentially even being based/hosted by local organisations. This would ensure that the wardens were complementing existing engagement/wardens/initiatives and fitting alongside existing ranger/wardens.
- 5.8 The wardening presence would be required (from a wintering bird perspective) from September through to the end of March. We would anticipate that the wardening team would work closely with the delivery officer, assisting with monitoring, delivering projects and in particular working with local landowners and stakeholders. It may therefore be appropriate for (at least some) staff to be employed year round.
- 5.9 Precedents and examples for such an on-site wardening team, established as mitigation to reduce disturbance on SPAs can be found in the Thames Basin Heaths within the Strategic Access Management and Monitoring (SAMM) Project, and on the Dorset Heaths, where the Urban Heaths Partnership has a wardening team across the urban heaths.
- 5.10 The wardening team will need to have the powers to enforce byelaws and other restrictions as necessary.

A Coastal Dog Project

- 5.11 A Solent-wide dog focused project would provide a means of engaging with dog walkers, and would represent a positive step to enhancing access and forming links with the dog walking community. Dogs were identified with the on-site fieldwork as a particular issue, and therefore a particular focus on dog walking is warranted.
- 5.12 We would envisage a project that:
- Has a strong web presence, with the website providing a gazetteer of countryside sites to walk dogs at (where dogs are welcomed); provides information to dog walkers (presence of livestock on sites; safety issues; temporary closures; changes at popular dog walking sites); provides guidance on conduct and provides other useful information such as directories of local vets, kennels, dog walking services, dog grooming.
 - Provides free membership, with membership benefits that include registration of dog’s details (in case lost); owners contact details etc. Such membership provides a means of gathering people’s contact details and establishing regular contact.
 - Undertakes on-site work, actively meeting dog walkers at popular sites, for example holding small events and engagement work at particular locations.

- 5.13 A precedent and useful case study comes from Dorset , where a project called Dorset Dogs⁶ has been part funded through developer contributions. The project has a clear and well designed brand, with a recognisable logo and an excellent website. The website gives information to dog walkers, it includes codes of conduct and highlights places to walk, indicating which sites require dogs to be on a lead and when. The website also provides webspace for members to post images of their dog, contact other dog walkers and link to social media such as facebook.
- 5.14 The project has established a system of consistent signage to indicate sites where dogs are welcome (green pawprint), dogs are welcome if on a lead (amber) and no dogs (red). The colours are used on the website and also small circular signs that are used on sites. Membership is free and members gain an information pack, free gifts (dog tags, dog bags, stickers etc.) and access to information such as directories of local vets etc. Events are held on-site and called 'pit-stops'. The pit stops involve a small gazebo and people on-site to talk to dog walkers and tell them about Dorset Dogs. This provides a means of gathering new members and actively discussing local dog walking issues. The project has won an award from the kennel club and has established a strong presence in Dorset. It works, in terms of mitigation, in that it promotes a code of conduct and provides a means of communicating issues and concerns (both those of dog walkers and those involved in countryside management

A Review of Parking and Access Points

- 5.15 On sites where a large proportion of people visit by car, modifying the distribution, cost and ease of parking is a means of managing visitor flows. There are examples of sites where the careful review, assessment and management of parking provision has led to a marked change in how people use sites.
- 5.16 For example at Burnham Beeches, an SAC near Slough, the Corporation of London (responsible for managing the site) have created a car-free zone in the northern part of the site and then closed part of Lord Mayor's Drive (which allowed vehicular access through the middle of the site). In total three car parks have been closed and roadside parking has been restricted on roads around the site through signage, ditches, banks and dragon's teeth. In parallel with these changes, the Corporation of London relocated the main visitor facilities to provide a central focus of activity slightly away from sensitive SAC features and adjacent to open grassland which did not contain the SAC interest features and was not particularly sensitive to recreation pressure. Car park charges have been introduced, with ticket machines and the requirement to pay for parking at the busier times, at weekends and bank holidays. Outside these times parking charges are not compulsory, but visitors are encouraged to pay to park and a series of information boards explain about the parking charges. This system is intended to encourage people not to visit at busier times and makes it clear to visitors that they are visiting somewhere special where there are costs involved in management and maintenance. This helps to convey the idea to visitors that Burnham Beeches is more than a local greenspace or park.

⁶ <http://www.dorsetdogs.org.uk/>

- 5.17 The Burnham Beeches has worked well, the facilities are now improved and there has been no public opposition. The example illustrates how managing parking has the potential to influence access and redistribute visitor pressure. Closing car parks can however be contentious; for example proposals to close car-parks in the New Forest National Park have been strongly opposed by local dog walkers⁷. Closures should only be undertaken after careful consultation and survey work to ascertain people's reactions and where access might be deflected to. Evidence from Cannock Chase in Staffordshire suggests that results can be unpredictable (Burton & Muir 1974), for example people may still choose to visit favoured areas, but are prepared to park further away and walk further. In general, preventing parking in lay-bys, on verges and other informal parking locations may be easier to achieve than closing formal car-parks.
- 5.18 A careful review and assessment of access points and parking is therefore recommended across the Solent. This should map all parking locations, count parking capacity and record any information on parking charges, facilities, types of user, organisation etc. Such a detailed audit has already been undertaken for the New Forest (Davies 2011) which highlights the "sheer volume and extent of car-parks near and along the New Forest National Park coastline". The Solent-wide review should be undertaken with the aim of identifying measures relating to parking and setting out a clear guidance for what changes and modifications to parking could be undertaken. The review should consider full closure of some car-parks, seasonal or temporary closures of some and the creation of additional parking in other (less sensitive) areas.
- 5.19 The review should also consider foot access, identifying major foot access points onto the shoreline. Should this information, combined with the parking assessment, identify particular locations where there are limited (or no) options to modify the access (such as reductions in parking) and sensitive site features present, then it may be necessary to consider development exclusion zones specifically established around particular access points.

A Review of Watersport Zones and Watersport Access

- 5.20 Zoning partitions different types of access, determining the overall distribution of visitors on land and water, in both time and space. Zoning is positive in that it creates dedicated areas for particular activities, rather than limiting or restricting access.
- 5.21 There are numerous examples from around the UK coast of zones for particular water-based activities, such as water-skiing or kitesurfing. These zones are often set out in codes of conduct, usually developed with local users and user groups. The codes of conduct are sometimes also linked to byelaws, and the implementation of the zones is often driven by safety issues rather than with the aim to minimise disturbance.

7

http://www.bournemouthcho.co.uk/news/districts/newforest/888601.Dog_owners___fury_over_car_park_closures/

- 5.22 Clubs can address a wide range of issues and adapt quickly to change, particularly where members communicate through forums and electronic discussion rooms. Working with local groups or clubs is a good way to resolve a lack of awareness or to highlight conservation issues or coastal byelaws. Clubs can provide a means for getting information across and help implement any zoning if they have been involved from the outset.
- 5.23 Zones are usually established to reflect local conditions, safety issues and site specific factors, and there appears to be little information available to recommend sizes of zones, the space needed for particular activities etc.
- 5.24 Developing a series of zones for different activities is also a recommendation within the Recreation and Tourism section of the Solent Strategic Guidance Report⁸. A review of watersport zones is therefore timely. Such a review should look across the Solent (i.e. be undertaken at a strategic level) and collate information on any existing zones and background to how they have been established (including whether they are set out in any existing byelaws). The review should also include consideration of where watersports are taking place without zones, and where users are accessing the water. This information, potentially incorporated within a GIS and related to bird data, will allow an assessment of how zones could be changed and developed in the future. The review should consider zones both in time and space, as in some areas watersport use could occur over different areas at different times (i.e. in the summer the issues will relate less to wintering birds and disturbance and more to other users and safety). The review will also need to consider the existing management. For example individual harbour authorities will wish to retain the right to implement zones or other measures as appropriate.

Codes of Conduct

- 5.25 Codes of conduct set out clearly how users undertaking a particular activity should behave, and are most relevant to sporting activities, including watersports. Where there is plenty of space, relatively few users and few conflicts, there is unlikely to be a need for any agreed code of conduct. Developing good, clear codes with user groups ensures that safety issues, insurance, consideration of other users and nature conservation issues can be accommodated, ensuring users can enjoy their chosen activities while minimising any impacts. Codes of conduct are particularly relevant where there are a wide range of users, potentially not linked to a particular club, and a range of complicated issues, or where lots of multiple activities overlap. Casual visitors, that visit a location sporadically are unlikely to be fully informed of all local issues and politics. A code of conduct serves to set out where there are particular issues and provides the user with all the information they need to undertake their chosen activity safely, within the law and without creating conflict with others.
- 5.26 Codes of conduct can be established by directly working with local users, even by the users themselves. Codes are likely to be most effective where they are developed with stakeholders and are not overly restrictive. One of the key issues with codes is ensuring that they are read and circulated widely and that visitors are aware of them. Getting

⁸ http://www.solentforum.org/publications/strategic_guidance/SG%20rectour%20final.pdf

people to 'sign up' to voluntary codes of conduct is potentially tricky and may be difficult to achieve where many users are ad hoc, casual visitors and where there are multiple access points (i.e. no central location at which users can be intercepted).

- 5.27 There are a range of examples from around the UK where codes of conduct have been developed to resolve particular concerns. An example of voluntary codes of conduct is the Thanet area of Kent, where a series of codes of conduct have been brought together in a single document for a stretch of coast⁹. The document sets out the bird roosts, European Marine sites and provides an easily accessible overview for users. The individual codes of conduct include dog walking, horse riding, bait collection, wind-powered activities and powercraft.
- 5.28 A second good example comes from Pembrokeshire, where the Outdoor Charter Group is a collection of outdoor activity businesses, environmental education centres, conservation groups and organisations that have come together to ensure that adventure activities such as coastering, kayaking, surfing and cliff climbing, do not impact on the environment and wildlife. Activity providers and conservationists meet routinely, and have been working together to develop adventure activities in a way which is sustainable for the environment. The website¹⁰ provides a range of detail on best practice for each activity. The strength of the approach in Pembrokeshire is the way the charter group acts as an umbrella body. The Pembrokeshire Outdoor Charter Group (POCG) was developed by local activity centres and conservation bodies working closely with the National Park, National Trust, local activity centres, and conservation and education organisations. This Charter group represents a commitment by all members to good practice. All those who sign up to the Charter Group agree to conform to appropriate safety legislation, avoid damaging sites and to minimise disturbance. The group members liaise closely with the National Park Authority, attend regular meetings and annually attend training events.
- 5.29 On the Sefton Coast, at Ainsdale, a code of conduct has been developed with kite boarders in response to safety concerns¹¹. Sefton Council introduced the code as owner/occupier of the land; the council were aware of increasing levels of use by a range of users and users undertaking a range of 'new' activities including parakiting. It is clear that there has been resistance to the code of conduct from some users, many of whom are drawn to the sport for the exhilaration and sense of freedom. The code requires users to register for a permit, which are only issued on proof of valid insurance and evidence of club membership. Users sign up that they have read the code of conduct when they are issued with the permit. Checks are made on the beach in suitable weather conditions (such as onshore SW winds) to ensure users hold permits, which are encapsulated and provided in a plastic waterproof pouch. In practice the checks are often made when people are heading out onto the water and permits are often left on the car dashboard (cars parked on the beach). The number of permits that has been issued is approaching four figures (G. White, *pers. comm.*) and there are instances where users have had their permits suspended. While safety has been the

⁹ <http://www.thanetcoast.org.uk/pdf/ThanetCoastalCodes.pdf>

¹⁰ <http://www.pembrokeshireoutdoors.org.uk/>

¹¹ <http://www.sefton.gov.uk/pdf/KiteZone%20Permit%20FORMS%20oct%2009.pdf>

primary driver to the code of conduct at this site, the example is highly relevant as the code clearly sets out a no go area for birds and blends safety concerns with reducing disturbance. The code of conduct sets out a large, dedicated area for practitioners and there is also a kite zone users panel, which meets two – three times a year to provide a platform for discussion.

- 5.30 There are codes of conducts already produced for different parts of the Solent. For example at Hayling Island there are currently two areas where kitesurfing is permitted – one is a free area promoted by Havant Borough Council where kitesurfers are self-policing, following a code of conduct that includes specific nature conservation requirements¹². In the New Forest that National Park has produced codes of conduct for particular activities such as cycling¹³. There is also a seal-observation code produced by the Hampshire Wildlife Trust in partnership with Chichester Harbour Conservancy¹⁴ and a Solent-wide code for bait digging¹⁵, produced by the Solent European Marine Sites project.
- 5.31 We suggest that codes of conduct should be developed for all main activities on a solent-wide basis, and these put together into a single ‘pack’, similar to the Thanet example cited above. These codes would be developed with users and stakeholders, in a similar fashion to the existing one of bait digging, and provide clear guidance on zones, how to behave, which areas are sensitive etc. The codes would then be widely disseminated and made widely available. They would be promoted by the warden/ranger team and link to the some other elements within the strategy – such as the dog project (there would be a code of conduct for dog walkers) and the review of zones.

Site Specific Projects

- 5.32 The above projects all cover a wide geographic area and would cover the whole Solent. Following on from these, it would be necessary to implement a number of local, site specific projects. These projects would be informed by the other elements of the strategy (i.e. recommendations from the parking review, the work on zones and results of monitoring conducted by the warden/ranger team). The projects could be phased over an extended time period, and be adopted as resources and opportunities allow, and potentially also in response to new development in particular areas. Particular projects could include (but not be limited to):

- Interpretation, signs and site-specific leaflets
- Path design and surfacing
- New routes
- Targeted dog exercise areas
- Screening
- Fencing and other means to exclude access in particular areas (e.g. around roosts)

¹² <http://www.hka.org.uk/join.html>

¹³ http://www.newforestnpa.gov.uk/info/20045/things_to_do/36/cycling/2

¹⁴ <http://www.conservancy.co.uk/assets/assets/Code%20of%20Conduct.pdf>

¹⁵ <http://www.solentems.org.uk/resources/pdf/BaitCollectCode.pdf>

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- Parking changes
 - Zoning changes
- 5.33 Some of the projects might potentially be part funded through other means (or even self-funding, such as a change to parking charges). Particular projects could therefore come forward from particular stakeholders, who apply for funds from a 'central' pot.
- 5.34 In order to check what particular projects may work and to gain an overview of the potential for a series of relatively small, site specific projects, we have listed some suggestions in [Appendix 5](#). This appendix lists sections and sets out ideas or options that may be relevant for each. The list is not exhaustive and is not intended to be comprehensive; it is drawn from discussions held at a workshop with stakeholders in late November 2012. The list in Appendix 5 is intended to be indicative and provide a check that opportunities do exist for site specific measures.
- 5.35 We now consider the merits of the various site specific projects in more detail.
- 5.36 Interpretation boards, signs and leaflets are widely used around the UK at nature reserve sites. Signs are an important means of conveying information to visitors, and considerable guidance is available, for example describing design principles, wording etc for signs and interpretation (Kim, Airey, & Szivas; Mcleavy 1998; Kuo 2002; Hall, Roberts, & Mitchell 2003; Littlefair 2003; Bell 2008). Provision of signage and wardening has been shown to result in enhanced breeding success for little terns in Portugal (Medeiros et al. 2007). Signs can ask visitors to behave in different ways or direct people along particular routes. Interpretation provides information for visitors, enhancing their understanding of the site and its importance. There are existing signs and interpretation, produced by a wide range of organisations, already in place around the Solent. Opportunities may arise at particular locations to refresh, update or provide new material. New projects may also consider more novel approaches, for example smartphone apps.
- 5.37 The surfacing, design and maintenance of paths can affect how people use them and as a result reduce the impacts from recreation, without any change in visitor numbers. A much quoted example from the Pennines demonstrated that path resurfacing resulted in a change in people's behaviour (people stayed on the surfaced path rather than spread out to avoid the mud patches) and as a result there was a change in the distribution of birds adjacent to the path (Pearce-Higgins & Yalden 1997).
- 5.38 Path design can therefore be used to help focus visitor flows and how people move within a site. It is a relatively 'soft' approach in that it is possible to influence people's behaviour without people feeling their access is being restricted. Similarly the creation of new routes, for example providing a circular route from the shoreline that heads inland, may (depending on the location) serve to enhance the experience for visitors and redirect some access to less sensitive areas.
- 5.39 General studies of dog walkers indicate that preferences and needs of dogs influence where people choose to walk. Favourite sites are those where dogs are perceived as most happy; where they are permitted to run off lead, can socialise with other dogs, and where

there is little danger of road traffic (Edwards & Knight 2006). Dedicated fenced areas for dogs to be let off lead are relatively common within the UK, and they vary markedly in size, shape and design. As a mitigation measure such fenced areas have the potential to draw dog walkers away from sensitive locations, reducing the numbers of dogs off leads outside the fenced area by providing a safe location for dog walkers to exercise their dog safely off-lead. There is relatively little evidence for their success however, and given the low expert scores given to this measure, we are cautious in promoting this approach too highly, but recognise that there may be specific locations and instances where it may work. Our caution stems from the draw of the coast and the difficulty in providing a fenced area large enough to work. The risk is that such areas may draw dog walkers wanting a specific space to train or let dogs loose, but not provide any kind of advantage to dog walkers drawn to the coast for a walk.

