



Christchurch Harbour & Waterways Management Plan



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Produced by the Christchurch Harbour Group

Bournemouth Borough Council
 Bournemouth and West Hampshire Water
 Christchurch Borough Council
 Christchurch Community Partnership
 Christchurch Harbour Association
 Dorset Coast Forum
 Dorset Police
 Environment Agency
 Natural England

Acronyms

BWHW	.....	Bournemouth and West Hampshire Water
BBC	.....	Bournemouth Borough Council
BTO	.....	British Trust for Ornithology
CAC	.....	Christchurch Angling Club
CBC	.....	Christchurch Borough Council
CHG	.....	Christchurch Harbour Group
CHA	.....	Christchurch Harbour Association
CEFAS	.....	Centre for Environment, Fisheries and Aquaculture Science
CHOG	.....	Christchurch Harbour Ornithological Group
CROW	.....	Countryside and Rights of Way Act
CSC	.....	Christchurch Sailing Club
DEFRA	.....	Department for Environment, Food and Rural Affairs
DCF	.....	Dorset Coast Forum
EA	.....	Environment Agency
EDDC	.....	East Dorset District Council
EQI	.....	Environmental Quality Indices
HHC	.....	Hengistbury Head Centre
JNCC	.....	Joint Nature Conservation Committee
LIA	.....	Late Iron Age
LNR	.....	Local Nature Reserve
LPA	.....	Local Planning Authority
MCA	.....	Maritime and Coastguard Agency
MDFA	.....	Mudford and District Fishermen's Association
MFA	.....	Marine and Fisheries Agency
MHW	.....	Mean High Water
NE	.....	Natural England
NFDCC	.....	National Flood and Coastal Defence Database
NFDC	.....	New Forest District Council
NVZ	.....	Nitrate Vulnerable Zone
PPS	.....	Planning Policy Statement
RNLI	.....	Royal National Lifeboat Institution
RSBP	.....	Royal Society for the Protection of Birds
RYA	.....	Royal Yachting Association
SMP	.....	Shoreline Management Plan
SG	.....	Steering Group
SAM	.....	Scheduled Ancient Monument
SSFDC	.....	Southern Sea Fisheries District Committee
SPG	.....	Supplementary Planning Guidance
SSSI	.....	Site of Special Scientific Interest
SAC	.....	Special Area of Conservation
SPA	.....	Special Protection Area
WWT	.....	Wildfowl and Wetlands Trust

CHRISTCHURCH HARBOUR AND WATERWAYS MANAGEMENT PLAN

FOREWORD

Christchurch Harbour and Waterways are of immense value to the people who live around, enjoy and use them. The natural and historical features of the harbour and the rivers which flow into it give it a unique character which also provides a recreational asset to be used safely and sustainably. Thousands of natural and human interrelationships take place every year which both result from the harbour's features and processes and affect them. The list is very long, but salmon swimming up-river, swans drifting and feeding, children paddling at the spit, fishermen casting into the Avon, common sea-lavender flowering, ornithologists watching and recording, poachers thieving, oarsmen sculling, waders digging mud, common cord-grass spreading and declining, youngsters learning to sail, visitors walking and dreaming are but a few of the harbour's activities. They all depend upon and influence the quality of the harbour and the waterways now and for future generations.

This Management Plan is intended to act as a framework of objectives and actions which can achieve those objectives. It has been prepared by the Christchurch Harbour Group with support from Christchurch Borough Council, Bournemouth Borough Council, Bournemouth and West Hampshire Water, Natural England, the Environment Agency, Christchurch Harbour Association, Christchurch Community Partnership and the Dorset Coast Forum. Natural harbours and estuaries are amongst the most complex places on earth for they draw together all of the earth's systems, water, air, land, wildlife and people in mutually supportive relationships. Their management depends upon understanding how complex those relationships are and finding the best ways of ensuring that the natural and human values of such important places are not lost. It must also make sure that our harbour and waterways are used sustainably, supported by the available resources without causing damage to and loss of those resources. The test of this plan's success will be the continued quality of the harbour's economy, its cultural value and its ecosystem, now and in the future.

Vincent May, Christchurch Community Partnership

Name for Bournemouth 2026

Executive Summary

Christchurch Harbour is one of the area's prime environmental assets as well as being an important economic resource.

This first management plan has been prepared by the Christchurch Harbour Group. It sets out to describe and evaluate the diverse activities within Christchurch Harbour and its waterways, to describe the statutory constraints and to prescribe a workable management programme. It seeks to minimise the inevitable conflicts that arise on such an important conservation site.

The Plan provides a set of management objectives for 10 aspects of the harbour and waterways (Chapter 2). The Management and Statutory Framework are described in Chapter 3. Each aspect is then described in Chapters 4 to 9 and discussed in more detail. Proposed management actions are summarised at the end of each Chapter. Section 2 of the Plan draws together these actions in relation to each of the management objectives.

It is important to recognise that the Christchurch Harbour Management Plan is based on voluntary principles, key objectives and an action plan upon which the success of the plan depends.

Structure of the Document

The plan is divided into two Sections plus Appendices:

- Section 1 provides information on the current management and uses of the area. A list of objectives is linked to an action plan in Section 2
- Section 2 details how the objectives can be achieved through proposed management action
- Appendices

Section 1

Chapter 1: The Plan

1.1. Introduction

The need to manage Christchurch Harbour and its Waterways, given the increasing number of activities taking place, is recognised both by users and the different bodies responsible for the management of the area. The Christchurch Harbour and Waterways Management Plan provides a framework for management through promoting the area's safe and sustainable use, whilst balancing the demands on the natural resources. The Plan also tries to address ways in which to minimise risks and resolve any conflicts of interests. The overall aim is to provide effective and co-ordinated management of the harbour and its waterways.

1.2 Background to the Management Plan

The Dorset Coast Forum (DCF) was established in 1995 to look at the long term strategic issues facing the Dorset coast as a whole. The overriding aim of the Forum is to promote a sustainable approach to the management, use and development of Dorset's coastal zone, which will ensure that its inherent natural and cultural qualities are maintained and enhanced for the benefit of future generations. The DCF has over 140 organisations as members, an independent chair and is hosted by Dorset County Council (DCC). It works to a strategy that addresses Integrated Coastal Zone Management at a local level. A subgroup, the Christchurch Harbour Group (CHG terms of reference: appendix 1), was established by the DCF in 2002 to bring together the key stakeholders within the Christchurch Harbour area to provide relevant information and prepare a sensitivity map indicating the different pressures on the Harbour. The Sensitivity Map (see 3.3.2) was completed in 2006 and has been used since as a means of identifying areas for improvement to the management of the area.

In 2005, the Christchurch Community Partnership facilitated a meeting for the local community to discuss the issue of local 'waterways'. Members of the local community had identified the lack of co-ordinated management of the local waterways, including Christchurch Harbour, as a significant issue that needed to be addressed. The key issues that emerged during a scoping exercise with stakeholders were, in summary:

- environmental management and sustainability
- ecology and natural processes
- environment and built heritage
- commercial activity
- leisure, sport and recreation and tourism
- navigable rights and 'traffic' management
- fisheries

- public health and safety
- managing the shoreline

Following this meeting, the Christchurch Harbour Group commissioned, and with other key stakeholders, has drafted this Christchurch Harbour and Waterways Management Plan (2008 - 2018) to provide guidance for the management of the harbour and its waterways and to provide a vehicle for allowing effective engagement between the key organisations.

Chapter 2: The Plan's Aims and Objectives

2.1 Strategic Aims

This Plan has three aims:

- **To provide a framework for the safe and sustainable use and management of Christchurch Harbour and its waterways**
- **To ensure that all users work together to conserve and enhance the biodiversity and cultural features of the harbour and waterways**
- **To enhance the harbour's value and appeal to local communities**

2.2 Management Plan Objectives

These objectives follow in the order of the Action Plan and do not imply priorities.

- To identify important linkages and connections between the Management Plan and the Local Development Framework
- To support the protection and enhancement of the special nature conservation interests of the harbour and its waterways
- To raise awareness of the natural processes and dynamic nature of the harbour system
- To encourage best practice to protect archaeological material in situ
- To facilitate and promote the safe and responsible use of the harbour and its waterways
- To maintain the depths of the navigable channel through periodical dredging and to ensure that clean, dredged material is used beneficially within the harbour, where possible
- To support the protection and enhancement of the quality of the recreational and commercial fisheries associated with the harbour
- To encourage and support research and educational use of the harbour and waterways
- To support initiatives necessary to maintain and improve water quality for all appropriate uses
- To ensure that decisions about flood risk management and coastal erosion integrate the need to protect property with solutions that sustain the natural functioning of the coast

Chapter 3: Management Area and Statutory Framework

3.1 Geographical Area

Christchurch Harbour (central grid ref: SZ175915) extends from Mundeford Spit in the east to the confluence of two rivers, the Avon and Stour (map 1). It is dominated by the headland of Hengistbury Head Local Nature Reserve (LNR) to the south and by Stanpit Marsh LNR to the north. The Harbour, excluding the two river portions, has an area of about 160 ha at high water. The Christchurch Harbour Site of Special Scientific Importance (SSSI: appendix 2) covers an area of 353.2 ha including Solent Meads, Hengistbury Head and Stanpit Marsh (for which there are separate plans).

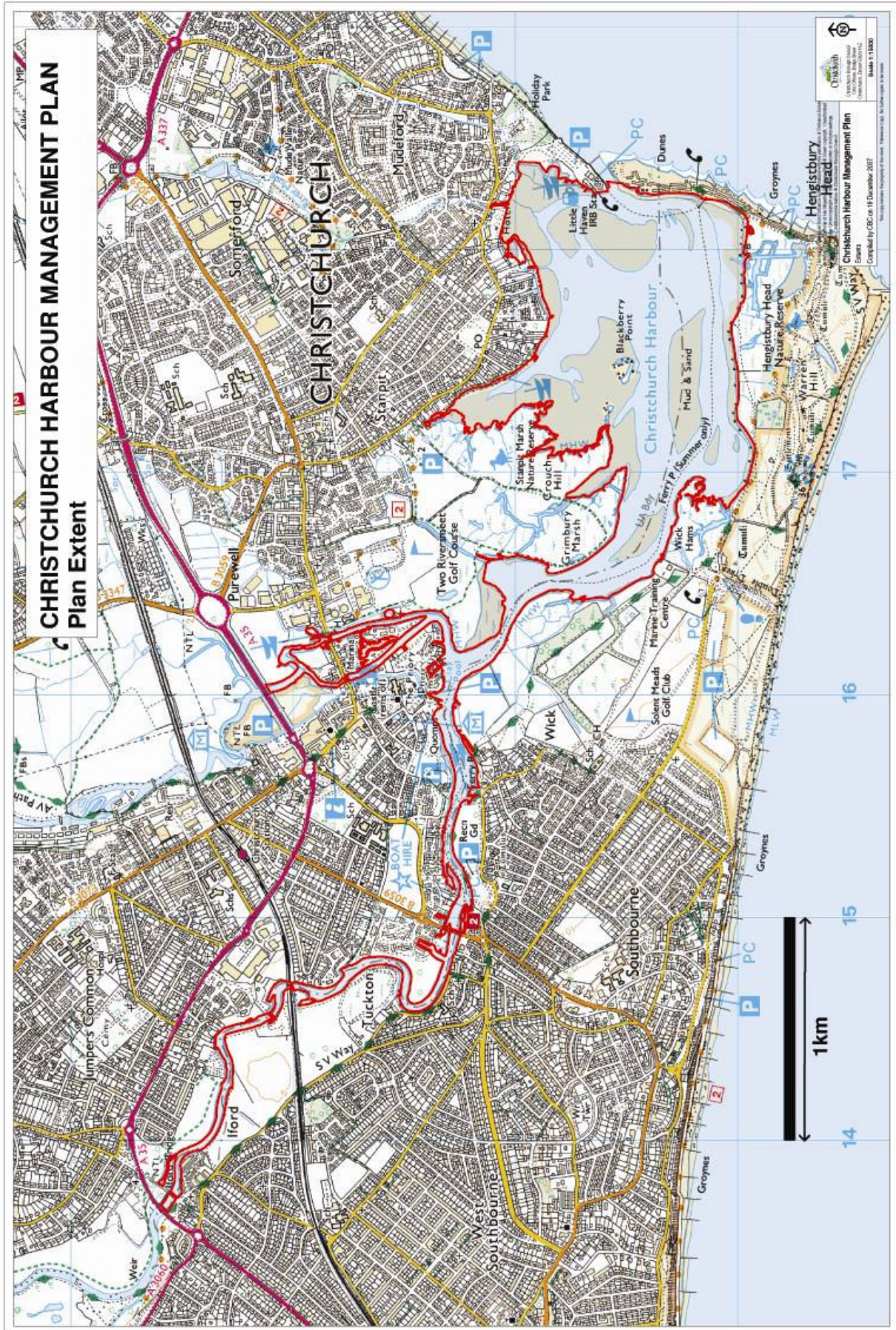
The specific area covered by this Management Plan is:

- The River Stour south of the limit of public navigation at the old Iford Bridge.
- The River Avon south of the public navigation situated at the boathouse falls immediately in front of the end properties on Avon Buildings (excluding the Mill Stream and Clockhouse Stream).
- Downstream from Claypool and east into Christchurch Harbour, up to mean high water mark (excluding the large reedbeds, Holloway's Dock and the upper reaches of the channels of Stanpit Marsh, all of which are covered by other management plans).
- The SSSI boundary across the Run, with some aspects of The Run into the sea up to the boundary of the speed limit marker buoys at 270 yards (247 metres) from Mundeford Quay.

Map 1 on the following page shows the geographical boundary of the Management Plan.

N.B Although this map defines a fairly precise area, many processes range across the boundaries and the above definition should be regarded as a minimum area of interest. Where appropriate, the land and water activities occurring outside this boundary are considered within the Plan.

Map 1: Geographical boundary of the Management Plan.



