

# **Draft Thames Waterway Plan Strategic Sustainability Assessment Report**



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**Prepared for the Environment Agency  
by  
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## ABBREVIATIONS

AINA	Association of Inland Navigation Authorities
AONB	Area of Outstanding Natural Beauty
AQMA	Air Quality Management Area
AMS	Agency Management System
ARA	Amateur Rowing Association
BAP	Biodiversity Action Plan
BCU	British Canoe Union
BDAA	British Disabled Anglers Association
BW	British Waterways
CA	Countryside Agency
CAMS	Catchment Abstraction Management Strategies
CEP	Collingwood Environmental Planning
CFMP	Catchment Flood Management Plans
cSAC	candidate Special Areas of Conservation
DEFRA	Department for Environment Food and Rural Affairs
DETR	Department of Environment, Transport and the Regions
EC	European Commission
EIA	Environmental Impact Assessment
ESA	Environmentally Sensitive Area

GIS	Geographical Information System
GLA	Greater London Assembly
GQA	General Quality Assessment
IMD	Indices of Multiple Deprivation
IWAAC	Inland Waterways Amenity Advisory Council
KDA	Kenneth Dodd Associates
MOL	Metropolitan Open Land
OBU	Oxford Brookes University
ODPM	Office of the Deputy Prime Minister
ONS	Office of National Statistics
PPG	Planning Policy Guidance
PPS	Planning Policy Statement
LEAP	Local Environment Agency Plan
LDF	Local Development Framework
LIP	Local Implementation Plans
MAFF	Ministry of Agriculture Fisheries and Food
NO <sub>2</sub>	Nitrogen Dioxide
NRA	National Rivers Authority
RBMP	River Basin Management Plan
RCS	River Corridor Survey
Rferac	Regional Fisheries, Ecology & Recreation Advisory Committee
RSDF	Regional Sustainable Development Framework
RSS	Regional Spatial Strategy
RTA	River Thames Alliance
RUGs	River User Groups
SA	Sustainability Appraisal
SAM	Schedule Ancient Monument
SD	Sustainable Development
SEA	Strategic Environmental Assessment
SEERA	South East England Regional Assembly
SEU	Social Exclusion Unit
SPA	Special Protection Area
SSA	Strategic Sustainability Assessment
SSSI	Site of Special Scientific Interest
SUDS	Sustainable Urban Drainage Systems
TBTA	Thames Boating Trade Association
TLS	Thames Landscape Strategy
TWP	Thames Waterway Plan
TWUL	Thames Water Utilities Ltd



# 1. INTRODUCTION

## Thames Waterway Plan

### Objectives and contents

- 1.1 The overall aim of the Thames Waterway Plan is to “map out the reinvigoration of leisure and tourism along the river corridor in ways that are both socially inclusive and sustainable” (draft TWP, April 2005). The draft plan includes four core objectives:
- improve and promote access and information for all users (on water and land).
  - improve and maintain the river infrastructure and facilities and services for all users.
  - contribute to enhanced biodiversity, heritage, and landscape value in the waterway corridor.
  - increase use of the river and its corridor.
- 1.2 Whilst the draft plan has been prepared by the Environment Agency (the Agency), it is proposed that the River Thames Alliance will provide a focus point for delivering the plan. The plan is principally concerned with the responsibilities the Agency has for recreation and as the navigation authority for the non-tidal Thames. Its scope is the corridor of the River Thames from its source near Cricklade in Gloucestershire to Teddington on the outskirts of London.

### Plan preparation process

- 1.3 The approach adopted to prepare the Thames Waterway Plan is detailed in section 2 of the draft Plan. The process started in June 2003 with a workshop forming part of the launch of the River Thames Alliance (RTA) and continued through to a second workshop of RTA members a year later.
- 1.4 This workshop fed into a TWP consultation in July 2004 with RTA members and other key stakeholders, with responses requested by the end of October 2004, which included for comment draft policies and supporting actions and draft Waterway Standards. The resulting comments, along with input from Agency officers at a workshop in November 2004, were used to inform the revision of the draft plan and to produce an Internal Draft of the TWP in December 2004. This document was circulated for comment within the Agency, prior to the preparation of the formal consultation draft of the TWP. This is being subject to three month external consultation starting in April 2005. The aim will be to adopt and publish the TWP in Autumn 2005.

## **Strategic Sustainability Assessment**

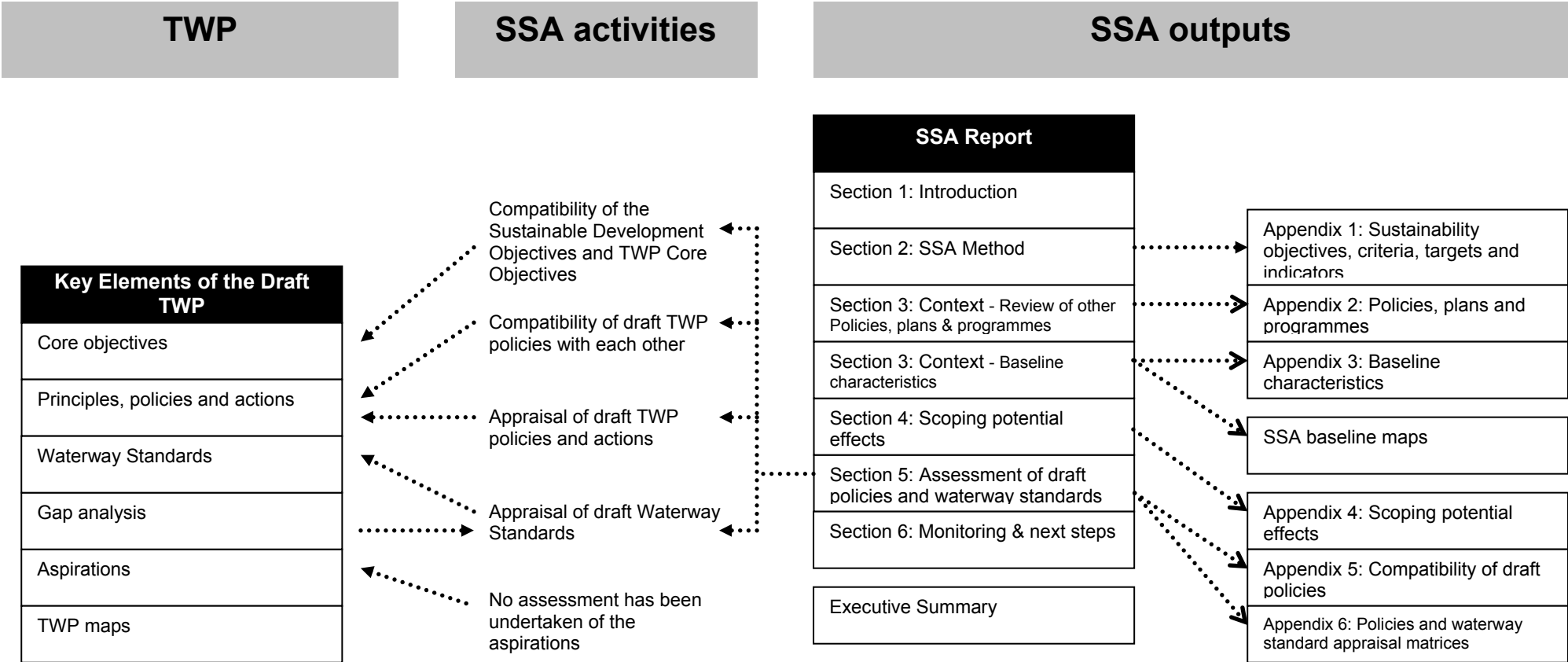
### **Aims of the Strategic Sustainability Assessment**

- 1.5 As part of the preparation of the draft plan, a Strategic Sustainability Assessment (SSA) has been carried out. The objective of the SSA is to inform and appraise the evolving Thames Waterway Plan (TWP) against sustainable development principles. This will allow the effects, from a social, economic and environmental perspective, to be assessed against available baseline data and objectives. The method adopted for the SSA is described in section 2.
- 1.6 The Agency commissioned Collingwood Environmental Planning (CEP) to undertake the SSA of the TWP, with support from the Waterways Department (particularly on data gathering, mapping and GIS). The assessment was overseen by a Steering Group chaired by the Agency's Regional Strategic Unit Manager.

### **Contents of the Strategic Sustainability Assessment Report**

- 1.7 This Strategic Sustainability Assessment Report includes, in section 2, an overview of the methodology used. Section 3 sets out the policy context and baseline characteristics relevant to the TWP, with supporting information in Appendix 2 and 3 respectively. Appendix 3 is also supported by a series of separate baseline maps. Section 4 summarises the key potential sustainability effects of the draft TWP, with more details included in Appendix 4. The appraisal of the draft TWP policies and Waterway Standards are included in section 5 and monitoring proposals and the next steps discussed in section 6. Note that the appendices, along with an executive summary, are included within separate volumes to this main report.
- 1.8 Figure 1 below aims to assist navigate the SSA report and understand the relationship between it and the draft TWP.

Figure 1: Relationship between the SSA report and activities and the draft TWP



## 2. STRATEGIC SUSTAINABILITY ASSESSMENT METHOD

### Background

- 2.1 The approach adopted for the assessment of the TWP draws on both Strategic Environmental Assessment (SEA) and Sustainability Appraisal (SA). The background to these forms of assessment is described below and an explanation provided on why the form of assessment, described as Strategic Sustainability Assessment (SSA), was chosen.

### Requirements of the SEA Directive

- 2.2 The EC Directive (2001/42/EC) on the “assessment of the effects of certain plans and programmes on the environment”, known as the “strategic environmental assessment” or SEA Directive, applies to plans and programmes whose formal preparation begins after 21 July 2004. However, it will also apply to plans and programmes whose formal preparation began before that date, if they have not been adopted or submitted to a legislative procedure by 21 July 2006. The Directive has been transposed into legislation through regulations<sup>1</sup> and a draft practical guide on the SEA Directive has been published by government<sup>2</sup>.
- 2.3 The areas of emphasis of the SEA Directive are:
- Collecting and presenting baseline information.
  - Predicting significant environmental effects.
  - Identifying strategic alternatives and their effects.
  - Consulting public authorities with environmental responsibilities.
  - Monitoring actual effects on the environment.
- 2.4 The key procedural requirements are:
- Preparation of an Environmental Report.
  - Consult on the draft plan and the Environmental Report.
  - Take into account the Environmental Report and consultation in decision-making.
  - Show how the results of the SEA have been taken into account.
- 2.5 The Directive includes criteria to determine, on a case by case basis, which plans and programmes should be subject to its requirements. There is no definitive list of plans and programmes that require SEA, but the draft Practical Guide includes an indicative list. This list does not include Waterway Plans.