- 5.40 Landscaping with banks or bunds, solid fencing, reed screens and careful planting/management of vegetation all serve to create barriers which mean people and wildlife are separated and the people hidden from view to the birds. The opportunities to undertake such measures entirely depend on the location.
- 5.41 There are numerous examples from around the UK where temporary or fixed enclosures are set up to restrict access to areas with sensitive nature conservation interests. Examples include:
- Temporary fencing to provide safe nesting areas for terns and breeding waders exist at numerous sites such as Holme NNR, North Denes SPA (Great Yarmouth), Scolt Head NNR, Dawlish Warren NNR, Pagham Harbour LNR and Walberswick NNR.
 - Fencing to protect rare plants from trampling at numerous sites, for example at Browndown SSSI and Dawlish Warren NNR.
 - Chestnut paling and other fencing is commonly used to protect dune systems from erosion and trampling damage at many sand dune sites
 - Protection of wader roost sites. For example at Dawlish Warren fencing on the beach means access to certain areas is restricted at high tide and a warden, present through the winter at high tide, redirects visitors according to where the birds are.
- 5.42 Published evidence on the efficacy of such approaches is relatively limited, however if fences are well maintained and adequate they should reduce visitor use in particular areas. The approach was scored relatively high by our expert panel, there is however little guidance on what size enclosures should be to be effective and there are a range of options in the design and permanence of any fencing. There is evidence that fencing roost sites can be effective, with before and after comparisons showing a reduction (but not cessation) in disturbance and an increase in birds (Lafferty, Goodman, & Sandoval 2006). Comparison of the distances at which birds respond to people also suggests that fencing can be effective in reducing disturbance (Ikuta & Blumstein 2003).

Watersport Permits and Enforcement

- 5.43 If monitoring data reveals that codes of conduct, zones and the other measures set out above are not working, then further measures would be necessary. The monitoring would provide the evidence base necessary to support these approaches.
- 5.44 For certain activities it would be possible to consider whether a permit system should be established. Such approaches have been used for activities such as kite surfing and personal watercraft use. A permit system provides a means to ensure users sign up to the code and to allow recognition of particular individuals that fail to follow the guidance. To be effective, permits would need to be free or cheap to obtain and widely available. Systems should be in place where local clubs or shops are able to give out day passes (ensuring visitors who come on spec/on an ad hoc basis are not turned away). Permit systems also provide a means of checking that all users hold valid insurance and are aware of site specific safety issues.
- 5.45 Various statutory mechanisms exist for prohibiting activities or tackling activities that are causing disturbance. These include:
- Habitat Regulations
 - SSSI legislation
 - Byelaws
 - Special Nature Conservation Orders
 - Dog Control Orders
- 5.46 **Habitats Regulations:** The Conservation of Habitats and Species Regulations 2010, generally referred to as the 'Habitats Regulations' provide protection for European wildlife sites from activities that may adversely affect such sites and the ability to meet their conservation objectives. Where a new activity is being proposed that may cause disturbance to a species that forms the interest feature of a European wildlife site, and that activity requires some form of permission, the authority charged with granting the permission, 'the competent authority,' must firstly consider the activity's potential for harm by taking it through a number of steps set out within the Regulations. Competent authorities include public bodies, local planning authorities and statutory undertakers, for example.
- 5.47 The Habitat Regulations therefore provide a mechanism to ensure new proposals, permissions etc. do not cause damage to a site, and existing permissions/consent can be removed. With the exception of provisions for Special Nature Conservation Orders and Byelaws (see further below), and in respect of the activities of relevant authorities in the parts of SPAs which are European Marine Site areas, the Regulations do not however provide a means for limiting, controlling or stopping activities which are entirely legitimate and require no formal permission or consent – for example walking on land with a statutory right of access.
- 5.48 **SSSI legislation:** Activities that may potentially damage a SSSI should not be carried out by owners or occupiers or public bodies without firstly notifying Natural England of the intention to undertake such activities. Section 28 of the Wildlife and Countryside Act, as

amended by the Countryside and Rights of Way Act 2000, sets out such requirements for both land owners and occupiers, and also for public bodies wishing to undertake such activities. Natural England issues consents (for owners and occupiers) and assents (for public bodies) once satisfied that appropriate measures are in place to protect the notified features of the SSSI from harm.

- 5.49 Enforcement against individuals for disturbance under SSSI legislation is difficult due to the level of evidence required to take forward a successful prosecution. Resulting fines can be low. Where damage is caused to a habitat (for example damaging operations by an owner) it is generally easier to gain evidence. SSSI legislation has been used in relation to disturbance from dogs. For example, a successful prosecution was brought by Natural England in January 2008 against an individual for recklessly causing disturbance to birds on the Hayle Estuary, in Cornwall. This was the first time Natural England had used the provisions under section 28P(6A) of the Wildlife & Countryside Act 1981 (as substituted by Schedule 9 to the Countryside and Rights of Way Act 2000 and amendments made by the Natural Environment and Rural Communities Act 2006) and was seen as a landmark case.
- 5.50 **Byelaws**¹⁶: A byelaw is a local law that is made by a statutory body, such as a local authority, under an enabling power conferred by an Act of Parliament. It is not just local authorities that can create byelaws, other bodies such as harbour authorities, the National Trust, the MOD and parish councils can also create them. The Marine Management Organisation (MMO) has the ability to make byelaws, including emergency byelaws under regulation 38 of the Habitats Regulations in conjunction with Part 5 of the Marine and Coastal Access Act 2009 if necessary for the protection of European sites. The MMO website includes a flowchart setting out options for byelaws¹⁷.
- 5.51 Byelaws are not normally considered to be a suitable regulatory mechanism in cases where there are express powers in primary legislation. Defra advise that they should be considered only when all other means of control (such as voluntary schemes) have been tried and failed, or are not considered appropriate.
- 5.52 Generally, byelaws regulate rather than prohibit activity, and are a means of reflecting the needs and circumstances of a particular area. The process of making or updating byelaws can be slow as they require confirmation and approval by the relevant government department.
- 5.53 **Special Nature Conservation Order (SNCO)**: Under Regulation 22 of the Habitats Regulations, Natural England can apply to the Secretary of State for a SNCO to be put in place to restrict activities that might otherwise affect the interest features of a European wildlife site. SNCOs are infrequently used, but enable Natural England to regulate activities that may affect a European site where the normal consenting process described above cannot be applied to the associated SSSIs. Natural England may use SNCOs where the activity requiring regulation is being undertaken by a third party and not the SSSI

¹⁶ See defra guidance at: <http://www.defra.gov.uk/rural/documents/countryside/byelaw-cr1.pdf>

¹⁷ http://marinemangement.org.uk/protecting/conservation/documents/byelaw_options.pdf

owner occupier. In some limited cases, SAC's below mean low water do not have associated SSSIs, and in the absence of powers to regulate activities under SSSI legislation, Natural England may use an SNCO for activities such as power boat or jet ski use, for example. Defra will generally only use SNCOs in the marine environment if the new powers under the Marine and Coastal Access Act 2009 to make byelaws are deemed inadequate. The maximum fine for breaching a stop notice issued under an SNCO is £5,000 on summary conviction, or unlimited on conviction on indictment.

- 5.54 **Dog Control Orders:** The Dog Control Orders (Prescribed Offences and Penalties, etc.) Regulations 2006 and the Dog Control Orders (Procedures) Regulations 2006, implement sections 55 and 56 of the Clean Neighbourhoods and Environment Act 2005. Dog Control Orders replace the previous system of byelaws for the control of dogs, and also the Dogs (Fouling of Land) Act 1996, which has been repealed.
- 5.55 The Dog Control Orders Regulations provide for five offences which may be prescribed in a Dog Control Order: failing to remove dog faeces; not keeping a dog on a lead; not putting, and keeping, a dog on a lead when directed to do so by an authorised officer; permitting a dog to enter land from which dogs are excluded; and taking more than a specified number of dogs onto land. A Dog Control Order can be made in respect of any land which is open to the air and to which the public are entitled or permitted to have access (with or without payment).
- 5.56 Both primary (e.g. District Councils) and secondary authorities (such as Parish Councils) may make Dog Control Orders, provided that they are satisfied that an order is justified and have followed the necessary procedures.
- 5.57 It is important for any authority considering a Dog Control Order to be able to show that it is a necessary and proportionate response to problems caused by the activities of dogs and those in charge of them. The authority needs to balance the interests of those in charge of dogs against the interests of those affected by the activities of dogs, bearing in mind the need for people, in particular children, to have access to dog-free areas and areas where dogs are kept under strict control, and the need for those in charge of dogs to have access to areas where they can exercise their dogs without undue restrictions. The household survey results indicated differences between dog owners and non-dog owners as to what attract them to sites. It is clear that there are marked differences between such users and the needs of both groups clearly need to be accommodated.
- 5.58 Experience to date of obtaining Dog Control Orders has shown that it can be difficult to persuade primary or secondary authorities of the need to make Orders. Opposition from dog walkers can be high. However, by collecting appropriate evidence, it is possible to make a persuasive case and there are some good examples from around the UK, including Stanpit (Christchurch Harbour) and the Hayle. On the Hayle Estuary in Cornwall, the RSPB collected eye-witness reports of all disturbances on the estuary over a 12-month period. This showed that, of the 262 recorded instances of disturbance during the year, 67% were dog-related. The public consultation period resulted in Cornwall Council receiving 109 letters in support of the Order and 18 in opposition. The RSPB sought and won the help of

the police to enforce the Order (which excluded dogs from part of the Reserve and SSSI) once implemented via the Fixed Penalty Notice system.

- 5.59 Once the coastal dog project and site based staff are in place, dog control orders provide a means to address problems at particular locations. They would provide 'clout' for the warden/ranger staff and a mechanism by which dog issues at particular locations could be resolved. The dog project would provide an initial means of engaging with dog walkers and conveying key messages. If these fail, or issues persist at particular locations, then we would envisage the monitoring data collected by warden staff (and the Solent Disturbance and Mitigation Project reports) would provide the evidence necessary to establish dog control orders. Such orders could be established over a wide area if necessary.

SANGs/Additional GI/Artificial Roosts

- 5.60 These measures relate to large, potentially expensive infrastructure projects. We are aware that are some current proposals for green infrastructure/SANGs and the potential for these to act as SANGs needs to be demonstrated and their effectiveness carefully monitored.
- 5.61 We suggest that, in general, SANGs are not implemented straight away, but that they are included as elements only if there is good evidence that they may be effective in a particular location and there is a good mechanism for delivery, such as existing schemes/projects or in association with large development.
- 5.62 SANGs are often cited as a potential option to mitigate disturbance and they have been widely established in the Thames Basin Heaths area, which provides the best examples of how such sites can be established. Both SANGs and the creation of additional green infrastructure, such as 'buffer zones', round existing sites, essentially create more space for recreation, and therefore (in theory) ensure development can proceed without adverse effects on the European sites from disturbance. As discussed previously (see paragraph 4.22), if SANGs are to work in a coastal environment they will need to provide an alternative to the coast. Within the Solent area there may be a few areas that could come forward that are not designated and could provide additional space for recreation. Other options will be inland, where creating an alternative to the coast may be difficult.
- 5.63 Some useful information on the likely effectiveness of SANGs can be drawn from the on-site visitor work conducted on the Solent (Fearnley *et al.* 2010). A third of interviewees indicated that nothing could be done to make another site more attractive for them than the site on which they were interviewed. The presence of attractive scenery was the most cited factor that would draw some users, with 17% of interviewees suggesting this as a factor that could draw them to another site. Looking at the factors that motivated visitors to choose the site where interviewed, the two most frequently cited were close to home (28%) and attractive scenery (20%). It would therefore seem that SANGs would have a role only where they are close to people's homes and are attractive. Large developments may be the best way to deliver such mitigation, ensuring that the location of the SANG can be linked to the development. We therefore do not rule out SANGs as a mitigation measure,

but suggest that they should be carefully targeted, assessed and viewed as a long term solution rather than a quick (and easy) win.

- 5.64 Artificial roost sites represent an option to create safe roost sites for birds away from disturbance. Waterbirds generally tend to prefer larger, open roost sites (Banks *et al.* 2003) close to foraging areas (Dias *et al.* 2006). The quality and availability of roosting habitat may limit population size (see Colwell 2010 for discussion) and there are examples where the creation of roosting habitat has led to an increase in the local population of wintering shorebirds (Furness 1973). An example of the successful creation of an artificial roost site is provided by Burton *et al.* (1996), who describe the loss of a roost site at Hartlepool (an old pier) and the replacement with an artificial site. The artificial site was a steep-sided, kidney shaped island that worked well for species such as turnstones, but there were issues relating to disturbance from a new marina. The authors suggest that open, flat topped islands with gently sloping sides would work for species such as oystercatchers. The design and management (primarily vegetation removal) of such roosts are discussed by Ausden (2007).
- 5.65 Disturbance, of course, may affect birds while they are feeding and also while roosting. Ensuring disturbance-free locations for birds to roost is, even if effective, a partial solution to mitigate impacts of disturbance. The approach was scored highly by the expert panel, and we therefore suggest that it is an option to be considered only as opportunities (such as work on sea-defences, marinas or similar) allow.

Setting Priorities

- 5.66 From the above list it is possible to identify priorities. While all elements are considered essential parts of a mitigation package, it is possible to schedule the different elements as to the order in which they are established. We summarise how they might be scheduled in Table 3.