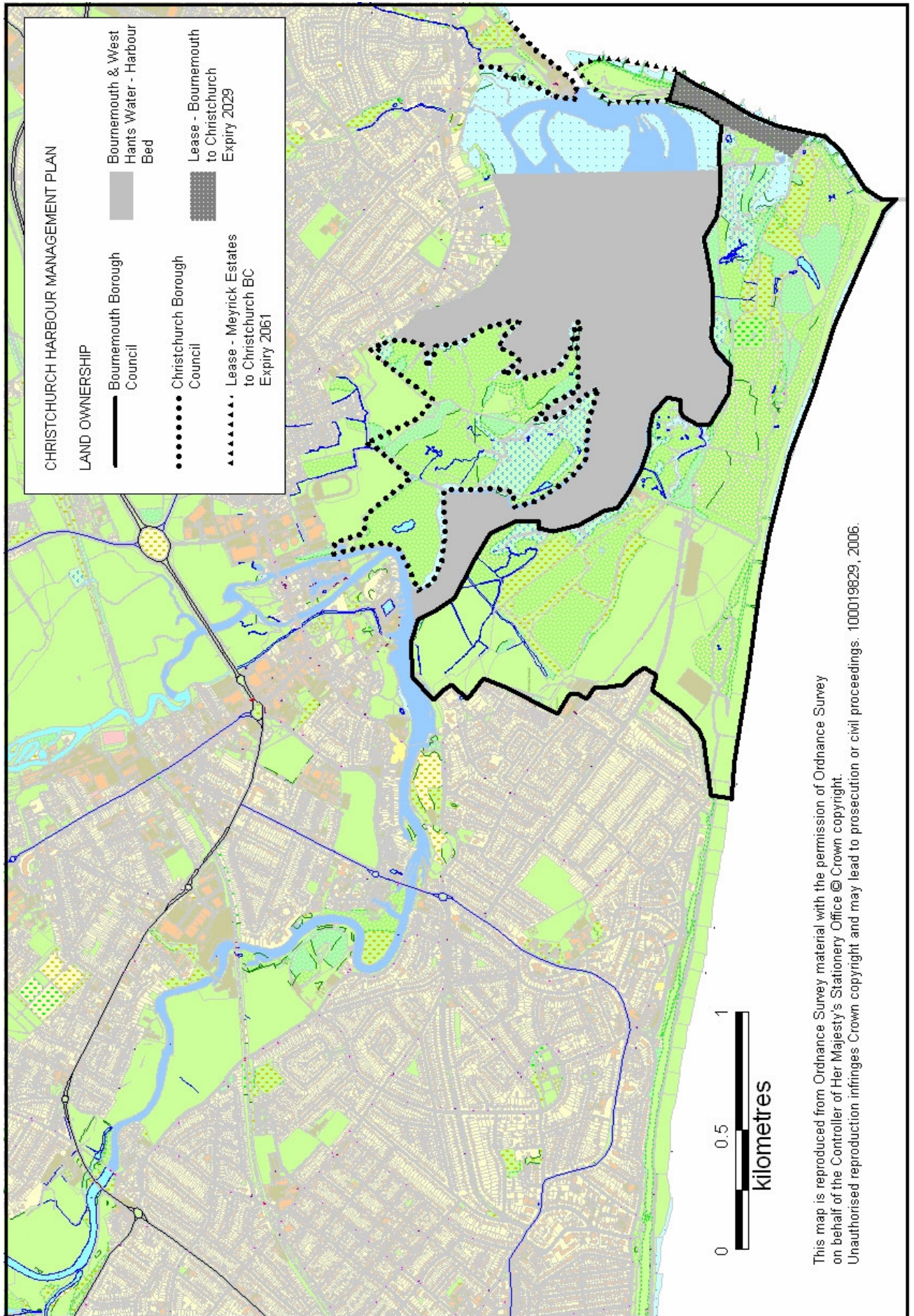
3.2 Ownership and Management Planning

3.2.1 Land Ownership

Map 2 shows the land ownership of Christchurch Harbour. Areas that are not in colour indicate private ownership. With regard to ownership of the bed of the harbour and waterways, BWHW own most of the bed of the rivers and about two thirds of the bed of the harbour up to the mean high water mark (see appendix 8). The Meyrick Estates own the remaining third at the east end, between the mean high and low water marks and the Crown Estate owns the area below mean low water. CBC leases the Meyrick Estates and Crown Estate portions. Seaward from Mudeford Spit is owned by the Crown Estate.

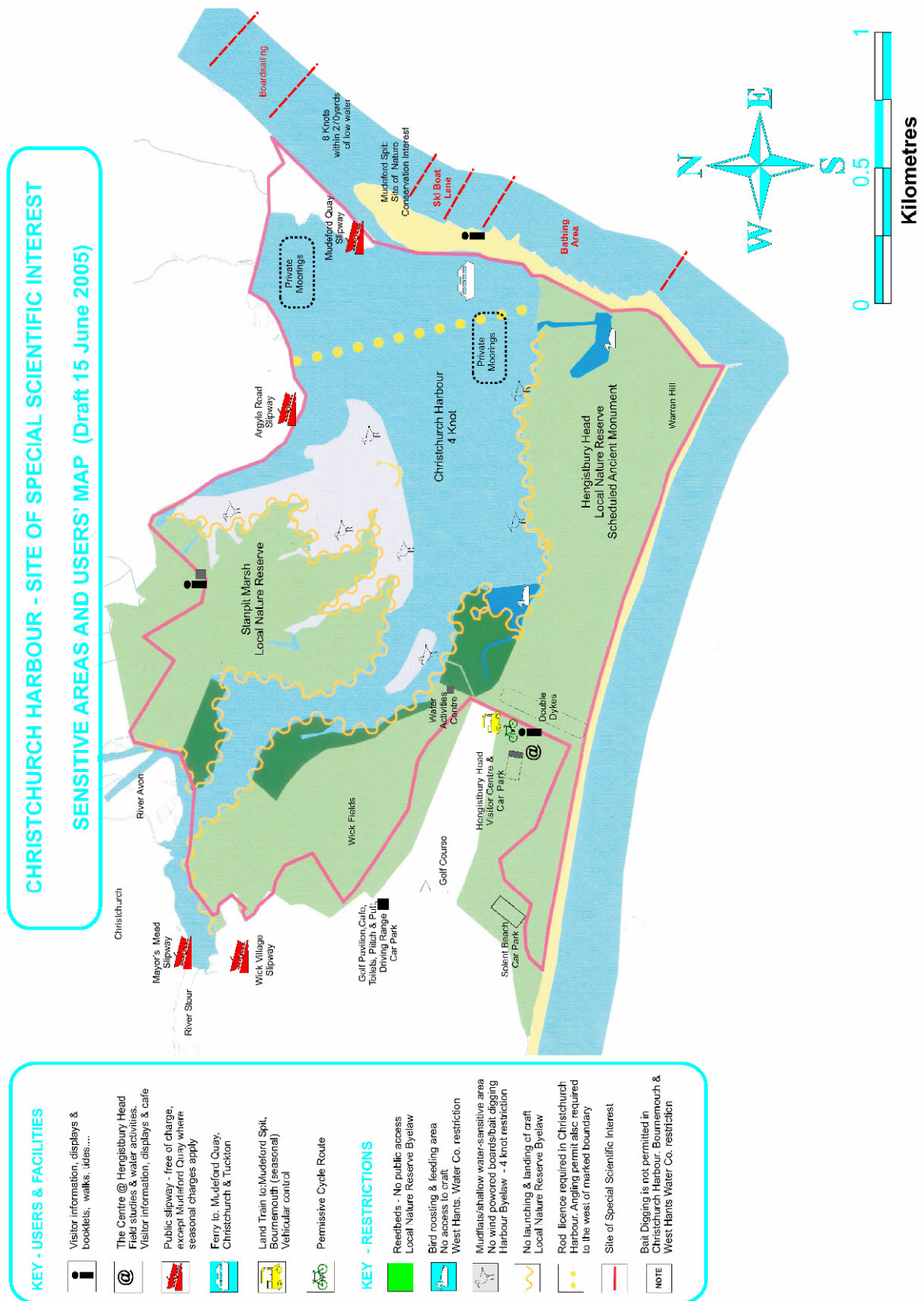
The area is covered by the following planning authorities: Bournemouth Borough Council, Christchurch Borough Council and Dorset County Council.

Map 2 to show Christchurch Harbour and waterways land ownership



3.2.2 Sensitivity Map

Map 3: A user's guide to the sensitive areas of the Harbour – produced by the Christchurch Harbour Group 2005.



3.2.3 Relevant Documents

Management plans and strategy documents directly relevant to the Christchurch Harbour and its Waterways are:

- BBC Local Development Framework
- CBC and EDDC Local Development Framework
- CBC Beaches Management Plan (2007)
- Bournemouth Seafront Strategy (2007-2011)
- BWHW and NE Management Statement for Christchurch Harbour SSSI
- Christchurch Quay Management Plan (2005: review due 2008)
- Hengistbury Head Management Plan (2005)
- Mudeford Sandbank and Spit Management Plan (2005: review due 2008)
- Mudeford Quay Management Plan (2004: currently under review)
- Stanpit Marsh Management Plan (to cover period 2008-13 in preparation)
- Shoreline Management Plan 1999-2008/2009 and Coastal Defence Strategy
- Dorset Coast Strategy (1998)
- Christchurch Bay Strategic Coastal Study (in progress)

3.3 Statutory Context

Christchurch Harbour was notified as a Site of Special Scientific Interest (SSSI) by English Nature (now Natural England) in 1986 (appendix 2). The SSSI comprises the drowned estuary of the rivers Stour and Avon and the promontory of Hengistbury Head. The varied habitats within this area include saltmarsh, wet meadows, dry grassland, heath, sand dune, woodland and scrub. The shallow harbour and its range of estuarine and wetland habitats support a wealth of wintering and migratory wildfowl and waders, as well as rare breeding birds such as Cetti's warbler and bearded tit.

The River Avon and Avon Valley are separate SSSIs, which are also designated as Special Protection Areas (SPAs), Ramsar Sites and Special Areas of Conservation (SAC). However, the Avon Valley does not have an over-arching Management Plan. Natural England has prepared conservation objectives for the site and works with individual owners and managers to maintain or restore the site to favourable condition. There is a Water Level Management Plan for the valley.

Much of the land around the harbour has been declared as Local Nature Reserves (LNR).

Much of Hengistbury Head has been designated a Scheduled Ancient Monument (SAM) for its archaeological importance, which includes nationally and internationally important Palaeolithic (early Stone Age), Mesolithic (middle Stone Age), Bronze and Iron Age remains.

3.4 Planning and Development Control

3.4.1 Introduction

Continuing development in the adjacent conurbation will impact upon the character and environment of the harbour. In particular, properties built within the floodplain reduce the capacity of the floodplain to accommodate floodwaters and can lead to higher local flood levels and increased flood velocities. Flood risk needs to be considered in order for sustainable development to be realised. Land use changes and run-off from the river catchments affect discharges into the harbour.

3.4.2 The Planning Environment

Bournemouth and Christchurch Boroughs have local plans which are being superseded by Local Development Frameworks. They will provide important guidance and local planning policy when produced.

There are a number of issues which could be addressed in the Local Development Framework which have a direct relationship with the objectives of the Harbour and Waterways Management Plan. These issues include:

- Management and development of adjoining public spaces (e.g. Mudeford Quay)
- Protecting important views to and from the harbour and rivers
- Style and design of harbourside buildings
- Redevelopment of existing developed areas

3.4.3 Nature Conservation and Planning

Planning Policy Statement 9: Nature Conservation (PPS9) sets out national planning policies on the protection of biodiversity and geological conservation through the planning system. It also sets the context within which planning decisions should be taken in relation to SSSIs. Appendix 3 details the relevance to nature conservation and planning in more detail.

The Wildlife and Countryside Act 1981 (as amended by the Countryside and Rights of Way Act 2002 (CROW) sets out the provisions for the protection and management of SSSIs.

There is a general duty on all statutory authorities, including Local Planning Authorities to 'take reasonable steps, consistent with the proper exercise of the authority's functions to further the conservation and enhancement of the features for which sites are of special interest'.

There is a general presumption against development within a SSSI. Development adjacent to and/or within the harbour must comply with statutory protection and planning policy relevant to sites of national importance. Examples of activities that may cause damage include:

- Establishment of private coastal defences, slipways and jetties which do not take account of down-drift impacts
- Gradual encroachment of development within the SSSI resulting in the loss of local habitat and species

3.5 Public Safety and Enforcement

All the harbour's users have responsibility for safe use of the harbour and its surroundings.

However, enforcement is carried out by the Dorset Police with support from their community policing team. Their main aim is to make the area safer, including the area of sea out to 12 nautical miles, the associated waterways, the rivers and coast. They achieve this by building closer relationships with the local community.

There is currently a Police Marine Division to provide enforcement on the water, aid crime prevention and prevent anti social behaviour, which covers Christchurch Harbour. Byelaws and regulations are also enforced by the CBC Patrol Boat (seasonal at present), BWHW (all year), BBC and CBC site management staff and the Environment Agency.

3.6 Emergency Planning

Emergency planning is governed by the Civil Contingencies Act 2004, with responsibilities shared between CBC, DCC and BBC. The Harbour lies geographically within the area of jurisdiction of the Dorset Risk Register and, whilst it is not specifically classified as a risk in itself, it could be affected by a major incident (such as pollution or air crash). Both Christchurch and Bournemouth have Incident Plans.

Objectives

- To establish effective communication channels to allow planners to take account of the different and diverse needs, activities and environmental factors
- Ensure the harbour and its waterways are fully equipped to respond to an emergency

Chapter 4: Ecology and Archaeology

4.1 Introduction

Christchurch Harbour and its waterways are an important place for nature conservation providing a unique home for many plants and species. Many are of national importance. Its designation as a SSSI confirms this. Its archaeology is also of international, national and local importance.

4.2 Ecological Features

Key habitats within the harbour include reedbed, saltmarsh, mudflats and the water itself.

4.2.1 Flora

The plants and large seaweeds that are found below low tide within the Harbour form a very important part of the food-web of the harbour. However, there has been very little documentation of them, although eelgrass (*Zostera* spp.) was reported to be present in a study carried out in 1987 (Dixon 1988).

Around the Harbour margins, cord-grass (*Spartina* spp.) sea club-rush (*Bolboschoenus maritimus*), common reed (*Phragmites australis*) and grey club-rush (*Schoenoplectus tabernaemontani*) is found. Of particular interest is dwarf spike-rush (*Eleocharis parvula*), a very rare species that is found in Parky Meade Rail.

