



River Cam Navigation Benefits Assessment

A Report to the Conservators of the River Cam

1 December 2011



Contents

	Executive Summary.....	1
1.0	Introduction.....	4
1.1	Study Aims.....	4
1.2	Study Methodology	4
1.3	Structure of Report	5
2.0	Background.....	6
2.1	Introduction	6
2.2	Conservators of the River Cam.....	6
2.3	Registration	7
2.4	Key Challenges.....	9
3.0	Analytical Framework.....	13
3.1	Introduction	13
3.2	Problem to be Addressed.....	13
3.3	Economic Rationale	13
3.4	Key Components of the Framework.....	14
3.5	Multi-Criteria Analysis	15
4.0	Benefits.....	16
4.1	Introduction	16
4.2	The Benefit Principle.....	16
4.3	Benefits in the Context of the River Cam.....	17
4.4	Usage and Benefits	17
4.5	Wider Research	20
4.6	Benefits from Upkeep and Expenditure	21
4.7	Proxy Evidence.....	22
4.8	Benefits by Stakeholder Group.....	24
5.0	Practicability	26
5.1	Introduction	26
5.2	Current Situation	26
5.3	Ability to Levy Charges	26
5.4	Enforcement	27

5.5	Practicability by Stakeholder Group.....	28
6.0	Acceptability	30
6.1	Introduction	30
6.2	Stakeholder Views.....	30
6.3	Ability to Pay.....	31
6.4	Acceptability by Stakeholder Group.....	31
7.0	Comparability	34
7.1	Introduction	34
7.2	Approaches.....	34
7.3	Charges	35
7.4	Comparability	38
8.0	Multi-Criteria Analysis	39
8.1	Introduction	39
8.2	The Benefit Principle.....	39
8.3	Practicability	40
8.4	Acceptability	40
8.5	Fairness	41
8.6	Assessment by Stakeholder Group.....	41
8.7	Funding Approaches	42
9.0	Implications for Charging	45
9.1	Introduction	45
9.2	Base Increase	45
9.3	Targeted Increases.....	46
9.4	Sensitivity Analysis.....	50
10.0	Conclusions and Recommendations.....	52
10.1	Introduction	52
10.2	Conclusions.....	52
10.3	Recommendations	52
	Annex One: Consultation Document	54
	Annex Two: Survey Findings	56

Executive Summary

Introduction

Ecorys was commissioned by the Conservators of the River Cam in June 2011 to undertake research with the following aims:

- To provide an evidence base for the Conservancy to set its licensing fees on a more equitable footing according to the value and benefits to users.
- To assess this value and benefit in the context of the cost of routine maintenance and the capital expenditure requirements of the Conservancy.
- Taking account the outcome of public consultation, make recommendations on licence charging strategies, including entering into agreements with other navigation authorities.

The study has taken a mixed-methods approach drawing on applied economic theory and involving a combination of desk research, consultation with key stakeholder representatives and a wider consultation exercise which generated over 730 responses.

Background

There are significant costs associated with the management and upkeep (both general maintenance and capital works) of the River Cam. These costs are borne by the Conservators with no contribution from general taxation, despite the public good characteristics of the river. Use of the river is on an upward trend. Owners of vessels make a direct contribution to these costs via the payment of boat registration fees or, where relevant, contribute indirectly via an Interchange Agreement with the Environment Agency.

Financial projections show that the Conservators face a funding deficit going forward if they are to meet all on-going expenses as well as essential repair and maintenance costs. In order to ensure financial sustainability, the Conservancy has estimated a need to generate additional income, before inflation, of at least £50,000 per year going forward.

The Benefit Principle

An analytical framework was developed based on the benefit principle (i.e. that the payment made should reflect the level of benefits received), structured around concepts of practicability, acceptability and comparability. The nature of the 'good' in question and the different benefit streams that flow from it mean that determining the benefits received is not a straightforward exercise. Evidence is used from a range of sources in order to illustrate the significant value which the river provides for both active and passive users. This evidence suggests that the value to users greatly exceeds the cost of registration.

Practicability

It is important to consider the practicability (i.e. feasibility and practicality) of charging. At present, many individuals make use of the river but do not make a direct contribution towards the costs of maintenance and repairs (although it is recognised that some do so indirectly through payments made to other bodies such as clubs). The ability of the Conservancy to levy charges on users is centred upon registration of vessels. Lock tolls and event charges could also potentially be introduced. These mechanisms are focused on eliciting payment

from owners or users of river craft. However, there is no obvious legal basis for the Conservancy to collect payment from towpath users or those who derive more passive benefits.

Acceptability

The perspective of different stakeholders of what constitutes a ‘fair’ system of charges is relevant to both the choice of approach and its application. Analysis shows that the majority of survey respondents support a system of fees which reflects the level of use, extent of obstruction to the navigation and differentiates between private and commercial operations. This is reflected in the comparatively limited expression of support for a uniform increase in fees, yet higher levels of support for a targeted approach. There was also relatively strong support for approaches which involve increased enforcement activity or exploration by the Conservators of other funding or cost saving opportunities.

Comparability

Another aspect of fairness is comparability to other navigations. However, differing contexts and circumstances make it difficult to generate a direct comparison of fees. The problem of increasing costs and a diminishing supply of public funding has also led other navigation authorities to review their income generation options in recent years. The Environment Agency has announced plans to increase boat registration charges by the Consumer Price Index (CPI) plus 2% in 2012, 2013 and 2014.