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Table 3: Summary of measures, listed according to priority and with suggested phasing. Y

Measure	Year	Notes
A delivery officer	1	A high priority to get established quickly in order to get other projects off the ground. Employed at start, initially on a 3 year contract
A team of wardens/rangers	1	Employed after delivery officer, once branding and other elements (were staff to be based) are organised by delivery officer. A 'quick win'
A coastal dog project	1	Project started in first year, one of first roles for delivery officer. Will take a few years to become established. A 'quick win'
A review of parking and access points	1	Undertaken by delivery officer and by warden team (or external body). Initiated in first year, may take some time to collate.
A review of watersport zones/watersport access	1	Undertaken by delivery officer and by warden team (or external body). Initiated in first year, potentially would take a year to complete
Codes of conduct pack	2-3	Informed by the review of zones and access.
Series of site specific projects	3+	Clarity on site specific projects will come following the review of parking and the review of watersports. Once the strategic measures are in place it will be possible to hone in on particular locations where there are issues
Watersport permits & enforcement	3+	Monitoring data will provide information on where there are particular issues and enforcement may be required. Implementation of these elements will therefore be directly linked to impacts picked up in the monitoring
Sangs/additional gi/alternative roost sites		These measures will be opportunity led

6. Monitoring

Overview

- 6.1 Monitoring is essential to ensure the successful delivery of the mitigation work. Monitoring will be necessary to ensure approaches are working as anticipated and whether further refinements or adjustments are necessary. As different projects take off, monitoring will inform whether resources can be better allocated, for example it may be that once codes of conduct are in place and working efficiently, wardening presence can be reduced or scaled back. In addition it is difficult to be confident of how access patterns may change over time, for example in response to changes in climate, new activities and in response to changes on the sites themselves. The monitoring is therefore aimed at ensuring mitigation effort is focused, responsive to changes in access and that money is well-spent and correctly allocated. Monitoring is therefore integral to the mitigation 'package'.

Monitoring Elements

- 6.2 Different monitoring elements are set out in Table 4 and include counts of people, interviews, recording mitigation measures, on-going bird monitoring etc. These are all relatively basic monitoring and would need to be continuous, i.e., being recorded every winter.
- 6.3 In addition, it may be necessary to implement more detailed and complex studies, potentially repeating the bird disturbance work and household survey undertaken as part of the Solent Disturbance and Mitigation Project, and potentially further modelling runs (ideally including Chichester Harbour). These elements would be less regular, and potentially could be linked to reviews of the mitigation package, for example after the mitigation has been running for ten years.

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Table 4: Monitoring elements

Monitoring work	Aim	Conducted by	Methods	Notes
Visitor numbers and activities	Checking types of use and levels of use over time	By warden/ranger team, potentially with help from freelance surveyors and/or volunteers	Repeated coordinated spot counts of parked cars and people (mapped) at different locations	Will need careful design to ensure good spatial and temporal coverage, plus ability to pick up changes in behaviour (such as dogs on leads). Potentially scope to use automated counters too.
Interviews with visitors	Gathering information relating to home postcode, reasons for visiting, motivations, visitor profiles etc	Warden/ranger team or consultant	Face-to-face surveys on site	Repeating survey locations used in on-site survey as part of SDMP, potentially with additional sites added
Bird numbers and distribution	Checking bird numbers and changes over time	Mainly volunteers, continuation of WeBS	WeBS	Some small funding may be necessary to support counts locally and ensure no gaps in coverage.
Effectiveness of different measures	Check that specific projects are working	Wardens/rangers, possibly volunteers or consultants	Range of approaches, potentially including automated counters, interviews, direct observation	Targeted monitoring aimed at checking different measures, including before and after monitoring.
Recording of all mitigation measures	Ensuring detailed documentation of projects undertaken and where.	Delivery officer		This will need to record details like membership of dog project, events, site-specific projects, level of wardening (time spent by warden/ranger team in different locations, number of people spoken to etc.)
Levels of new development	Recording amount of new building/development to relate to changes in access levels	LPAs	Some standard approach of recording development across all authorities	

7. Implementation and Monitoring

Overview

7.1 This section considers the details of a Draft Mitigation Strategy, in terms of how such a strategy may sit within the planning system, funded and governed.

Separating existing use from impacts from new development

7.2 Not all of the increased recreational pressure will be likely to arise from new development. Residential development is the focus for this report (as set out in the initial specification), however some increased recreational pressure may arise as a result of increased recreational activity of people who already live in the 'catchment' who will be minded to undertake relevant recreational activities in sensitive areas for the first time. Increases in tourism may also result in increased recreation use. Thus, we note that it may be that some consideration for funding for the Strategy's measures may necessary from new or extended charges for activities, for example as may be regulated by harbour authorities or non-planning related regulation by local authorities. It would not be necessarily 'fair' for all of the cost of the Strategy to fall on the shoulders of new developments.

7.3 There could be direct implementation of some measures by a range of stakeholder groups (e.g. land owners and user groups / clubs) who may hold land on which the measures could be implemented, or who may otherwise be able to implement measures directly, e.g. because they operate a car park, or they issue permits. Developers are not the only interest group that may be expected to provide measures directly or if not directly then indirectly via funding for the Strategy's implementation.

7.4 Harbour authorities are relevant authorities and have duties to manage impacts on the SPAs. They already do so by managing recreational activities under their control in part through charges, licence fees, limits on the number of moorings, byelaws etc. These are an important contribution to the objectives of the strategy.

Implementation

7.5 In considering how to mitigate the effects of new development, the Strategy will need to:

- Establish basic principles
- Decide on the most appropriate delivery mechanisms for mitigation
- Consider the scope and scale of the funding contributions

Basic principles

7.6 In line with planning law and the National Planning Policy Framework (NPPF), and in light of local circumstances, the strategy should set out the following basic principles in respect of the mitigation of the effects of new development.

7.7 The measures which will need to be provided, either directly by individual developments or indirectly via funding contributions, as explained further below, and they should be:

S o l e n t D i s t u r b a n c e & M i t i g a t i o n P r o j e c t :
P h a s e I I I , M i t i g a t i o n R e p o r t

- **Necessary:** they should be essential in order to enable planning permission to be granted in light of the requirements of the Conservation of Habitats and Species Regulations 2010 and para 204 of the NPPF.
- **Relevant to planning:** not related solely to the conservation management of the SPAs, or measures which are required, in any event, by Article 6(2) of the Habitats Directive or Article 4(4) of the Birds Directive.
- **Relevant to the development:** only applied to developments of a kind, scale and location that would otherwise have a potential effect on the SPAs either alone or in combination with other plans or projects (mainly other developments) (para 204 of the NPPF).
- **Effective:** the measures should mitigate the potential effects of the development by avoiding them, or by reducing the effects to levels which could not possibly undermine the conservation objectives of the SPAs, again, either alone or in combination with other plans or projects (this approach avoids the need for any developments contributing to the Strategy to be subject to ‘appropriate assessment’).
- **Efficient:** the measures should be efficiently organised and delivered, this includes being cost effective in terms of management, collection, fund-holding, distribution and accounting; it also means that the requirements of the Strategy should be included in the list of information requirements for applicants (para 193 NPPF) and should be customer-friendly and transparent as encouraged by paragraph 12 of the draft Core guidance for developers, regulators and land / marine managers (Defra December 2012).
- **Adjustable:** the measures should be capable of adjustment over time, as may be indicated by monitoring; and procedures for adjustment should be efficient, subject of course to appropriate levels of public consultation. The Strategy should take account of market conditions over time and be sufficiently flexible to ensure that planned development is not being stalled.
- **Proportionate:** the cost of the measures and the nature, scale and location of developments required to contribute to them, should be proportionate to the risks to the SPA, a ‘risk-based approach to implementation’ encouraged by paragraph 12 of the draft Core guidance for developers, regulators and land / marine managers (Defra December 2012), especially in light of the general pre-existing levels of disturbance and how they will be managed. They should be fairly and reasonably related in scale and kind to the development (para 204 NPPF).
- **Fair:** the measures should be applied fairly, without bias in respect of particular types of development, or particular areas, with any differences being clearly related to the likelihood of differing levels of effects. Equally, the measures should be fair in respect of the sources of increased recreational pressure. Not all of the increased recreational pressure will be likely to arise from new development. Funding for the Strategy’s measures may need to be raised from other sources as well.

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- **Evidence-based:** the measures should all be transparently and firmly referenced to the Solent Disturbance and Mitigation Project, and should not include measures that may be considered desirable to achieve other objectives.
- **Deliverable:** with a degree of certainty in a reasonable timescale related to the commencement of the development.
- **Compliant:** with planning law and policy, including that relating to the use of Section 106 Planning Obligations and the Community Infrastructure Levy (CIL).

Mechanisms

- 7.8 There are two principal ways in which sources of increased recreational pressure can deliver measures to counter-act their effects, or their potential effects, through the planning system. They are by **direct implementation** of relevant measures; or by indirectly contributing to the Strategy's implementation in the form of a **funding contribution** which would be 'pooled' with others.
- 7.9 **Direct implementation:** Individual new developments can contribute to the Strategy's delivery directly by implementing measures consistent with the Strategy on land owned or controlled by the developer, whether or not the land is adjacent to the development site. Such proposals should be agreed with the planning authority and Natural England at pre-application stage. They must be included in the planning application as a firm commitment which will be delivered if planning permission is granted (for example by being guaranteed in a section 106 planning obligation or in a management agreement with Natural England under the provisions of regulation 16 of the Habitats Regulations). Measures should be directly related to the effects of the development. They should be effective, proportionate and deliverable (see the basic principles). If the direct measures are considered to be insufficient to offset the effects of the development the developer may offer a combination of direct measures and a funding contribution which may be reduced by agreement to reflect the efficacy of the direct measures.
- 7.10 Paragraph 176 of the NPPF says "Where safeguards are necessary to make a particular development acceptable in planning terms (such as environmental mitigation or compensation), the development should not be approved if the measures required cannot be secured through appropriate conditions or agreements. The need for such safeguards should be clearly justified through discussions with the applicant, and the options for keeping costs to a minimum fully explored, so that development is not inhibited unnecessarily."
- 7.11 **Funding contributions:** In most cases it will not be possible for an individual development to implement any direct measures in order to wholly or partly offset its effects on the Solent SPAs. In such cases the effects of the development can be mitigated by it making a proportionate contribution to the cost of implementing the Strategy. This is likely to be done, where appropriate and the requirements are met, by way of either a section 106 planning obligation, or a contribution included in the Community Infrastructure Levy (CIL).
- 7.12 Infrastructure is defined in this context (by S.216 of the Planning Act 2008 as amended by regulation 63 of the CIL Regulations 2010) so as to include 'educational facilities', 'sport and recreational facilities' and 'open spaces'. On the face of it, therefore, many (but not

necessarily all) of the measures recommended to be in the Strategy would fall within the definition of 'infrastructure'.

- 7.13 It will be for the planning authorities to determine whether the funding of the Strategy is appropriate for the CIL. If so, and from when the levy is implemented, it would not be possible to (continue to) seek funding contributions by way of planning obligations (because no more than five obligations may fund any one element of infrastructure). However, if the planning authorities decide that funding contributions to the Strategy is not appropriate for CIL, then they would be free to (continue to) seek funding contributions by way of planning obligations, because the five obligation limit would not apply.
- 7.14 CIL charges should be worked up and tested alongside the evolution of related policy, in the Local Plan or supplementary documents where appropriate (para 175 NPPF).

Policy basis

- 7.15 In order to put these mechanisms in place it is necessary to secure a sound policy basis for them in the Local Plans and other policy frameworks of the relevant local planning authorities. One of the problems encountered in previous mitigation strategies, such as the Thames Basin Heaths, was the widely varying nature and stage of evolution of the plans of the different planning authorities. Some were in a position to include the necessary policy base in their Local Development Frameworks much more quickly than others, but the measures were required across the whole area concurrently. In order to be sure of a consistent approach for the Thames Basin Heaths SPA, and on the advice of the Technical Advisor at the South East Plan Examination in Public (in 2007), a Joint Strategic Partnership (JSP) was set up to provide a vehicle for joint working, liaison and exchange of information between local authorities and other organisations affected by the Thames Basin Heaths SPA. The JSP adopted guidelines, in the form of a Delivery Framework, formed the basis for each authority to establish its own plan relating to the SPA. In the Dorset Heaths, a single Supplementary Planning Document (SPD) facilitates the implementation of mitigation and is a Local Development Document within each of the local authorities planning frameworks.

Policy wording

- 7.16 Whilst the presentation of model policies creates mixed responses and planning authorities tend to draft their policies in ways which suit their own preferences, we are happy to suggest the following model policy as a basis for discussion.

POLICY XX: THE PROTECTION OF THE SOLENT SPECIAL PROTECTION AREAS

An 'Exclusion Zone' [where relevant] and a 'Zone of Influence' in relation to new residential development that could increase recreational impacts on the [named] SPA(s) is / are defined on the Proposals Map.

It is Natural England's advice that all net new residential development within the 'Zone of Influence' is likely to have a significant effect on the [specify relevant SPA(s)] and will need to be subject to the provisions of regulation 61 of the Conservation of Habitats and Species Regulations 2010. In the absence of appropriate avoidance and/or mitigation measures

that will enable the planning authority to ascertain that the development would not adversely affect the integrity of the SPA(s), planning permission will not be granted because the tests for derogations in regulation 62 are unlikely to be met. Furthermore, such development would not have the benefit of the presumption in favour of sustainable development in the National Planning Policy Framework.

New residential development, which incorporates appropriate avoidance/mitigation measures, which would avoid any likelihood of a significant effect on the SPA(s), will not require 'appropriate assessment'. Appropriate avoidance/mitigation measures will comprise:

- a) a contribution in accordance with [state the document / paragraphs that will contain the formula for calculating the funding contribution]; or*
- b) a developer provided package of measures associated with the proposed development designed to avoid any significant effect on the SPA(s); or*
- c) a combination of measures in (a) and (b) above.*

Avoidance/mitigation measures will need to be in place before development is commenced and shall be maintained in perpetuity. All mitigation measures in (a), (b) and (c) above must be agreed to be appropriate by Natural England.

The provisions of this policy do not exclude the possibility that some residential schemes either within or outside the Zone of Influence might require individual assessment under the Habitats Regulations. For example, large schemes, schemes proposing bespoke avoidance/mitigation measures, or schemes proposing an alternative approach to the protection of the SPAs. Such schemes will be assessed on their own merits, and subject to advice from Natural England.

Within this 'Exclusion Zone' mitigation measures are unlikely to be capable of protecting the integrity of the SPA and proposals for new residential development will be refused unless the applicant can show, beyond reasonable scientific doubt, that there would not be an adverse effect on the integrity of the SPA(s).