On the northern end of Mundeford Spit is another very rare species, sea knotgrass (*Polygonum maritimum*). This species requires open, stony sites just above high water and is vulnerable to excessive trampling and erosion. Other important plant species include *Callitriche obtusangula*, *Callitriche platycarpa* and European priority communities *Ranunculion fluiantis* and *Callitriche-Batrachion*.

The cobbles in the Harbour side of Mundeford Spit have some algae, predominantly *Enteromorpha* sp. and *Ulva lactuca* over the entire tidal range. *Fucus ceranoides* is less abundant and very small quantities of *Porphyra purpuri* and *Chaetomorpha* sp. have been recorded, with *Rhodophycota* turf present on the lower shore. The southern end of Mundeford spit supports more saline tolerant plants such as *Salicornia* and *Parapholis*. Very little is known about the smaller algae and microbiology. Dixon's 1988 survey recorded 31 species of algae which included the invasive Japanese seaweed *Sargassum muticum* and a bryozoan, hornwrack *Flustra foliacea*.

Much of the Stour up to Tuckton Bridge is devoid of submerged vegetation and the banks are mainly reinforced artificially. The banks at Wick and Wick Meads are more

natural, with reeds *Phragmites australis* and other macrophytes. Between Tuckton and Iford Bridge the river is less constrained and is fringed by reeds with pondweeds *Potamogeton* sp., clubrush (*Schoenoplectus lacustris*), and arrowhead (*Sagittaria sagittifolia*) in the main stream. The scarce plant, lanceolate water plantain (*Alisma lanceolatum*) occurs near Iford.

Potential Issues

Threats to flora include:

- Areas heavily used by boats
- Moorings sites that may allow limited opportunity for plant growth.
- Erosion of banks

4.2.2 Invertebrates

The most recent study of invertebrates of the inter-tidal sediments (infauna) was undertaken in 2007 by Bournemouth University. This study represents the first attempt to revisit the baseline survey undertaken by the Oil Pollution Research Unit in 1987 (Dixon 1988). The aims of the study were to evaluate the sediment infauna and, in particular, to see how this might have changed over time.

Although the survey was not a full repeat-survey, 18 of the original 20 harbour sampling sites were revisited. The results provide evidence of good numbers of typical species (Hawes 2007). Comparisons in abundance and distribution between the two surveys indicate changes have taken place over the twenty year period; the ragworm *Hediste diversicolor* for instance, although present in all of the sampling sites, had increased in the upper estuary but decreased in the lower estuary. The isopod *Cyathura carinata* was less abundant in the central harbour region, yet more so in the upper and lower estuary. The mud shrimp *Corophium volutator* was found to be much less abundant across the majority of sites in 2007 (Hawes 2007), and whilst population fluctuations are not unusual, the results for the amphipods reinforces the need to monitor the health of our ecosystems to check for indicators of change.

Other invertebrate surveys include investigations during environmental assessments of the 1994 coast protection works and the 2004 channel dredging works. These found that the inner shore of Mundeford Spit is comprised of muddy sands, blackened and anoxic from a few centimetres below the surface. Annelid worms are the most numerous animals present in this area, as well as being dominated by ragworm *Hediste diversicolor*.

Crustaceans are commonly found in the harbour, such as shore crab (mainly juveniles) and the shrimp *Crangon crangon*. Molluscs were poorly represented with the burrowing

bivalve *Scrobicularia plana* being reported as the most common seen. There have also been several invertebrate studies carried out in 1984, 1985 and 1986 adjacent to Stanpit Marsh in addition to the comprehensive baseline study by Dixon in 1988. Invertebrates in the lower Avon and Stour have only been recorded at the Environment Agency monitoring sites on the large rivers.

Potential Issues

Possible issues for invertebrate conservation include:

- Water pollution
- Bait digging

4.2.3 Birds

The harbour and its surroundings are very important for birds, in particular for overwintering populations of waders and wildfowl. Over 300 species have been recorded and examples of commoner wintering species include shelduck, terns and brent geese. Resident birds include kingfisher, reed warbler, sedge warbler, Cetti's warbler, common sandpiper, green sandpiper and garganey. Migratory species including osprey are also found in the harbour. The Harbour is an important feeding ground for birds.

Christchurch Harbour Ornithological Group (CHOG: www.chog.org.uk) publishes an annual summary of the birds recorded in and around the harbour. CHOG also coordinates the Wetland Bird Survey (WeBS) for Christchurch Harbour. The results contribute to the national scheme, a joint initiative by BTO, RSPB, WWT and JNCC to monitor populations throughout the British Isles. Bird ringing takes place regularly in the reed beds of Hengistbury Head.

Birds (e. g. terns, ringed plover and oyster catcher) that require open gravel sites for nesting have not to date succeeded in raising their young in this area. There is a suitable nesting area on the end of Mudeford Spit and CBC is experimenting with protecting this area from activity throughout the nesting season.

Potential Issues

There may be fluctuation in bird populations due to:

- Natural environmental changes
- Increasing recreational activity
- Over grazing
- General disturbance from humans and dogs
- Disturbance in areas outside the harbour which form part of individual species' range

There has been an indication from CHOG that over the last 10 years there has been a reduction in the numbers of brent geese that is not mirrored elsewhere in the UK. The possible causes could be increased levels of disturbance or overgrazing within the areas.

4.2.4 Fish

Christchurch Harbour plays a vital role in the life cycles of several fish species. It is an important sea and fresh water fishery and migratory route for fish such as salmon (*Salmo salar*), sea trout (*Salmo trutta*), sea lamprey (*Petromyzon marinus*) and eels (*Anguilla anguilla*). Salmon and sea lamprey are protected by European legislation. Eels also run through the harbour as juveniles to reach freshwater, where they mature before returning to the sea as adults.

The EA operate fish counters at Knapp Mill to monitor populations of salmon and sea trout. 1,278 salmon and sea trout passed upstream from February 2006 to the end of January 2007. The initial estimate is that 84% are salmon. In times of low water, the harbour is an important holding area for salmon.

The harbour also provides shelter for both adults and juvenile sea fish. The harbour waters are believed to have significant breeding and nursery areas for fish, such as bass (*Dicentrarchus labrax*), thicklipped mullet (*Mugil labrosus*), thin-lipped mullet (*Mugil capito*) and pollack (*Pollachius pollachius*). The harbour is also important for other fish species including bullhead, roach, dace, carp and bream.

Potential Issues

Issues may include:

- Water pollution
- Poaching
- Climate change

4.2.5 Mammals

Bottlenose dolphin (*Tursiops truncatus*) and common seals (*Phoca vitulina*) have been recorded very occasionally within the Harbour. The East Dorset Mammal Group is currently investigating the presence of otters and water voles in this area.

Potential Issues

- Increases in recreational activity
- Boat wash
- Bait digging

- Erosion and loss of plant species
- Water pollution
- Natural environmental change

4.2.6 Features and State of SSSIs

Natural England is required to monitor and assess the condition of the SSSIs. The harbour is currently in favourable condition. The objectives for the SSSIs are to:

- Protect the notable habitats and species from activities which would be significantly harmful
- Maintain in favourable condition, subject to natural change, the mosaic of habitats which form the features of special interest
- Maintain the overall interest of the site through permitting the continuation of the natural processes that have created its interest
- Protect the water levels and quality of fresh and brackish wetlands on the Harbour margins against deterioration
- Protect the water quality of the harbour against eutrophication, significant re-suspension of heavy metals and adverse concentration of the other significant contaminants

4.3 Physical Features

Christchurch Harbour is a valley filled with sediments which flooded about 7,000 years ago. It is the estuary of two large, lowland rivers; the Avon and the Stour.

The harbour is separated from the sea by Mundeford Spit, a sandy extension from Hengistbury Head maintained by material transported from the west. The seaward side is protected by groynes and annual re-nourishment with sand dredged offshore. The shore near the jetty is composed of muddy sands. The Run is located between the end of the spit and Mundeford Quay. Coast erosion management works fix the width of The Run and the width of the spit is maintained by a programme of annual nourishment.

Erosion is taking place on the small islands from Stanpit Marsh to Blackberry Point with movement of material northwards. Erosion is also occurs from Grimmetry Point to Speller's Point, on the NE shore of Mother Siller's Channel around Stanpit Bight and on the Lagoon Spit.

Sediment movement within the harbour can be affected by sea defences, weather, tides and freshwater input from the Stour and Avon. It has been estimated that on average, the rivers transport 8480 tonnes of material into the harbour per year. This is slightly more than the estimated net loss of 7750 tonnes per year from the harbour (calculated

from the difference between transport out through The Run (12260t/y) and the quantity returning (4510t/y)). Therefore the harbour is naturally silting up and regular dredging is required to maintain boating activities.

Surveys of sediment size within the harbour (May 1984) showed that there was a range in size from gravel to fine clay. The most common sediments are sand (found mainly in the harbour) with clay and silt dominating the saltmarshes.

The main features of the harbour and waterways differ depending on the location within the harbour. This is shown in diagram form in appendix 4.

The tidal range has been recorded as typically 1.6m at springs (Halcrow 1999).

4.4 Archaeology

The importance of the archaeological heritage on the land around the harbour is shown by the evidence of upper Palaeolithic, Mesolithic, Bronze Age, Iron Age, Roman and Saxon occupation. A study by Exeter University for English Heritage recognised Christchurch Harbour as a potentially important archaeological site, and listed it as a Wetland Site of National Importance in the Protocol for the Heritage Management of England's Wetlands.

It is thought that the shelter provided by Hengistbury Head probably gave rise to an early Iron Age port. Rushy Piece, now silted up, is reported to be a late Iron Age site linked to trade with Brittany. The town of Christchurch originated around 3,000 BC. In contrast, little is known about the archaeology of the harbour itself.

Archaeological records from Christchurch Harbour below MHW include several wrecks from the eighteenth and nineteenth centuries. Harbour works include the Earl of Clarendon's Quay built in about 1664. Artefacts found include a bronze armlet now in the Red House Museum and a collection of Late Palaeolithic and Mesolithic flints collected from the north shore of Hengistbury Head. Along the shore of Barn Bight, pottery sherds have been washed out of the bank. They include fragments of local, early, middle and late Iron Age (LIA) pots, imported LIA sherds from Brittany and also Roman wares including amphora. Beside Mother Siller's Channel on Stanpit Marsh, a Mesolithic occupation site has been excavated. This site is now below MHW.

The Harbour has also been identified as having a high potential for the survival of palaeoenvironmental evidence, and this too must be considered in any archaeological strategies.

Archaeological finds/features should be reported to the Historic Environment Record (Dorset County Council, Environment Directorate).

Potential Issues

- Recreation diving
- Channel dredging
- Metal detecting

Objectives

- To ensure that activities and development plans within and around the harbour and waterways have no adverse impact on the features of the interest of the SSSIs.
- To enhance the quality of the habitats within the scope of this plan and maintain in favourable condition.
- To raise awareness of natural processes and the dynamic nature of the harbour.
- To work with users and decision makers to enable natural physical processes to continue within the harbour and waterways.
- To ensure any works or development take into consideration the archaeological sites within the harbour
- To ensure archaeological interests within the harbour are protected, monitored and adequately recorded

Chapter 5: Recreation and Tourism

5.1 Introduction

Christchurch Harbour and its waterways are important for recreation and tourism. There is a range of recreational activities including sailing, boating, angling and water sports. Historically, the harbour has provided safe anchorage for boats due to its shallow nature and protection from prevailing winds. Today, the harbour offers a popular, accessible, safe environment for the pursuit of water sports, walking and cultural pursuits such as painting.

5.2 Economic Value

Although some research has been conducted in Christchurch, Hengistbury Head and along Bournemouth seafront, there are currently no comprehensive records of visitor numbers to the area, or what activities they are engaging in. Nevertheless, the economic value of the harbour and its waterways as attractions for visitors to Christchurch and Bournemouth are recognised as extremely important. South West Tourism reported that in 2003 £75m was generated through tourism and leisure in the Christchurch area alone, supporting employment both directly and indirectly in the tourism and leisure industry in the Borough. Later figures are not available. Visitor numbers to some areas such as Hengistbury Head are recorded (but not costed) and can attain more than one million visitors annually (appendix 8). The harbour and the waterways provide a Unique Selling Point for the area.

The economic value of water-based recreation and education is a major source of local income. Boatbuilding and repair, chandleries and other support services make an important contribution to the local economy. The tourism value of boating is also significant. The annual expenditure by boating participants on accommodation travel and food is estimated at £1000 per boat (Economic Benefits of the UK Leisure Boating Industry – BMF 2004). The average direct expenditure within the boating industry is probably around £3,000 per boat. This is composed of mooring and storage charges, maintenance, repair and servicing, chandlery and brokerage. Overall it is estimated that the contribution to the local economy exceeds £8m.

Southern Fisheries estimate that angling in the area contributes £7m towards the local economy, with an estimated £1.5m generated from accommodation, £2m from day tickets and club membership, £3m from tackle/bait outlets and £0.5m from directly related employment.

The economic benefits from the recreation and tourism of the area are considerable, but these activities can cause potentially damaging pressures both on the local community and its infrastructure and on sensitive marine and coastal environments.

5.3 Events

A number of regular events have successfully been established within the Harbour and along its waterways – they are well supported and encouraged to continue in the future. Land based events have predominantly been of a local nature, however, water based events held in the area are at local, regional, national and international levels. The 2012 Olympic sailing and water events, being hosted by the Weymouth and Portland National Sailing Academy, may provide benefits to this area with opportunities for training camps. Highcliffe Sailing Club has been recognised as one of these.

5.4 Access

Much of the river bank and harbour shore on Hengistbury Head and Stanpit Marsh is designated as Public Open Space and Local Nature Reserve, allowing plenty of opportunities for access to the shoreline.

5.5 Boating

5.5.1 Introduction

Boating in this area is extremely popular and has considerable economic, social and cultural value. The harbour is a relatively calm and safe environment in which to enjoy boating in all its forms: sailing, windsurfing, rowing, kayaking, canoeing and motor boating.

The harbour provides a base for commercial shipping and boating. It includes guided boat trips, ferries, boat hire and fishing vessels. There is no Navigation Authority for the harbour or the rivers Stour and Avon. Boatbuilding and repair, chandleries and other support services make an important contribution to the local economy.