<sup>1</sup> The Environmental Assessment of Plans and Programmes Regulations 2004. SI 2004 No. 1633.

<sup>2</sup> ODPM (July 2004) The Strategic Environmental Assessment Directive: A Practical Guide.

- 2.6 The Agency has produced an Agency Management System (AMS) on SEA. As part of this process, the Agency's policy on environmental assessment of its own plans and programmes has been adopted.

### **Sustainability Appraisal**

- 2.7 There is not a procedure for undertaking SA established in legislation, as there is for SEA. However, there is increasing practice including SA applied to the new generation of development plans, including Regional Spatial Strategies (RSSs) and Local Development Frameworks (LDFs) for which the Office of the Deputy Prime Minister (ODPM) has published draft guidance which also incorporates SEA<sup>3</sup>.

- 2.8 The typical approach to Sustainability Appraisal included the following steps:

1. Review sustainability guidance and policy.
2. Baseline characterisation.
3. Identify key sustainability issues.
4. Define sustainability objectives and indicators and consult.
5. Carry out SA of plan objectives.
6. Carry out SA of plan alternatives.
7. Carry out SA of draft plan.
8. Prepare Sustainability Appraisal Report and consult.
9. SA of changes.
10. Monitoring and review.

### **Relationship between SEA and SA**

- 2.9 The main difference between SEA as prescribed under the SEA Directive and SA, is that SEA is focused primarily on environmental effects (although population and human health are included). SA goes further by examining all the effects of the plan whether they are economic, environmental or social. However, the SEA Directive introduces an element of rigour absent in many SA undertaken prior to the new Planning Act as it considers significant effects using baseline data, whereas SA historically purely considers the likely contribution to achieving objectives. It is often stated, therefore, that SEA considers a narrower breadth of issues to a greater depth of analysis, whereas SA considers a wider breadth of issues to a lesser depth of analysis.

- 2.10 The key differences between SEA and SA are summarised below:

- SA places similar weight on economic and social issues as well as environmental issues.
- SA is generally objective-led whereas SEA is baseline/impact-led.

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<sup>3</sup> ODPM (September 2004) Consultation Paper on Sustainability Appraisal of Regional Spatial Strategies and Local Development Frameworks.

- The SEA Directive introduces wider consultation and involvement.
- Output of an SA is likely to be a Sustainability Appraisal Report incorporating Environmental Report (as required under the SEA Directive)
- SEA Directive introduces greater rigour to the SA process.
- SEA introduces difficult issues – synergies, cumulative effects, etc.

2.11 Integrating the two processes is one way forward to address some of the limitations of each and providing an assessment across all the dimensions of sustainability.

### **Method adopted for the assessment of the TWP**

2.12 With the above background in mind, the Steering Group for the assessment of the TWP decided upon an approach that drew on elements of both SEA and SA. The 'hybrid' approach evolved through the needs and requirements of the plan-making process and its timing. It was agreed that the approach should, as far as possible follow the spirit of the SEA Directive, but without necessarily meeting all of its procedural requirements, and should consider the range of sustainability issues rather than just the environment – this was felt particularly important due to the nature of the TWP which focuses on recreation and tourism activities which potentially have a variety of social and economic benefits. It was agreed as a result that the assessment should be referred to as a Strategic Sustainability Assessment (SSA).

2.13 The main reasons for this decision were:

- The TWP and its assessment were started before the SEA Directive came into force and before Government SEA or SA guidance and the Agency's SEA AMS were issued and therefore an approach had to be devised without this context.
- The TWP was started before July 2004 and will be adopted before July 2006 and therefore will not legally be required to comply with the SEA Directive.
- Waterway Plans were not included in the government's indicative list of plans and programme likely to require SEA.

2.14 Whilst the assessment does not meet all the formal procedural and some of the technical requirements of the SEA Directive, it followed many of the principles.

### **Outline of SSA method**

#### **Evolution of the method and key stages**

2.15 The SSA of the TWP evolved from several years of input from CEP on SEA to the River Thames Navigation and Recreation Business Review (SEA Phase I), which

culminated in a report in March 2001<sup>4</sup>, and then the Thames Ahead initiative (SEA Phase II). This latterly included a period during which the SEA, and then the SSA, method was developed and tested, including the development and refinement of sustainable development objectives and criteria (see below) and a pilot study on camping facilities (reported to Regional Fisheries, Ecology & Recreation Advisory Committee (Rferac) in January 2003).

2.16 The assessment of the TWP more formally started in May 2003 with a workshop of key Agency staff and the first RTA workshop in June 2003, which included consideration of the key sustainability dilemmas and opportunities. The key subsequent stages in the SSA process included:

- Development of method and refinement of the sustainability objectives and criteria (see below and Appendix 1).
- A review of policies, plans and programmes relevant to the TWP and its SSA (see section 3 and Appendix 2).
- Collation and analysis of baseline data and preparation of baseline maps (see section 3 and Appendix 3).
- Scoping key potential effects of boat movements (including a paper for a Rferac sub-committee), facilities and infrastructure and other users (see section 4 and Appendix 4).
- Appraisal of compatibility of draft TWP objectives and sustainability objectives (see section 5 and Appendix 5).
- Appraisal of draft TWP policies (including possible actions) and draft Waterway Standards, included recommended revisions, additions and mitigation (see section 5).
- Development of monitoring proposals (see section 6).
- Preparation of SSA report.

2.17 In addition, to input into the appraisal of the draft policies and standards a workshop of key Agency staff was convened in November 2004 followed by a period of internal consultation on a first draft of the TWP and SSA Report (December 2004 to February 2005). An iterative process of reviewing the draft TWP followed to incorporate comments and the SSA's findings, culminating in the issuing for consultation the draft TWP and this SSA report in April 2005.

2.18 Note that the aspirations that have been collated and mapped as part of the TWP process have not been considered as part of the SSA to date.

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<sup>4</sup> Richard Eales Environmental Consultants (2001) Strategic Environmental Assessment Phase 1 - River Thames Navigation and Recreation Business Review.

## Development of the sustainable development framework

- 2.19 A sustainable development framework applicable to the recreation and tourism provision on the River Thames was needed to ensure the assessment incorporated a full range of sustainable development issues (i.e. social and economic, as well as environmental issues) and to provide objectives against which to judge the performance of the plan and its policies.
- 2.20 The South East England Regional Assembly's (SEERA) Regional Sustainable Development Framework<sup>5</sup> (RSDF) provided a suitable starting point. The RSDF includes 25 overarching sustainable development objectives organised under the Government's four dimensions of sustainable development from the UK Strategy for Sustainable Development<sup>6</sup>. This has evolved into SEERA's Integrated Regional Framework: 2004<sup>7</sup> and the TWP set were updated to reflect these most recent regional objectives.
- 2.21 The South East Regional framework was used because the majority of the non-tidal River Thames falls within the South East Region, although the extreme upstream and downstream reaches are within the South West Region and the Greater London Authority area respectively.
- 2.22 Each objective was classified in accordance to its relevance and importance to the TWP (high, medium or low) and the Thames as a waterway for recreation and tourism provision and a series of appraisal criteria were generated for each objective to test the sustainability of proposals (see Appendix 1). Where possible, relevant targets from the Environment Agency's South East Area, West Area and the Thames Waterway Local Contributions documents that related to a specific objective and its criteria were extracted. A limited number of potential indicators were also identified for measuring the baseline situation, the impact of proposals and future monitoring. The role of potential indicators and targets is considered in more detail as part of monitoring (see section 6).
- 2.23 The objectives in the TWP sustainable development framework were largely kept the same as those for the South East Region for consistency, the main change is the removal of words that refer only to the South East region to make the objective relevant to the Thames Waterway. One objective (objective 14) was split into two to help distinguish between the 'protection and enhancement of the countryside and historic environment' and 'encouraging and making accessible for enjoyment the countryside and historic environment' because the latter is such a key objective for the TWP and there are potential conflicts with the former.

<sup>5</sup> SEERA, GOSE, SEEDA, Environment Agency, National Health Service (June 2001) *A Better Quality of Life in the South East - The Regional Sustainable Development Framework*.

<sup>6</sup> DETR (1999) *A Better Quality of Life, A Strategy for Sustainable Development in the UK*. London: Stationery Office.

<sup>7</sup> SEERA, GOSE, SEEDA, Environment Agency, Department of Health, South East Forum for Sustainability, Regional Action and Involvement South East (2004) *Integrated Regional Framework 2004: A Better Quality of Life in the South East*.

## **Details of the proposed method of policy appraisal**

2.24 This section outlines the approach to the appraisal of draft policies and Waterway Standards as part of the SSA process for the TWP. There are four main steps detailed below.

### *Step One*

2.25 The first step was a high level appraisal of the compatibility of the four TWP objectives with the 26 sustainable development objectives. This uses the following categories and is presented in a matrix:

- Objectives compatible.
- Objectives incompatible.
- No relation between objectives.
- Uncertain relationship between objectives.

2.26 In addition to a matrix of the scores, a commentary was provided of potential areas where conflict may arise and where changes should be made.

### *Step Two*

2.27 The second step was to examine the internal compatibility of all the draft TWP policies against one another. In addition to a matrix to indicate if the policies were compatible, incompatible or neutral, a commentary was provided of potential areas where conflict may arise and where changes should be made.

### *Step Three*

2.28 The third step was to assess each of the draft policies against the sustainable development objectives, using the appraisal criteria as prompts to the different aspects of the objective that could be affected. A matrix was generated to summarise the results with a commentary against an objective where needed to expand on a score of the potential significance of effects on a five point scale:

- Major positive.
- Minor positive.
- Neutral.
- Minor negative.
- Major negative.