Scale and Scope

- 7.17 The contribution of individual proposals to the strategic funding ensures that they will not be likely to have a significant effect on the SPAs, either
- a) alone (usually because they are too small); or
 - b) in combination with other plans or projects (because the combined effects are eliminated by the implementation of the strategy to which the development has made a fair and proportional contribution in order to avoid any significant effects on the site).
- 7.18 Individual proposals which negotiate a bespoke solution package and agree it with the planning authority and Natural England will also be considered to have eliminated their potential effects on the site.
- 7.19 However, for some bespoke packages which are not agreed by Natural England, or cases where large developments may not adequately contribute either to a bespoke solution or the strategy, or both, it will not be possible to conclude that they would not be likely to have a significant effect on the SPAs, either alone (if close to the site and of larger scale) or in combination (if further away and or smaller in scale) and they will need to be subject to

‘appropriate assessment’. It is neither necessary nor realistic to attempt to prescribe either the scale of development or the distance from the site (or permutations of both) which would be significant alone, rather than in combination, because such decisions need to be taken on a case-by-case basis. It follows from the application of the principles, via the mechanisms, that the scope and scale of the funding contributions will need to be considered carefully in respect of:

- a) Identifying the types, and if necessary for some types, the scale, of development that could lead, either individually or cumulatively, to an increase in recreational pressure and therefore require the effects of those developments on the Solent SPAs to be mitigated;
- b) The location of development that should reasonably be expected to contribute to the Strategy, in order to ensure it would not be likely to have a significant effect on any of the Solent SPAs, either alone or in combination with other plans or projects;
- c) The calculation of a total (global) funding contribution related to the proportion of forecast increase in recreational pressure (which would otherwise be likely to affect the Solent SPAs), that would be accountable to the nature, scale and location of planned new development, and the cost of implementing the Strategy to the extent that it would nullify the potential effects of that increase, and then
- d) Calculating an equitable way of sharing the total cost calculated in c) above, and developing a formula for determining the level of funding contribution of individual developments (or where relevant, incorporating the cost in c) into the CIL calculation).

7.20 In making these estimates and calculations the following observations may be relevant. As explained above, not all of the increased recreational pressure may arise from new development. Thus, it may be that some consideration needs to be given to funding from other sources as it may not necessarily be ‘fair’ for all of the cost of the Strategy to fall on the shoulders of new developments.

7.21 In making the calculations some account will need to be taken of the likely opportunities for, and the likely nature and scale of, direct implementation by developers. If there might be significant opportunities there would otherwise be a degree of ‘double counting’ and these costs could be offset twice – once by way of direct implementation ‘in kind’, secondly by including the cost in the total funding to be pooled from contributions.

7.22 The following forms of development may lead to an increase (cumulatively) in recreational pressure if the effects are not mitigated:

- a) All new developments providing for a net increase in accommodation falling into class C.1 of the Town and Country Planning Use Classes Order (1987 as amended) – hotels, boarding and guest houses;
- b) All new residential development, providing a net increase in accommodation falling into Class C.3 dwelling houses and C.4 houses in multiple occupation, including subdivision of single dwellings and changes of use of buildings to residential use and

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any net increase in the staff-only accommodation in class C.2 residential institutions - accommodation for people in need of care, and C.2A secure residential institutions.

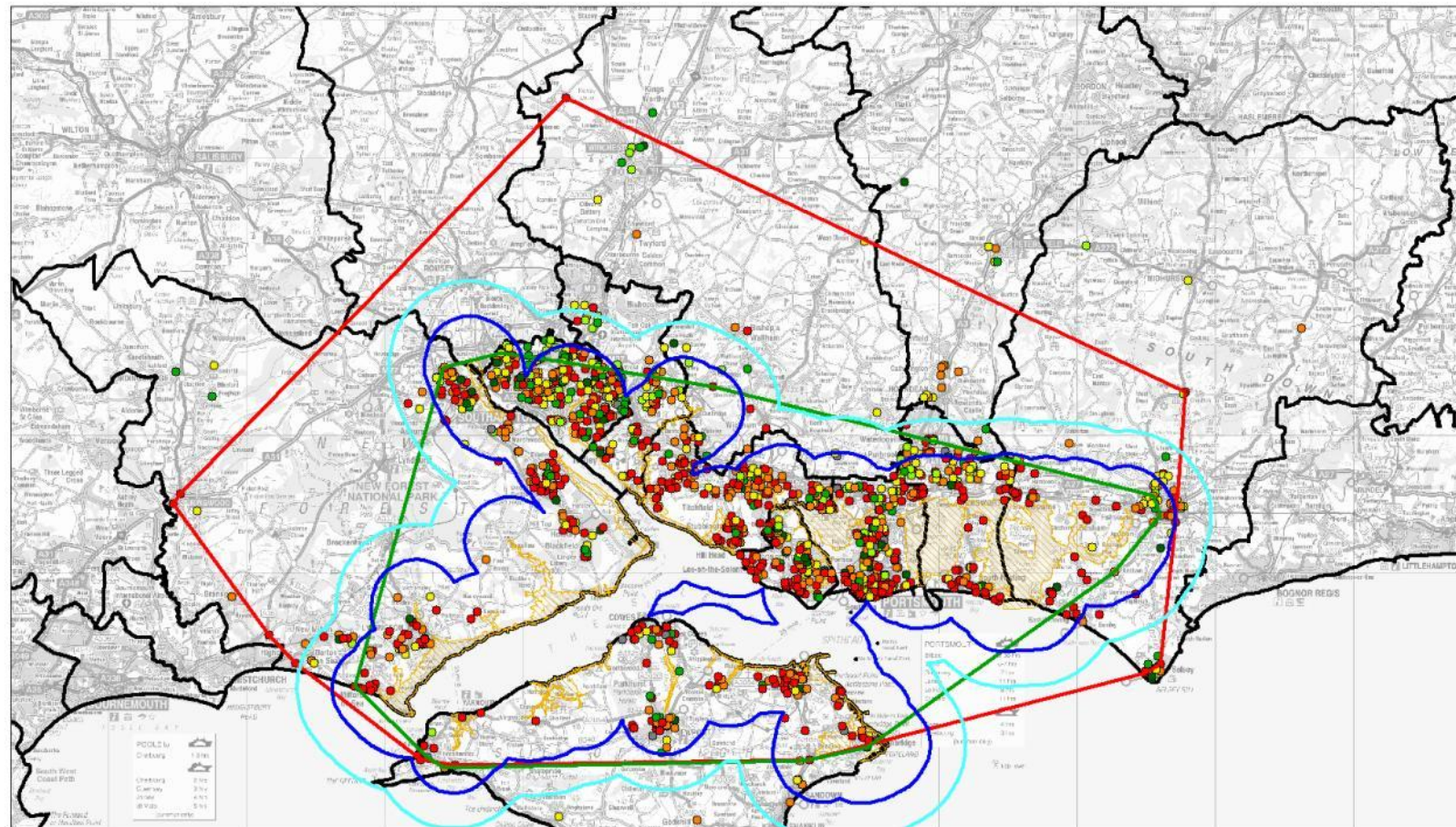
- 7.23 In addition some consideration may be necessary of the following, potentially on a case-by-case basis:
- c) Class A.3 restaurants and cafes, A.4 drinking establishments, A.5 hot food takeaways, B.1 offices and A.2 financial and professional services, if located in close proximity (which would need to be defined) to access points to the SPAs
 - d) Hostels and other sui generis uses on a case-by-case basis.
- 7.24 It is acknowledged that some dwelling units may not be subject to an express planning permission that would enable the planning authority to levy a charge towards the strategic solution. However, subject to the way in which the Government's proposal to allow change of use from offices to residential without the need to obtain express planning permission on an application is taken up in practice, it is considered that the proportion of dwelling units that would avoid the contribution would be small compared to the total number of new dwelling units.
- 7.25 However, if a new dwelling unit would be allowed by way of a permitted development right (from offices or in any other way) it should be borne in mind that the Habitats Regulations do provide a protective measure for European sites. Within the zone of influence of the charges, the Councils will need to advise prospective developers that under the provisions of regulations 73 - 75 of the Conservation of Habitats and Species Regulations 2010, it will be necessary for proposals which create new residential accommodation under permitted development rights, to apply to the planning authority for prior approval if the proposal would be likely to have a significant effect on a European site. If there is no contribution, the Council, in consultation with Natural England, under regulation 75, would not be able to ascertain that there would not be an adverse effect on the integrity of the site in combination with other plans or projects. In such a case the planning authority would be prohibited from giving approval to the development, and an application would need to be made for express planning permission. Such a proposal of course would then require the development to be accompanied by a contribution.
- 7.26 On the other hand, a developer wishing to create new residential development by way of a permitted development right could ask the opinion of Natural England, under regulation 74, whether the new development, including an enforceable commitment to contribute to the strategic funding on the same basis as a dwelling that required express planning permission, would be likely to have a significant effect on a European site alone or in combination with other plans or projects (74(1) – (2)). Natural England's opinion that there would be no likely significant effect is conclusive (74(6)). Where a contribution is guaranteed, Natural England would be able to advise that there would be no likely significant effect on the SPAs and no application for prior approval need be made. This saves the application fee and the time taken in making the application for approval. It also avoids the risk of the planning authority being unable to approve the permitted

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development. The new dwellings could then be created as permitted development subject to any other conditions imposed by the Permitted Development Order.

- 7.27 It is relevant to note that in the case of the Thames Basin Heaths Delivery Framework, the amount of each dwelling's funding contribution was determined in part by the size of the dwelling, using the number of bedrooms as a readily identifiable measure.
- 7.28 The distances from the SPAs in which the effects of new development should be mitigated will need to be calculated on the basis of evidence drawn from Phase II. Distances may need to vary according to the type of development and according to the relative accessibility of the coast. For example, Class A.3 restaurants and cafes and A.4 drinking establishments (such as pubs) could generate more visits to the coast where they would be located close to a coastal access point, because people may be encouraged to go for a walk as part of the visit who would not otherwise have gone to the coastal location had it not been for the new eating or drinking venue.
- 7.29 It should also be noted that, in both the Thames Basin Heaths and Dorset Heathland cases, it was deemed most appropriate (after careful scrutiny and public examination of the proposals):
- a) To fix the same distances around all the component SSSI, irrespective of variations in levels of accessibility (and indeed whether different parts of the heaths were even open to the public);
 - b) To base accessibility on straight-line distance from the SPA boundary, rather than distance to access points or estimating travel times (which vary considerably and could change over time); and
 - c) To accept that beyond 5km visits generated by new development would be likely to occur (up to 25% of all visits) but this should be mitigated on a case-by-case screening basis for large scale developments and by the access and habitat management measures undertaken on the SPAs
- 7.30 In Map 5 we show some possible options for zones whereby developer contributions towards mitigation would be required. These include lines drawn at a constant distance (i.e. a buffer) from the SPA boundary and 'convex hulls' which enclose particular groups of point data, such as home postcodes of regular visitors. The pale blue line is the equivalent of the 5km zone for the Thames Basin Heaths, i.e. a standard buffer at the distance within which 75% of people were interviewed during the on-site visitor survey. This buffer for the Solent is at 5.6km. This lies relatively close to many local authority boundaries, and therefore, for convenience, could be aligned to follow local authority boundaries in many places. This zone is also shown in a simplified map in Map 6 and is recommended for a zone of influence.

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Map 5: Possible Zones

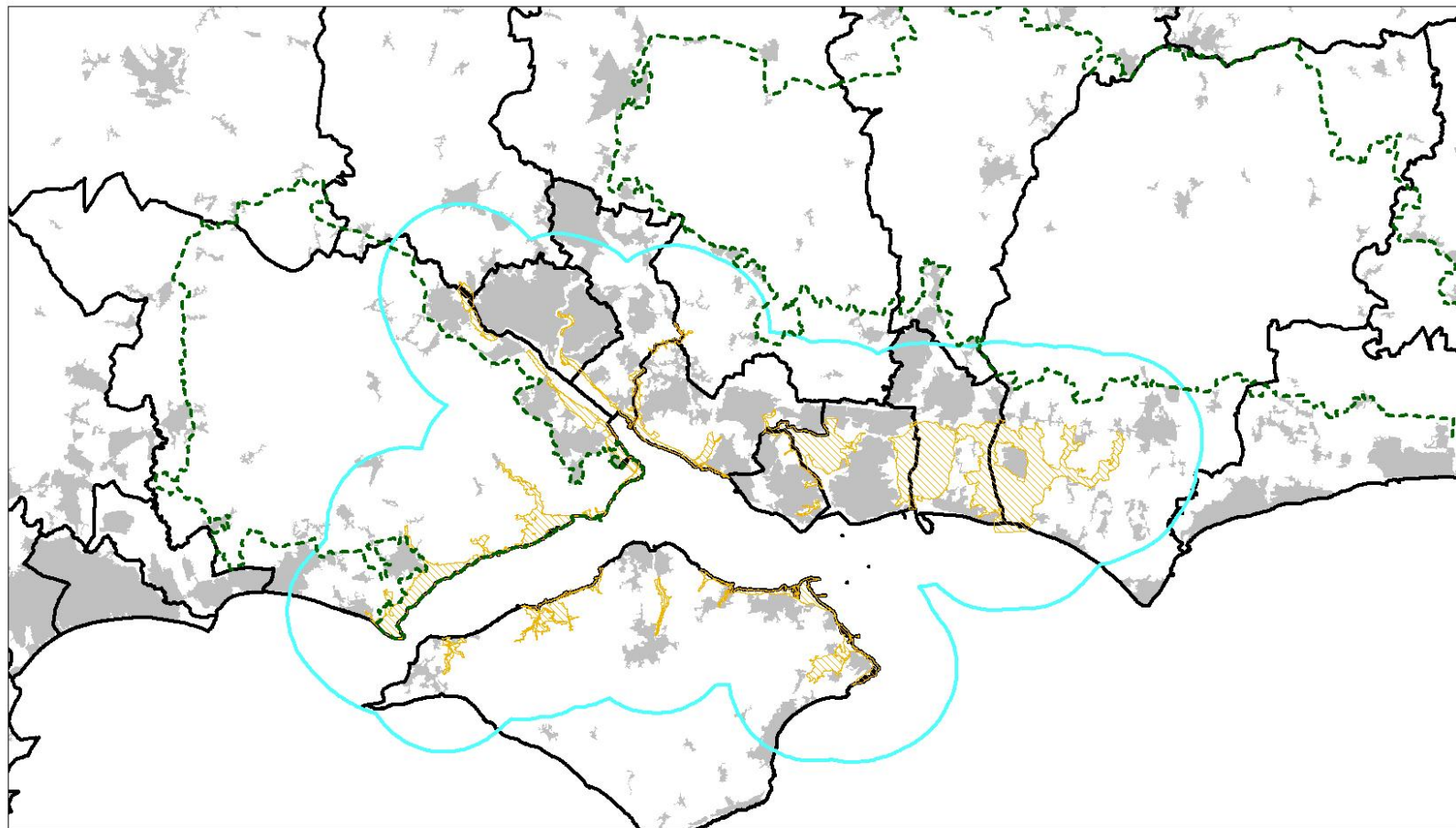
Contains Ordnance Survey Data.
Crown copyright and database right 2013.

- ▭ Convex Hull, all people that visit in last week household survey
- ▭ Convex hull, nearest 75percent of people that visited in last week, household survey
- ▭ Nearest 75 percent from on-site survey that visit weekly. Holidaymakers excluded. Buffer of 3.05km from SPA
- ▭ Nearest 75 percent from on-site survey. Holidaymakers excluded. Buffer of 5.6km from SPA

Household Survey data: When was the last time you visited coast...?