Recommendations

Multi-criteria analysis supports the introduction of base increase for all users plus a more targeted increase for residential boats, powered boats, punt operators and rowers to better reflect the benefits derived. Events should also be subject to a fee given the effect on navigation and potential disbenefits to other users, but this should be introduced for larger events in the first instance. The suggested proportions by user group are set out below.

Group	Proportion of Shortfall	Summary of Rationale
Punt Operators (and other commercial operators)	50%	The notion that those who generate income from use of the river should pay more provides a rationale for seeking a higher proportion of the shortfall from this group compared to non-commercial users.
Rowing Boats	15%	The fact that club boats are used by multiple beneficiaries provides a rationale for increasing fees for club-owned boats. Application of a multiplier is consistent with the situation for college owned punts.
Residential Boats Powered Boats	20%	Seeking a higher contribution from these groups helps to correct distortions created by the current Interchange Agreement. The fact that these boats spend a high amount of time on the navigation and are also considered to cause obstructions to other users provides a rationale for an increase in income from this group.
Event Fees	15%	A fee for events reflects the potential disbenefits to other users due to the effect on navigation.

There are a range of mechanisms which could be used to elicit these increases which will now need to be given detailed consideration by the Conservators. It is also recommended that increases are closely monitored to assess the effect of demand elasticity and fairness.

More generally, the recommendations emerging from our research can be summarised as follows:

- Fee increases should be staged and, mirroring the Environment Agency, announcements should be made on planned fees for the coming three year period to promote transparency and facilitate planning.
- Renegotiation of the Interchange Agreement should focus on amending the current method of calculation to ensure receipt of a more proportionate contribution from those boats which are resident in the Conservancy Area.
- Approach the local authorities to discuss the possibility of a funding contribution for the provision of a public resource, and partnership working more generally.
- Following the approach adopted by the Environment Agency, consider the potential for a more proactive approach to enforcement which seeks to further reduce losses from non-payment of fees.
- Seek to increase community involvement and encourage greater stakeholder ownership by offering a range of volunteering opportunities.
- Undertake a periodic review of assets (and their income generation potential) and also regularly explore the potential to generate income from other sources.

1.0 Introduction

Ecorys was commissioned by the Conservators of the River Cam in June 2011 to undertake the River Cam Navigation Benefits Assessment study. This report is the draft final output of this study and follows an interim report of July 2011 which covered initial research findings and consultations.

1.1 Study Aims

The project brief set out the following aims:

- To provide an evidence base for the Conservancy to set its licensing fees on a more equitable footing according to the value and benefits to users.
- To assess this value and benefit in the context of the cost of routine maintenance and the capital expenditure requirements of the Conservancy.
- Taking account of the outcome of public consultation, make recommendations on licence charging strategies, including entering into agreements with other navigation authorities.

A Steering Group (a sub-committee of the Conservators) was set up to oversee this study. At the outset, the need for the Conservancy to generate income which is sufficient to provide the funding required to maintain the navigation was emphasised. This should be done through the development of a fair and equitable charging structure, based upon a clear and transparent rationale.

1.2 Study Methodology

The study used a mixed-methods approach drawing on applied economic theory and involving a combination of desk research, consultation with key stakeholder representatives and a wider consultation. The survey was distributed in hard copy to 476 stakeholders (including all Conservancy licence holders and all Environment Agency licence holders known to be resident in the Conservancy Area). In addition, a web-based version of the survey was available to access from a link on the Conservators' website and eight fieldwork days were undertaken by interviewers in the vicinity of the river during the consultation period in order to broaden access to the survey and elicit further responses.

All responses received were thoroughly checked and five were discarded as being duplicates. This left over 730 valid responses, of which 14% stated that they hold a Conservancy licence. However, it should be noted that in questions where a free text response was permitted there was a high incidence of repetition which suggests that there was some degree of collaboration to emphasise particular points. Otherwise, these responses were thought to be distinct and so were retained in the data-file for analysis.

Interpretation of Findings

All survey results have been carefully interpreted as indicative to inform a study approach based on applied economics. This is because it is not clear how representative the respondent sample is of the stakeholder population due to a lack of comprehensive and quantified use data. In addition, where respondents have been asked to comment on the behaviour of other stakeholder groups, answers were interpreted as representing perceptions of respondents based on their own experiences and observations.

1.3 Structure of Report

The remainder of this report is structured as follows:

- Section 2 provides background information.
 - Section 3 sets out the analytical framework which has been used to structure information in the subsequent sections.
 - Section 4 presents evidence on the benefits which different stakeholder groups derive from the River Cam.
 - Section 5 explores the feasibility and practicality (or 'practicability') of charging different stakeholder groups for the benefits they derive from the River Cam.
 - Section 6 considers the acceptability of different future finance options.
 - Section 7 looks at comparability of charges against other navigations and similar assets.
 - Section 8 draws together the analysis.
 - Section 9 works up quantified options for changes to the current charging regime.
 - Section 10 presents conclusions and recommendations.
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- Annex 1 contains a copy of the consultation document.
 - Annex 2 contains an overview of survey findings.

2.0 Background

2.1 Introduction

This section provides some background information on the issues currently being faced with regards to the management and maintenance of the River Cam.