2.29 In addition, where predicting the potential effects is particularly uncertain this was also identified.

- 2.30 The baseline data and scoping of potential effects was used to guide the assessment of each draft policy. Whilst the possible actions identified under each draft policy were not formally appraised they were taken into account and provide a guide as to what delivering the policy may mean. The assessment matrix for each draft policy was used through the process to provide summary of findings and recommendations, including:
- General comments and observations.
  - Proposed amendment to the wording of policy.
  - Proposed conditions and mitigation that should be associated with the policy (e.g. in supporting text).
  - Recommendations for additional policies.
  - Recommendations for changes (e.g. deletions, amendments to wording etc) to the possible actions.
  - Recommendations for additional possible actions.
- 2.31 Note that the matrices included in this version of the SSA Report (see Appendix 6) are those that apply to the policies in the draft TWP and therefore many of the recommendations previously made have already been incorporated.

*Step Four*

- 2.32 Once all the policies had been put through stage three, it was clear which ones had the potentially most significant effects and these were subject to more detailed appraisal as necessary. The aim of the appraisal was to focus on the key issues and for these policies more extensive recommendations were provided to those preparing the draft TWP. This included proposed wording changes, additional actions and details of guidance and conditions to include in the supporting text to guide implementation.
- 2.33 At this stage the Waterway Standards, as detailed expressions of how a policy could be implemented, were appraised in more detail. The appraisal looked at what the potential implications of meeting that standard might be. This considered whether a standard could be met for facilities and services in all parts of the Thames or whether because of the sensitivity of the environment, for example, it may be problematic to meet it in certain parts of the Thames.
- 2.34 The assessment of the proposed Waterway Standards was informed by a gap analysis undertaken by the Waterways Department which compared data on the existing provision of certain services and facilities with the proposed distribution derived from the draft Waterway Standard (note that this will only be possible for certain services and facilities which are expressed as a distance/cruising time in the standards).

- 2.35 As well as reducing the number of policies considered to this level of detail, the number of objectives considered in detail in the appraisal was also reduced to focus on the most significant effects. This was also influenced by the relevance of the objectives to the Thames Waterway already identified.

### 3. CONTEXT TO THE PLAN AREA

#### Introduction

3.1 The section sets out contextual information relevant to the TWP area, namely:

- **the policy context** – the policies, plans, strategies and programmes relevant to the TWP and its SSA and those that it may affect.
- **the baseline characteristics** - relevant social, economic and environmental data to the TWP.

#### **Policies, plans, strategies and programmes relevant to the Thames Waterway Plan**

3.2 To put the proposals identified in the draft TWP in context it is important to consider other relevant policies, plans, strategies and programmes which may have an impact upon them and in turn they may have an impact upon. This, along with the assessment of baseline conditions (see below), provides the context within which the acceptability of any proposal will have to be judged. It also helps to identify opportunities that could provide support to particular types of proposal or actions at particular locations.

3.3 A list of the potentially relevant policies, plans, strategies and programmes is included in Appendix 2. This also includes a brief note on their contents and relevance to TWP where appropriate. This is not intended to be a comprehensive list of all the sources that provide information and policy context on the River Thames and its corridor and those preparing the TWP will need to consider the implications and requirements of many of these as part of preparing the plan.

3.4 The plans, programmes and strategies listed in Appendix 2 include the following types:

- Legislation, circulars, Planning Policy Guidance (PPG) and Planning Policy Statements (PPS) and Regional Planning Guidance.
- Government guidance and strategies.
- Environment Agency national, regional and local plans, programmes, strategies and guidance.
- Other organisations national, regional and local plans, programmes and strategies.
- Local Authority development plans, including Structure Plans Unitary Development Plans and Local Plans.

- 3.5 The sources identified in Appendix 2 provide a range of different functions, for example:
- Legal requirements and duties.
  - Source of information and baseline data.
  - Policies, targets and aspirations for the management of a certain aspect of the Thames corridor.
  - Conditions and/or criteria to how development and/or other activities should take place.
  - Opportunities and priorities for enhancements.
  - Details of works or projects already planned along the Thames corridor.
- 3.6 In developing and implementing the final Plan clearly statutory and legal requirements and duties need to be complied with as a priority. These apply to a wide range of topics and situations (see Appendix 2), for example: the duties of the Environment Agency under the Environment Act 1995 and subsequent ministerial guidance; development control under the Town and Country Planning Act 1990 and related regulations; requirements for Environmental Impact Assessment under the European Directive and UK regulations; and the protection of wildlife and habitats under the Wildlife and Countryside Act 1981 and Habitat regulations 1994.
- 3.7 It will be important as the final TWP is developed through consultation with partners and stakeholders to identify potential synergies, as well as potential divergences, with other policies, plans, strategies and programmes and either opportunities exploited or potential inconsistencies resolved. Key links could be made with, for example, local authorities as they prepare their LDFs, including their Development Plan Documents (DPDs), and Local Transport Plans (Local Implementation Plans, LIPs, in London). Other key links could include those with: Biodiversity Action Plans; Agency water management plans such as Catchment Abstraction Management Plan (CAMS), River Basin Management Plan (RBMPs), Catchment Flood Management Plans (CFMPs) and Flood Defence strategies); Area of Outstanding Natural Beauty (AONB) management plans; landscape assessments and strategies; and the Great Western Community Forest plan

### **Baseline Characteristics**

- 3.8 Environmental, social and economic baseline data provides the evidence base for use as part of the assessment process. The information collated on the Thames corridor draws on the vast wealth of information already available, much of which is already held by the Agency. In addition, information from other sources was also identified (e.g. ONS census data) and, as part of the TWP preparation process, specific pieces of data acquired via primary research (e.g. questionnaires).
- 3.9 The baseline data is described in more detail in Appendix 3. This is organised into four main parts with the following sub-sections:

<p><b>Environmental baseline:</b></p> <ul style="list-style-type: none"> <li>• Topography</li> <li>• Geology</li> <li>• Landscape</li> <li>• Cultural heritage and archaeology</li> <li>• Biodiversity</li> <li>• Hydrology and Water Resources</li> <li>• Flood Risk</li> <li>• Water Quality</li> <li>• Waste Management</li> <li>• Air and Climatic factors</li> <li>• Land use and Land quality</li> </ul> <p><b>Economic baseline</b></p> <ul style="list-style-type: none"> <li>• Material assets</li> <li>• Tourism and Employment</li> <li>• Transport infrastructure</li> <li>• Property Values</li> </ul> <p><b>Interrelationship between the above factors.</b></p> <ul style="list-style-type: none"> <li>• Potential Impacts of Climate Change</li> <li>• Integrated management</li> </ul>	<p><b>Social baseline:</b></p> <ul style="list-style-type: none"> <li>• Population and demographic change</li> <li>• Deprivation and social exclusion</li> <li>• Health and wellbeing</li> <li>• Regeneration</li> <li>• Accessibility</li> <li>• Tourism, Leisure, Recreation and Sport</li> <li>• Facilities and access</li> <li>• Existing Boating Facilities</li> <li>• Electric boating</li> <li>• Boatyards</li> <li>• Launching sites and slipways</li> <li>• Current boater satisfaction levels</li> <li>• Areas for improvement</li> </ul>
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3.10 A summary of key baseline data, trends and issues are presented below (see Table 1). Note that this includes just a snapshot of the baseline characteristics and is limited by the data that was available to the SSA (see Appendix 3 for more detailed information). Trend data, in particular, is not available for all the datasets.

**Table 1: Summary of Baseline Data**

Topic	Quantitative / Qualitative Data	Trends	Issues
<b>Environmental</b>			
<b>Landscape</b>	More than 40% of the River Thames catchment area lies under some form of national landscape designation. For over a quarter of its length the river runs through designated Areas of Outstanding Natural Beauty (AONB)	-	Need to conserve and enhance the landscape. Potential constraint of development.
<b>Species and habitats</b>	58 SSSIs within 3km of the River Thames (many of which are flow/water dependant), six candidate Special Areas of Conservation and one Special Protection Area. Many other local and non designated sites and habitats and BAP species and habitats.	Some species in decline, others showing signs of improvement.	Sensitivity of flow dependant sites to management of the Thames. Loss of key features such as islands.
<b>Fisheries</b>	Host to over 30 species of fish. Density ranges from 126-237 per 100 cubic metres in the upper reaches to 11-21 in the parts of the middle/lower reaches. Salmon passage allowed over 22 weirs to Mapledurham.	Improvements in water quality in 1950s and 1960s increased numbers of fish. Run of Salmon since 1982, but recent numbers fallen.	Generally good fishery but affected by periodic low flows, lack of habitat in d/s reaches and barriers to fish passage.
<b>River geomorphology</b>	River varies in width from 18 metres at Lechlade to 100 metres at Teddington. Average fall over length is 0.34 metres per km.	-	-