- left blank (24)
- More than a year ago (108)
- Never (56)
- Within the last 6 months (227)
- Within the last month (326)
- Within the last week (565)
- Within the last year (76)

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Map 6: 5.6km zone

Contains Ordnance Survey Data.
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 SPA boundary
 5.6km from SPA boundary

 National Park boundary
 Local authority boundary

Management Options

- 7.31 It would seem sensible that a strategic lead body is established, to call and administer meetings, oversee coordination, handle receipts and plan programmes of cross-border implementation etc. Such a body needs to be agreed by various authorities as to who should host and lead implementation. Precedents can be found in the Thames Basin Heaths Joint Strategic Partnership and in the Dorset Heathland Executive Group.
- 7.32 In the Dorset Heaths, the Executive Group consists of councillors from each affected local authority, together with representatives from the Home Builders Federation, Natural England and an NGO. One of the roles of the group is to consider schemes/projects recommended by an officer group. Schemes can be put forward by the public, private or voluntary sectors.
- 7.33 To provide certainty to those considering or making applications for residential development within 5km of the Dorset Heaths, and to ensure transparency and accountability, a formulaic approach has been adopted that sets out a mechanism for the calculation of the planning contribution/obligation. A standard charge is set, providing clarity for developers, the owners of land and the general public. This charge is calculated based on the cost of a package of mitigation measures divided by the forecasted average population increase by type of dwelling. Such an approach could work for the Solent.
- 7.34 The approach is appealing in that the package of mitigation measures is set out for a fixed time period, and costs estimated based on this package. The package comprises a series of roughly costed individual schemes or projects¹⁸. This list is used to 'set' the tariff, but the Executive Group's role then provides flexibility, allowing for different projects to come forward or the original projects to come forward in a modified form. This flexibility ensures opportunities, other funding etc. can be utilised.
- 7.35 In the Solent, such an approach could be established. Most of the projects are strategic/cross-boundary, and (as listed in paragraph 5.1 and Table 3) form a clear order of priority. The early years of any mitigation package could therefore be focused on delivering the initial elements in this list. As additional funds become available, these could be allocated to site specific projects – in a similar way to the Dorset Heaths – with individual projects being put forward to the lead body.
- 7.36 Following Table 3 we therefore suggest approximate annual costs for the initial years of mitigation delivery, including the initial monitoring also required Table 5. These costs come to around £420,000 per year. The costs for the warden/ranger team would be costs that would need to run 'in perpetuity'. Similarly the monitoring elements and annual costs – for example for the dog project – would potentially need to be budgeted on an annual basis. The costs of the later elements of the strategy (site specific projects and enforcement/permits) are difficult to estimate at this stage. Similarly the options for

¹⁸ See Appendix A in the SPD: <http://boroughofpoole.com/planning-and-buildings/planning/ldf/supplementary-planning-documents/dorset-heathland-planning-framework/>

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SANGs, green infrastructure and habitat creation (such as roosts) are difficult to estimate. We have therefore only suggested costs for the first 2-3 years. These costs could be used to establish an interim tariff (calculated based on the number of new residential properties expected to come forward over the given time period).

Table 5: Approximate costs for initial elements of the strategy showing how a full plan might be costed. The table does not include any costs for the Executive Group (in terms of time, hosting, administrative support etc).

Work area	Capital Cost	Annual cost	Notes
A delivery officer		£45,000	Assuming salary costs of £30,000 and 50% support costs
A team of wardens/rangers		£262,500	Assuming 7 posts, each with salary costs of £25,000 and 50% support costs
A coastal dog project	£20,000	£2,000	Costs based on Dorset Dogs Project but assuming larger scale. Costs for web design, branding, hosting events etc.
A review of parking and access points	£25,000		Capital cost allows for consultancy support. Some delivery officer/warden team time assumed too
A review of watersport zones/watersport access	£25,000		Capital cost allows for consultancy support. Some delivery officer/warden team time assumed too
Codes of conduct pack	£20,000		Estimated costs for around 10 codes of conduct. Graphic design and printing.
Monitoring visitor numbers and activities	£5,000	£5,000	Series of repeat vantage point counts established. Capital cost allows for initial design and set up (e.g. hosting by record centre). Annual cost provides casual staff to supplement wardens
Interviews with visitors	£5,000	£5,000	Series of visitor interviews established at fixed locations. Capital cost allows for initial design and set up (e.g. hosting by record centre). Annual cost provides casual staff to supplement wardens
Total	£100,000	£319,500	

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Appendix 1: Interest features of the three SPAs

These summaries are drawn from the SPA review pages on the JNCC website rather than the SPA citation. We have not listed breeding bird interest.

Solent & Southampton Water SPA

This site qualifies under **Article 4.2** of the Directive (79/409/EEC) by supporting populations of European importance of the following migratory species:

Over winter;

Black-tailed Godwit *Limosa limosa islandica*, 1,125 individuals representing at least 1.6% of the wintering Iceland - breeding population (5 year peak mean, 1992/3-1996/7)

Dark-bellied Brent Goose *Branta bernicla bernicla*, 7,506 individuals representing at least 2.5% of the wintering Western Siberia/Western Europe population (5 year peak mean, 1992/3-1996/7)

Ringed Plover *Charadrius hiaticula*, 552 individuals representing at least 1.1% of the wintering Europe/Northern Africa - wintering population (5 year peak mean, 1992/3-1996/7)

Teal *Anas crecca*, 4,400 individuals representing at least 1.1% of the wintering Northwestern Europe population (5 year peak mean, 1992/3-1996/7)

Assemblage qualification: A wetland of international importance.

The area qualifies under **Article 4.2** of the Directive (79/409/EEC) by regularly supporting at least 20,000 waterfowl

Over winter, the area regularly supports 53,948 individual waterfowl (5 year peak mean 1991/2 - 1995/6) including: Gadwall *Anas strepera*, Teal *Anas crecca*, Ringed Plover *Charadrius hiaticula*, Black-tailed Godwit *Limosa limosa islandica*, Little Grebe *Tachybaptus ruficollis*, Great Crested Grebe *Podiceps cristatus*, Cormorant *Phalacrocorax carbo*, Dark-bellied Brent Goose *Branta bernicla bernicla*, Wigeon *Anas penelope*, Redshank *Tringa totanus*, Pintail *Anas acuta*, Shoveler *Anas clypeata*, Red-breasted Merganser *Mergus serrator*, Grey Plover *Pluvialis squatarola*, Lapwing *Vanellus vanellus*, Dunlin *Calidris alpina alpina*, Curlew *Numenius arquata*, Shelduck *Tadorna tadorna*.

Portsmouth Harbour SPA

This site qualifies under **Article 4.2** of the Directive (79/409/EEC) by supporting populations of European importance of the following migratory species:

Over winter;

Dark-bellied Brent Goose *Branta bernicla bernicla*, 2,847 individuals representing at least 0.9% of the wintering Western Siberia/Western Europe population (5 year peak mean 1991/2 - 1995/6)

Chichester and Langstone Harbours SPA

This site qualifies under **Article 4.1** of the Directive (79/409/EEC) by supporting populations of European importance of the following species listed on Annex I of the Directive:

On passage;

Little Egret *Egretta garzetta*, 137 individuals representing up to 17.1% of the population in Great Britain (Count as at 1998)

Over winter;

Bar-tailed Godwit *Limosa lapponica*, 1,692 individuals representing up to 3.2% of the wintering population in Great Britain (5 year peak mean 1991/2 - 1995/6)

Little Egret *Egretta garzetta*, 100 individuals representing up to 20.0% of the wintering population in Great Britain (Count as at 1998)

This site also qualifies under **Article 4.2** of the Directive (79/409/EEC) by supporting populations of European importance of the following migratory species:

On passage;

Ringed Plover *Charadrius hiaticula*, 2,471 individuals representing up to 4.9% of the Europe/Northern Africa - wintering population (5 year peak mean 1991/2 - 1995/6)

Over winter;

Black-tailed Godwit *Limosa limosa islandica*, 1,003 individuals representing up to 1.4% of the wintering Iceland - breeding population (5 year peak mean 1991/2 - 1995/6)

Dark-bellied Brent Goose *Branta bernicla bernicla*, 17,119 individuals representing up to 5.7% of the wintering Western Siberia/Western Europe population (5 year peak mean 1991/2 - 1995/6)

Dunlin *Calidris alpina alpina*, 44,294 individuals representing up to 3.2% of the wintering Northern Siberia/Europe/Western Africa population (5 year peak mean 1991/2 - 1995/6)

Grey Plover *Pluvialis squatarola*, 3,825 individuals representing up to 2.5% of the wintering Eastern Atlantic - wintering population (5 year peak mean 1991/2 - 1995/6)

Redshank *Tringa totanus*, 1,788 individuals representing up to 1.2% of the wintering Eastern Atlantic - wintering population (5 year peak mean 1991/2 - 1995/6)

Ringed Plover *Charadrius hiaticula*, 846 individuals representing up to 1.7% of the wintering Europe/Northern Africa - wintering population (5 year peak mean 1991/2 - 1995/6)

Assemblage qualification: A wetland of international importance.

The area qualifies under **Article 4.2** of the Directive (79/409/EEC) by regularly supporting at least 20,000 waterfowl

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Over winter, the area regularly supports 93,142 individual waterfowl (5 year peak mean 1991/2 - 1995/6) including: Wigeon *Anas penelope*, Bar-tailed Godwit *Limosa lapponica*, Dark-bellied Brent Goose *Branta bernicla bernicla*, Ringed Plover *Charadrius hiaticula*, Grey Plover *Pluvialis squatarola*, Dunlin *Calidris alpina alpina*, Black-tailed Godwit *Limosa limosa islandica*, Redshank *Tringa totanus*, Little Grebe *Tachybaptus ruficollis*, Little Egret *Egretta garzetta*, Shelduck *Tadorna tadorna*, Curlew *Numenius arquata*, Teal *Anas crecca*, Pintail *Anas acuta*, Shoveler *Anas clypeata*, Red-breasted Merganser *Mergus serrator*, Oystercatcher *Haematopus ostralegus*, Lapwing *Vanellus vanellus*, Knot *Calidris canutus*, Sanderling *Calidris alba*, Cormorant *Phalacrocorax carbo*, Whimbrel *Numenius phaeopus*.

Appendix 2: Internet poll used to consider effectiveness of mitigation measures

This poll was circulated to a range of different people with experience of these issues and respondents included RSPB staff (site managers and conservation officers); Countryside Rangers with local authorities; a consultant; an academic ornithologist; Ornithologists at CCW and Natural England and policy and land management staff at Natural England.

Options to Reduce Disturbance

Introduction

We would like your help in identifying the best ways to reduce disturbance to birds wintering on estuary and coastal sites. Planned housing development around some sites, particularly in southern England will mean that some estuaries will see a marked increase in local population over the next 15 years or so.

There are all kinds of different ways in which local authorities and others may seek to resolve issues associated with increased housing and associated recreation pressure. One problem is that there is little published evidence as to which are the most successful. We would therefore like your help in identifying whether there are any best approaches. We have produced a list of options we would like you to consider within this survey, and these are listed on the next pages.

We would like you to imagine a hypothetical estuary/harbour, on the south-coast of England. A wide range of recreation and commercial activities take place, including watersports, boating, shore based activities (dog walking, walking etc), bait digging and angling. Levels of recreation are increasing and the amount of housing in the surrounding countryside/towns will increase markedly over the next 20 years or so. The site is designated as an SPA for a range of different species and for its wintering waterfowl assemblage. The issues with disturbance relate to the cumulative impacts of lots of different activities taking place across different tide states and around the whole estuary.

Please consider the measures listed on the next three pages and indicate whether you think they will be effective in reducing disturbance. We recognise that some measures may be effective only in specific circumstances, but we would like you to respond in general, in terms of measures where you would have the most confidence that they might reduce the overall impact of disturbance.

Options to Reduce Disturbance				
Measures to Reduce Disturbance				
1. Habitat Management Measures.				
Please rate the following measures as to their likely effectiveness in reducing disturbance				
	Some likelihood that will reduce impact/levels of disturbance	Small likelihood that will reduce impact/levels of disturbance	Unlikely to reduce disturbance impacts at all	Unsure/Don't know/Can't tell
Creation of additional foraging habitat (e.g. managed retreat)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Any comments on this measure?	<input type="text"/>			
Creation of alternative roost sites where no disturbance	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Any comments on this measure?	<input type="text"/>			
2. Planning and Off-site Measures.				
Please rate the following measures as to their likely effectiveness in reducing disturbance				
	Some likelihood that will reduce impact/levels of disturbance	Small likelihood that will reduce impact/levels of disturbance	Unlikely to reduce disturbance impacts at all	Unsure/Don't know/Can't tell
Ensure development set well away from SPA boundary	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Any comments on this measure?	<input type="text"/>			
Provision of alternative sites for recreation activity "SANGs"	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Any comments on this measure?	<input type="text"/>			
Provision of new facilities for watersports away from the estuary	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Any comments on this measure?	<input type="text"/>			

Options to Reduce Disturbance				
3. On-Site Access Management.				
Please rate the following measures as to their likely effectiveness in reducing disturbance				
	Strong likelihood that will reduce impact/levels of disturbance	Some likelihood that will reduce impact/levels of disturbance	Unlikely to reduce disturbance impacts at all	Unsure/don't know/ Can't tell
Paths routed below and inland of seawall or shoreline Any comments on this measure? <input type="text"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Surfaced paths to draw people away from shore/redirect people Any comments on this measure? <input type="text"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Hides for people to view wildlife Any comments on this measure? <input type="text"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Reduction in car-park spaces in areas where disturbance may occur Any comments on this measure? <input type="text"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Restrict access to parts of site (e.g. temporary fencing around roost sites) Any comments on this measure? <input type="text"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Dog control orders to keep dogs on leads in targeted areas Any comments on this measure? <input type="text"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Increase car parking charges at targeted car parks to reduce their use Any comments on this measure? <input type="text"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Dedicated zones for watersports Any comments on this measure? <input type="text"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

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Options to Reduce Disturbance				
Screening (vegetation or e.g. wooden panels) along shoreline paths to hide people/dogs from birds	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Any comments on this measure?	<input type="text"/>			
Marked routes on shore/inland for particular activities (dog walking, horse riding, cycling etc)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Any comments on this measure?	<input type="text"/>			
Wardens on site to ask people to behave differently	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Any comments on this measure?	<input type="text"/>			
Speed limit (10 knots) on water enforced with byelaws	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Any comments on this measure?	<input type="text"/>			
Provision of fenced areas for dog exercise	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Any comments on this measure?	<input type="text"/>			

Options to Reduce Disturbance					
4. Education and Awareness Raising					
Please rate the following measures as to their likely effectiveness in reducing disturbance					
	Strong likelihood that will reduce impact/levels of disturbance	Some likelihood that will reduce impact/levels of disturbance	Unlikely to reduce disturbance impacts at all	Unsure/don't know/ Can't tell	
Raising awareness of wildlife interest and disturbance impacts through local media (press etc)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
Any comments on this measure?	<input type="text"/>				
Signs and leaflets about wildlife interest and impacts of disturbance	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
Any comments on this measure?	<input type="text"/>				
Education initiatives such as school visits, attending local fairs etc to raise awareness of wildlife interest	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
Any comments on this measure?	<input type="text"/>				
Signs asking people to behave differently to reduce disturbance	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
Any comments on this measure?	<input type="text"/>				
Voluntary codes of conduct developed with local user groups	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
Any comments on this measure?	<input type="text"/>				
Wardens/rangers on site to show people wildlife	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
Any comments on this measure?	<input type="text"/>				

Options to Reduce Disturbance

End Page

5. Are there any other measures that we've not listed that you think might be effective?

And finally, so we have a record of respondents, please provide us with your name and background/affiliation.