5.5.2 Commercial Boating

Historically Christchurch was a viable port. Nowadays, however, commercial activity is largely concerned with fishing, ferries and commercial pleasure boats. The harbour provides a base for sea-angling trips, event excursions, pleasure rides, self-drive hire boats, charter boats, ferries, memorials at sea, diving, sailing and powerboat schools. Regulation of boats undertaking these activities is the responsibility of the Maritime and Coastguard Agency (MCA) and its certifying authorities.

5.5.3 Navigation

The harbour is shallow which limits accessibility. A navigable channel is created by dredging and the natural harbour flows. The channel is marked with buoys.

Yellow buoys are used to exclude recreational activities from sensitive wildlife areas. They mark the end of the Royalty fishery and an 8 knot zone. The constraints of the harbour and its entrance limits the draft of boats to around 1.15m for normal usage, though boats drawing up to 1.75m can get into and up the harbour on the top of a spring tide.

Bylaws are in place to ensure that boating activities are conducted safely and with due regard for other users. CBC acts as a Local Lighthouse Authority to Trinity House which carries out an annual, independent inspection of navigational aids along the authority's coastline and within the harbour.

5.5.4 Boating Use and Events

One estimate of the boat numbers and movements indicates 40,000 boat movements from May to September (appendix 5). Three sailing clubs, Christchurch Rowing Club and a personal watercraft club are based in the harbour. The clubs work independently with different events being organised throughout the year resulting in an increase in the amount of activity and the number of visitors to the harbour. Two major annual boating events that take place within the harbour are the Christchurch Regatta and the RNLI Day.

5.5.5 Regulation of Boat Users, Bylaws and Codes of Good Practice

Quite unusually, there is no Harbour Authority to regulate the harbour. Nevertheless the instances of significant harm resulting from lack of regulation are minimal. Any revision or increase in regulation should be judged against this context. Part of the attraction of boating for many participants is the opportunity to escape from all but basic regulation.

The basic framework of regulation is the International Regulations for the Prevention of Collision at Sea. The disposal of rubbish and sewage is governed by statutory prohibitions. Best practice in this area is encouraged by the RYA Code of Practice.

There are a number of bylaws that regulate boating, the principal ones being those imposing the 4 knot speed limit in the harbour and an 8 knot limit from Mudeford quay out to 247m from the shore. The CBC Harbour patrol boat helps to enforce these limits.

Whilst enjoying permission or the right of navigation in the tidal waters, respect should be shown to the wildlife, anglers and other legitimate users of the Harbour. CBC and

BWHW have produced advisory leaflets to assist in this. Excessive boat wash can cause damage on the shoreline, although wind-generated wave action is generally a more common cause of shoreline erosion. The 4 knot speed limit and its enforcement are the main means currently of achieving this.

5.5.6 Boating and the Environment

Disturbance of wildlife: Boats and their occupants accessing parts of the harbour where the plant life is fragile or where human presence may disturb nesting birds is a real concern and measures to minimise this are important. LNR bylaws prohibit landing on Stanpit Marsh, Blackberry Point and Hengistbury Head. A voluntary exclusion zone to discourage casual use is in place in Barn Bight and Parky Meade Rail to protect nesting birds. There is a proposal to extend protection to Stanpit Bight. Along the Hengistbury shore eastward and at Mudeford, landing is likely to cause disturbance to birds and there needs to be encouragement of care when passing this area.

Laying moorings in the harbour is known to cause temporary, local disturbance to the harbour bed and the invertebrates in the sediments. The encouragement of the use of steel mooring anchors (which do not need to be dug in), instead of concrete weights, would help to alleviate this problem.

Emergence of new threats: new activities such as kite surfing can cause new environmental problems – e.g. kite lines can sweep large arcs in sensitive locations.

Currently there are some concerns on Stanpit Marsh and in Stanpit Bight as it is felt that public access, both on and off the water at certain times of the year, causes disturbance to birds and other wildlife there.

5.5.7 Other Issues

Boats and water quality: the impact of boats on water quality in this harbour is not currently known, although what evidence there is indicates that it is relatively minor. Discharges of dirty bilge water, sewage and domestic refuse could cause pollution and are not permitted under the Water Resources Act 1991. The RYA Clean Code is a joint project between the RYA and BMF which aims to address pollution by boats. This initiative called 'The Green Blue' (www.thegreenblue.org.uk) is supported by BWHW, CHA and other industry members. Contamination from antifouling paint, sacrificial anodes, oil and grease may also impact on sensitive marine creatures and may present hazards to humans. There is little evidence of this at present though little data either. Pollution from activities on boats ashore, such as washdown and use of solvents is controlled by Port Waste requirements as well as SSSI stipulations.

Major oil and fuel spills are a potential risk but are a rare occurrence.

The boating capacity of the harbour is raised as an issue for three reasons: first, because of concerns about the risk of increased disturbance to birds and habitats, second, because in some harbours there is sufficient overcrowding to create conflicts between users and third, because of the land-based congestion which can arise, especially at launching points. There is no readily definable or acceptable limit. In general, boat users will find their own upper limit on capacity and extreme congestion is rare.

In Christchurch Harbour, the pattern of usage is tending to alter with increases in leisure time and the number of retired people, so that boat usage is spreading beyond the summer weekend peaks. There is also a discernible lengthening of the boating season into the autumn and winter. However, the number of boat movements per day has not necessarily increased. The number of boats in the harbour has increased over the years; any damage demonstrably caused by boats does not correlate with this increase. There is no measure of environmental damage that demonstrates a step increase with boat numbers in a way that could justify any attempt to cap numbers.

Wildfowling is carried out in the area and the current licence for wildfowling is held by the West Hants Wildfowlers Association.

5.6 Dredging

The majority of the Harbour is extremely shallow (suitable depth for rowing boats). However, a navigable channel runs from the Run to Tuckton, Waterloo and Town Bridges to enable larger craft to use the Harbour. The channel is marked by navigation buoys and maintenance dredging is carried out periodically.

In 2005/06, following an Environmental Impact Assessment, dredging took place at two sites in the harbour: the mid-harbour bar in order to re-instate the navigable channel to a safe width and depth, and at the moorings in the vicinity of Tuckton Bridge. The dredged material was deposited on Grimmerly Bank and the cobbled inner shore of Mudeford Spit. It is generally considered that using the dredged material within the harbour avoids any major disturbance.

Dredging has the potential to damage submerged archaeology or may move archaeological material to a different location, which can cause confusion when recorded.

5.7 Signage, Lighting and Interpretation

Provision of information is important in raising awareness and understanding of the environment in the wider community.

There are plans for interpretation centres on Hengistbury Head and Stanpit Marsh. There is also an opportunity for information to be displayed at various access points around the harbour.

Objectives

- To facilitate and promote the safe and responsible use of the harbour and its waterways.
- To ensure that the impact of boating on the environment is minimised and technology to reduce these impacts is encouraged
- To promote safe navigation for all by minimising conflict between all different types of craft
- To be alert to the potential threats to the environment from emerging trends and patterns of usage
- To facilitate good communication between all Harbour users
- To ensure all recreational activity is undertaken in a sustainable and sensitive manner
- To maintain safe depths for navigation in the navigable channel through periodical dredging
- To ensure that dredging does not result in the loss of mudflat and saltmarsh
- To encourage good use of dredged material to restore local areas that require replenishment
- To encourage effective signage and interpretation in agreed locations

Chapter 6: Fisheries

6.1 Angling

The harbour and rivers offer a range of angling opportunities, including fishing for bass, mullet, flounder, sea trout and salmon and for coarse fish such as dace, roach, bream and eels. East of the yellow marker buoys (denoting a line that runs between Inveravon and the 'Bunny' or canal to Holloway's Dock), is a public fishery. The salmon rod fisheries operate a 100% voluntary catch and release policy. A rod licence is required if fishing for coarse fish, salmon or sea trout and Bylaws, enforced by the EA, apply. A rod licence is not required if fishing for sea fish (e.g. bass, mullet) within the public fishery. Changes to the current situation are expected within the terms of the proposed Marine Act.

The Royalty Fishery is leased from BWHW and operated by Christchurch Angling Club (CAC). They have a voluntary code of conduct to protect sensitive areas. Southern Fisheries operates the lower Avon area from Bridge Pool and Waterloo Pool upstream, with annual membership and day tickets available from local tackle shops.

Issues

Poaching : BWHW are currently working with the EA, the police and Southern Fisheries, to provide surveillance and enforcement of poaching within the Harbour. They have set up an anti-poaching group.

Bait digging within the harbour is not permitted.

6.2 Commercial fishing

6.2.1 Introduction

Most commercial fishing is based at Mundeford Quay and carried out at sea but there are several small fisheries within the harbour that make a significant contribution to the local economy. 26 vessels with lengths between 6m and 12m operate from the Harbour. These are exclusively inshore fishing vessels carrying out day trips within Christchurch and Poole bays. Commercial fisheries within Christchurch Harbour are currently regulated by the Environment Agency.

Various types of nets target salmon, sea trout, bass and mullet within the harbour. Sea traps and pots are used to catch crab & lobster, whelks and cuttlefish whilst there are set net fisheries for flatfish, bass, and rays.

Some vessels supplement these activities with charter angling and mackerel fishing trips.

6.2.2 Salmon Fishery

Salmon netting at Mundeford and Christchurch has a history going back more than 900 years. Today the beach seine fishery is carried out in the lower harbour along the inner shore of Mundeford Sandbank.

The fishery is regulated by the Environment Agency, observing national closed periods and also incorporating local initiatives. The principal management instrument is the Net Limitation Order, which currently allows for 4 salmon licences. The Order is renewed every 5 years and is based on a review of the catches taken over the preceding 4 years. As such the number of licences could be increased or decreased in the future or the order could be lifted should this be justified by stock assessments and catch history.

The fishery is open from 1st June to 31st July. Within this time, fishing can take place between 0600 on Monday and 0600 on Saturday, with the exception of night-time Wednesday to Thursday, Thursday to Friday and Friday to Saturday.

Catches consist of salmon, sea trout and a small bycatch of bass and flounder. It is important to note that no salmon has been killed in the Mundeford salmon fishery for the last 16 years. Under this voluntary local conservation scheme the licensees measure the fish and hold them in keeps until fishing ceases at the end of the tide, when the salmon are released. At certain times, samples of scales are removed from the fish as part of a monitoring programme carried out by CEFAS. In the past, when river conditions have been unfavourable to the salmon, the EA has collected fish from the keeps and transported them upstream in tanks of oxygenated water to be released at safe points upstream.

6.2.3 Sea Fisheries

By far the greater part of the fishing activity based at Mundeford takes place at sea. The traditional pot fishery for crabs and lobster is still of great importance to the fleet. There has been considerable diversification with important trap fisheries for whelks and cuttlefish and set net fisheries for sole, plaice and other flatfish, bass mullet and rays. In addition bass are caught with handlines and longlines.

6.2.4 Regulation

Sea fishing carried out within 3 nautical miles of base lines is regulated by the Southern Sea Fisheries District Committee (SSFDC). The Committee makes bylaws and enforces

these alongside national fisheries management measures. All commercial vessels are required to register with the Committee. Fisheries officers make regular inspection of catches to check that minimum landing sizes and other regulations are being complied with.

The Marine & Fisheries Agency (MFA) administers fishing vessel licences, sets quotas for certain species and monitors catch and fishing effort. Catch weight and value from all commercial fisheries are recorded under the provisions of the Buyers and Sellers Regulations 2005.

Commercial fishing vessels are inspected and certified by the Maritime and Coastguard Agency (MCA) under the Code of Practice for the Safety of Small Fishing Vessels. The Agency also sets the minimum standards for crew training. The training and certification of fishermen itself is carried out by the Seafish Industry Authority through industry-run Group Training Associations.

Under EA regulation fishing with fixed engines (set gill nets) is permitted in the harbour within the public fishery with a closed season from 1st February to 31st October. Bass, mullet and flounder are the target species. Fishing for mullet with seine nets (as opposed to fixed nets) within the public fishery is permitted all year round but is seasonal.

6.2.5 Representation

Local fishermen are represented by the Mundeford and District Fishermen's Association (MDFA). The Association is affiliated to the South Coast Fishermen's Council and currently holds the chair. The Fishermen's Council is an umbrella organisation for fishermen's associations within the geographical area covered by the SSFDC and liaises closely with the local MFA and SSFDC. It hosts the Southern Regional Advisory Group for the Under 10m sector. Members of MDFA have been appointed by DEFRA to serve on the SSFDC.

6.2.6 Facilities

Christchurch Harbour is a Designated Fishing Port. The quay was refurbished in 1996 when a small fish dock was constructed. This area is utilised by MDFA and maintained by Christchurch Borough Council.

Historically Mundeford fishermen exercised user rights over a larger part of the Quay and foreshore than today. Over the years, concessions have been made to allow other developments to take place and today operations are confined to:

- The working quay for the operation, provisioning, loading and unloading and maintenance of fishing vessels. Fishing gear is marshalled, maintained, cleaned and stored on the quay head. Fish and shellfish are unloaded in the designated fish dock.
- Two slipways for the launching of tenders and punts, on the upstream end of the quay head and adjacent to the RNLI slipway.
- A drying area and boat maintenance area on the foreshore between the concrete groyne adjacent to the RNLI station and the public slipway. This area frequently becomes encumbered by trailers and launching trolleys during the boating season.
- Further gear drying and maintenance areas on the Sandbank are less used as they are encumbered by boats and trolleys for part of the year.

6.2.7 Issues

Health and safety issues include:

- The seine net fishing where the fisherman has to exert considerable traction on the net to keep it on the shore. The coarse shingle placed on the shore under a coast protection scheme makes keeping a good footing very difficult.
- Dinghies and larger vessels anchored along the inner shore of the Sandbank where the nets are operated are a hazard to fishermen, who have to find a way to manoeuvre the nets over or round them.

Other issues include:

- The modification of the CBC bylaw in order to reduce the speed limit in the Run to 4 knots for safety reasons.
- The obstruction of the sandbank foreshore by boats during the salmon season.
- The obstruction of access to the Haven foreshore and obstruction of the foreshore with trailers.
- The periodic removal of sand from the seaward foreshore of the tip of the Sandbank.

Objectives

- To support the protection and enhancement of the quality of the recreational and commercial fisheries associated with the harbour.

Chapter 7: Education and Training

7.1 Introduction

The harbour is an important resource for training in recreational water sports as well as for educational and research work by schools, universities and other organisations.