2.2 Conservators of the River Cam

The Cam Conservancy is a statutory navigation authority which was formed in 1702. The mission of the organisation can be summarised as follows:

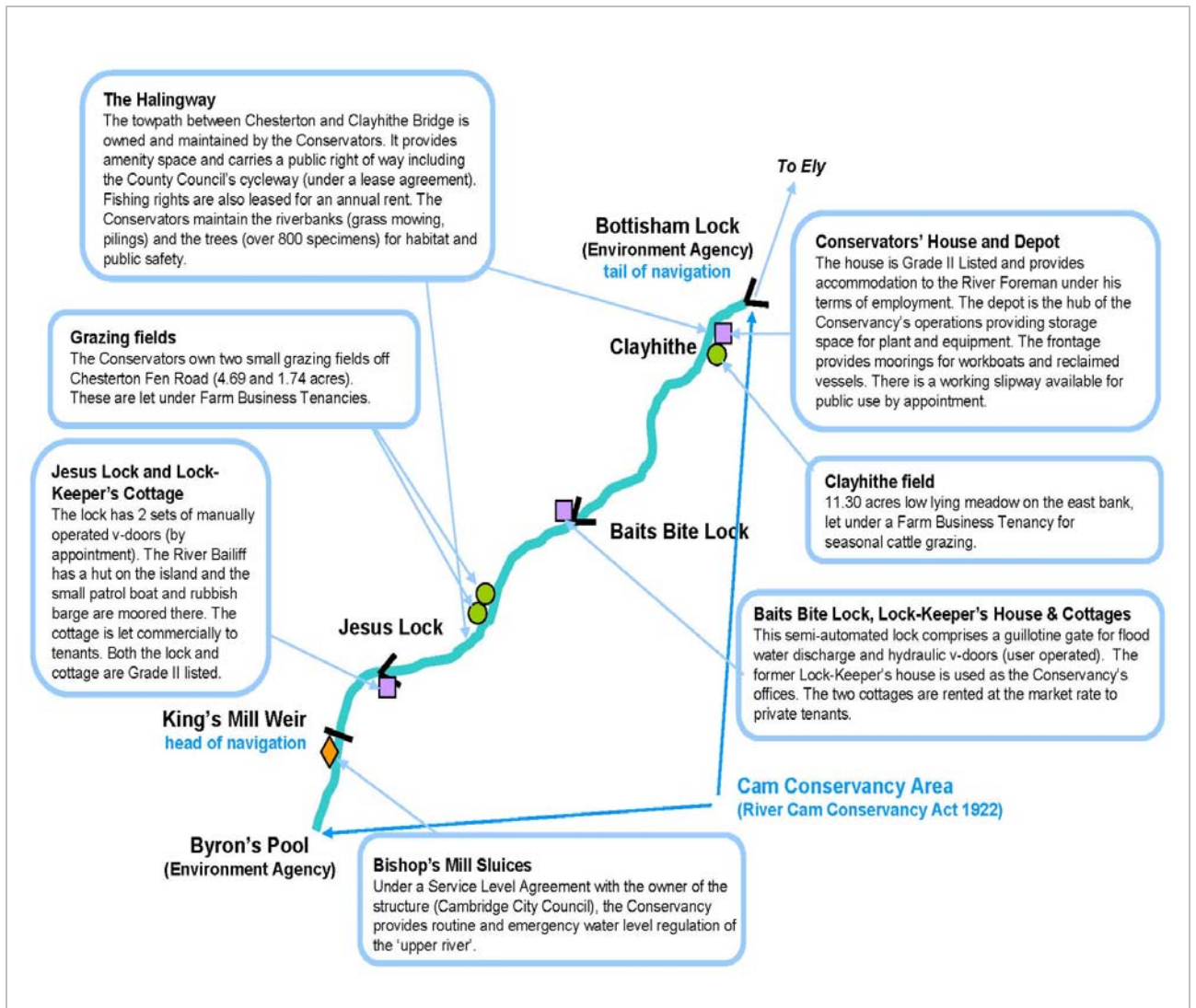
- to maintain the River Cam between Mill Pit and Bottisham Lock in a navigable state to suit the size and number of boats legally entitled to use this stretch of the river;
- to balance the needs of the various river users and between them and the riparian owners, and;
- to manage the river in a manner sensitive to environmental interests.

Use of the river is governed by the River Byelaws, the current version of which came into force in December 1996 and were made under the River Cam Conservancy Act 1922 (as amended).

The Conservancy is constituted as a body corporate and receives no core grant funding. The Conservators are volunteers and are supported by a team of river staff who undertake day-to-day maintenance, registration, administration and enforcement.

The Conservancy Area is shown in the diagram overleaf, which also provides an indication of the Conservancy's assets and responsibilities.

Figure 2.1 Conservancy Area



Source: Conservators of the River Cam

2.3 Registration

The River Byelaws require that any boat 'brought, kept, let for hire or used on the river' must be registered annually with the Conservators. Powered craft have been able to choose to register with the Environment Agency and, under a long-standing 'Interchange Agreement,' use Conservancy waters without incurring additional fees. A proportion of fees collected by the Environment Agency have then been returned to the Conservancy under the terms of the Interchange Agreement. The sum returned has been calculated as 33% of the annual fee for a 'tariff 36' craft multiplied by the number of boats counted in the Conservancy Area on an agreed day. However, in September 2011, the Environment Agency served notice that it wished to terminate the agreement with effect from 31st March 2012 with a view to renegotiating the terms to apply from 1st April 2012 onwards.

For those craft which are required, or choose to, register with the Conservators, fees are currently set by type and size of craft with a multiplier applied to differentiate between private and commercial or corporate use as set

out in Table 2.1. This charging structure has evolved historically, with no particular rationale applied. The Conservators have however sought, where feasible, to keep charges broadly in line with charging structures applied on other navigations, reflecting a wider 'market' (see Section 7). Our survey indicated that currently there does not appear to be any specific objections to the principle of charging craft for using the river nor to how these charges are applied.