6. First name

7. Surname

8. Please indicate which of the following best describe your background/affiliation (you can choose more than one)

- NGO
- Local Authority
- Government Agency
- Consultant
- Land Manager
- Professional Ornithologist
- Countryside Ranger
- Site Manager
- Conservation Officer/Advisor

9. Thank you very much for your time. Please let us know whether you would like a summary of the responses once the survey is over.

- Please do not send a summary at the end of the survey
- Please send a summary at the end of the survey (email address required - enter below)

Email:

Appendix 3: Main Matrix

This appendix sets out the 'main matrix', assessing measures against various assessment criteria. Shading highlights were particular cells suggest a measure is relatively easy to deliver, works over a wide area, is effective and or cheap (depending on the column). For all shaded cells the colours go from green (through pink and orange) to dark red. Rows with lots of green cells are therefore those where measures are most likely to be easy, cheap, effective and will work over a wide area. Green cells therefore lend support for a measure while red or dark red indicates difficulties or issues with a particular measure.

The categories used are broad and we have categorised measures based on our judgement.

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	Activity specific?	Activities relevant	Likely Effectiveness	Practicality of delivery	Scale of measure	Mechanisms for delivery	Time to implement	Potential for phased delivery	Capital Costs	Maintenance Costs (annual/phased)	Notes
Creation of alternative roost sites where no disturbance	No		Likely to work but limited evidence	Some difficulties	Very local/site specific	Local landowner/stakeholder/Developer	Single one-off event	No	£10k-£100k	<£50k	Dependent on suitable locations with no disturbance; likely to be limited range of locations where could be implemented
Creation of additional foraging habitat	No		Effectiveness dependent on location and specific circumstances	Some difficulties	Very local/site specific	Local landowner/stakeholder/Developer	Single one-off event	No	£100k-£1m	£50k-£500k	Foraging areas for brents relatively straightforward to create; intertidal habitat much more complicated and would be linked to managed realignment etc
Ensure development set well away from SPA boundary	No		Unsure/limited effectiveness	Highly complex to deliver	Sub-regional	Local authority	Single one-off event	No	negligible	negligible	Distance at which development would have to be limited would be considerable and potentially unworkable for many local authorities
Management of visitor flows on adjacent land (e.g. Potentially redirecting visitors away from SPA)	Yes	General Shorebased	Likely to work but limited evidence	Straightforward & easy to implement	Very local/site specific	Directly linked to developer/local authority	Single one-off event	Yes - but over 5 years or less	£10k-£100k	<£50k	Depends very much on site specific details and opportunities available.
Provision of alternative sites for recreation "SANGs"	Yes	General Shorebased	Effectiveness dependent on location and specific circumstances	Highly complex to deliver	Sub-regional/local	Strategic/partnership working	Single one-off event	No	>£1m	<£50k	large, carefully positioned sites only likelihood of success; 20ha site - land value could be around £1m; capital costs would also need to include landscaping, planting etc; maintenance costs around £1500 per ha p.a.;
Provision of new facilities for watersports away from estuary/coast	Yes	Watersports	Effectiveness dependent on location and specific circumstances	Some difficulties	Sub-regional	Strategic/partnership working	Single one-off event	Yes - but over 5 years or less	£100k-£1m	<£50k	Many activities such as kite surfing rely on specific conditions - wind, tide etc. that mean limited options
Enhance access facilities in general area (away from SPA)	No		Effectiveness dependent on location and specific circumstances	Some difficulties	Sub-regional/local	Strategic/partnership working	Single one-off event	Yes - over many years	£10k-£100k	<£50k	Costs, ease and details depend on the enhancement, location etc.
Increased parking charges at targeted locations	No		Effectiveness dependent on location and specific	Straightforward & easy to implement	Local	Strategic/partnership working	Single one-off event	Yes - but over 5 years or less	£10k-£100k	<£50k	parking charges may even help to cover costs. Dependent on organisations involved working together and agreeing charges

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	Activity specific?	Activities relevant	Likely Effectiveness	Practicality of delivery	Scale of measure	Mechanisms for delivery	Time to implement	Potential for phased delivery	Capital Costs	Maintenance Costs (annual/phased)	Notes
			circumstances								
Enforced speed limit on water	Yes	Water sports	Effectiveness dependent on location and specific circumstances	Straightforward & easy to implement	Local	Legal enforcement necessary	Requires continuous input	No	£10k-£100k	<£50k	Cost dependent on existing resources in place - e.g. Patrol boats etc.
Screening along shoreline paths to hide people/dogs	Yes	General Shorebased	Effectiveness dependent on location and specific circumstances	Straightforward & easy to implement	Very local/site specific	Local landowner/stakeholder/Developer	Single one-off event	Yes - but over 5 years or less	£10k-£100k	<£50k	Different types of screening likely to work better in different locations.
Paths routed below and inland of seawall or shoreline	Yes	General Shorebased	Likely to work but limited evidence	Straightforward & easy to implement	Very local/site specific	Local landowner/stakeholder/Developer	Single one-off event	Yes - but over 5 years or less	£10k-£100k	<£50k	Depends on site and opportunities. People may well prefer to be close to shore. Costs depend on site.
Provision of fenced areas for dog exercise	Yes	Dogs/dog walking	Unsure/limited effectiveness	Straightforward & easy to implement	Very local/site specific	Local landowner/stakeholder/Developer	Single one-off event	No	£10k-£100k	<£50k	May draw dog walkers from wide area, therefore probably not effective if on edge of SPA. Likely to be effective only if we-off site or combined with other measures - i.e. Dogs then subsequently required to be on leads
Car-park closures/reduction in car-park spaces in targeted areas	No		Likely to work but limited evidence	Some difficulties	Local	Local landowner/stakeholder/Developer	Single one-off event	Yes - but over 5 years or less	£10k-£100k	negligible	May be unpalatable/unpopular. Reduction in spaces likely to work better than full closure.
Dedicated zones for watersports	Yes	Watersports	Likely to work but limited evidence	Some difficulties	Local	Strategic/partnership working	Single one-off event	No	£10k-£100k	<£50k	Would need to be combined with codes of conduct/enforcement etc
Wardens on site to ask people to behave differently	No		Good evidence that can work	Straightforward & easy to implement	Sub-regional/local	Strategic/partnership working	Requires continuous input	No	<£10k	£50k-£500k	Presence of wardens costly but wardening is possible over wide area/multiple sites. Possibly more effective if wardens are able to enforce.
Dog control orders to keep dogs on leads in targeted areas	Yes	Dogs/dog walking	Good evidence that can work	Some difficulties	Local	Local landowner/stakeholder/Developer	Requires continuous	No	<£10k	£50k-£500k	Continuous input as needs checking and enforcing, however level of input may decrease over time??

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	Activity specific?	Activities relevant	Likely Effectiveness	Practicality of delivery	Scale of measure	Mechanisms for delivery	Time to implement	Potential for phased delivery	Capital Costs	Maintenance Costs (annual/phased)	Notes
							input				
Surfaced paths to redirect people	No		Effectiveness dependent on location and specific circumstances	Straightforward & easy to implement	Very local/site specific	Local landowner/stakeholder/Developer	Single one-off event	No	£10k-£100k	<£50k	There is evidence that surfaced paths can help funnel access, particularly effective where other routes/areas are wet/muddy/difficult to pass
Restricted access to parts of site	No		Likely to work but limited evidence	Some difficulties	Very local/site specific	Local landowner/stakeholder/Developer	Single one-off event	No	£10k-£100k	<£50k	Difficult on sites with rights of access
Hides for people to view wildlife	No		Unsure/limited effectiveness	Straightforward & easy to implement	Very local/site specific	Local landowner/stakeholder/Developer	Single one-off event	No	£10k-£100k	<£50k	Only effective with people who are visiting to view wildlife
Marked routes on shore/inland for particular activities	No		Effectiveness dependent on location and specific circumstances	Straightforward & easy to implement	Local	Local landowner/stakeholder/Developer	Single one-off event	No	<£10k	<£50k	Marked routes can provide means to funnel access away from particular areas. Depends on opportunities at site/general area
Signs asking people to behave differently, e.g. dogs on leads	No		Unsure/limited effectiveness	Straightforward & easy to implement	Sub-regional/local	Strategic/partnership working	Single one-off event	No	<£10k	<£50k	Difficult to have much confidence of success. May raise awareness of issue
Wardens/rangers on site to show people wildlife	No		Unsure/limited effectiveness	Straightforward & easy to implement	Sub-regional/local	Strategic/partnership working	Requires continuous input	No	negligible	£50k-£500k	Wardens showing people wildlife but not actually asking people to behave differently. May have some success but unlikely to be effective with many user groups. Most likely to work if wardens in an engagement role, talking directly to users about activities and use of site etc.
Signs and leaflets about wildlife interest and impacts of disturbance	No		Unsure/limited effectiveness	Straightforward & easy to implement	Sub-regional/local	Strategic/partnership working	Single one-off event	No	<£10k	<£50k	Difficult to have much confidence of success. May raise awareness of issue
Education initiatives such as school visits, local fairs	No		Unsure/limited effectiveness	Straightforward &	Sub-region	Strategic/partnership	Requires	Yes - over	<£10k	£50k-£500k	Labour intensive. Potentially beneficial in terms of local support/awareness for nature conservation, but may

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	Activity specific?	Activities relevant	Likely Effectiveness	Practicality of delivery	Scale of measure	Mechanisms for delivery	Time to implement	Potential for phased delivery	Capital Costs	Maintenance Costs (annual/phased)	Notes
raising awareness of wildlife				easy to implement	al/local	working	continuous input	many years			have little or no success in reducing disturbance.
Raising awareness of wildlife interest and disturbance issues through local media	No		Unsure/limited effectiveness	Straightforward & easy to implement	Regional	Strategic/partnership working	Requires continuous input	Yes - over many years	negligible	<£50k	Labour intensive, media coverage may not necessarily reach users
Voluntary codes of conduct developed with local user groups/users	Yes	Watersports/bait digging and others	Likely to work but limited evidence	Straightforward & easy to implement	Sub-regional	Strategic/partnership working	Single one-off event	No	negligible	<£50k	Intensive work to establish, set up and only likely to be effective where good link with users can be established and where scope to develop codes of conduct that resolve issues and do not inhibit users
Regulation (e.g. byelaws relating to specific activities)	No		Likely to work but limited evidence	Some difficulties	Local	Legal enforcement necessary	Requires continuous input	No	<£10k	<£50k	Byelaws may take some time to establish and potentially evidence base necessary to establish need
Visitor numbers capped/limited where no PROW	No		Likely to work but limited evidence	Some difficulties	Very local/site specific	Local landowner/stakeholder/Developer		No	<£10k	<£50k	Possible at nature reserves or sites where management of access formalised and in place, can only work where no legal right of access
Covenants regarding keeping of pets in new developments	No		Unsure/limited effectiveness	Some difficulties	Very local/site specific	Directly linked to developer	Single one-off event	Yes - over many years	<£10k	negligible	Impossible to be confident of effectiveness in perpetuity

Appendix 4: Second Matrix: Overview of sections

In this appendix we summarise information for individual sections. This includes:

Outside SPA: 1 indicates that the section does not overlap with any of the SPAs

Some shoreline outside SPA: 1 indicates that the SPA does overlap with section boundary, but that significant parts of the section are outside the SPA

Wader Sites: 1 indicates that the section contains an important wader site

Brent Sites: 1 indicates that the section contains an important Brent Goose site

SAC: 1 indicates that the section overlaps with an SAC boundary

SSSI: 1 indicates that the section overlaps with a SSSI boundary

Formal CP spaces: Approximate number of formal parking spaces, based on data in the first Phase I report

Predicted current access (per hr): Current access levels, as predicted from the Modelling Report (Phase II). We calculate an hourly rate based on 12 hours daylight.

% Increase: % increase in access predicted from the Modelling Report (Phase II).

Dog Walkers: 1 indicates that the activity takes place – based on notes from the Workshop in November 2012 or based on the maps in the Household Survey Report (Phase II).

Water sports: 1 indicates that the activity takes place – based on notes from the Workshop in November 2012 or based on the maps in the Household Survey Report (Phase II).

Boats/ Kayaks: 1 indicates that the activity takes place – based on notes from the Workshop in November 2012 or based on the maps in the Household Survey Report (Phase II).

Bait Digging/ Shellfishing: 1 indicates that the activity takes place – based on notes from the Workshop in November 2012 or based on the maps in the Household Survey Report (Phase II).

Restricted/No Access: 1 indicates that the section has very limited or no access (for example MOD).

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1	Milford on sea to Hurst Castle			1	1	1	1	320	365	4.7	1	1	1	0	0	Water taxi. Lots of access including informal kite surfing, PWC & 2 sailing clubs. Wader roost present and little terns have bred in past.
2	Hurst Castle to Pennington			1	1	1	1	0	156	4.4	0	0	0	0	0	Some watersport use
3	Pennington to Salterns Marina			1	1	1	1	28	83	4.3	0	0	1	0	0	Watersports include kitesurfing & PWCs.
4	Waterford to Pylewell Point			0	1	1	1	285	107	4.3	0	0	1	0	0	Breeding bird interest within section.
5	Pylewell Point to Whitehouse Copse			0	1	1	1	0	17	4.2	0	0	0	0	0	Difficult and limited access
6	Whitehouse Copse to Gravelly Marsh			0	1	1	1	0	2	5.5	0	0	0	0	1	
7	Gravelly Marsh to Royal Soton Yacht Club			0	1	1	1	0	3	6.6	0	0	0	0	0	Breeding waders present including avocet
8	Royal Soton Yacht Club - Bucklers Hard			0	0	1	1	160	6	6.7	0	0	0	0	0	NF outdoor centre within section. Kayaking code of conduct in place
9	Bucklers Hard to Bealieu			0	0	1	1	0	38	7.4	0	0	0	0	0	Mosly limited access
10	Lower Exbury to Inchmery			1	1	1	1	0	19	7.4	0	0	0	0	0	PRoW tide dependent and limited parking
11	Inchmery to Stansore Point			1	1	1	1	620	132	7.5	1	0	1	1	0	
12	Stansore Point to Calshot Castle			1	1	1	1	242	44	7.5	0	1	0	0	0	Honeypot with beach haults, car-parks etc. No access at southern end
13	Calshot Castle to Fawley			1	1	1	1	55	94	7.4	0	0	1	0	0	Fawley Parish employ own opemn spaces warden
14	Fawley to Cadland Creek			1	1	1	1	0	93	7.5	0	0	0	0	0	Access limited within much of section due to refinery
15	Cadland Creek to Hythe			0	1	1	1	557	197	9.8	0	0	0	0	0	Access at south end is tricky.
16	Hythe Pier to Marchwood			0	0		1	0	113	12.6	0	0	0	0	0	No footpath within much of section
17	Marchwood to Marchwood Industrial Park	1		0	0		1	0	57	18.4	0	0	1	1	0	
18	Marchwood Industrial Park to Freemantle			1	1	1	1	0	57	13.2	1	0	0	0	0	