Topic	Quantitative / Qualitative Data	Trends	Issues
<b>River banks</b>	1-4 % percentage of banks with hard protection in most parts of the upper Thames and between 72-100% in most parts of the lower Thames.	Length of natural bank has generally been declining.	Protecting and enhancing the natural banks that remain and the remain key habitats and species they support .
<b>Rainfall</b>	Thames catchment receives an average of 690 mm of rainfall per year. The annual national average of 897 mm.	There is a downward trends in summer rainfall (June to August) since the 1880s and upward trends in winter rainfall (December to February) particularly over the last 150-200 years.	The Thames catchment is amongst the driest in the UK. It is thought that the effects of climate change may lead to a change in rainfall across the Thames catchment leading to wetter winters and drier summers.
<b>Flows</b>	Typical summer flows – Buscot 230MI/d, Reading 970MI/d and Kingston 1900MI/d Low flows – Buscot 190MI/d, Reading 570MI/d and Kingston 860MI/d.	see rainfall above.	see rainfall above.
<b>Flood risk</b>	A large proportion of the immediate Thames corridor is with a flood zone.	see rainfall above.	Risk posed to workers, visitors and residents. Constrain to development.
<b>Water Resources</b>	3,035MI/d total authorised surface and groundwater abstraction from within 1km of river. The River Thames supplies two thirds of London's drinking water.		Effect of climate change on sustainable levels of abstraction.
<b>Water quality</b>	Generally, the Thames and its tributaries are graded as A or B (very good or good), although two reaches in the middle Thames are grade C (fair).	Both the chemical and biological water quality of the river has improved dramatically over the last 30 years. Trend can be affected by dilution.	Potential impact of future low flows on water quality because of dilution and pollution incidents.
<b>Social</b>			
<b>Population</b>	10.5 million people, over one fifth of England's population live within 30 kilometres of the non-tidal Thames. 12,000 houses lie within 500 meters of the river.	The UK population is increasing, and is projected to grow to 62.4 million by 2021.	Large potential market in close proximity of the Thames.
<b>Deprivation</b>	The river generally passes through areas of relative affluence. However, there are pockets of deprivation in Reading and Oxford where two and three wards respectively are among the 3,000 most deprived in England. There are also higher levels of deprivation to be found in and around London.	-	Regenerating those areas that are more deprived.
<b>Tourism</b>	The South East Region attracted 26.5 million overnight stays and over 200 million tourism day visits.	However, compared to other regions in recent years the South East has been losing market share.	The Thames could be established as a significant brand for tourism.
<b>Accessibility by public transport</b>	The lower Thames is well served by railway stations, with some locks within 1km of a railway station and most no more that 2.5km away. However, most of the upper reaches are not accessible to a station.	-	Increasing access to the river by public transport, including bus services in the upper Thames.
<b>Navigation</b>	218 km of navigable river from Cricklade to Teddington with connections to several other navigable rivers and canals.	-	Major recreation and tourism asset.
<b>Boating</b>	9049 private powered boats registered in 2004. 585,000 total craft through locks in 2004. 123 holiday hire boats registered on the Thames in 2004	Since 1980 the number of holiday hire boats registered on the Thames has fallen by 85%, from 815 to 123 in 2004. The number of privately owned powered boats has dropped 30% since 1990, from 12993 to 9049 in 2004.	Fall in number of boats, and corresponding income. Although this has started to reverse in recent years.

Topic	Quantitative / Qualitative Data	Trends	Issues
<b>Moorings</b>	5600 permanent births in marinas and other commercial moorings.	It is estimated that the total number of births available has fallen by 12-18% since 1993.	Providing adequate moorings.
<b>Thames Path</b>	294km from source of River Thames to Thames Barrier. Two thirds of its users live within 16 km. Although 39% walk to the riverside, 55% come by car and only 3% use public transport.	-	Encourage walking and cycling, including by local residents and those using public transport.
<b>Rowing</b>	On the non-tidal Thames, 54 clubs, 6 universities and 29 schools are registered (plus over 30 Oxford colleges) with the Amateur Rowing Association.	Participation has been growing.	Increasing participation in rowing.
<b>Canoeing</b>	21 canoe clubs based on the Thames.	-	Increasing participation in canoeing.
<b>Sailing</b>	21 sailing clubs on the Thames.	-	Increasing participation in sailing.
<b>Angling</b>	-	-	Increasing participation in angling.
<b>Economic</b>			
<b>Economic value of the leisure and tourism industry</b>	14 million leisure day visits and 28 million casual local visits to the river generate £119 million expenditure. The annual turnover of companies in the Thames Boating Association in 2003 totalled £110 million.	-	Promoting sustainable river related economy and tourism sector.
<b>Boat registrations and income</b>	The 26,000 boats registered to use the river generate £85 million expenditure.	Decline in boats since 1990 has reduce income by £7.2 million and resulted in a further £111 million being lost to the local economy	Promoting sustainable increase in boat income.
<b>Property values</b>	The presence of the river enhances property values within the surrounding corridor by nearly £580 million.	-	Extending economic benefits.
<b>Employment</b>	72,000 jobs within local authorities along the Thames. Tourism related employment supports 18,400 jobs in the riverside wards.	-	Increasing river and tourism related employment.
<b>Fishing rod licences</b>	108,000 people in the Thames Region of the Agency purchase annual rod licences for coarse fishing, spending almost £70 million on licences, permits, tackle and bait.	-	Increasing income from rod licences

3.11 In collating baseline data for the SSA, not all the data ideally required was available or in a digital format to facilitate mapping and analysis. A pragmatic approach had to be taken to balance the time and resources available and the data and information that could be collated and used as part of the SSA. Given the strategic nature of the SSA, some datasets did not lend themselves to this level of assessment as they were too detailed and/or site specific. Generally there was a reasonable coverage of environmental data, but less extensive data on economic and social topics particularly tailored to the specific area covered by the TWP.

### Baseline maps

3.12 A series of baseline maps have been produced to support the SSA where relevant data was available electronically. These maps are being prepared using GIS by the Agency's Waterways department. Table 2 presents a list of the SSA maps. These are available to download.

**Table 2: SSA Maps**

<b>Map No.</b>	<b>SSA Map Title</b>
1	Overview
2	Administrative context
3	Landscape designations
4	Landscape character
5	Built conservation and heritage
6	Designated biodiversity sites
7	Strategic river corridor assessment
8	Fisheries
9	Environmental sensitivity
10	Water resource availability status
11	Flood risk management
12	Bank protection
13	Chemical water quality
14	Biological water quality
15	Population
16	Ethnicity
17	Indices of deprivation
18	Accessibility (road and rail)
19	Proximity to rail station
20	Visitor attractions
21	Clubs
22	Boat Traffic - powered
23	Boat Traffic - unpowered
24	Footpaths
25	Cycling
26	Permanent moorings

## 4. SCOPING POTENTIAL EFFECTS

### Introduction

4.1 The purpose of this section, and Appendix 4 which provides more detail, is to set out the results of an exercise undertaken to scope the key potential effects of the TWP. This focussed on three aspects that the TWP may influence and were agreed by the Steering Group:

- Increased boat movements.
- Provision of additional navigation facilities and infrastructure.
- Increase in other river corridor users.

4.2 Whilst closely interrelated, these aspects were considered to capture where the plan may have its most significant influence and in turn where it may have the greatest potential impact on sustainability issues.

4.3 To identify and start evaluating the potential effects of the plan on these three aspects the following tasks and activities were undertaken:

- Used the Sustainable Development Framework as a scoping checklist.
- Identified and reviewed relevant research and literature.
- Identified and acquired relevant baseline data held by the Agency.
- Consulted Agency officers and external experts to seek their views and identify sources of data, literature etc.
- Reviewed the issues raised at internal and external workshops.
- Discussed the importance of considering certain effects in the assessment and scoped the issues around each of the potential effects.

4.4 This produced a list of emerging issues and options to be considered during the development of the TWP (see below and Appendix 4). This should be read along the baseline characterisation which was collated in parallel with scoping the potential effects as an iterative process (see section 3 and Appendix 3).

### Increased boat movements

4.5 One of the core objectives of the TWP is to increase the use of the river. The potential sustainability effects of increasing boat movements on the Thames waterway were researched and information collated. This considered the direct effects of boat movements rather than the potential indirect effects resulting from an increased need for navigation facilities and infrastructure (e.g. moorings, lay-bys, marinas, fuel/water points and slipways). These are considered in the subsequent

section on infrastructure and facilities. This work was partly initiated in response to the concerns raised by Rferac, which set up a sub-group to consider this issue.

4.6 A number of different sources of information were identified and these are discussed in more detail in Appendix 4. From the research it was clearly that there is a degree of uncertainty, contradictory evidence and differences of opinion associated with many of the issues around the impact of boat movements. It was concluded therefore that inevitably the assessment will have to adopt a subjective and expert judgement based approach in many cases where clear evidence and quantifiable data is not available. This is considered a justifiable approach as long it is clear and transparent on what basis conclusions have been made. It was hoped that by initially adopting an approach of raising potential issues and options for the plan to consider, informed debate could follow and help guide the assessment and shape the draft Plan.

4.7 The key issues raised by increasing the number of boat movements that were identified are listed below. These are considered in more detail in Appendix 4. The issues include both potentially positive and negative effects. Note that where there are potentially negative effects, it may be possible to avoid or mitigate them by taking appropriate measures which are also considered in Appendix 4. The aim of the SSA is to try to ensure the TWP proposals avoid or at least adequately mitigates the potentially negative effects and maximises the potentially positive. This equally applies to the effects of additional navigation facilities and infrastructure and increase in other river corridor users considered below.

**Table 3: key issues raised by increasing the number of boat movements**

<b>Effects on the local and river related economy</b>
<ul style="list-style-type: none"> <li>• The effects on visitor spending and the value of the River Thames as a tourism asset.</li> <li>• The effects on river related businesses and employment.</li> <li>• The effects on income from navigation licences and mooring fees.</li> </ul>
<b>Effects on the river bed and banks and low flows</b>
<ul style="list-style-type: none"> <li>• The effects on the level of boat wash and bank erosion.</li> <li>• The effects on direct physical stresses of boats on the river beds, banks and marginal and aquatic vegetation.</li> <li>• The effects of boat traffic on the number of locks made and implications on low flows.</li> <li>• The effects on the need and frequency of dredging.</li> </ul>
<b>Effects on water quality (physical and chemical)</b>
<ul style="list-style-type: none"> <li>• The effects of boat movements on turbidity and the knock-on effects on the river</li> </ul>

<p>ecology.</p> <ul style="list-style-type: none"> <li>• The effects of exhaust emissions from boat engine.</li> <li>• The effects of chemical pollution and sewage discharges from boats.</li> </ul>
<p><b>Effects on amenity value and biodiversity</b></p>
<ul style="list-style-type: none"> <li>• The effects of disturbance of aquatic and terrestrial wildlife.</li> <li>• The effects on potentially competing needs of different river users and balancing their needs.</li> <li>• The effects on the visual experience, character and aesthetic / heritage value of the river.</li> </ul>
<p><b>Effect on local transport network</b></p>
<ul style="list-style-type: none"> <li>• The effects of additional river freight traffic and passenger services.</li> <li>• The effects on the generation of road traffic.</li> </ul>
<p><b>Effects of new waterway connections</b></p>
<ul style="list-style-type: none"> <li>• The effects of new canal connections to the Thames on regeneration, biodiversity, water resources, recreation, water quality etc.</li> </ul>
<p><b>Effects on social inclusion and health and safety</b></p>
<ul style="list-style-type: none"> <li>• The effects on social inclusion and well-being of communities and local residents.</li> <li>• The effects on health and safety.</li> </ul>

### **Provision of additional navigation facilities and infrastructure**

4.8 One of the core objectives of the TWP is to 'improve and maintain the river infrastructure, facilities and services for all users'. Part of this could be improving boating facilities, such as:

- Lock site facilities - access, toilets, water points, fuel points, sewage pump-outs, electric charging.
- Car parking.
- Moorings.
- Marinas.
- Slipways and launching points.
- Boatyards and chandlers.
- Signage.