7.2 Current Use

Local schools, colleges and Bournemouth University use the harbour to carry out education work. Surveys and projects that have been carried out are listed in appendix 7. Other organisations provide education and training facilities in water activities from beginners to advanced levels.

Hengistbury Head Outdoor Education and Field Studies Centre is part of the Inclusion & Achievement Business Unit of BBC Children & Young People Services. It has run water activity and field studies courses for over 40 years. The Centre provides courses for schools which link to parts of the National Curriculum particularly in science, geography, history, physical, personal, social and health education and citizenship. There are also many opportunities for the community to take part in water sports and environmental activities. The Royal Yachting Association (RYA) and the British Canoe Union (BCU) offers sailing, kayaking and canoeing courses for all levels.

Highcliffe, Christchurch and Mundeford Sailing Clubs and Sea Cadets, Christchurch Rowing Club, Southbourne Canoe Club and three Scout Groups use the area for activities and training.

Objectives

- To encourage and support research and educational use of the harbour and its waterways

Chapter 8: Water Quality and Pollution

8.1 Introduction

Water flows from the Rivers Stour and Avon into the harbour and over a tidal wedge of saltwater to give brackish water (salt and freshwater mixed together). The harbour is relatively shallow with a maximum depth of about 4m at high spring tides with varying temperatures at different depths.

8.2 Eutrophication and Pollution

Eutrophication is the process by which a body of water becomes rich in dissolved nutrients. This can encourage the growth and decomposition of oxygen-depleting plant life which may be detrimental to organisms. Nutrient levels in the harbour are sufficient to support sporadic algal blooms. Christchurch Harbour was refused the designation as a Polluted Water (Eutrophic) under the EC Nitrates Directive, or as a Sensitive Area (Eutrophic) under the EC Urban Waste Water Treatment Directive, on the grounds that there was insufficient evidence of ecological disturbance due to eutrophication.

Eutrophication occurs in the lower reaches of the Rivers Avon and Stour mainly due to run off from agricultural sources and discharges from the upstream sewage treatment works.

Current measures in place to help with eutrophication:

- Nitrate Vulnerable Zones (NVZs) can be designated under the EC Nitrates Directive (regulated by EA) where eutrophication is perceived to be a problem
- In 1998 the Hampshire Avon from Salisbury to the tidal limit was designated as a Sensitive Area (Eutrophic) under the EC Urban Waste Water Treatment Directive
- Improved sewage treatment – Ultra-Violet (UV) disinfection plants have been installed at Holdenhurst, Kinson, Wimborne, Palmersford and Christchurch Sewage Treatment Works and the frequency of storm sewage discharges to the rivers has also been reduced.

No pollution incidents have been recorded in the harbour in recent years.

8.3 Bathing water quality

The EC Bathing Waters Directive sets out water quality standards at specified bathing waters. They are regularly monitored between May and September by the EA and given a designation. In this area, samples are taken at four designated sites (Mudford Sandbanks East, Avon Beach, Friar's Cliff and Highcliffe Castle).

The EA also monitors microbiological water quality at the following sites in Christchurch Harbour to ensure good water quality:

- River Stour at Iford Bridge
- River Avon at Christchurch Town Bridge
- River Avon at Christchurch
- Christchurch Harbour at Run and Mundeford

The current quality is good chemical quality (RE2) on the lower reaches of the Stour and excellent quality (RE1), the highest category, on the lower reaches of the Avon.

Objectives

- To support initiatives necessary to maintain and improve water quality for all appropriate uses
- Ensure the water in the Harbour is clean and of a suitable environmental quality

Chapter 9: Managing the Shoreline

9.1 Introduction

The shoreline is subject to many external events, some occurring gradually over time such as climate change, others more sporadic for example large storm events leading to flooding. Management of the shoreline is extremely difficult and hard to gauge and involves working with different organisations to enable best possible management.

9.2 Climate change and sea level rise

Probably the most significant long term trend affecting the future shoreline management of Christchurch Harbour is sea level rise. This is a natural occurrence for the area but the rate of change is expected to increase as a result of the predicted climate change (see table below). The Inter-Governmental Panel on Climate Change (IPCC) predictions suggest that global temperatures may increase by between 1 degree Celsius to 3.5 degrees Celsius by 2100 with sea level predictions for the south west coast being:

:

Period	Rate of Rise
2007 to 2025	3.5mm/year
2025 to 2055	8mm/year
2055 to 2085	11.5mm/year
2085 to 2115	14.5mm/year

Figures taken from PPS 25 Annex B. Table B.1.

As well as global warming, relative sea level rise is taking place as the area slowly sinks due to post glacial isostatic readjustment.

Increased extreme events, including increased storminess, are also associated with climate change. SCOPAC (Standing Conference on Problems Associated with the Coastline) and the Dorset Coast Forum are two organisations whose work focuses on these issues of climate change and sea level rise and can provide advice.

Higher sea levels and greater number of stormy events will have implications for both Floods and Coastal Erosion Risk Management and need to be taken into account when considering any development work. Government Policy Planning Statement PPS 25 explains how flood risk should be considered at all stages of the planning and development process. It sets out the importance of the management and reduction where possible of flood risk in planning, acting on a precautionary basis and taking account of future climate change scenarios.

Apart from global warming, relative sea level rise is taking place as the area slowly sinks due to post glacial isostatic readjustment.

Possible effects of climate change are:

- Increased air and water temperatures which may affect the flora and fauna found in the harbour causing loss of some species and the introduction of new ones
- Establishment of new intertidal habitats along the coast
- Increased risks to coastal communities from floods (both coastal and from the land) and erosion

9.3 Flood and Coastal Erosion Risk Management

In England DEFRA has the overall policy responsibility for both Flood and Coastal Erosion Risk Management. It sets the policy aims, objectives and targets for the operating authorities. They also provide guidance, funding for grant eligible works and run a capital research and development programme.

9.3.1 Flood Risk Management

The Environment Agency (EA) is the principal flood risk management operating authority in England and Wales. They have a general supervisory role for all matters relating to flood risk which includes both river (main river) and tidal issues.

EA's Flood Risk Management includes:

- a) Maintain and operate existing flood risk management schemes and associated structures to alleviate or reduce the risk of flooding. All new flood risk management schemes must be economically viable, technically sound, conserve or enhance the environment and contribute to sustainable development
- b) Provide a flood warning detection and dissemination system capable of issuing flood warnings directly to the public and professional partners
- c) Provide mapping of areas at risk of flooding
- d) Provide, through the Development Control process, discouragement of inappropriate development in areas at risk of flooding

Local Authorities have the powers to undertake flood risk management works but agreement by the EA must be sought before any work is started.

All operating Authorities today realise that defence development can be more cost effective and enduring if, rather than fighting nature, they harness and enhance the natural coastal processes. Establishing a natural regime is thought to have the added

advantage of retaining the wildlife of the area and enhancing the quality of the landscape.

The location of existing formal Flood Risk Management Schemes can be seen at www.environment-agency.gov.uk. This, however, does not include any private schemes.

9.3.2 Coastal Erosion Risk Management

The EA has a strategic overview of Coastal Erosion Risk Management. Coastal Erosion Risk Management is where measures are taken to protect the shoreline against erosion. This can take the form of hard (sea walls, rock armour or groynes) or soft (dunes, marshes and beach replenishment) engineering. In the harbour, Christchurch Borough Council and Bournemouth Borough Council have responsibility under the Coast Protection Act 1949 for any work needing to be carried out.

9.4 Shoreline Management Plans (SMPs)

SMPs are non statutory documents which set out guidance for coastal defence for a specific length of coast, taking account of natural process, human and environmental influences and needs. The EA and the Local Authorities use SMP guidance when putting together planning strategies and policies relating to the shoreline. The SMP can be viewed at DCC, BBC, CBC and local libraries.

Each SMP is divided into areas. The Dorset Coast is included within two areas (sediment cells) "Selsey Bill to Portland Bill" and "Portland Bill to Lands End". These are divided into a series of "sub cells" with Christchurch Harbour included in the Poole and Christchurch Bays plan. The plan details guidance on how best to manage the coast using the 4 options:

- Advance the line – move the shoreline into areas now covered by the sea.
- Hold the line – maintain the present shoreline.
- Retreat the line – allow the shoreline to move
- No active intervention – let nature take its course.

9.4.1 Revision of the Shoreline Management Plans (SMP2s)

A review of the current SMP plans is currently underway with new SMP2s ready by 2010.

The SMP2s will take a longer term view of coastal management, setting out policies for the next 100 years, as opposed to the 50 year vision of the current plans. Stakeholder engagement is encouraged in the review process.

The SMP2 which includes Christchurch Harbour and Hengistbury Head covers the coast from Hurst Spit (near Lymington) to Durlston Head (near Swanage). The lead Authority is BBC. More details can be found on the DEFRA website (www.defra.gov.uk) under flood management, and on the website for the Hurst Spit to Durlston Head SMP2 (www.twobays.net).

Objectives

- To ensure all relevant organisations work together and that sea level rise is incorporated in the development and management of planning the harbour and its waterways.
- To ensure, through working with the relevant authorities, that the decisions about flood risk management and coastal erosion integrate the need to protect property with solutions that sustain the natural functioning of the coast and work with, rather than against, natural processes.
- To reduce risks to people, property and the environment from flooding and coastal erosion through the provision of defences, flood forecasting and warning systems against national priorities and criteria.
- To respond to coastal change and rising sea levels in the most sustainable way to comply with Flood and Coastal Erosion Risk Management Policy.
- To ensure the environmental impacts of Flood and Coastal Risk Management works are assessed and managed appropriately.
- To understand where habitats may be lost in the future due to sea level rise and where there is potential for habitat re-creation.

Chapter 10: Governance of the Management Plan

10.1 Introduction

This Management Plan has been developed, written and funded by the Christchurch Harbour Group. Partner statements can be found in appendix 7.

10.2 Future Governance Structure and Framework – Proposals

The implementation of this Management Plan will need to be overseen by a coordinated body. A number of possible approaches have been suggested, some of which are more expensive and one would require an Act of Parliament:

- One option would be for the present Christchurch Harbour Group to continue (possibly slightly enlarged) and to have responsibility for the oversight of the plan's implementation and monitoring of its action plan
- An alternative would be to form a new group (Christchurch Harbour Steering Group) of key stakeholders with an independent chair. The group would operate more formally within a Memorandum of Understanding. The Group would oversee the implementation of the plan's objectives and actions through responsible authorities and organisations. This approach has been used elsewhere when a significant number of agencies are involved, for example in Poole Harbour.
- It has been suggested in the past that a Harbour Authority is more appropriate. This would have specific management and statutory responsibilities. It would need financial and staff resources to operate successfully
- Others include establishment of a Community Interest Company or setting up a separate democratically elected body with appropriate powers

Working in partnership will be essential for the successful implementation of the plan

10.3 Public Consultation

There will be a 12 week consultation period for this management plan.

10.4 Funding

There is currently no funding to implement this management plan and it is therefore hoped that the various responsible organisations will seek funding streams to enable the different actions to take place. A typical solution where there are a number of organisations with responsibilities for aspects of the plan is for there to be a

Memorandum of Understanding which includes an agreement that funding will be shared and sustained.

10.5 Health and Safety

The plan has been prepared on the basis that 'umbrella' policies of sustainability, health & safety (including crime prevention) social Inclusion (including addressing the needs of the disabled) and conservation area planning are implemented when trying to deliver its agreed objectives.

Each partner organisation has its own health and safety policies and for the purpose of this plan, these will be incorporated where needed when delivering agreed actions.

10.6 Review of the Christchurch Harbour and Waterways Management Plan

The intention is to review this plan in 5 years

Management Actions

- Establish body to oversee the implementation and monitoring of the plan
- Secure funding to support the implementation of the management actions and fulfilment of the Plan aims and objectives
- Review Plan in five years time

Christchurch Harbour and Waterways Management Action Plan

The following table details a list of management actions from the objectives detailed within the Management Plan

SECTION 2 – Christchurch Harbour & waterways Action Plan

	Objectives	Proposed Management Actions	Timescale	Lead Orgs
Chapter 3 - Management Area and Statutory Framework				
Overall Management Objective:				
<ul style="list-style-type: none"> • To identify important linkages and connections between the Management Plan and the Local Development Framework 				
	To establish effective communication channels to allow planners to take account of the different and diverse needs, activities and environmental factors	Planning authorities to review all applications to assess sustainability options	on going	BBC, CBC, CHG, LPAs,
		Contribution to the SMP process with regard to new policies and guidance	2008	
		Work with all organisations to ensure sea level rise and climate change is anticipated in development plans	2008	BBC, EA, CBC
				EA, CBC, BBC
	Ensure the harbour and its waterways are fully equipped to deal with an emergency response	Review Emergency Response Plans, with specific reference to potential impacts of actions	2008	CBC, BBC, EA, DCC
		Carry out at least one Emergency Response practice within the Harbour area to test role all the participants and public communications	2010	DCC

	Objectives	Proposed Management Actions	Timescale	Lead Orgs
Chapter 4 – Ecology and Archaeology Overall Management Objectives: <ul style="list-style-type: none"> • To support the protection and enhancement of the special nature conservation interests of Christchurch Harbour and Waterways • To raise awareness of the natural processes and dynamic nature of the harbour system • To encourage best practice to protect archaeological material in situ 				
	To ensure that activities and development plans within and around the Harbour have no adverse impact on the features of the interest of the SSSI's.	Planning Authorities to consult with the 'Body' set up with regard to the Christchurch Harbour and Waterways Management plan	Ongoing	LPA's, CHG, CBC, BBC
	To enhance the quality of the habitats within the scope of this plan and maintain in favourable condition	Protect and enhance the site for dwarf spike-rush Control the populations of vermin and pest species (e.g. Mink) when a threat to native wildlife Control bait digging Continue WeBS counts and ringing activities in order to monitor key bird species	on going Ongoing Ongoing Ongoing	NE Owners BWHW CHOG
	To raise awareness of natural processes and the dynamic nature of the harbour	Include information about the harbour in the proposed Interpretation centres for Stanpit Marsh and Hengistbury Head. Distribute widely the Sensitivity map and leaflet Enhance interpretation at Christchurch and Mundeford Quays and the Mundeford beach office	when built 2008/09 2008/9	BBC, CBC BBC, CBC BBC, CBC
	To work with users and decision makers to enable natural physical processes to continue within the harbour		Ongoing	CHG
	To ensure any works and development within the harbour take account of archaeology	Ensure that plans are in place before any dredging takes place Adhere to best practice archaeological investigation techniques during evaluations prior to future potentially damaging proposals		CHG BBC, CBC