Table 2.1 Registration Fees 2011/12

Categories of Vessel		Fee
Canoe or kayak (up to 5m / over 5m)		£35.90 / £71.84
Rowing dinghy		£43.53
Punt (up to 1m beam / over 1m beam)		£87.41 / £218.53
Tub pair or scull		£35.90
Double scull or pair		£43.10
Four		£46.71
Eight		£55.10
Sail (under 3m / 3 to 5m / 5 to 7.5m / over 7.5m)		£35.90 / £59.86 / £119.72 / £179.60
Vessel engine not over 4hp (up to 5m / over 5m)		£60.98 / £113.82
Vessel engine over 4hp (under 3m / 3 to 5m)		£107.65 / £221.08
Vessel engine over 4hp (5 to 7.5m / 7.5 to 10m)		£271.81 / £352.22
Vessel engine over 4hp (10 to 12.5m / 12.5 to 15m)		£482.56 / £ 621.41
Vessel engine over 4hp (15 to 20m / over 20m)		£697.34 / £765.14
Houseboat ¹		£653.72
Vending boat / punt		£1,436.76
Categories of Ownership		Multiplier
Private		Fee x 1
University / college boat clubs and city / school rowing clubs		Fee x 1
University / college or other corporate owners of canoes, kayaks or punts for use solely by their members		Fee x 2.25
University / college or other corporate owners operating in category above and/or for hire to the general public		Fee x 5
Operators for hire to the general public of vessels in all categories		Fee x 5

Source: Conservators of the River Cam

¹ As defined in the Byelaws.

The following table illustrates the direct payments made by different categories under the current registration scheme. It is recognised that in some cases fees are paid by clubs rather than individual users.

Table 2.2 Average Payments

Category	Number of craft registered	Income generated	Average payment
Canoes and kayaks (including canoe club)	93	£2,807.48	£30.19
Rowing boats	724	£33,308.32	£46.00
Punts (including colleges, but excluding commercial)	50	£8,926.67	£178.53
Commercial punts (including vending punt) and canoe hire	205	£141,357.16	£689.55
Boats (including sailing club)	87	£15,228.04	£175.03
Houseboat	1	£653.72	£653.71
Total	1,160	£202,281.39	£174.38

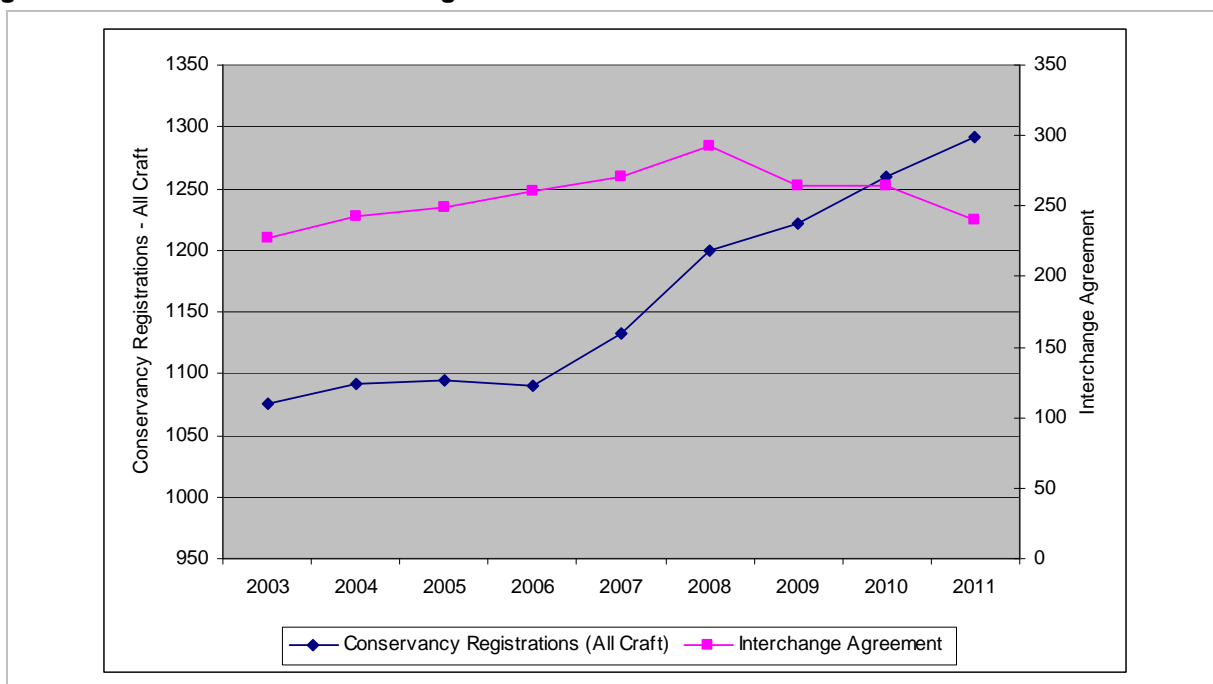
Source: Conservators of the River Cam (based on registration data at end August 2011; excluding indirect payments arising from the Interchange Agreement which in 2011 generated £41,196.81 from 186 craft).

2.4 Key Challenges

Management and Enforcement

Use of the river has increased significantly in recent years. Although detailed usage data is not available, the following chart plots registration data which helps to illustrate the upward trend, which source data shows is particularly applicable to rowing craft and punts. In addition, over 130 events take place on the river each year. However, there is no data available relating to the frequency of other uses of the river and its immediate environment including angling, swimming, use of the towpath (e.g. by walkers and cyclists) and also passive use by those who benefit from river views.