- 4.9 Facilities for other users and visitors, such as the towpath, accommodation, catering, information, etc, are considered in the subsequent section on other river users.
- 4.10 The TWP is partly concerned with providing better and more regularly distributed facilities for boaters on the Thames waterway. The sustainability implications of this and the related evidence was researched, the findings of which are presented in Appendix 4. This also suggests options for further debate and consideration as part of developing the TWP. This used a similar approach to the scoping of increasing boat movements.
- 4.11 The issues raised by navigation facilities and infrastructure that were identified and are considered in more detail in Appendix 4 are listed in Table 4.

**Table 4: key issues raised by additional navigation facilities and infrastructure**

<b>Effects on local economy and employment</b>
<ul style="list-style-type: none"> <li>• The effects on income generation from facilities provided by the Agency, local authorities, land owners, local businesses etc.</li> <li>• The effects on local employment from the construction, maintenance and operation of facilities and infrastructure.</li> </ul>
<b>Effects on river flow and water quality</b>
<ul style="list-style-type: none"> <li>• The effects on land drainage and flood risk.</li> <li>• The effects on encroachment and the knock-on effects on river flows, erosion / deposition, navigation, flood risk, biodiversity etc.</li> <li>• The effects on water pollution incidents.</li> </ul>
<b>Effects on biodiversity, aesthetic and heritage value</b>
<ul style="list-style-type: none"> <li>• The effects on the terrestrial and riparian habitat.</li> <li>• The effects on disturbance of wildlife.</li> <li>• The effects on the visual experience, character and aesthetic / heritage value of the river.</li> </ul>
<b>Effects on local transport network</b>
<ul style="list-style-type: none"> <li>• The effects on transport and travel patterns, including on traffic generation and congestion.</li> </ul>
<b>Effects on social inclusion and health and safety</b>
<ul style="list-style-type: none"> <li>• The effects on the well-being of communities and local residents.</li> <li>• The effects on potentially competing needs of different river users and balancing their needs.</li> <li>• The effects on health and safety.</li> </ul>

<b>Effects on use of natural resources</b>
<ul style="list-style-type: none"> <li>• The effects on the generation and disposal of waste, including litter.</li> </ul>
<b>Effects on river banks</b>
<ul style="list-style-type: none"> <li>• The effects on bank stability and erosion.</li> </ul>

### **Increase in other river users (such as walkers, cyclists and anglers)**

- 4.12 One proposed core objective of the TWP is 'to increase use of the river and its corridor'. This part of the scoping exercise focussed on users of the wider river corridor (e.g. walkers, cyclists and anglers), rather than boaters or the provision of boating facilities and infrastructure as these were dealt with above. Specifically, this included the following users and their direct impact on the river corridor:
- Walkers: from locals walking their dogs to long distance walkers along the Thames Path.
  - Runners: from recreational joggers through to serious runners.
  - Cyclists: from family groups through to mountain bikers.
  - Other visitors: for example people driving/using public transport to go to a local riverside beauty spot or attraction.
  - Anglers.
  - Other users e.g. bird watchers.
- 4.13 In addition, the impact of improving facilities for these users was also covered e.g. increasing path width, surfacing, foot bridges, disabled access, angling platforms, signage, etc.
- 4.14 Appendix 4 sets out in more detail some of the sustainability issues and related evidence around increasing use of the wider river corridor by other users (as detailed above) and the provision of additional facilities for these users. It also suggests management options for further debate and consideration as part of developing the Thames Waterway Plan.
- 4.15 The issues around other users that were identified and are considered in more detail in Appendix 4 are listed in Table 5.

**Table 5: key issues raised by addition other river users**

<b>Effects on local economy and employment</b>
<ul style="list-style-type: none"> <li>• The effects on income generation from users spending locally.</li> <li>• The effects on local employment.</li> </ul>
<b>Effects on biodiversity, aesthetic and heritage value</b>
<ul style="list-style-type: none"> <li>• The effects on the terrestrial and riparian habitat.</li> <li>• The effects on disturbance of wildlife.</li> <li>• The effects on the visual experience, character and aesthetic / heritage value of the river.</li> </ul>
<b>Effects on local transport network</b>
<ul style="list-style-type: none"> <li>• The effects on transport and travel patterns, including on traffic generation and congestion.</li> </ul>
<b>Effects on local communities and inclusion</b>
<ul style="list-style-type: none"> <li>• The effects on local communities and residents and the effects on ensuring inclusive access from all parts of society.</li> <li>• The effects on potentially competing needs of different river users and balancing their needs.</li> </ul>
<b>Effects on health and safety</b>
<ul style="list-style-type: none"> <li>• The effects on health and safety of users.</li> </ul>
<b>Effects on use of natural resources</b>
<ul style="list-style-type: none"> <li>• The effects on the generation and disposal of waste, including litter.</li> </ul>
<b>Effects on river banks</b>
<ul style="list-style-type: none"> <li>• The effects on bank stability and erosion.</li> </ul>

## 5. APPRAISAL OF DRAFT POLICIES AND WATERWAY STANDARDS

### Introduction

- 5.1 The appraisal of the draft TWP policies and Waterway Standards, and the draft plan more generally, followed the method set out in section 2 and was divided into a series of steps, namely:
- Compatibility of Sustainable Development Objectives and draft TWP Core Objectives.
  - Compatibility of Draft TWP Policies against one another.
  - Appraisal of draft Policies (including more detailed appraisal of key policies).
  - Appraisal of draft Waterway Standards.
- 5.2 The results of these steps are presented below and in the appendices which support this section and include the detailed commentaries and matrices (Appendices 5 and 6).
- 5.3 Note that the appraisal has been an iterative process over several months resulted in various recommendations and proposed changes to the text of the draft Plan and its policies and Waterways Standards. This has included proposals for rewording, additions and proposals for the inclusion of conditions and mitigation to be applied during implementation. Note that what is presented here, and in the supporting appendices, is the appraisal of the draft Plan that is being issued for consultation which incorporates many of the recommended changes from previous versions.

### Compatibility of Sustainable Development Objectives and TWP Core Objectives

- 5.4 The purpose of this stage is to ensure that the objectives of the draft TWP are in accordance with the sustainable development objectives. This will help refine the TWP objectives if necessary and to highlight where potential tensions or synergies may arise.
- 5.5 A summary of the results of assessing the compatibility of Sustainable Development objectives and TWP core objectives are presented in the matrix below (see Table 6) and a more detailed commentary provided in Appendix 5.

**Table 6: Compatibility of Sustainable Development and TWP Core Objectives**

Sustainable Development Objectives	TWP Core Objectives			
	1. To improve and promote access and information for all users (on water and land)	2. To improve and maintain the river infra structure and facilities and services for all users	3. To contribute to enhanced biodiversity, heritage, and landscape value in the waterway corridor	4. To increase use of the river and its corridor
1. To ensure that everyone has the opportunity to live in a decent, sustainably constructed and affordable home	0	0	?	0
2. To reduce the risk of flooding that would be detrimental to public well-being, the economy and the environment	0	x	✓	x
3. To improve the health and well-being of the population and reduce inequalities in health	✓	✓	✓	?
4. To reduce poverty and social exclusion and close the gap between the most disadvantaged communities and the rest along the Thames corridor	✓	✓	✓	✓
5. To raise educational achievement levels and develop opportunities for everyone to acquire the skills needed to find and remain in work	✓	✓	✓	✓
6. To reduce crime and the fear of crime	✓	✓	?	?
7. To create and sustain vibrant communities	0	0	0	✓
8. To improve accessibility to all services and facilities	✓	✓	0	✓
9. To encourage increased engagement in cultural activities across all sections of the community	✓	✓	✓	✓
10. To improve efficiency in land use including re-use previously developed land and existing buildings, and encourage urban renaissance	0	?	0	0
11. To reduce air pollution and ensure air quality continues to improve	0	0	✓	x
12. To address the causes of climate change through reducing emissions of greenhouse gases and reducing vulnerability to climate change	0	0	✓	x
13. To conserve and enhance biodiversity	0	x	✓	x
14a. To protect, and enhance the countryside and historic environment	✓	x	✓	x
14b. To make the countryside and historic environment accessible for enjoyment	✓	✓	x	✓
15. To reduce road traffic and congestion through reducing the need to travel by car and improving travel choice	0	?	0	x
16. To reduce the global, social and environmental impact of consumption of resources by using sustainably produced and local products	✓	?	0	?
17. To reduce waste generation and disposal, and achieve sustainable management of waste	0	?	0	x
18. To maintain and improve the water quality of rivers and to achieve sustainable water resources management	0	?	✓	x
19. To increase energy efficiency and the proportion of energy generated from renewable sources	0	?	0	0
20. To ensure high and stable levels of employment so everyone can benefit from the economic growth of the Region	0	✓	0	✓
21. To sustain economic growth and competitiveness	0	✓	x	✓
22. To stimulate economic revival in areas requiring regeneration	✓	✓	?	✓
23. To develop a dynamic, diverse and knowledge-based economy that excels in innovation with higher value, lower impact activities	0	0	0	✓
24. To encourage the development of a buoyant, sustainable tourism sector	✓	✓	?	✓
23. To develop and maintain a skilled workforce to support long-term competitiveness	0	?	0	✓

**Key:** ✓ = compatibility between sustainable development objective and TWP objective  
 x = incompatibility between sustainable development objective and TWP objective  
 0 = no relation between sustainable development objective and TWP objective  
 ? = uncertain relationship between sustainable development objective and TWP objective

5.6 Table 6 shows that most of the TWP and sustainable development objectives are compatible, although some may not be compatible. However, as indicated by the commentary in Appendix 5, it may be possible to ensure that most of the objectives are compatible even those marked as 'incompatible' here, or at least neutral, if they

are implemented in certain ways and with certain mitigation / conditions applied to them.