	To ensure archaeology within the harbour is protected, monitored and adequately monitored	Review all plans affecting the bed of the harbour Control metal detecting	Ongoing	English Heritage
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	Objectives	Proposed Management Actions	Timescale	Lead Orgs
Chapter 5 – Tourism and Recreation Overall Management Objectives: <ul style="list-style-type: none"> • To facilitate and promote the safe and responsible use of the harbour and its waterways • To maintain the depths of the navigable channel through maintenance dredging and to ensure that clean, dredged material is used beneficially within the Harbour, where possible 				
	To facilitate and promote the safe and responsible use of the Harbour and its waterways	Provide a range of visitor moorings Distribute information on good practice and regulations to boaters Produce and promote Harbour Guide Maintain buoys Discourage kite surfing	Ongoing Ongoing 2009 2010, 2015 2009	BWHW, CBC, BWHW, CBC,CHA, BBC CHG CHA CBC, BBC
	To ensure that the impact of boating on the environment is minimised and technology to reduce these impacts is encouraged	Promote the installation of holding tanks so that sea toilets are not discharged within the harbour. Promote the installation of bilge water separators Discourage the continued use of 2-stroke engines Encourage the use of steel mooring anchors	2009 2010 Ongoing Ongoing	CHA DCF, CHA CHG, CHA CHA
	To promote safe navigation for all by minimising conflict between all different types of craft	Extend 4 knot speed limit to seaward end of Mudeford Quay	2009	CBC, Police
	To facilitate good communication between all harbour users	Investigate establishment of a harbour website where events can be listed to help to avoid date conflicts. Develop website as a conduit for advisory information and include the Sensitivity Map	2009	Christchurch Tourism Information Centre
	To ensure all recreational activity is undertaken in a sustainable & sensitive manner	Publish and distribute Sensitivity Map Carry out scoping study of recreational use and disturbance Scope a project to review moorings policy to ensure impact on wildlife, habitats and seascape is minimised Discourage kite- surfing	2009 2009 2009 2009	CHG CHG CHG CBC, BBC

	To maintain safe depths for navigation in the navigable water channel through maintenance dredging	Dredge the navigable water channel as necessary	2010, 2015	CHA
	To ensure that dredging does not result in the loss of mudflat and saltmarsh	Careful practice and consultation when carrying out dredging of the channel	2010, 2015	CHA, NE
	To encourage good use of dredged material to restore local areas that require replenishment	Consult NE and EA	2010, 2015	CHA, NE
	To encourage effective signage and interpretation in agreed locations		In progress	CBC, BBC

	Objectives	Proposed Management Actions	Timescale	Lead Orgs
Chapter 6 – Fisheries Overall Management Objective: <ul style="list-style-type: none"> To support the protection and enhancement of the quality of the recreational and commercial fisheries associated with the harbour 				
	To support the protection and enhancement of the quality of the recreational and commercial fisheries associated with the harbour	Regularly review the status of key species within the fishery	Annually	EA
		Continue anti-poaching project	On going	Dorset Police, EA, BWHW, Southern Fisheries
		Monitor fish stocks through data from the fish counter at Knapp Mill	On going	EA
		Scope a project to determine what fish species require monitoring	On going	BWHW
		Control bait digging	On going	BWHW
		Work with the all angling clubs in order to <ul style="list-style-type: none"> collect catch records of all species from nets men continue the voluntary catch and release policy for salmon whilst populations are below conservation limits or dependant on future populations Collect rod and net catches 		Angling clubs, EA

	Objectives	Proposed Management Actions	Timescale	Lead Orgs
Chapter 7 – Education and Training Overall Management Objective: <ul style="list-style-type: none"> • To encourage and support research and educational use of the harbour and its waterways 				
	To encourage and support research and educational use of the harbour and its waterways	Establish a Study Group to coordinate and carry out research in the harbour	2009	CHG
		Set up a data archive to allow collation of data relevant to the harbour, especially relating to the birds and fish catches	2009	CHG
		Establish a weather station	2009	BBC
		Re-establish tide gauges	2009	CBC
Chapter 8 – Water Quality Overall Management Objective: <ul style="list-style-type: none"> • To support initiatives necessary to maintain and improve water quality for all appropriate uses 				
	To ensure the water in the harbour is clean and of a suitable environmental quality	Clear dangerous debris from the shallow parts of the harbour	Ongoing	Owners, CHA
		Continue monitoring the microbiological quality of the water at current sampling points. Extend scope to winter sampling in the lower harbour	Ongoing	EA
		Continue to monitor the chemical and biological quality at current sampling points	Ongoing	EA
		Include information about water quality in the proposed Interpretation centres and on website for Stanpit Marsh and Hengistbury Head.	When built	CBC, BBC, CHG

	Objectives	Proposed Management Actions	Timescale	Lead Organisations
Chapter 9 – Managing the Shoreline Overall Management Objective: <ul style="list-style-type: none"> • To ensure that decisions about flood risk management and coastal erosion integrate the need to protect property with solutions that sustain the natural functioning of the coast 				
	To ensure all relevant organisations work together to ensure sea level rise is incorporated in development and management planning of the harbour and waterways	Incorporate adaptation to sea level rise in development and management planning		EA, CHG
	To ensure, through working with the relevant authorities, that decisions about flood risk management and coastal erosion integrate the need to protect property with solutions that sustain the natural functioning of the coast and work with, rather than against, natural processes	Contribute to SMP2 and its implementation	Current	CBC,BBC, EA,CHG,S MP2
	To reduce risks to people, property and the environment from flooding and coastal erosion through the provision of defences, flood forecasting and warning systems against national priorities and criteria	Provide appropriate sea defences, flood forecasting and warning systems	On going	EA
	To respond to coastal change and rising sea levels in the most sustainable way to comply with Flood and Coastal Erosion Risk Management policy	Consider future management options and contribute to the production of the Shoreline Management Plan 2.	On going	EA

	Ensure the environmental impact of Flood and Coastal Erosion Risk Management works is assessed and managed appropriately	Respond to coastal change and rising sea levels in the most sustainable way to comply with Flood and Coastal Erosion Risk Management policy		EA
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Appendices

Appendix 1	Christchurch Harbour Group Terms of Reference
Appendix 2	Christchurch Harbour SSSI citation and condition assessment
Appendix 3	Planning Policy
Appendix 4	Main features of the Harbour and its Waterways
Appendix 5	Boats and Moorings figures
Appendix 6	Visitor numbers at Hengistbury Head
Appendix 7	References and supporting documents
Appendix 8	Partner Statements

Purpose of the Group

The Christchurch Harbour Group (CHG) is a voluntary partnership and was established by the Dorset Coast Forum in 2002 to bring together the key stakeholders within the Christchurch Harbour area. The original purpose was to provide and bring together all relevant information on Christchurch Harbour and prepare sensitivity map indicating the different pressures on the Harbour, thus aiding management of the Harbour.

The CHG is an advisory group that provides ideas and advice on relevant issues as well as carrying out agreed specific project work.

Membership

The CHG is made up of representatives from:

Bournemouth Borough Council
Bournemouth & West Hampshire Water
Christchurch Borough Council
Dorset Coast Forum
Dorset Police
Environment Agency
Natural England
Christchurch Harbour Association
Christchurch Community Partnership
Bournemouth Community Partnership

The CHG will when necessary co-opt other appropriate representatives/organisations onto the CHG where there is specific work being carried out.

The Chair of the Group will be an independent representative.

Members of the Group will do their best to attend all meetings to demonstrate commitment and ensure that all issues are consistently represented.

Organisations will participate in the work of the Christchurch Harbour Group, without prejudice to their own powers or position on specific issues

Reporting arrangements

The CHG is convened by the Chair of the Group four times a year, although extra meetings may be called if deemed necessary. There are no formal reporting arrangements but formal minutes will be made of each meeting, and approved by the Chair of the Group at the beginning of the following meeting following discussion by the group.

The minutes will be taken by individuals from the group, on a rotational basis. Minutes will be distributed to all CHG members by the Chair after each meeting. There are no voting rights and the CHG will move forward by consensus.

Appendix 2: Christchurch Harbour SSSI citation and condition assessment

Paragraphs specifically relating to the Harbour are highlighted

SITE NOTIFIED TO SECRETARY OF STATE ON 8 OCTOBER 1986

COUNTY: DORSET

SITE NAME: **CHRISTCHURCH HARBOUR**

DISTRICT: CHRISTCHURCH AND BOURNEMOUTH

Status: Site of Special Scientific Interest (SSSI) notified under Section 28 of the Wildlife and Countryside Act 1981, as amended

Local Planning Authority: DORSET COUNTY COUNCIL, Christchurch Borough Council, Bournemouth Borough Council

National Grid Reference: SZ 175915 Area: 353.2 (ha.) 872.8 (ac.)

Ordnance Survey Sheet 1:50,000: 195 1:10,000: SZ 19 SE

Date Notified (Under 1949 Act): 1964 Date of Last Revision: 1977

Date Notified (Under 1981 Act): 1986 Date of Last Revision:

Other Information: Site previously known as Christchurch Harbour, Solent Meads and Hengistbury Head.

Site amended by addition and deletion and now includes Stanpit Marsh LNR.

Description and Reasons for Notification:

The site comprises the drowned estuary of the rivers Stour and Avon and the peninsula of Hengistbury Head. The varied habitats include saltmarsh, wet meadows, drier grassland, heath, sand dune, woodland and scrub and the site is of great ornithological interest.

Hengistbury is a stratigraphically important bridging exposure, linking the Tertiary formations out-cropping around Poole and Christchurch Bays. It will also provide an important comparative locality in the eventual correlation of the Eocene sediments of St. Catherine's Hill. The Boscombe Sands, exposed at the base of the cliff are important not only in the environmental and geographical reconstruction of very late Auversian (Upper Bracklesham) time, but also contain a unique type of bituminous sand. The upper part of the cliff exposes an unusual, 'marginal' variety of the Barton Beds.

Christchurch Harbour contains substantial areas of saltmarsh, some of which has recolonised old salt-pans, forming a complex pattern of low and high level salt marsh communities. The low level saltmarsh, whilst locally containing small amounts of Cord-grass *Spartina anglica*, is dominated by Salt Marsh Grass *Puccinellia maritima* with abundant Sea Aster *Aster tripolium*, Sea Lavender *Limonium vulgare*, Sea Arrow-grass *Triglochin maritima*, Sea Plantain *Plantago maritima* and Mud Rush *Juncus gerardii*. Higher level marsh is dominated by Sea Couch *Elymus pycnanthus*, Sea Rush *Juncus maritimus* and Red Fescue *Festuca rubra*. Reed *Phragmites australis* locally forms extensive beds and Sea Club-rush *Scirpus maritimus* is present in large patches on the edges of the creeks and within the salt marsh. *Eleocharis parvula*, a rare Spike-rush, occurs in a small area of mud below the saltmarsh.

On the banks of the River Stour grazed fields with varying amounts of saline influence, dominated by Creeping Bent *Agrostis stolonifera*, have interesting communities of marsh plants. These include Marsh Marigold *Caltha palustris*, Yellow Flag *Iris pseudacorus*, Ragged Robin *Lychnis flos-cuculi*, Tubular Water Dropwort *Oenanthe fistulosa* and occasional plants of the saltmarsh such as Parsley Water Dropwort *O. lachenalii*, Sea Arrow-grass and Sea Plantain. The drains hold Reed, Reed Sweet-grass *Glyceria maxima* and Greater Pond Sedge *Carex riparia* as well as the uncommon and attractive Flowering Rush *Butomus umbellatus*.

Dry heathy grassland occurs on Hengistbury Head. The dominant grasses are bents, *Agrostis* spp. but patches are dominated by Fine-leaved Sheep's-fescue *Festuca tenuifolia*, Ling *Calluna vulgaris* and Bell Heather *Erica cinerea* with the mosses *Pseudoscleropodium purum* and *Dicranum scoparium* and the lichens *Cladonia portentosa* and *Hypogymnia physodes*. The flatter ground of Hengistbury Head supports dry heath dominated by Ling with Dwarf Gorse *Ulex minor* or wetter heath with Cross-leaved Heath *Erica tetralix* and Purple Moor-grass *Molinia caerulea*.

Dunes, dominated by Marram *Ammophila arenaria* have developed at the foot of the cliff behind the Hengistbury Head breakwater. With the Marram are other species including Lyme Grass *Elymus arenarius*, Sand Sedge *Carex arenaria*, Sea Rocket *Cakile maritima*, Sea Sandwort *Honkenya peploides* and Sea Bindweed *Calystegia soldanella*. Smaller patches of Marram dominated dunes occur on the face and top of the cliff top and quite extensive areas of dune grassland also occur on Warren Hill and Whitepits Rough. This unusual cliff-top grassland is dominated by Sand Sedge with varying amounts of Bracken *Pteridium aquilinum* and Ling. Mixed woodland and scrub occurs on the north side of Warren Hill. It contains Pedunculate Oak *Quercus robur*, birch *Betula* spp. and Common Sallow *Salix cinerea*.

The *Foraminiferida* (zooplankton) of the Harbour have been the subject of detailed study and the Harbour waters are believed to be important as a breeding and nursery area for several fish including Bass *Dicentrarchus labrax*, thicklipped Mullet *Mugil labrosus* and thin-lipped Mullet *M. capito*, and Pollack *Pollachius pollachius*.

This is a rich site for invertebrates. About 260 species of beetle have been recorded, several of which are local or rare. There are at least 4 nationally rare hoverflies and 14 breeding species of dragonfly. Other well represented groups include spiders, grasshoppers and bush crickets, and moths. The birds of Christchurch Harbour are well recorded and there is an impressive list of species. Rare breeding birds include Cetti's Warbler *Cettia cetti* and Bearded Tit *Panurus biarmicus*, and spotted Crake *Porgana porgana* is frequently recorded. Jack Snipe *Hymnocyptes minimus* is regularly present in winter with the commoner wintering species which include good numbers of Shelduck *Tadorna tadorna*. The site is very important for bird migration, frequently holding large numbers of migrants with Wheatear *Oenanthe oenanthe*, Whinchat *Saxicola rubetra* and Firecrest *Regulus ignicapillus* particularly well represented. Osprey *Pandion haliaetus* is also a regular visitor on passage.