Figure 2.2 River Cam: Number of Registered Craft 2003-2011



Source: Conservators of the River Cam

Increasing use of the river places an increasing burden on the Conservancy with regards to ensuring that the river byelaws are upheld, particularly in relation to safety. The Conservancy also has a role in managing the sometimes conflicting demands of river users (including serving notice of any closures required for events) and ensuring the schedule of maintenance and repairs keeps up with the wear and tear caused by increasing levels of use. Administration and enforcement activity is becoming increasingly time-consuming for the Conservancy staff, with enforcement of registrations being a particular issue and a new part time post established for 2012.

Funding Shortfall

Current levels of income and expenditure are summarised in Figures 2.3 and 2.4 below. Day-to-day expenditure on staffing is the most significant single element of revenue expenditure, but it should be noted that a proportion of this expenditure is used to earn fees, for example through delivery of service level agreements.

The primary source of income is craft registrations. As the number of registrations has increased over time, registration receipts have risen accordingly, currently standing at just over £250,000 (including receipts generated by the Interchange Agreement). The Conservancy also owns a number of properties which are let at a commercial rate to generate additional revenue. In general, charges are not made for events.

Figure 2.3: Overview of Conservancy Income

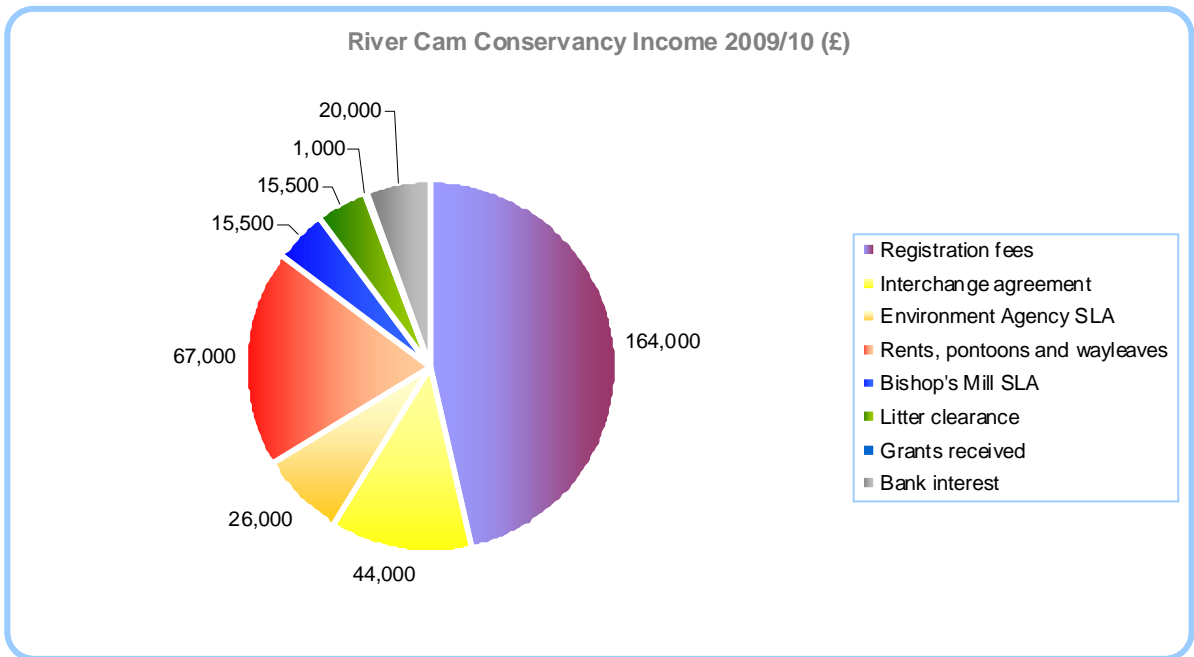
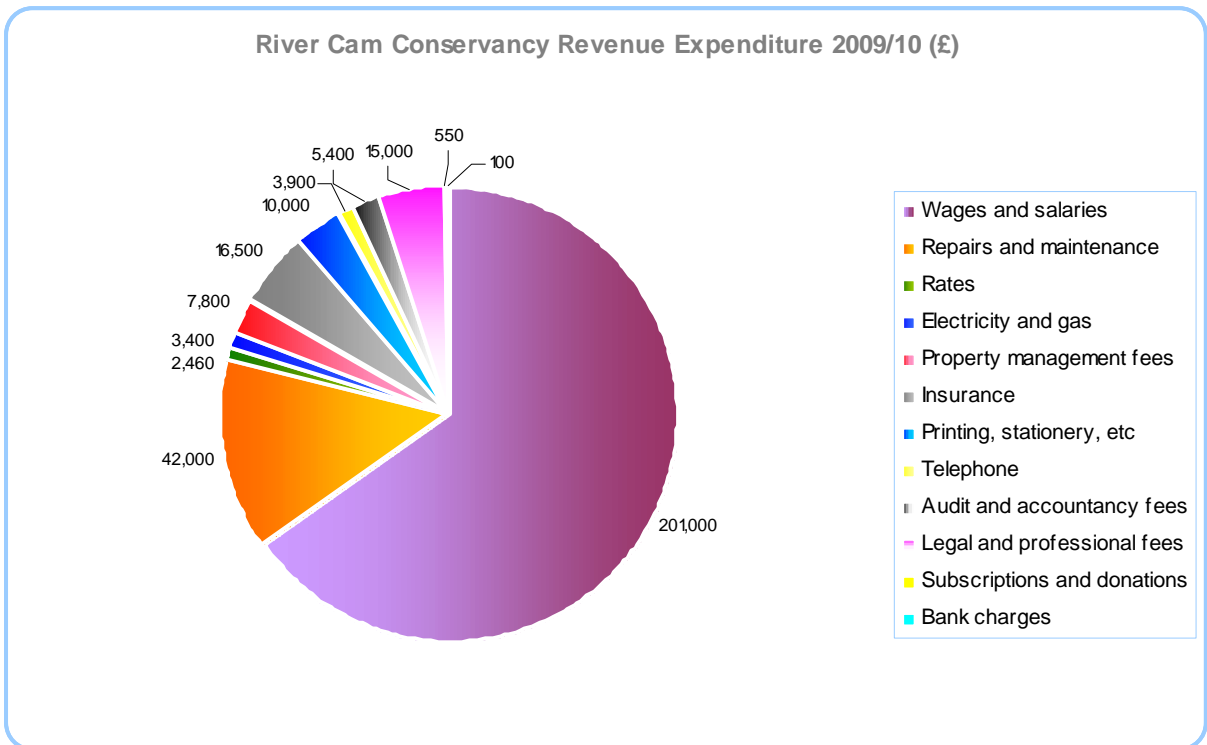