### **Compatibility of Draft TWP Policies**

- 5.7 The purpose of this stage is to ensure that the draft TWP policies are compatible with one another and to highlight where potential tensions may exist. It is principally for those responsible for the drafting of the policies to consider and address to ensure policies within the plan are compatible.
- 5.8 A summary of the results of assessing the potential compatibility of the draft TWP policies with one another are presented in the matrix below (see Table 7) and a more detailed commentary provided in Appendix 5.
- 5.9 This shows that there are relatively few policies that are incompatible with one another and where they have been scored as such, in most cases conditions can be applied to one or other of the policies to ensure that the potential incompatibilities are avoided. The matrix shows that many of the policies are compatible with all the other policies, with only a few exceptions which are incompatible (or at least uncertain) with several other policies. The main exceptions include: the biodiversity and landscape policies which are potentially incompatible with several of the boating, access and tourism policies as well as the services and facilities policy; and some of the policies promoting different types of users, e.g. boaters, cyclists and anglers, where there are potential conflicts between them. Other potential areas of uncertainty include the sustainability of the river accommodating more boats under increasingly frequent low flow conditions predicted as a result of climate change.

**Table 7: Compatibility of draft TWP Polices (and principles) with one another**

✓ Compatible x Incompatible ? Uncertain	Stakeholder Engagement	Sustainability	Funding	Health	Economic	1. Development	2. Social Inclusion	3. Tourism	4. Tourism	5. Tourism	6. Sport and Recreation	7. Sport and Recreation	8. Sport and Recreation	9. Access	10. Access	11. Access	12. Access	13. Access	14. Access	15. Boating	16. Angling	17. Boating	18. Permanent mooring	19. Visitor mooring	20. Residential boats	21. Hire boat	22. Passenger boats	23. Freight	24. Landscape	25. Climate Change	26. Biodiversity & Fisheries	27. Heritage	28. Education	29. Visitor Health & Safety	30. Service & Facilities	31. Monitoring & Review				
Stakeholder Engagement																																								
Sustainability	✓																																							
Funding	✓	✓																																						
Health	✓	✓	✓																																					
Economic	✓	✓	✓	?																																				
1. Development	✓	✓	✓	✓	✓																																			
2. Social Inclusion	✓	✓	✓	✓	✓	✓																																		
3. Tourism	✓	✓	✓	✓	✓	✓	✓																																	
4. Tourism	✓	✓	✓	✓	✓	✓	✓	✓																																
5. Tourism	✓	✓	✓	✓	✓	✓	✓	✓	✓																															
6. Sport and Recreation	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓																														
7. Sport and Recreation	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓																													
8. Sport and Recreation	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓																												
9. Access	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓																											
10. Access	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓																										
11. Access	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	?																								
12. Access	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓																							
13. Access	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓																						
14. Access	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	?																					
15. Boating	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	?	✓	✓	✓	✓	✓	✓	✓	?	✓																				
16. Angling	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	?	✓	✓	✓	✓	✓	✓	?	x	?																				
17. Boating	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	?	✓	✓	✓	✓	✓	✓	✓	✓	✓	x																			
18. Permanent mooring	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	?	✓																			
19. Visitor mooring	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	?	✓	✓																		
20. Residential boats	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	?	✓	✓	✓																	
21. Hire boat	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	?	✓	✓	✓	✓																
22. Passenger boat	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	?	✓	✓	✓	✓	✓															
23. Freight	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	?	✓	✓	✓	✓	✓	✓	✓													
24. Landscape	✓	✓	✓	x	x	✓	?	?	?	✓	✓	✓	✓	✓	x	✓	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?			
25. Climate Change	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?		
26. Biodiversity & Fisheries	✓	✓	✓	?	x	✓	?	?	?	?	?	?	?	?	x	?	?	?	?	?	x	x	x	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?		
27. Heritage	✓	✓	✓	✓	?	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	?	?	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		
28. Education	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
29. Visitor health & safety	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
30. Service & Facilities	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	x	?	x	?	✓	✓	✓	✓	✓		
31. Monitoring & Review	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

## Appraisal of Draft TWP Policies and Waterway Standards

### Appraisal of draft policies and actions

- 5.10 As discussed in section 2, each of the draft policies were assessed against the sustainable development objectives, using the appraisal criteria as prompts, and informed by the baseline data and scoping of potential effects.
- 5.11 The appraisal was an iterative process over several months resulted in various recommendations and proposed changes to the text of the draft Plan and its policies and waterways standards. This included proposals for rewording, additions and proposals for the inclusion of conditions and mitigation to be applied during implementation. This culminated in the full SSA report being published alongside the draft TWP which incorporates many of the recommended changes from previous iterations.
- 5.12 For the appraisal of the 31 policies included in the draft TWP, each was assessed against the sustainable development objectives using the appraisal criteria as prompts. This was informed by the baseline data and scoping of potential effects. A matrix was generated for each policy to summarise the results, with a score recorded on a five point scale (major and minor positive, negative and neutral effects) for each objective and a commentary against those where an expansion on the score was needed. See Appendix 6. A summary of findings and recommendations was included at the end of each matrix. At the same time, the possible actions were also considered and comments included in the recommendations.
- 5.13 In assigning scores to the matrix, account of the following factors was taken where possible:
- Nature of the Effect:
    - Intensity and magnitude.
    - Likelihood of occurrence.
    - Scale, extent, duration, frequency.
    - Permanence / reversibility.
    - Cumulative.
  - Nature of Receptors:
    - Sensitivity of receptors.
    - Value of receptors.
    - Near threshold limits / carrying capacity.
  - Context:
    - Uncertainties and likelihood of unanticipated effects.
    - Effectiveness of mitigation.

- Existing standards / requirements.

5.14 From these factors a professional judgement was made as to whether the potential effects were likely to be positive or negative and whether they are likely to be of major or minor significance. Examples of how the scores were derived for certain policies and objectives is provided below:

**Policy 14: Access** - We will encourage cycling alongside the river where it is appropriate, was scored a 'Major Positive' (✓✓) on the objective to improve the health and well-being of the population, because:

- Cycling is directly beneficial for people's health and well-being and these benefits are likely to be permanent, long-lasting and affect a significant number of people. Indeed, the British Medical Association (BMA) reported that the health advantages of cycling outweighed the risks by a ratio of 20 to 1, and regular cyclists typically enjoy the fitness levels (heart rate, blood pressure) of non-cyclists ten years their junior. The policy would also affect a significant area along the route of the River Thames.

**Policy 23: Freight** - We will encourage commercial transport of freight on the river, was scored as neutral (0) on the objective to ensure that everyone has the opportunity to live in a decent, sustainably constructed and affordable home; because:

- Commercial transport on the river is unlikely to have any direct, indirect or cumulative impact on the provision of homes.

**Policy 10: Access** - We will encourage access by public transport, was both scored positive and negative (✓x) against the objective of reducing crime and fear of crime as it was felt that the policy would be both positive in terms of more people, meaning more surveillance (e.g. late at night), but negative in terms of providing more opportunities for crime. The intensity and magnitude of both these effects was estimated to be of minor significant.

### Appraisal of draft Waterway Standards and gap analysis

5.15 To simplify the assessment process and make an explicit link between the policies and the Waterway Standards, which can be viewed as detailed expressions of how a particular policy could be implemented (i.e. one of the options), they were allocated to the most relevant policy (see Table 8) and a commentary provided within the relevant matrix (see Appendix 6). Note, for reference that the draft Waterway Standards are included in section 18 of the draft TWP.

5.16 Those preparing the TWP undertook a gap analysis for those facilities with standards expressed as distances / cruising times (see draft TWP section 18.2 and TWP Map 21), this included:

- Camp sites.
- Bulk water.
- Drinking water.
- Sewage pump out.
- Chemical (Elsan) disposal.
- Toilets.

- Showers.
- Dry refuse disposal and recycling collection points.
- Electric hook-up point.
- 24hr / overnight visitor moorings.
- Slipways.
- Car parks.

**Table 8: Organisation of Waterway Standards under draft policies**

Waterway Standards		Policy
Theme	Standard	
River corridor	Towpath (surface/width/barriers)	Policy 13: Access (and Policy14: Access for cycle paths)
	Litter and dog faeces	Policy 13: Access
	Structural aesthetics	Policy 24: Landscape
	Graffiti	Policy 4: Tourism
	Safety signage	Policy: Angling
	Toilets*	Policy 13: Access
	Drinking water*	
	Car parking provision	Policy 11: Access
Campsites	Policy 13: Access	
Lock sites	Office	Policy 30: Service & Facilities
	Laybys and landings	
	Toilets*	
	Drinking water*	
	Access	
	Information	
Seating etc		
Navigation	Dredging	
	Weirs	
	Landing points	
	Bulk water	
	Sewage pump out	
	Chemical (Elsan) disposal	
	Showers	
	Dry refuse disposal and recycling collection points	
	Electric hook-up points	
	24hr / overnight visitor moorings	Policy 19: Visitor Moorings
	Safe havens	
	Slipways	Policy 15: Boating
	Boatyards	Policy 30: Service & Facilities
Fuel		
Agency Operation Standards	River management	Policy 17: Boating
	Locks	Policy 30: Service & Facilities
	Signs at Agency sites	
	Channel direction & warning signs	
	Major works stoppages	Policy 17: Boating
	Routine planned stoppages	
	Emergency stoppages	
	Stoppage information	
	Event authorisation and management	Policy 30: Service & Facilities
	Customer response (at main offices)	
Signs at Agency sites	Policy 5: Tourism	

- 5.17 The assessment of the waterway standards was informed by the findings of this gap analysis. This highlighted where meeting the proposed standard would require additional facilities (see below and Appendix 6). Note that the Aspirations maps prepared as part of developing the TWP have not been subject to appraisal as yet.