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19	Freemantle to Ocean Village	1		1	1			0	81	22	0	0	0	0	0	Difficult access to shore. Mayflower park targeted as a regeneration area to absorb visitors from nearby development.
20	Ocean Village Marina to Itchen Bridge			1	1		1	95	30	18.7	0	0	0	0	0	
21	Itchen Bridge to Northam Bridge			1	1		1	65	17	15.6	0	0	0	1	0	East side industrial. Only access on west side. Rowing club and sailing club.
22	Northam Bridge to St. Denys - Cobden bridge			0	0		1	0	63	14.5	0	0	0	0	0	
23	St. Denys - Cobden Bridge to Swaything	1		0	0	1	1	0	137	10.1	0	0	0	0	0	Riverside Park, but difficult access to shore from park.
24	Weston to Netley			0	1		1	83	298	14.7	1	0	0	0	0	Cycleway, pay area, good parking, viewpoints, solent way. Vegetated shingle present within section.
25	Netley to Hamble-le -Rice			0	1		1	0	364	13.5	1	0	0	0	0	
26	Hamble-le-Rice to Hamble Rice			0	1	1	1	35	211	11.3	0	0	0	0	0	Shellfishing at low tide. Also beach fishing. Vegetated shingle.
27	Hamble Rice to Hound - Mercury Yacht Marina		1	0	1	1	1	64	120	13	0	0	0	0	0	
28	Mercury Yacht Marina to Bursledon			0	1	1	1	0	42	15.2	0	0	1	0	0	Difficult to access shore. Lots of canoe use.
29	Burlesdon to Hollyhill Woodland Park		1	0	1	1	1	0	137	14.8	0	0	0	0	0	access along raised sea walkway (access restricted to this at high tide)
30	Hollyhill Woodland Park to Warsash			0	1	1	1	156	116	13.1	0	0	0	0	0	access along raised sea walkway (access restricted to this at high tide), walkway links into the footpath network withn Holly Hill Woodland
31	Warsash to Newton Farm			1	1	1	1	0	130	12.3	0	0	0	0	0	well used, part of Hook with Warsash LNR
32	Newton Farm to Solent Breezer Caravan Site			1	1	1	1	0	68	11.9	1	0	1	1	0	well used, part of Hook with Warsash LNR
33	Solent Breezes Caravan Site to Hill Head			0	1		1	102	91	13.2	0	1	0	0	0	Very accessible with parking along front. Popular with walkers. Western end not accessible by car, parking along front at eastern end adjacent to Titchfield Haven Nature Reserve (HCC owned, visitor centre)
34	Hill Head to Lee-on-the-Solent		1	0	0		1	335	520	12.2	1	1	1	1	0	Kitesurfers and windsurfers use the area called the salting. PWC at west end of section
35	Lee-on-the-Solent to Car Park near Angling Club	1		0	0		1	357	423	11.4	0	0	1	0	0	Formal promenade paths at edge of shingle area. Most people stick to paths

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36	Car Park near Angling Club to Browndown	1		0	1		1	0	93	9.9	0	0	0	0	0	Part owned by MOD (but limited access restrictions). Vegetated shingle and rare plant interest. Used by walkers and dog walkers
37	Browndown Point to Glickicker Point	1		0	1		1	671	402	8.1	1	0	1	0	0	
38	Gilkicker Point to South coastal side of Gosport	1		0	1	1	1	88	178	9.9	0	0	0	0	0	
39	Alverstoke - Newtown to Old Portsmouth area		1	1	1		1	343	218	10.2	1	0	1	0	0	Lots of boating activity.
40	Forton Lake-Priddys Hard-Gunwharf Quays to		1	0	1		1	0	155	11.5	0	0	1	0	0	
41	North of Priddys Hard - Hardway -Naval Base			0	1		1	0	54	12.5	0	0	0	0	0	Port of Portsmouth Naval Base, no public access
42	Hardway to Fort Elson			0	0		1	0	8	8.7	0	0	0	0	0	Lots of moorings and pontoons in area
43	Fort Elson to Fleetlands			1	1		1	0	0	14.9	0	0	0	0	1	
44	Fleetlands to s. side of Golf Course			0	0		1	51	75	14.6	1	0	1	1	0	Closes part of coast to Fareham SDA. Lots of birds pushed into harbour as tide goes in.
45	Golf Course to Boat Yard			1	1		1	145	110	12.6	0	0	1	1	0	There is dogwalking in the wicor recreation ground area
46	Boat Yard to Porchester East			1	1		1	0	315	13.2	1	0	1	1	0	
47	Porchester East to M275			1	1		1	0	143	16.7	0	0	0	0	0	
48	M275 to Hilsea to Tipner			1	1		1	203	59	13.8	1	0	0	0	0	Visitor numbers likely to be underestimated.
49	Tipner to Stamshore			0	1		1	0	94	13.9	0	0	0	0	0	
50	Stamshore to HM Naval Base			0	0		1	0	289	14.2	0	0	0	0	0	MOD own much of section and access limited
51	Old Portsmouth Marina to South Parade Pier	1		0	1			124 4	699	11.7	1	0	0	0	0	
52	South Parade Pier to Fort Cumberland			1	1	1	1	897	707	10.6	1	1	1	0	0	
53	Fort Cumberland w.Lanstone Harbour to Portsea Is			1	1	1	1	142	253	12	1	1	1	1	0	Popular with cyclists.

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54	Portsea Island to Highbury Coll			0	1	1	1	0	50	11.9	0	0	0	1	0	
55	Hibury Coll to North Binness Island			1	1	1	1	27	32	13.6	0	0	0	0	0	
56	Langstone Harbour Islands			1	1	1	1	0	10	13.4	0	0	0	0	0	Some important roost sites vulnerable to disturbance from craft
57	North Binness Island to Brockhampton			1	1	1	1	100	9	15.4	0	0	0	1	0	
58	Brockhampton to Langstone Bridge			1	1	1	1	150	62	14.9	0	0	0	1	0	
59	Langstone Bridge to Stoke			1	1	1	1	40	117	12.3	0	0	0	0	0	
60	Langstone Harbour			0	1	1	1	0	116	13.2	0	0	1	0	0	
61	Stoke to Newton			0	1	1	1	0	39	13.8	0	0	0	0	0	
62	Newton to Fort Cumberland			1	1	1	1	0	29	12	0	0	0	0	0	
63	S. Hayling			0	1	1	1	143 6	348	12.5	0	1	0	0	0	V. popular with kitesurfers. Also PWC
64	Black Pnt to Mill Rythe Holiday village			1	1	1	1	25	34	13.4	1	0	1	0	0	Holiday village. Fishing, sailing.
65	Mill Rythe Holiday Village to Tye			1	1	1	1	0	12	10.8	0	0	0	0	0	Model aircraft club, wildfowling club and holiday camp. Limited formal access. Sea grass beds in section
66	Tye to Northney			1	1	1	1	0	30	14.7	1	0	0	0	0	Tea room and permissive coastal path.
67	Northney to Langstone Bridge			1	1	1	1	134	50	13	1	0	1	0	0	Marina. Limited formal access, lots of permissive access. Sailing and canoes. Some existing impacts to saltmarsh from parking by bridge.
68	Langstone Bridge to East side of Quay Mill			1	1	1	1	160	163	13.1	1	0	0	1	0	
69	East side of Quay Mill to Marker Point			1	1	1	1	0	106	11.6	1	0	1	0	0	
70	Marker Point to Longmere Point			1	1	1	1	0	32	11.4	1	0	0	0	0	Walking, dog walking, jogging. Some military restrictions. Some common land.
71	Longmere Point to Stanbury Point			1	1	1	1	0	78	12.3	0	0	1	0	0	

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72	Stanbury Point to Chidham			1	1	1	1	42	154	15.6	1	0	0	1	0	Lots of dog issues
73	Chidham to Cobnor Point			1	1	1	1	0	47	14.2	1	0	1	0	0	Breeding bird interest within section.
74	Rookwood to Black Point			1	1	1	1	0	78	17.8	1	0	1	0	0	Informal access through major car-park. Sand dunes and sea grass beds also present in section
75	West Itchenor to Rookwood			1	1	1	1	0	33	16.7	1	0	1	0	0	Also wildfowling. Section also has breeding bird interest and rare plants.
76	Cobnor Point to Easton Farm			1	1	1	1	0	24	16.2	1	0	1	0	0	2 outdoor centres. Surfaced disabled access path.
77	Easton Farm to Bosham Shipyard			1	1	1	1	0	3	16.4	1	0	1	0	0	Rare plant interest.
78	Bosham Shipard to Southwood Farm			1	1	1	1	241	86	13.2	1	0	0	0	0	Very busy area
79	Southwood Farm to Itchenor Ferry			1	1	1	1	0	1	18.2	1	0	0	0	0	Some common land with open access within section
80	Itchenor Ferry to Longmore Point			1	1	1	1	0	6	17.9	0	0	0	0	0	Limited formal access
81	Longmore Point to Hook Farm			1	1	1	1	0	0	18.7	0	0	1	0	1	Vegetated shingle and breeding bird interest.
82	North Fishbourne Harbour to Dell Quay			1	1	1	1	26	28	21.3	1	0	0	1	0	Very heavily used by dog walkers, including some professional dog walkers. Also birders, walkers and anglers.
83	New Barn to Birdham Pool			0	1	1	1	550	45	20.8	0	0	1	1	0	2 busy marinas, heavily used by bait diggers. Rare arable plants by coastal path.
84	Birdham Pool to West Itchenor			1	1	1	1	0	13	18.1	1	0	0	0	0	
85	East Stoke Point to East Wittering			1	1	1	1	2800	244	22.1	0	0	0	0	0	
86	Isle of Wight: Warden Point to Norton		1	0	0	1	1	140	65	26.7	0	1	0	0	0	Cliffed coastline, few areas with acces to the beach
87	Isle of Wight: Norton to Freshwater to Yarmouth			0	1	1	1	350	112	36.2	0	0	0	0	0	Very well used by walkers and cyclists. Some canoe use.
88	Isle of Wight: Yarmouth to Hamstead		1	0	0	1	1	70	5	49	0	0	0	0	0	Muddy foreshore used by birds is not very accessible
89	Isle of Wight: Hamstead to Newton			0	1	1	1	20	2	56.2	1	0	0	0	0	One of key parts of IoW for SPA bird interest

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90	Isle of Wight: Newton to Clamerkin Lake			1	1	1	1	0	68	59.3	0	0	1	0	0	Not much access
91	Isle of Wight: Fish House point to Saltmead Ledge			0	0	1	1	0	9	60.6	0	0	0	0	0	Eroding coastline. Not very accessible
92	Isle of Wight: Saltmead Ledge to Gurnard Ledge			0	1	1	1	0	9	60.7	0	1	0	1	0	Public parking by beach and holiday park. Little/no current access management
93	Isle of Wight: Gunard Ledge to Cowes Medina Road		1	0	0	1	1	283	216	38.5	0	1	1	0	0	Limited intertidal
94	Isle of Wight: Cowes - Medina Road to Werrar Farm		1	1	1	1	1	0	45	59.6	0	0	0	1	0	Commuter route between Newport & Cowes. Well managed access on west banks.
95	Isle of Wight: Werrar Farm to Whippingham			1	1	1	1	80	23	83.6	0	0	0	1	0	Close to development. East bank very different to west. Easy access onto foreshore on east bank.
96	Isle of Wight: Whippingham to East Cowes Ferry Term		1	0	0	1	1	0	43	54.5	0	0	0	1	0	Foreshore quiet and well managed. Footpath goes mostly inland
97	Isle of Wight: East Cowes Ferry Term to Norris Wood	1		0	0	1		100	95	49.6	0	0	1	0	0	Beach muddy and seaweedy and not too much public use.
98	Isle of Wight: Norris Wood to Woodside		1	0	0	1	1	0	19	49.4	0	0	0	0	0	Previously very quiet but estate have opened up the beach
99	Isle of Wight: Woodside to Ryde Pier			0	1	1	1	191	110	29.9	0	0	0	0	0	Footpath is away from the coast. Many houses with private jetties
100	Isle of Wight: Ryde pier to Puckpool Park			0	1		1	125	271	28.5	1	1	0	0	0	Important for birds and high levels of access. Lots of dog walking.
101	Isle of Wight: Puckpool Park to Horestone Point			0	1		1	55	182	36.2	0	0	0	0	0	Quieter than section 100
102	Isle of Wight: Horestone Point to Bembridge B			0	1	1	1	195	143	31.8	1	1	0	1	0	Car-park is small and self limiting.
103	Isle of Wight: Bembridge to Whitecliff Bay			0	0	1	1	120	96	25	0	0	1	0	0	

Appendix 5: Potential Site Specific Projects

The following measures were suggestions from the workshop on the 29th November 2012. They are largely in note form and are suggestions based on the knowledge and experience of those present. None of the suggestions has been subject to detailed site assessments or contact with local stakeholders. Where particular suggestions can be mapped these have been recorded in a GIS file and the data provided accompanying this report.

Section no.	Section	Suggestion
1	Milford on sea to Hurst Castle	Wardening and boardwalk at end of spit
1	Milford on sea to Hurst Castle	Warden and interpretation at bridge
1	Milford on sea to Hurst Castle	Proactive work with kitesurfers
2	Hurst Castle to Pennington	Dog control measure - Dogs on leads?
3	Pennington to Salterns Marina	Work with kayaks - guidance/code of conduct
4	Waterford to Pylewell Point	Warden (dogs off leads)
6	Whitehouse Copse to Gravelly Marsh	Retain low access levels
7	Gravelly Marsh to Royal Soton Yacht Club	Educate sailors
8	Royal Soton Yacht Club - Bucklers Hard	Check on kayak code - working?
9	Bucklers Hard to Bealieu	Check on kayak code - working?
11	Inchmery to Stansore Point	Review parking charges
11	Inchmery to Stansore Point	Retain as 'sacrificial'
11	Inchmery to Stansore Point	Long term plans for visitor centre
11	Inchmery to Stansore Point	Venue for education
12	Stansore Point to Calshot Castle	Monitor water sports
13	Calshot Castle to Fawley	Check slipway for interpretation
13	Calshot Castle to Fawley	Ensure access retained for common
14	Fawley to Cadland Creek	Ensure roost retained - shellbanks on outer edge
15	Cadland Creek to Hythe	Manage shore angling (affecting roost)
17	Marchwood to Marchwood Industrial Park	Depends on visitor numbers
18	Marchwood Industrial Park to Freemantle	Ensure limited access from development to upper shore
18	Marchwood Industrial Park to Freemantle	Retain and enhance GI inland of SPA