Condition assessment of the SSSIs

The three SSSI units to which the harbour contributes a part were assessed separately by English Nature in recent years. The special features of the SSSI that are relevant to the harbour below high tide are also

Christchurch harbour SSSI (unit 12)

Overall, the condition is "favourable".

The last assessment by English Nature was on 24th Mar 2002 and is based on the extent of intertidal mudflats and sandflats and is as follows (with minor edits). Erosion of sediment is occurring in Christchurch Harbour and therefore some loss of habitat is occurring in parts of the site. This is particularly noticeable south of Grimmerly Bank towards Speller's Point and is driven by the prevailing weather (SW direction) and river levels/river drainage patterns. There are also areas in the harbour that are accreting sediments which is evident in the study of shoreline movements between 1971 and 1997. These are natural processes and are to be expected in habitats that are generally regarded as dynamic systems. It is recommended however that a monitoring programme is set up for the next reporting cycle to record changes in greater detail and inform future management decisions on the SSSI.

The features of special interest are:

vegetation and plant species: stands of reeds and sea clubrush, *Eleocharis parvula*,

fish: bass, thicklipped mullet, thin-lipped mullet, pollack, sea lamprey, brook lamprey, Atlantic salmon, bullhead,

birds: commoner wintering species, including shelduck. Migration, especially osprey,
zooplankton: *Foraminiferida*.

R. Avon System SSSI (unit 35)

Overall, the condition is "unfavourable, no change". This section is also an SAC.

The reasons for the adverse condition found on 7 Dec. 2005 are stated as: inappropriate water levels, inappropriate weirs dams and other structures, siltation?, water abstraction and water pollution from agriculture/run off and discharges. Disturbance and access are also described as unfavourable, no change

The features of special interest are:

vegetation and plant species: *Ranunculus fluitantis*, *Callitriche-Batrachion*, *Callitriche obtusanglia*, *Callitriche platycarpa*, *Potamogeton pectinatus*, *Potamogeton perfoliatus*, *Potamogeton lucens*, *Potamogeton x silicifolius*,

fish: sea lamprey, brook lamprey, Atlantic salmon, bullhead,

molluscs: *Vertigo moulisiana*, *Valvata macrostoma*, *Pisidium tenuilineatum*,

birds: kingfisher, reed warbler, sedge warbler, cetti's warbler, common sandpiper, green sandpiper, garganey.

Avon Valley (Bickton to Christchurch) SSSI (unit 154)

Overall, the condition was "unfavourable, no change". This section is also an SPA and Ramsar site.

The reasons for the adverse condition on 31 July 2002 are stated as: drainage, inappropriate water levels, siltation, water pollution from agriculture/run off and discharges.

The features of special interest are:

fish: salmon, migratory and brown trout,

birds: wildfowl and waders,

mammals: otter,

molluscs: *Valvata macrostoma*, *Pisidium tenuilineatum*,

insects: *Libellula fulva*

Appendix 3: Planning Policy

Paragraph 8 of PPS9 states that:

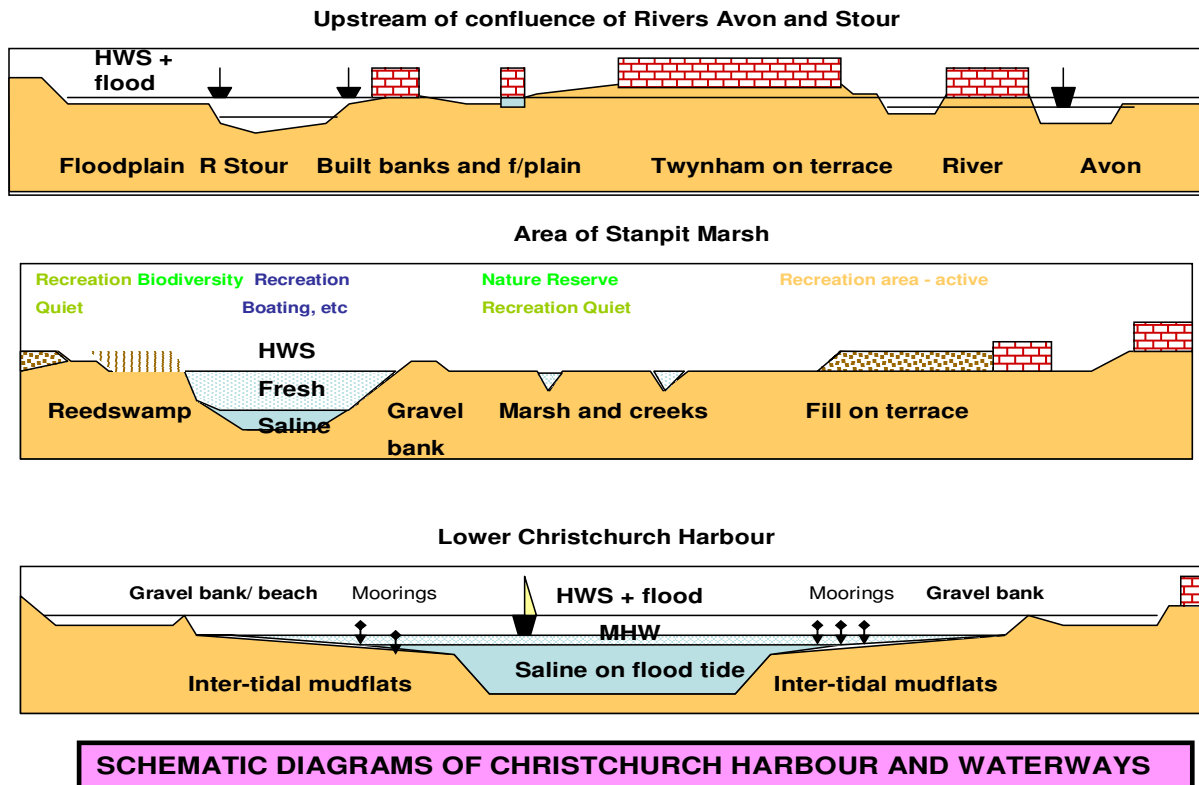
Where a proposed development on land within or outside a SSSI is likely to have an adverse effect on a SSSI (either individually or in combination with other developments), planning permission should not normally be granted. Where an adverse effect on the site's notified special interest features is likely, an exception should only be made where the benefits of the development at this site, clearly outweigh both the impacts that it is likely to have on the features of the site that make it of special scientific interest and any broader impacts on the national network of SSSIs. Local authorities should use conditions and/or planning obligations to mitigate the harmful aspects of the development and where possible, to ensure the conservation and enhancement of the site's biodiversity or geological interest.

Appendix 4: Main features of the Harbour and Waterways

The following diagrams summarise the main features of the Harbour and Waterways in a simple form. They are designed to show how the nature of the Harbour and Waterways differ between:

- The area between the two rivers.
- The area of the single channel and Stanpit Marsh and,
- The lower wide Harbour

They also show the relationship between the form of the Harbour, water levels, the built areas around the Harbour and key uses of the Harbour.



SCHEMATIC DIAGRAMS OF CHRISTCHURCH HARBOUR AND WATERWAYS

CAPTION AND KEY

Upstream of the confluence of the Rivers Avon and Stour, much of the floodplain and the low river terraces are built on. Some buildings have been constructed with foundations which lift their ground floor above historical flood levels. Two water levels are shown, the upper being extreme High Water Spring Tides and historical flood levels, the lower is Low Water Spring Tides. Along both the Avon and the Stour, boats are moored alongside banks and moorings.

The central part of the harbour includes extensive marshes (notably Stanpit Marsh) and reed swamps. On both sides of the harbour, former landfill sites lie on the lowest terraces. The use of the harbour shores is shown above the diagram indicating variations in intensity of activities and designations. Within the main channel there are daily tidally-forced variations of the water levels and water salinity

The lower Christchurch Harbour is characterised by intertidal mud-flats, with wider and deeper channels. There are low gravel banks along parts of the shore. Mean High Water Tides are contained within the gravel banks but Extreme High Spring Tides can overtop them. Moorings are found on both sides of the main channel along which there are frequent movements of recreational boats and ferries. At Mudeford there is extensive building on the lower terraces and floodplain.

Appendix 5: Boats and moorings figures

Harbour facilities for boat users

The harbour is micro-tidal, with a small tidal range (1.6 m), shallow and only suitable for small craft up to 25m and 1.8m draught. The main use is tourism and recreation and there are public slipways, moorings, clubs, training bases, boat hire firms, boatyards and ferries to meet those needs. There are also private properties with access to water.

Based on interviews with each of the sailing clubs, consultants estimate the number of boats present and the number of times they were used in the rivers and harbour during the season of 2006, which ran approximately for six months from May to September. Outside this period there is very little movement and the harbour returns to a quiet haven for wildlife.

Their results show that there were 1,888 small craft including dinghies, canoes, kayaks, rowing boats, ferries, escort power boats and craft for hire.

There were an estimated 40,349 small craft outings and ferry journeys.

There are 1,406 moorings in the rivers and the harbour.

There were an estimated 13,920 cruiser trips sailed or driven during the season.

54,269 is the overall estimate for the total craft outings in the rivers and harbour during the season of 2006.

These figures should be seen as minimum figures as there is no data for four public slipways and the estimated outings was based on an assumption of boats moving from moorings only ten times in the season. Occasional use by sail boards and jet skis was not included in this study.

The Christchurch Harbour Recreation and Conservation Plan (1968, Hampshire County Council) estimated 1000 moorings in the harbour, a figure close to the maximum number (1,150) considered desirable at the time. The number of moorings today (1,406) shows a 22% increase over a 30 year period but includes a significant number (100-200) of private alongside moorings associated with property development during this period.

Appendix 6: Visitor surveys (Information supplied by M. Holloway)

A specific study of Christchurch Harbour has not been undertaken, however numerous surveys of visitors have been completed on Hengistbury Head. The results offer, at least, a glimpse of how the area is being used and by whom.

SURVEY TEAM	VISITOR NUMBERS
May and Osbourne (1981)	1,250,000
Borough Engineer Car Park calculations (1985)	912,000
Management Group, Holloway & Primett (1994)	1,269,369
Middlesex University, Tapsell, Ketteridge, Tunstall (1996)	609,000*
EIA – Dorset Ecological Consultancy (2002)	489,000**
Griffiths & Holloway 2004	1,000,000 ***

* Visitors to east of Double Dykes only (excludes under 18 year olds)

** Visitors to west of Double Dykes only

*** Estimate based on car park usage

Place of Residence	%
Bournemouth / Poole / Christchurch	56.2
Dorset and South UK	31.1
Rest of UK	11.2
Outside UK	1.5

Transport	%
Walked	11.7
Car	69.4
Bus, Coach etc	2.6
Bicycle	6.1
Ferry/Boat	5.6
Motorbike	1.5
Campervan	2.1
Other	1

The most recent study - a project to pull together information - was carried out in 2004 (Griffiths, E). Results indicate that walking and relaxation remain the most popular activities /reasons for visiting:

- Informal recreation, (walking, dog walking, picnics) 41%
- Relaxation / peace and quiet 41%
- Mental stimulus, e.g. bird watching, curiosity, research 28%
- Formal recreation e.g. Cycling, Land Train, Café, Boating 7%
- Angling 1%

Outdoor education is important too with 30,000 students visiting the area either through the Hengistbury Head Centre or on self-guided studies. 50% of the users (7000 approximately) to the HHC are carrying out water-based activities (sailing, canoeing etc.).

Ref: Griffiths, E 2004. Information, Communication and Awareness in the Coastal Zone

Appendix 7: Reference and supporting documents

References of documents, reports associated with Christchurch Harbour and its waterway

Author	Year	Title of report	Location where document held
Bournemouth Borough Council	2004	Hengistbury Head, local nature reserve management plan	BBC
Bournemouth Borough Council		Local Plan	BBC
Bournemouth Borough Council		Bylaws relating to the conduct of craft	BBC
British Maritime Technology	1993	Modelling of currents, tidal and fluvial flood levels in Christchurch Harbour.	CBC
Campbell A.	1984	The Invertebrates of the inter-tidal regions of Stanpit Marsh.	BBC
CHOG	2006	Stanpit Marsh Sub-Committee, Ornithological Management Plan	
Christchurch Borough Council	1990	Stanpit Marsh management plan (to be revised 2007)	CBC
Christchurch Borough Council		Local Plan	CBC
Christchurch Borough Council		Bylaws relating to the conduct of craft, no.43 Bylaws relating to Stanpit Marsh, no.39	CBC
Christchurch Harbour Association	in prep.	Protocol for dredging in Christchurch Harbour	
Conner D.W. et al	1996	Marine conservation review: marine biotypes. A working classification for the British Isles. ver. 96.7 JNCC. Peterborough	JNCC
Dixon I.	1988	Survey of the harbours, rias and estuaries in Southern Britain – Christchurch Harbour. Field Studies Oil Pollution Research Unit	BBC
EC	2006	Directive 2006/7/EC The management of bathing water quality (repeals the 1976 directive). To be implemented by March 2008	HMSO
Halcrow	1999	Poole & Christchurch Bays Shoreline Management Plan, volumes 1 – 4.	CBC
Hampshire County Council	1968	Christchurch Harbour recreation and conservation plan	HCC
Hawes P.T.J.	1980	Hengistbury Head and Christchurch Harbour, DCC teachers' resource pack	HHdC
Hawes P.T.J.	1980s	Harbour Salinity surveys: Salt wedge data with map 24 hour suction sampling from HHC	BBC
Hawes P.T.J. et al	1980 et seq	Hengistbury Head Database. Various reports and surveys carried out by students and staff at the Hengistbury Head Centre.	BBC
HMSO	1991, 2003	Bathing Waters (Classification) Regulations	HMSO
Judith Wills & ?	1980s	Stanpit Marsh LNR wader survey	CBC
May V.J.	1984	Sediment survey, unpublished	VJM
Mitchell S.B. et al	2006	Stratification and fine sediment transport mechanisms in a semi-enclosed tidal lagoon. WEJ 20 (2006) 248-255	RMW