Figure 2.4: Overview of Conservancy Expenditure



The Conservancy has a statutory responsibility to maintain the river in a navigable state and a recent review highlighted the need for a significant programme of capital repairs and maintenance, including essential repairs to both locks. Based on best available evidence², over the period to 2020 it is estimated that the required expenditure will exceed £380,000 (see Table 2.3).

Table 2.3 Capital Expenditure Programme 2011/12 to 2019/20

Asset	Estimated Capital Spend
Jesus Lock essential repairs	£57,000
Baits Bite Lock essential repairs	£110,000
Baits Bite property (offices and cottages) essential maintenance	£48,000
Clayhithe property essential maintenance	£85,000
Jesus Lock property essential maintenance	£10,000
Plant and equipment replacement	£71,000
Total	£381,000

Source: Conservators of the River Cam

Overall projections of the Conservancy's financial situation show that, without corrective action, expenditure will soon exceed income, causing reserves to dip below an acceptable level. The projected balance of reserves held by the Conservancy at 31st March 2012 is £400,000, which would be depleted within eight years if no action was taken. In addition, the extent to which these reserves can prudently contribute to the cost of capital works is limited by the need to maintain reserves of £500,000 in case of major asset failure which would threaten closure of the navigation.

Taking no corrective action would leave the Conservancy vulnerable to a financial deficit (and the navigation vulnerable to closure) should a major identified risk or other unexpected expenditure occur. Therefore, in order to ensure financial sustainability and stability the Conservancy has estimated a need to generate additional income before inflation of at least £50,000 per year going forward. This sum is considered to be the minimum required to enable the Conservators to continue to maintain the navigation to the current standard.

² The cost of essential repairs to Jesus Lock is based upon the findings of 'Dewatered Inspection Report Jesus Green Lock – River Cam' (Halcrow Group Limited, June 2009) and essential repairs to Baits Bite Lock based upon 'Conservators of the River Cam Baits Bite Lock Underwater Inspection Report' (Red7Marine Ltd, October 2010).

3.0 Analytical Framework

3.1 Introduction

This section sets out the analytical framework which has been developed to structure analysis of research findings. It explains the applied economic theory used to describe the range of costs and benefits at play and how these have been brought together to make an overall assessment.

3.2 Problem to be Addressed

As set out in Section 2, despite the increased use of the river (and the associated level of benefit that can be assumed to be derived), the income currently being generated is not enough to cover the expenditure required to maintain it to the required standard and ensure a continuation of current benefit flows. The Conservators also have a statutory duty to maintain the navigation and to make reasonable efforts to ensure the safety of river users. The problem is therefore one of how the funding shortfall can be met in a manner which is fair and transparent. The purpose of this framework is to present the variables which are relevant to making such a decision and consider the available evidence on each point, before bringing each strand of analysis together to form an overarching view using a multi-criteria analysis.

3.3 Economic Rationale

The rationale for imposing a charge on users is to ensure that those who derive benefit from use of the river contribute to the costs of its maintenance. Without such a charge, river users would be free-riders, making use of a resource but leaving others to bear the costs of making the resource available for use. The absence of any contribution to the upkeep of the river from general taxation means that funding needs to be secured through fees and charges of some form.

In some respects, charges have the potential to advance economic efficiency objectives by moderating demand to levels which avoid excessive degradation of the river environment and problems of congestion (i.e. situations where one person's use of the river detracts from the enjoyment of others). However, basing a charging regime solely on efficiency/demand management criteria is not the primary purpose of this exercise. Rather, it is to review the current charging structure and assess how a fair increase can be levied³.

There are a wide range of benefits and costs associated with the river, and these accrue to a wide range of people, including both active and passive users (see table below). Non-users may also attach a value to the river, e.g. in terms of retaining the option to use the river at some point in the future (option value), deriving value from the knowledge of its existence (existence value) or placing a value on the river as a resource for the future (bequest value).

Many of these benefits are non-pecuniary (non-financial) in nature and fall outside of the market mechanism, so they are not priced and as a result the value derived by the individual cannot be readily quantified. In addition, in

³ The Conservators have a statutory duty to maintain the navigation and also work to balance the needs of the river stakeholders. Given its public good characteristics, the river corridor and enjoyment of the asset are accessible to all and the Conservators would not seek to proactively limit access except in so far as it this could be justified on navigation grounds.

relation to passive use, the river shares to some extent the key characteristics of a public good; non-rivalness in consumption (e.g. one individual's enjoyment of the views across the river does not diminish the views which are available for others to enjoy) and non-excludability (benefits cannot be withheld from those who do not contribute to the costs of provision). This means that it is not practical to implement a charge across all groups deriving some form of benefit from the river.