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Section no.	Section	Suggestion
19	Freemantle to Ocean Village	Mayflower Park is targeted as a regeneration area to absorb visitors from nearby development. This could also be used/promoted to deflect visitors from the SPA
20	Ocean Village Marina to Itchen Bridge	Engagement
20	Ocean Village Marina to Itchen Bridge	Possible circular route linking up to the greenways. Need to create off road route between north ends of Mayfield Park and Westwood
20	Ocean Village Marina to Itchen Bridge	Wardening between 20 & 24
21	Itchen Bridge to Northam Bridge	Engagement
21	Itchen Bridge to Northam Bridge	Wardening - Chesil Bay LNR - Area used by bait diggers
22	Northam Bridge to St. Denys - Cobden bridge	Targeted wardening - area used for shell fishing
23	St. Denys - Cobden Bridge to Swaything	Riverside back could be enhanced as a SANG and linked into the Itchen Navigation Project. Is a large car park which backs onto large open space.
23	St. Denys - Cobden Bridge to Swaything	Engagement and wardening north of the river -especially with University rowing club
23	St. Denys - Cobden Bridge to Swaything	
24	Weston to Netley	Wardening for whole section
24	Weston to Netley	Open area of graasland to the north which could be linked up to provide circular walks and could also be linked to Royal Victoria CP, this would help shift visitors to Royal Victoria Country Park
24	Weston to Netley	Engagement with sailing club
25	Netley to Hamble-le -Rice	Engagement with sailing club
25	Netley to Hamble-le -Rice	Promote the use of Netley Green
25	Netley to Hamble-le -Rice	Scope to promote the use of Royal Victoria Country Park - perhaps base a dog club there
25	Netley to Hamble-le -Rice	Potential to manipulate on road parking for residents only
26	Hamble-le-Rice to Hamble Rice	Organised shell fishing regularly takes place in the area (Illegal) and beach fishing. Wardening/interpretation and engagement. Mainly used by dog walkers so communication would be very valuable here.
27	Hamble Rice to Hound - Mercury Yacht Marina	Links to Manor Farm country park could be made or promoted as a Honey Pot site.
27 & 28		Section popular with canoeing/kayaking and watersports - engagement with user groups, set up safe storage, parking facilities to assist with engagement of watersports(wo)men.
33 & 34		Strong need for engagement with kitesurfers and jetskiers - launch location for jet skiers
29	Burlesdon to Hollyhill Woodland Park	Car Park used by watersport users
29	Burlesdon to Hollyhill Woodland Park	Promote the circular walk from Holy Hill Woodland with signs and maps also links with public foot paths to Warsash.
30	Hollyhill Woodland Park to Warsash	Possibility to prevent dogs entering the water from the path across the shingle by wardening/signage. Potential for artificial roosts??
32	Newton Farm to Solent Breezer Caravan Site	Educate walkers, dog walkers, cyclists
32	Newton Farm to Solent Breezer Caravan Site	Warden/Monitoring - Shingle spit signs during nesting season often ignored by walkers and people fishing

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Section no.	Section	Suggestion
33	Solent Breezes Caravan Site to Hill Head	Farmland to north of section that could provide additional open space owned by HCC.
33	Solent Breezes Caravan Site to Hill Head	Engagement
34	Hill Head to Lee-on-the-Solent	Educate kite surfers and windsurfers
34	Hill Head to Lee-on-the-Solent	Make sure jet skiers stay within buoy area
34	Hill Head to Lee-on-the-Solent	Educate walkers and dog walkers and consider dog management measures (the beach at Hill Head already has dog restrictions in the summer months). Potential for the proposed Alver Valley Country Park to deflect pressure from dog walkers.
35	Lee-on-the-Solent to Car Park near Angling Club	Educate walkers and dog walkers. Links with Alver Valley Country Park (via HCC owned site Browndown Coastal Area) has potential to create a coast and countryside attraction away from an SPA stretch of coastline.
36	Car Park near Angling Club to Browndown	MOD owned so less access - wildlife trust and MOD managing together
37	Browndown Point to Glickicker Point	Stokes Bay may have scope to deflect recreational pressure from more sensitive parts of the coast particularly when linked with the proposed Alver Valley Country Park.
38	Gilkicker Point to South coastal side of Gosport	Potential to create a new promenade on this non-SPA stretch which has the potential to attract residents of new development in the locality. The section has splendid views across the Solent and over to Portsmouth but is currently under-utilised for a variety of reasons
39	Alverstoke - Newtown to Old Portsmouth area	Restore Haslar Lake/Cockle Pond - poor water quality
39	Alverstoke - Newtown to Old Portsmouth area	Educate boat people - lots of boat activity
39	Alverstoke - Newtown to Old Portsmouth area	There could also be education/engagement of local residents which is a densely populated area. There can be problems of litter and dumping in this area. There is scope for a good education project here as there is a school adjacent the SPA. The Brent Geese seem used to human presence in this area and there may be scope to create a walkway so the local population can have a more pleasant environment to enjoy the creeks with appropriate screening walls (Haslar, Workhouse and Stoke Lakes).
40	Forton Lake-Priddys Hard-Gunwharf Quays to	Scope for attractive coastal walkway as part of regeneration proposals on the non-SPA stretch of the coast which will be used by residents of proposed developments in this area deflecting pressure from sensitive sites.
40	Forton Lake-Priddys Hard-Gunwharf Quays to	Monitor numbers - Potential development
40	Forton Lake-Priddys Hard-Gunwharf Quays to	Monitor Dredging
41	North of Priddys Hard - Hardway -Naval Base	Burrow Island - new/improved habitat - lots of water based disturbance
42	Hardway to Fort Elson	Possible realignment of defences
42	Hardway to Fort Elson	Possible realignment of routes
42	Hardway to Fort Elson	Alternative roost site if not MOD
43	Fort Elson to Fleetlands	Habitat restoration - brent goose site stops suddenly - could be due to change in habitat
43	Fort Elson to Fleetlands	Alternative roost site
44	Fleetlands to s. side of	Screening of coastal path

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Section no.	Section	Suggestion
	Golf Course	
44	Fleetlands to s. side of Golf Course	By law for bait digging
44	Fleetlands to s. side of Golf Course	Cluster pontoons - make this area free from disturbance for birds
44	Fleetlands to s. side of Golf Course	Habitat creation
44	Fleetlands to s. side of Golf Course	SDA site not defined - could move west
44	Fleetlands to s. side of Golf Course	Screening coastal defences
44	Fleetlands to s. side of Golf Course	Circular walk around Cams Hall
44	Fleetlands to s. side of Golf Course	Manage disturbance - Look of GI in immediate area
45	Golf Course to Boat Yard	Manage numbers - potential local development
46	Boat Yard to Porchester East	Pewitt island - code of conduct to reduce disturbance
46	Boat Yard to Porchester East	Warden
46	Boat Yard to Porchester East	Understand the access to the foreshore better before taking action
47	Porchester East to M275	screening for potential new development
47	Porchester East to M275	Port Solent green access mitigation especially through new development at port solent
47	Porchester East to M275	New car park? - current car park often full
47	Porchester East to M275	Possible dog control order - only on lead in winter
47	Porchester East to M275	Bridge link
48	M275 to Hilsea to Tipner	TRC provided alternative roost sites - more of these
48	M275 to Hilsea to Tipner	Control bait digging
48	M275 to Hilsea to Tipner	Educate watersports people
49	Tipner to Stamshore	Possible dunlin roost
49	Tipner to Stamshore	More brent geese if less firing range activity
50	Stamshore to HM Naval Base	MOD own all - cant change anything
51	Old Portsmouth Marina to South Parade Pier	Education and proactive work with watersports hub at Eastney beach.
51	Old Portsmouth Marina to South Parade Pier	Dog free area eastney beach
51	Old Portsmouth Marina to South Parade Pier	Signage - vegated shingle and waders
51	Old Portsmouth Marina to South Parade Pier	Possible habitat for oyster catchers
51	Old Portsmouth Marina to South Parade Pier	Coastal defences
51	Old Portsmouth Marina to South Parade Pier	Keep cricket ground - Geese already use cricket ground
52	South Parade Pier to Fort Cumberland	See 51

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Section no.	Section	Suggestion
53	Fort Cumberland w.Lanstone Harbour to Portsea Is	Recent grant for signage
53	Fort Cumberland w.Lanstone Harbour to Portsea Is	Control bait digging
53	Fort Cumberland w.Lanstone Harbour to Portsea Is	Alternative roost site - Great Solterns
53	Fort Cumberland w.Lanstone Harbour to Portsea Is	Use knee high screening or scrub to blend in coastla defences
54	Portsea Island to Highbury Coll	Possibly stop football in the football pitches over winter
54	Portsea Island to Highbury Coll	Educate Parkwood watersports
55	Hibury Coll to North Binness Island	Restoration of St Johns College playing fields as habitat
56	Langstone Harbour Islands	Education at canoe launch sites
56	Langstone Harbour Islands	Habitat creation at islands, wader roosts also protect saltmarsh and preserves islands
56	Langstone Harbour Islands	Educate boat users - how to reduce disturbance
56	Langstone Harbour Islands	Possible new islands but in past seems to be issue with this
57	North Binness Island to Brockhampton	Oyster beds - proposed to create high quality lagoon and intertidal habitat
57	North Binness Island to Brockhampton	Saltmarsh habitat creation
57	North Binness Island to Brockhampton	Habitat creation - landfill to meadow
57	North Binness Island to Brockhampton	Kech - restore dunlin roost
57	North Binness Island to Brockhampton	Low level screening
57	North Binness Island to Brockhampton	Control bait digging and shellfish collection
57	North Binness Island to Brockhampton	Educate wind surfers
58	Brockhampton to Langstone Bridge	Preserve roost sites - create new habitat?
58	Brockhampton to Langstone Bridge	Notice boards for windsurfers
58	Brockhampton to Langstone Bridge	Continued warden presence
63	S. Hayling	Increase signage to include canoes - currently only includes boats
63	S. Hayling	Educate kite surfers
63	S. Hayling	Increased use of stand up paddling - monitor disturbance
64	Black Pnt to Mill Rythe Holiday village	Wardening
64	Black Pnt to Mill Rythe	Fence off roosting sites

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Section no.	Section	Suggestion
	Holiday village	
65	Mill Rythe Holiday Village to Tye	Keep as closed nature reserve
65	Mill Rythe Holiday Village to Tye	Engage with model aircraft club, wild fouling club and holiday camp
66	Tye to Northney	Education on farm and in tea room
67	Northney to Langstone Bridge	On site interpretation at North Common
67	Northney to Langstone Bridge	Screening of birds by footpath
68	Langstone Bridge to East side of Quay Mill	Create inland path
68	Langstone Bridge to East side of Quay Mill	On site interpretation
69	East side of Quay Mill to Marker Point	No new access on Eames
69	East side of Quay Mill to Marker Point	Use farm as education centre
70	Marker Point to Longmere Point	Managed realignment
70	Marker Point to Longmere Point	Dog play area (currently unrully dogs)
71	Longmere Point to Stanbury Point	Education with army
72	Stanbury Point to Chidham	Managed realignment and habitat improvement
72	Stanbury Point to Chidham	Wardening
72	Stanbury Point to Chidham	Possible circular route
72	Stanbury Point to Chidham	May need DCO in future
73	Chidham to Cobnor Point	Managed realignment
73	Chidham to Cobnor Point	Set back foot path
74	Rookwood to Black Point	Interpretation
74	Rookwood to Black Point	Wardening by NT
75	West Itchenor to Rookwood	Habitat improvement to chalk dock
75	West Itchenor to Rookwood	Set back foreshore path
75	West Itchenor to Rookwood	Education from harbour office - rare arable flora, sea grass, seabirds, vegetated shingle
75	West Itchenor to Rookwood	Improve marsh
75	West Itchenor to Rookwood	Restrict access to roost site
75	West Itchenor to Rookwood	Access improvement to define route
76	Cobnor Point to Easton Farm	Imminent realignment
76	Cobnor Point to Easton	Education - Christian youth group, 2 activity centres

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Section no.	Section	Suggestion
	Farm	
77	Easton Farm to Bosham Shipyard	Restrict access on permissive path
77	Easton Farm to Bosham Shipyard	Set back foreshore path
77	Easton Farm to Bosham Shipyard	Protect crops - especially DB
78	Bosham Shipard to Southwood Farm	Wardening
79	Southwood Farm to Itchenor Ferry	Set back path
81	Longmore Point to Hook Farm	Restrict access to roost site
82	North Fishbourne Harbour to Dell Quay	More interpretation
82	North Fishbourne Harbour to Dell Quay	St Peters centre use for education
83	New Barn to Birdham Pool	Educate / awareness - 2 marinas
83	New Barn to Birdham Pool	Control/ monitor bait digging
84	Birdham Pool to West Itchenor	Wardening
84	Birdham Pool to West Itchenor	Education
85	East Stoke Point to East Wittering	Dogs on lead in field/under control - used by birds
85	East Stoke Point to East Wittering	WWE patrol team continued
85	East Stoke Point to East Wittering	Education from WWE and NT
86	Isle of Wight: Warden Point to Norton	FOA victoria could be used to alleviate problems in 87
87	Isle of Wight: Norton to Freshwater to Yarmouth	Educate canoeists - high tide roost
88	Isle of Wight: Yarmouth to Hamstead	Eroding coastline - not easy to access
88	Isle of Wight: Yarmouth to Hamstead	Muddy offshore used by birds - not accessible
88	Isle of Wight: Yarmouth to Hamstead	Car Park
89	Isle of Wight: Hamstead to Newton	Visitor pressure including dog walkers - educate dog walkers
89	Isle of Wight: Hamstead to Newton	Good for birds on island
90	Isle of Wight: Newton to Clamerkin Lake	Not much access
90	Isle of Wight: Newton to Clamerkin Lake	Similar to section 89
91	Isle of Wight: Fish House point to Saltmead Ledge	Bird value but not accessible
92	Isle of Wight: Saltmead	Thorness possible warden

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Section no.	Section	Suggestion
	Ledge to Gurnard Ledge	
92	Isle of Wight: Saltmead Ledge to Gurnard Ledge	Holiday park west of bay - concentration of visitors - education
92	Isle of Wight: Saltmead Ledge to Gurnard Ledge	Possibly close off some areas of beach for nesting birds - ringed plovers
92	Isle of Wight: Saltmead Ledge to Gurnard Ledge	Build artificial shingle beach for nesting
93	Isle of Wight: Gunard Ledge to Cowes Medina Road	Cowes week disturbance - education opportunity
94	Isle of Wight: Cowes - Medina Road to Werrar Farm	Educate boat people and cyclists
95	Isle of Wight: Werrar Farm to Whippingham	Increase interpretation boards - educate
95	Isle of Wight: Werrar Farm to Whippingham	Create new high tide roost areas
95	Isle of Wight: Werrar Farm to Whippingham	Cycle path on east bank
95	Isle of Wight: Werrar Farm to Whippingham	Warden on east bank
95	Isle of Wight: Werrar Farm to Whippingham	Parking - access from parking often muddy paths
96	Isle of Wight: Whippingham to East Cowes Ferry Term	Habitat creation
96	Isle of Wight: Whippingham to East Cowes Ferry Term	Monitoring - 550 new houses being built could increase pressure on the area
97	Isle of Wight: East Cowes Ferry Term to Norris Wood	engagement
98	Isle of Wight: Norris Wood to Woodside	Monitoring - Osbourne estate opened up beach - ramblers group want them to open up more - potential future issues
99	Isle of Wight: Woodside to Ryde Pier	Make sure no increase in visitors - birds unaffected at the moment but increase could cause problems
100	Isle of Wight: Ryde pier to Puckpool Park	Hovercraft - birds don't use this area anymore
100	Isle of Wight: Ryde pier to Puckpool Park	Dog walker interpretation signs
100	Isle of Wight: Ryde pier to Puckpool Park	Create refuge area for birds
100	Isle of Wight: Ryde pier to Puckpool Park	Improve warden work
100	Isle of Wight: Ryde pier to Puckpool Park	Education
101	Isle of Wight: Puckpool Park to Horestone Point	Improve awareness - interpretation
102	Isle of Wight: Horestone Point to Bembridge B	Interpretation
102	Isle of Wight: Horestone Point to Bembridge B	Potential high roost site

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