Murray J.W.	1968	The living Foraminiferida of Christchurch Harbour, England (more data in PhD thesis, 1961, Imperial College, London)	CBC
Naylor, P.	2006	British Wildlife 18 Life in marine meadows: the communities of eelgrass beds	RMW
Nature Conservancy Council	1993	Handbook for phase 1 habitat survey - a technique for environmental audit. NCC, Peterborough	JNCC
Robinson, I.S.	1992	Salinity structure and tidal flushing of the Fleet NAFSO 1992 Conference – Weymouth	HHdC
Rodwell J.	2000	British plant communities vol. 5 (and volumes 1 - 4) Cambridge University Press	CUP
Royal Yacht Club		RYA Clean Code	
Solomon D.J.	1991	Hampshire Avon salmon radio tracking 1986 – 1990	
Tyhurst M.F. et al	2005 ?	Dredging proposals for Christchurch Harbour ?	CBC
Walls R.M	1998	Mudford Sandspit ecological assessment DEC report for Christchurch Borough Council	CBC
Walls R.M	2005	Deposition of material from the Tuckton reach. for Christchurch Harbour Association. Post-construction report in 2006	CBC
Walls R.M	2004	In-faunal survey and impact of dredging spoil deposition on Grimmerly Bank foreshore, for Christchurch Harbour Association	CBC
Walls R.M	2001	Mudford Spit coastal protection post construction survey, April 2001 DEC report for Christchurch Borough Council	CBC
Welton S	1998	Mudford Sandspit CPW: environmental study. Marine studies report for DEC	CBC
Welton S	2000	Mudford Sandspit CPW Environmental study. Post-construction survey. Marine studies.	CBC
Welton S	2001	Mudford Sandspit CPW Environmental study. Post-construction survey. Marine studies. Report for DEC	CBC
Welton S	2002	Mudford Sandspit Post-construction survey. Report for DEC	CBC
Whittaker	1972	PhD thesis on Ostracods in Christchurch Harbour	

Student surveys

Hengistbury Head Centre: university dissertations

Jane Chilton.	1983.	Mudford Beach Spit: changes to the coastal environment. Lampeter University.
Andy Elliott.	1985.	Christchurch Harbour: A case study with reference to Harbour development. Cardiff University
Gillian Forrester.	1986.	Aspects of the autecology of <i>Aster tripolium</i> with particular reference to mineral nutrition: on Stanpit Marsh LNR.
Judith Wills.	1986.	A study of environmental factors influencing the distribution of intertidal benthic communities at Stanpit Marsh LNR. City of London Polytechnic.
Geoff Graham.	1997.	<i>Phragmites australis</i> , the effect of salinity stress on location. Bournemouth University.
Adam Harding.	2005.	A study of poor performance of <i>Phragmites australis</i> at Rushy Piece, Hengistbury Head.

Hengistbury Head Centre: GCE 'A' level projects list

Peter Jones.	1976	Factors influencing the distribution, colonisation and breakdown of horse dung on a saltmarsh. BS.
Andy Revell.	1976	Seasonal changes in invertebrate populations in saltpans on Stanpit Marsh LNR. BS.
Peter Loakes.	1977	Mud dwelling and estuarine invertebrates at Stanpit Marsh LNR. BS
Linda Bedford.	1977	The distribution of common bottom-dwelling organisms in Christchurch Harbour. BSG.
Phillipa Robinson	1979	Effects of grazing on Stanpit Marsh LNR. BSG
Sarah Bedford	1980	The reed aphid in Christchurch Harbour. Notes only. BSG
Susan YU-LING Young	1980	A study of Christchurch Harbour estuary and its fauna. BSG.
Christine Palmer	1980s	Ecology of <i>Phragmites australis</i> in Christchurch Harbour.
Elisabeth Green.	1981	Factors affecting the distribution of brackish water animals in Wick Hams saltmarsh. BSG.
Stephen Read	1981	Ecology and distribution of <i>Palaemonetes varians</i> and <i>Crangon vulgaris</i> in Christchurch Harbour. BS.
Karen Kirkham	1982	Factors controlling the botanical composition of two salt-marshes in Christchurch Harbour. BSG.
Caroline Snelling	1983	A comparison of chemical levels in the rivers Avon and Stour and the estuary of Christchurch Harbour in relationship to plankton. BSG.
Pippa Charlesworth	1983?	The distribution of shore crabs in Christchurch Harbour. BSG.
Allyson Clay	1984	The distribution and behaviour of <i>Gammarus sp.</i> In Christchurch Harbour. BSG.
Mark Southern	1985	Estuarine sediment dwelling invertebrates in Christchurch Harbour. BS.
Sean Walls	1985	The macro-invertebrate distribution on the mudflats of Stanpit Marsh, BS
Vicky Hewitt	1986	The ecology of Ragworm in a mid-estuary bank (Branders) in Christchurch Harbour. BSG.
Sarah Hyslam	1986	The effect of cutting treatments on the performance of <i>Phragmites australis</i> . BSG.
Anon	1987	Ecological factors affecting shingle vegetation on Speller's Point.
Sarah Walton	1987	A study of competition between <i>Scirpus maritimus</i> and <i>Phragmites australis</i> in Christchurch Harbour.
Melanie Black	1988	A study of the succession across a salt-marsh at Salt Hurns, Hengistbury Head.
Amanda Pomeroy	1988	The effects of salinity and temperature on the response of <i>Corophium volutator</i> . BSG.
Vanessa Berlowitz	1988	A study of dietary selection by cattle and the effects of grazing on a saltmarsh. TH.
Samantha Hall	1991	Investigation of conditions favourable to common reed growth. BSG.
Suzanne Lister	1991	The effects of the level of pollution rising in Christchurch Harbour during the last fourteen years. BSG.
Fassima, Hiva	1993	An investigation to see how pH and moisture levels affects the height of reed beds in Christchurch Harbour.

Appendix 8: Partner Statements on their responsibilities, actions with and aims for Christchurch Harbour and its Waterways

Bournemouth Borough Council will work closely with its key partners and the wider community with regard to the implementation of the management plan. In this respect the following declarations and position statements are relevant:

THE CORPORATE ENVIRONMENTAL CHARTER - DECLARATION OF COMMITMENT

“Bournemouth Borough Council recognises that it occupies a unique position in the town with a special responsibility to act wisely and think of the long term implications of its actions on the environment.

Furthermore, it is the Council's intention to facilitate and contribute to the development of a Local Agenda 21 strategy for Bournemouth in partnership with all Chapters of the community. To achieve this we will seek to promote the conservation and sustainable use of all natural resources and minimise the undesirable environmental impact of our own activities and those of others.

The Council will review all of its services and management systems to ensure good environmental practice and compliance with regulatory requirements and that they are consistent with the maintenance and improvement of the town's existing environment and quality of life.

By pursuing a sustainable development strategy we shall help ensure that the economy of Bournemouth meets today's needs without spoiling the environment for our childrens' children.”

BOURNEMOUTH DISTRICT WIDE LOCAL PLAN

An objective of the Local Plan as stated in chapter 3 is:

“To protect and enhance statutory designated wildlife and geological sites and sites of local interest.”

BOURNEMOUTH COMMUNITY PLAN

The Community Plan has 5 priorities of which 3 are relevant here:

1. Strengthening our Economy - a key objective of this priority is to:

“Develop opportunities for residents and visitors to access quality recreational, sports and cultural services”.

2. Education and Lifelong learning - a key objectives of this priority is to:

“Ensure that educational opportunities meet the needs of the whole community”.

3. Sustaining our Environment - a key objective of this priority is to:

“Protect, maintain and improve the quality of both our natural and built-up areas and increase awareness of the environment”.

Bournemouth and West Hampshire Water USER STATEMENT FOR CHRISTCHURCH HARBOUR

Bournemouth and West Hampshire Water have both a commercial interest in the rivers and harbour and are committed to providing where possible enhancing the environment in a sustainable manner. We have an agreement with Natural England and have produced a policy statement for managing the harbour SSSI.

Our commercial interests are moorings and fisheries. Moorings are located in the river areas and there are some in the harbour itself. Our fishing interests are currently leased to Southern Fisheries and Christchurch Angling Club.

FACTORS AFFECTING MOORINGS

1. OWNERSHIP

Apart from a few isolated pockets, BWHW own most of the bed of the rivers and about two thirds of the bed of the harbour up to the mean high water mark. Some areas of the bed of the rivers and harbour have been leased to commercial activities such as sailing clubs and boat yards. Some areas have been sold to adjoining domestic riparian owners.

The limits of our boundary are Iford Bridge on the Stour and as far as the Royalty fishery boundaries at Knapp Mill on the Avon.

2. LEGAL RIGHTS OF NAVIGATION

This is a tidal water and everyone has the right to use the waterway (we do not own the water). We own the bed of the river and harbour.

3. RESTRICTIONS

Christchurch is not a deep water harbour. Mooring capability is affected by tides and currents.

Obstacles such as bridges and other natural barriers such as sand banks are factors in the location of moorings.

There is no legal definition of what actual navigable widths of the channel should be but we do work towards ensuring an acceptable voluntary width of the river. Some mooring holders also remove their boats during the winter for maintenance and to avoid serious weather conditions.

4. PROBLEM AREAS FOR MOORINGS

Changing topography of the bed of the harbour and silting/gravel build-up affect moorings.

Christchurch Borough Council has a vested interest in:

- Generating full community involvement
- Establishing a suitable benchmark of what is going on now by providing a framework based on the present status quo and;
- Identifying all the functions that currently occurs in the Harbour and also who is primarily responsible for them.

Our aim is to provide a workable management tool by engaging with all partners to provide a sustainable and balanced use of the Harbour by the wider community.

Two aspirations for the management plan are:

- 1) The management plan will provide a transparent decision making process for any future activity or management practice that may occur. It will therefore also provide a reference point for future decision making that thereafter leads to constructive methods of resolving potential conflicts and disputes. It will also provide an opportunity to make it clear where these management practices are to apply.
- 2) Specific components can be incorporated into the management plan's Action Plan and can be mapped out in identified priorities. This will provide an opportunity to focus on the things everyone accepts to be the most important and lead to allocation of resources both within the partnership and outside it - thus achieving the positive benefits for Harbour management.

CBC recognise that all the main stakeholders need to take ownership of the Management Plan, actively follow its aspirations and through a confederated partnership create a self-policing management process that makes the Harbour a better place in which to work, live and enjoy.

Christchurch Community Partnership (CCP)

The Partnership is a growing network of statutory, business and voluntary organisations and individuals with interests in common, that offers reciprocal benefit to those prepared to engage with it. Together, the network is concerned with improving the quality of life and economic, social and environmental well being of people who live, work in and visit Christchurch. It is a different way of getting things important to the community done. Set up in 2003 in response to the Local Government Act 2000 the success of the initiative has been underlined by the implied support of the proposals in the 2007 Green Paper "The Governance of Britain – 3 Re-invigorating our democracy".

It is open to anyone who shares similar ideals. It is built on a foundation of trust, transparency and a shared vision for the future of this very special Borough of Christchurch that is inclusive and creative. Comprised of seven action groups, the management and enjoyment of the Christchurch Harbour and its Waterways, comes under the remit of the Culture Learning and Lifestyle Action Group.

In response to concerns expressed by Christchurch citizens about Christchurch Harbour in the first CCP Borough wide consultation, the Action Group asked the question as to just "Who manages the Harbour and its Waterways?"

From this, we have seen a partnership approach develop and working with statutory bodies and other voluntary organisations the Christchurch Harbour Management Plan, is being developed.

This is a valuable initiative and through CCP involvement with the Christchurch Harbour Group, represents the special qualities a network organisation representing the local community can bring to complex issues in which there are many different perspectives.

Christchurch Harbour is one of the area's most important assets and many people rely on it for work and leisure. "That Christchurch Harbour should be as good as or better than it is now for our children and grandchildren" (Prof Vincent May) is a vision for the future of the Harbour to which all can subscribe. I hope that this document offers an effective way of securing it.

Dr Bob Gilbertson

Chair of Christchurch Community Partnership

Christchurch Harbour Association is a voluntary organisation responsible for efficient buoyage of the Harbour and its entrance. Part of its remit is to ensure an adequate navigable channel for boats using the Harbour. This involves clearance of winter debris and whenever there is a need, maintenance dredging to ensure adequate channel widths and depths especially at sensitive pinch points.

The Association is non profit making and is funded by 27 user groups consisting of Boatyards, Sailing and Rowing clubs, Hiring and Mooring concerns, residential marinas, Fisherman's Association, BWHW and Christchurch and Bournemouth Borough Councils. The Association is represented by a committee comprising Chairman, Secretary and Treasurer and representatives from the above groups.

Within the Harbour, lateral buoys with the appropriate topmarks have been installed and are maintained each year. The outside channel beyond the Harbour presents the problem of a randomly shifting bottom and significant surf at times. This requires heavier mooring gear with spherical inflatable buoys, but even with this there is an acceptance that there will be a loss of expensive equipment each year. To minimise losses the majority of the outside buoys are removed for the winter period. Beyond the surf, two proper lateral buoys are laid for the season. With the authorisation from CBC, two fixed green vertical lights have been erected to aid navigation for craft at night. Contracts are placed each year for the maintenance of the buoys.

Environment Agency is a regulatory body responsible for managing the water environment in England and Wales. The responsibilities include Waste Management, Water Quality (including Monitoring and Pollution Incidents response), Flood Risk Management, Coastal Strategic Overview including grant fund administration, Water Resources Management, Fisheries, Conservation and Recreation. In Christchurch Harbour, water is monitored according to EU

Directives. The eel fishery and migrations of salmonids are also regulated, working closely with those having responsibility for marine fisheries.

EA's aim is to support a workable Management Plan by engaging with all partners to provide a sustainable and balanced use of the Harbour by the wider community.

'Natural England is here to conserve and enhance the natural environment, for its intrinsic value, the wellbeing and enjoyment of people and the economic prosperity it brings. Natural England is the Government's advisor on the Natural Environment'. Its duties relevant to this Management Plan are described in previous Chapters.

Police & Christchurch Harbour Watch work with all agencies and local communities to:

- Raise public confidence.
- Tackle anti-social behaviour.
- Reduce crime and increase the number of crimes detected.
- Tackle drug related crime, in particular, the supply of Class A Drugs.
- Combat serious and organised crime.
- Counter terrorism and the threat of terrorism.
- And assist, whenever possible, all agencies in upholding the local bylaws and orders in relation to Christchurch Harbour

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