### **Detailed appraisal of draft policies and waterway standards**

- 5.18 As described in section 2, those policies that raised the greatest sustainability concerns were subject to more detailed appraisal and more extensive recommendations were provided to those preparing the draft TWP. This included proposed wording changes, additional actions and details of guidance and conditions to include in the supporting text to guide implementation. These policies included:
- Policy 11: Access – we will provide facilities for those needing access by car.
  - Policy 15: Boating – we will make it easier to take up low cost boating.
  - Policy 17: Boating – we will encourage more boats on the river.
  - Policy 18 and 19 Permanent and Visitor Mooring –we will encourage the creation of new permanent moorings and we will provide visitor moorings to meet boaters' needs.
  - Policy 30: Services and Facilities – we will provide services and facilities that meet the reasonable needs of all our users.
- 5.19 For these policies, selected objectives were considered in more detail using the individual criteria. Rather than presenting separate matrices, this more detailed analysis has been incorporated into the matrices in Appendix 6 with the comments against criteria collated under the relevant objective. Ideally where a policy had an associated Waterway Standard(s) that raised key sustainability issues, options based on varying the standard would have been tested. However, this has not been possible at this stage although the commentaries indicate where the current standard may need to be reconsidered and more work testing alternatives undertaken.

### **Summary of appraisal findings**

- 5.20 The appraisal has shown that many of the draft policies proposed have the potential for major benefits on sustainability. However, there are some policies which do have the potential to cause significant negative effects, as well as positive effects. This is inevitable with a plan such as the TWP and the challenge is to find an acceptable balance between the potentially conflicting sustainability objectives.
- 5.21 The appraisal has focused on these potential conflicts and has sought to ensure that either an alternative is considered or measures are specified in the draft Plan to ideally avoid the negative effects and maximise the positive, or where this is not possible, to at least ensure appropriate mitigation to minimise negative impact is required. The implementation of these measures will therefore be critical to the final performance of the plan in terms of sustainability.

5.22 By way of a summary of the detail provided in Appendix 6, the key sustainability strengths and weaknesses of the principles and policies and their associated Waterway Standards as included in the draft Plan is provided in Table 9 below with all the scores for the principles and policies against the sustainability objectives presented in Table 10 at the end of this report.

**Table 9: Summary of sustainability strengths and weaknesses of draft policies and principles**

<b>Draft TWP Policies and Principles</b>	<b>Potential key sustainability strengths</b>	<b>Potential key sustainability weaknesses</b>
<b>Principles</b>		
<b>Stakeholder Engagement</b>	Fully involving and engaging the many stakeholders with an interest in the Thames is likely to improve the robustness of the plan, increase ownership and aid implementation of the plan. In addition, there may be new partnerships that develop that spawn new activities and coordinated management. To assist implementation, this principle should be supported by a clear communication plan.	To adopt a truly inclusive approach will involve commitment, time and resources. Effort will also need to be taken to resolve and manage any potentially conflicting views. If expectations are raised, but it is subsequently not possible to deliver for whatever reason, there is a danger of alienating key stakeholders.
<b>Sustainability</b>	Not surprisingly as this principle is about delivering sustainable development, it performs well against the sustainability objectives although clearly the effect of the plan as a whole will depend on the detail and how it is implemented.	No significant sustainability weaknesses.
<b>Funding</b>	Securing long term funding to maintain infrastructure and facilities should have a positive effect on visitors' enjoyment and tourism.	Clearly, funding has to compete with other priorities and trade-offs may have to be made. In developing any new infrastructure and facilities, effects on the environment etc need to be considered and ultimately the performance of this principle will depend on the detail and how it is implemented.
<b>Health</b>	Using the river's assets to promote health and fitness has an important role to support sustainability and performs well against many of the objectives.	Care is needed to ensure that possible negative effects that could result from increased use of the river and its environs for walking, cycling and boating for example. There are more detailed policies on the types of activities to be encouraged e.g. walking, cycling
<b>Economic</b>	Developing the economy of the river will benefit river related businesses, services and communities, including providing the potential for rural regeneration and employment. However, in order for this benefit to be realised, it will need to reach all groups of society and areas of relative deprivation.	Care needs to be taken that this principle is implemented 'sustainably' and negative impacts on biodiversity, water resources, traffic etc. are avoided as far as possible.
<b>Policies</b>		
<b>1. Development</b>	Appropriate development will provide opportunities to enhance the enjoyment of visitors by providing services and facilities and help promote the river economy and employment. Development can also provide opportunities to enhance the environment.	Care will need to be taken to ensure development is appropriate in terms of siting and design and precautions are taken to avoid significant negative impacts on for example, flood risk, biodiversity, landscape, traffic generation etc. Development guidelines are proposed to provide further details of the conditions under which development can take place.
<b>2. Social Inclusion</b>	A laudable policy but will need a clear mechanism and commitment to ensure it is	No significant weaknesses, although major commitment will be required to deliver benefits

Draft TWP Policies and Principles	Potential key sustainability strengths	Potential key sustainability weaknesses
	delivered. Potential benefits for education, social inclusion, community vibrancy and accessibility to the countryside.	to under-represented groups etc.
<b>3. Tourism</b>	Will provide education opportunities, create a positive image, increase access to the countryside for enjoyment and boost tourism and river related businesses.	As the focus of the policy is on marketing is does not have significant direct weaknesses – the implications which could be increased visitors are considered in detail under other policies.
<b>4. Tourism</b>	Will improve services and facilities for visitors and enhance their experience and enjoyment of the countryside, provide education opportunities and boost tourism and river related businesses.	If this policy involves provision of additional facilities, these could have a potential negative effect on flood risk, biodiversity, landscape etc unless appropriately designed and mitigation measures implemented.
<b>5. Tourism</b>	This policy generally performs positively against the sustainability objectives, including education provision, improving access to services, facilities, attractions etc and enjoyment of the countryside.	There will be a need to coordinate signage and information between a variety of organisations to ensure that information provision if planned and does not detract from the visual experience.
<b>6. Sport and Recreation</b>	Encouraging participation has many sustainability benefits, including on health, enjoyment of the countryside and the local economy.	Potential increase in conflict between users and disturbance to wildlife in sensitive reaches that will need to be carefully managed.
<b>7. Sport and Recreation</b>	Greater participation in sport and recreation should have health benefits, increase enjoyment of the countryside and develop local communities. By seeking to include all parts of society there could be greater and more inclusive participation. There could also be economic benefits to river related businesses and local service providers.	Potential increase in conflict between users and disturbance to wildlife in sensitive reaches that will need to be carefully managed.
<b>8. Sport and Recreation</b>	Open space is a valuable resource and of value in terms of benefits for health and well-being and for sport, recreation, visual amenity etc. The river and its environs play an important part in providing open space and linking areas together.	No significant sustainability weaknesses.
<b>9. Access</b>	This policy is positive in terms of sustainability as it promotes the river to local people who can walk or cycle to it. It will contribute to improving health and well-being and could connect some of the more disadvantaged communities to the river contributing to inclusion. If additional bridges as provided, these would need to be sited and designed appropriately and in accordance with guidance.	Potential conflict between users will need to be managed and any new routes sensitively located and designed.
<b>10. Access</b>	Encouraging access by public transport is positive against several of the sustainability objectives. It should reduce traffic and air pollution, make the countryside more accessible and contribute to reducing social exclusion.	Encouraging access by public transport has few weaknesses.
<b>11. Access</b>	Sustainability benefits in terms of accessibility to the river and its services and facilities, which could have economic benefits to river related businesses and local service providers. Beneficial to users with disabilities that require access to the river by car.	Potential negative effects on traffic, emissions to air, flood risk, biodiversity and landscape. Clearly the location of any new / extended / refurbished slipways or car parks would need to be done in a way and/or location that avoids significant environmental impacts.
<b>12. Access</b>	Many sustainability benefits, including improved accessibility and social inclusion.	New facilities will need to be located and design to avoid adverse effects on the

Draft TWP Policies and Principles	Potential key sustainability strengths	Potential key sustainability weaknesses
		biodiversity and landscape.
<b>13. Access</b>	Walking has positive benefits for health and well-being and enjoyment of the countryside. Also potential benefits for riverside businesses and education.	Potential conflict between users with increased use will need to be managed, along with impacts on litter, biodiversity and flood risk. It may be quite difficult to meet the standard for campsites in certain reaches where there are currently gaps because of planning and/or environmental constraints.
<b>14. Access</b>	Cycling can make a positive contribution to health and well-being, socially inclusive and is an environmentally friendly way of getting around. Any increased activity along the riverside is likely to promote the tourism industry and river related businesses.	It will be important to define the circumstances under which it may or may not be appropriate to encourage cycling taking into account the environment, other users etc to avoid negative effects on biodiversity, landscape etc. and conflict with other users.
<b>15. Boating</b>	The potential impact of smaller trailable boats and non-powered boating is likely to be less than that of larger powered boats. Could contribute to improving the health and well-being by increasing the numbers involved in canoeing, rowing etc and enable more inclusive participation as a lower cost form of boating. Positive effects on the tourism industry and river related businesses.	Careful consideration will need to be given to how and where 'low cost boating' is promoted and any additional slipways and car parks – in terms on impact on other users, flood risk, biodiversity, water quality, landscape etc.
<b>16. Angling</b>	Angling contributes to the health and well and has additional sustainability benefits compared with many other activities on the river because of the diversity of participation (social groups, ages, people with disability etc) and relatively low cost.	Angling should be encouraged where appropriate in terms of the access, bank habitat, potential conflict with other users, as well as the quality of the swim.
<b>17. Boating</b>	More boats could provide benefits to riverside communities, in terms of local employment, use of shops, pubs etc, as well as enjoyment of the countryside and wellbeing, opportunity for access to the river, enhance the aesthetic character of the river, encourage the development of the tourism sector and river related businesses and generate income to maintain the river..	Additional boats could have a detrimental affect on biodiversity, the rivers' banks and pose a pollution risk. Also more visitors are likely to visit by car. However, there are many measures that can be implemented to promote additional boats in the most sustainable way and avoid some of the negative effects.
<b>18. Permanent mooring</b>	The provision of new moorings would provide the opportunity for more boats to be based on the river and therefore more people to enjoy it. New marinas may also improve access to the facilities etc and benefit river related businesses. There may also be opportunities for environmental enhancements.	If moorings are located on-line, they could have a detrimental effects including on flood risk, biodiversity and landscape. However, appropriately sited off-channel moorings in basins within reaches with physical capacity can avoid these potential impacts.
<b>19. Visitor mooring</b>	The provision of new moorings could benefit boaters by providing additional places to moor whilst boating, allowing them improved access to the facilities, places of interest, etc. This will also benefit river related businesses.	Similar weaknesses to permanent moorings, but as they are likely to be on-line potential adverse biodiversity more likely. The impacts on the river margin and bankside habitats may be reduced if moorings are located off-shore and lengths of natural bank avoided. Backwaters are often of high conservation value and should also be avoided for new moorings.
<b>20. Residential boats</b>	Residential boats add to the visual experience and character of the river. Benefits of potentially providing for social diversity and low cost accommodation etc which could be beneficial in terms of sustainability.	Potential amenity, visual, nature conservation, flood risk, pollution issues etc associated with residential moorings that need to be considered, as well as planning / licensing issues.
<b>21. Hire boat</b>	Could help to encourage the development of	May have an adverse impact on biodiversity if