Table 3.1 Benefit Types and Measurement Issues

User	Nature of benefit	Issues
Towpath users	Non-pecuniary benefit	No estimate of user numbers. Not practicable to extract payment from these groups.
Passive users	Non-pecuniary benefit	
Riparian property owners – residential	Non-pecuniary benefit	Potential for double-counting with other use categories.
Riparian property owners – commercial	Commercial benefit	Difficult to assess scale of benefit (riverside location may be hugely important to some but incidental to others).
Powered craft	Uncaptured user benefit (where value to user exceeds payments made resulting in consumer surplus)	Level of use and benefits gained difficult to assess.
Unpowered craft	Uncaptured user benefit	
Visiting craft	Uncaptured user benefit	
Hire companies	Commercial benefit	Low barriers to entry leading to new entrants and increased competition.
Anglers	Uncaptured user benefit	Level of use and benefits gained difficult to assess.

In cases where the level of benefit is not readily quantifiable, economic theory provides a range of techniques which can be used to estimate this figure, including both stated and revealed preference methods (see Table 4.1). Considerations of equity (or fairness) suggest a regime where charges are designed to reflect in some way the benefits different user groups receive from either their use of the river and/or the expenditure of the Conservancy on its upkeep. Effectively this represents an application of the benefit principle of taxation.

3.4 Key Components of the Framework

Our starting point for the analytical framework is the benefit principle, i.e. that the payment made should reflect the level of benefits received. As noted there are a wide range of benefits associated with the river which are spread across a range of different groups; these include benefits to private individuals and commercial benefits. The level of benefit experienced by different groups can be hypothesised to vary according to a range of factors, including time spent on the river, the actions (or effect on navigation) of other users (potentially leading to disbenefits) and personal preferences. Another approach would be to consider the extent to which the Conservancy’s capital expenditure benefits different user groups.

The development and application of a framework of user charges based upon the benefit principle needs to address a number of issues:



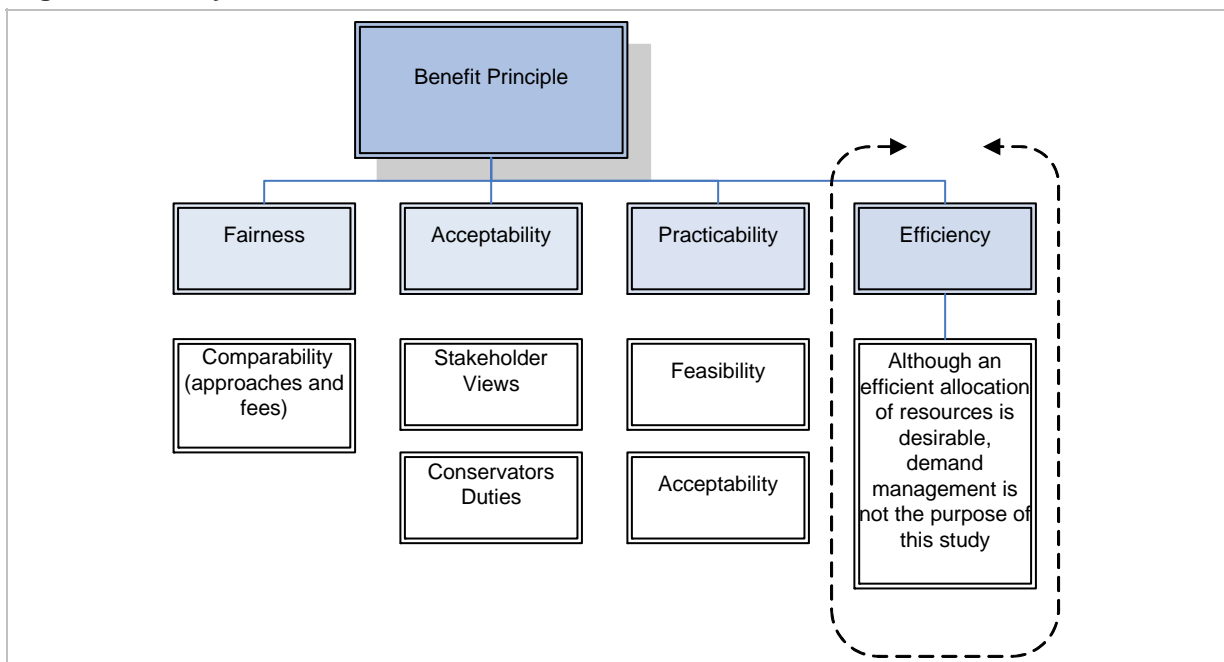
- The limited information on levels of use by different categories of user.
- The lack of information on levels of benefit to different categories of user and the practical difficulties of securing such information given that the river has the characteristics of a public good (see Section 3.3), and the associated difficulty of eliciting valuations of non-market goods.
- The need, particularly within a framework in which charges are to be based on equity principles, for a charging regime to exhibit broad consistency with the practices adopted on comparable waterways.