Draft TWP Policies and Principles	Potential key sustainability strengths	Potential key sustainability weaknesses
	the tourism sector and river related businesses. Enhance well-being and could facilitate improved access to the countryside and historic environment by allowing those who do not own a boat to hire one.	there was a significantly increase in hire boats, along with waste generation and car journeys.
<b>22. Passenger boat</b>	Could help to encourage the development of the tourism sector and river related businesses. Enhance well-being and could facilitate improved access to the countryside and historic environment for those who not own a boat. Benefits for more sustainable transport.	May have an adverse impact on biodiversity if there was a significantly increase in hire boats and potential disturbance to other users..
<b>23. Freight</b>	Moving more freight by water than by road could reduce emissions of air pollutants and traffic congestion.	If there was a significantly increase in freight traffic, consideration will need to be given to managing potential conflicts with other users due to wash etc (especially unpowered boats) and avoiding environmental impacts such as damage to banks.
<b>24. Landscape</b>	Benefits on biodiversity, landscape, enjoyment of countryside and encouraging tourism activity. Creating a high quality environment also has the benefit of encouraging businesses to invest in an area.	Protection of the landscape may restrict certain forms of economic and facility development in certain locations.
<b>25. Climate Change</b>	Climate change has the potential to have significant implications for the future management of the river, particularly as result of potentially lower summer flows and higher winter flows and therefore planning for the future is important.	If this policy is not implemented, there could be implications on the security future navigation, water quality etc.
<b>26. Biodiversity &amp; Fisheries</b>	Benefits for biodiversity and visual amenity and to promoting tourism through an attractive environment.	Encouraging biodiversity and fisheries has few weaknesses.
<b>27. Heritage</b>	Benefits for heritage and visual amenity, as well as education. Maintaining and enhancing these assets is likely to contribute toward the tourism sector.	No significant sustainability weaknesses.
<b>28. Education</b>	Benefits on raising educational achievement and enjoyment of the countryside.	No significant sustainability weaknesses.
<b>29. Visitor health &amp; safety</b>	Benefits for health, but carrying out risk assessments and gathering information in themselves are unlikely to have significant impacts.	Few sustainability weaknesses, although if actions are taken as a result of assessments these would need to reflect other policies and actions in the draft plan (e.g. relating to landscape, heritage, access and biodiversity) and undertaken in a sensitive way.
<b>30. Service &amp; Facilities</b>	The services and facilities will help make the river and its environs more accessible and enjoyable for visitors and benefit river related businesses and contribute towards a more buoyant tourism sector.	The provision of facilities in and alongside the river may increase the risk of flooding and adverse effect biodiversity and the landscape in sensitive locations. The preparation and implementation of design guidelines for new facilities may help avoid or reduce negative impacts.
<b>31. Monitoring &amp; Review</b>	Monitoring the impacts arising from the TWP per se is unlikely to have significant impacts in itself. However, if actions are taken as a result of monitoring these may be beneficial.	No significant sustainability weaknesses.

- 5.23 The sustainability objectives that the appraisal has identified as likely to benefit most significantly, include:
- Improved health and well-being.
  - Improved accessibility to services and facilities.
  - Making the countryside and historic environment accessible for enjoyment.
  - Development of a buoyant sustainable tourism sector.
  - Stimulate economic revival in areas requiring regeneration.
- 5.24 The sustainability objectives that the appraisal has identified as potentially being at risk from negative effects are listed below. However, by following the appropriate implementation conditions and measures included in the draft Plan and the SSA report in many cases these could be avoided or reduced and in some case turned into positive effects.
- Reducing the risk of flooding.
  - Conserving and enhancing biodiversity.
  - Protecting and enhancing the countryside and historic environment.
  - Reducing road traffic and congestion.
  - Reducing waste generation.
  - Maintaining and improving water quality and achieve sustainable water resource management.
- 5.25 The appraisal of the proposed Waterway Standards shows that it is likely that many can be delivered without significant negative effects if certain measures and conditions are applied. However, to fill some of the areas not currently reaching the standard, as identified by the gaps analysis, does raise some sustainability concerns in some cases. These are highlighted in the appraisal matrices (see Appendix 6) and warrant further consideration of alternatives as the final Plan is developed. These concerns may be addressed by detailed implementation guidance in these cases to provide the conditions under which any development will need to take place.

### **Cumulative effects**

- 5.26 To date only limited consideration has been given as part of the SSA to the potential cumulative effect of the draft TWP. As the policies and standards are firmed up during the drafting process, it is proposed that further consideration is given to cumulative effects. This should start by identifying the key potential cumulative effects (inevitably focus is usually on the negative effects which are important as these need to be avoided where possible or mitigated if not, but consideration could also be given to positive effects). Potential cumulative issues could include effects on biodiversity (e.g. habitat fragmentation and disturbance), landscape character / tranquillity, river beds / banks, flows and flood risk, quality of recreation experience and river related businesses.
- 5.27 Cumulative effects could arise in specific locations (e.g. lock sites) which there are the focus of several different types of proposals and on specific receptors, such as

fauna and flora, which may be subjected to several relatively minor effects in different locations, but together the combined implications are significant.

- 5.28 However, due to the uncertainty at this stage of the drafting of the TWP regarding how and by whom different policies will be implemented and the actions that will be progressed, it is proposed that additional work on cumulative effects assessment is carried out as the final Plan is developed.
- 5.29 In the longer term, it is suggested that a mechanism is developed to monitor key changes in the social, economic and environmental characteristics of the Thames corridor. This should be linked to the monitoring arrangements (see section 6), including use of indicators and targets. It is suggested that a “balance sheet” is used to monitor certain effects (including potential cumulative effects) as development takes place (e.g. record length of new bank protection or mooring created, what assets such as habitat were gained/lost etc) to be used as a management tool to influence future planning and management of the river.

## 6. MONITORING AND NEXT STEPS

### Monitoring significant sustainability effects

- 6.1 During the course of the SSA and development of the TWP, there has been much discussion regarding carrying capacity. The management of a recreation asset such as the River Thames requires judgement regarding the acceptable number of visitors and users and their impact on the resource. The need to balance the quality of the recreational experience, the conservation of the natural or historic resource, the desire to provide public access and facilities for as many people as possible and the need to maintain or increase income, means that decisions about visitor numbers and their management will remain a central issue for the Agency and others involved in managing the Thames.
- 6.2 However, whilst it is clear that the capacity is not finite we do not fully understand the cause and effect of the complex processes that operate across the different dimensions of sustainability relevant to the Thames. As a result, and drawing on one of the fundamental aspects of sustainable development, it is important to take a precautionary approach whilst we continue to seek to understand these processes and plan using a combination of historic data, current and future trends and the advice of specialists. This needs to be within a continuing process of review as new information and understanding is available and amendments to policy made accordingly.
- 6.3 A firm conclusion of the SSA is therefore that we are not in a position to define an explicit carrying capacity, for example in terms of boats numbers, for the Thames and indeed it may not even be desirable or appropriate to do so. Rather an approach of understanding the current state of the Thames and its environs (environmentally, socially and economically) is recommended, followed by monitoring progress towards agreed goals or targets and planning and managing accordingly in response. Developing the TWP and undertaking the SSA has allowed progress to be made on understanding the current state of the Thames and to identify some of the key gaps. The SSA proposes a series of indicators and targets to be used to inform future revisions of the plan.
- 6.4 More work is needed on developing the SSAs monitoring proposals, including the indicators and targets, and feed back from consultees via the draft TWP will be used to inform this. Any monitoring will need to be linked to the significant sustainability effects resulting from the plan and developed in coordination with the TWP monitoring proposals which will consider performance against the objectives of the plan. The monitoring proposals also need to be integrated with the proposals for considering cumulative effects, including the use of a balance sheet (see section 5).
- 6.5 In order to measure progress towards agreed targets, indicators need to be identified and regularly monitored (although it is not being suggested that completely new

monitoring will be required, as existing sources can be used extensively and just supplemented by gathering specific data). As a starting point for discussion, potential targets and indicators under each of the sustainable development objectives are identified in Appendix 1. It is recommended that the indicators and targets for the TWP and SSA monitoring are refined following consultation on the draft Plan and more detailed monitoring proposals published at the same time as the final Plan.

### **Next steps**

6.6 The next steps in the SSA process following consultation on the draft Pan will include:

- Appraising any significant changes to the TWP resulting from the consultation responses and during the development of the final Plan.
- Developing and applying appraisal to the aspirations as part of developing them into firm proposals for the final Plan.
- Carrying out an assessment of the cumulative effects of the proposals and actions included in the final Plan and developing arrangements for recording any ongoing cumulative effects as the final Plan is implemented.
- Recording in a statement how the SSA has changed the plan and summarising the consultation responses relevant to the SSA.
- Agreeing the arrangements to monitor significant sustainability effects, including selecting indicators and targets.