It is also important to consider the practicability (i.e. feasibility and practicality) of how such charges could be levied and also the acceptability of different charging mechanisms for stakeholder groups. The perspective of different stakeholders of what constitutes a 'fair' system of charges is relevant to both the choice of approach and its application, including consideration of ability to pay. It is also important to consider the feasibility of possible charging mechanisms, bearing in mind the legal powers of the Conservancy to levy charges on different types of user, the potential willingness of stakeholders to contribute where no statutory obligation can be placed upon them to do so (and the associated risk of 'free riders'). Finally, the costs of collection of charges on different groups in relation to the revenue involved needs to be considered. This range of issues is considered in subsequent sections.

3.5 Multi-Criteria Analysis

Section 8 develops a series of options and recommendations based upon the broad principle of linking charges to the benefit principle and assesses these within a multi-criteria analysis framework with the following considerations; practicability of implementation; acceptability; and, fairness (which is multi-dimensional in this case but considered particularly in terms of comparability).

Figure 3.1 Analytical Framework



4.0 Benefits

4.1 Introduction

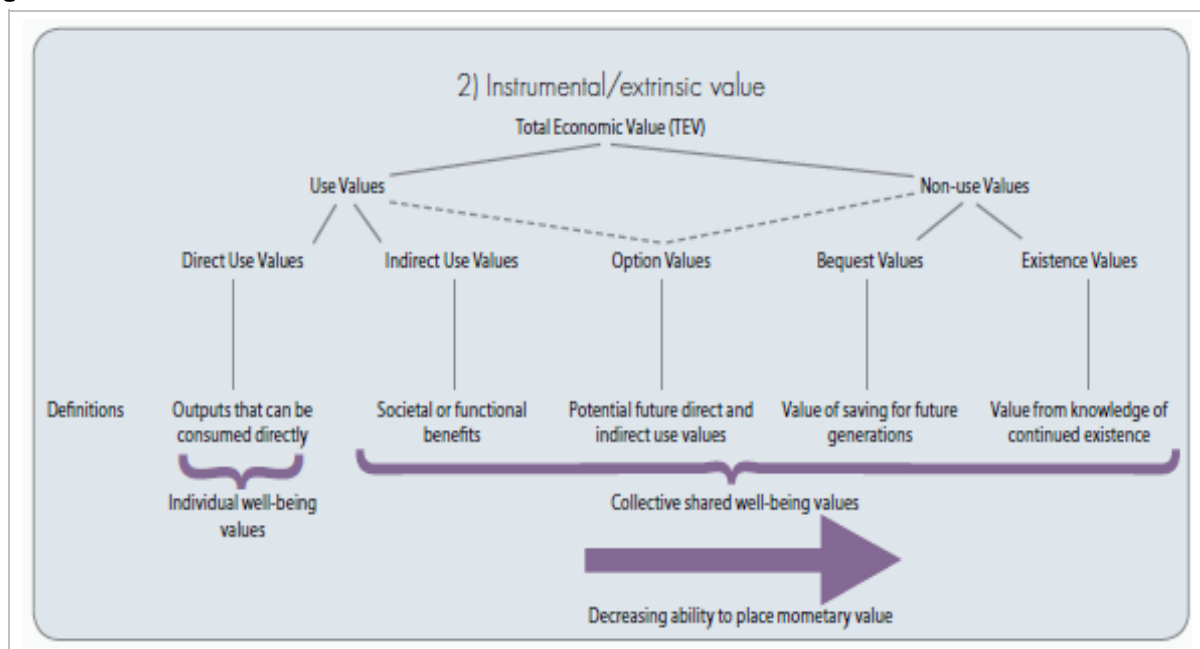
This section outlines the benefit principle and presents available evidence in the context of the River Cam and its stakeholder groups, drawing on the results of the survey and stakeholder interviews.

4.2 The Benefit Principle

Fairness (or equity) is an important consideration in the design of any charging regime. Therefore, the starting point of our analysis is to consider the benefits derived from the River Cam by the different stakeholder groups. Given the nature of the 'good' in question (which largely falls outside of the market mechanism and has public good characteristics) and the multiplicity of different benefit streams that derive from it, determining the benefits received is not a straightforward exercise.

Although enjoyment of the river does not have a market price it still has a value and this can be expressed within the framework of total economic value which comprises both use and non-use values. Use value is further divided into direct use, indirect use and option values. Non-use value relates to the value derived from the knowledge that the asset exists or is maintained for use by others.

Figure 4.1 Total Economic Value



Source: National Ecosystems Assessment (2011)

Once values have been identified, the next challenge is to produce a monetary estimate of these values. Market prices can be used as a proxy for the value of goods and services which are traded but for non-market goods there are a range of valuation techniques which can be applied, as set out in Table 4.1 and incorporated into our analytical approach.

Table 4.1 Valuation Techniques

Technique	Description	Issues
Revealed preference	Technique which observes behaviour in actual markets to infer the value of non-market attributes e.g. hedonic pricing or travel cost methods.	Can only be used for attributes for which preferences can be observed in associated markets.
Stated preference	Technique which uses questionnaires to elicit preferences for a change in a non-market resource or attribute, e.g. contingent valuation or choice experiments.	Very expensive to commission new stated preference research.
Cost-based approaches	Technique which uses costs incurred or avoided as a proxy for the benefit derived from a non-market good or service, e.g. replacement cost or costs avoided.	Uses cost as a proxy for benefits (i.e. does not strictly produce a measure of value derived).
Benefits transfer	Process which takes existing valuation estimates and applies them to a new context.	Caveats resulting from differences in context must be clearly stated.

4.3 Benefits in the Context of the River Cam

In the context of the River Cam, benefits are derived by those who actively make use of the river environment. Theory suggests that this use would only take place if the benefits derived by the individual outweighed the costs incurred. Therefore, those using the river for non-commercial purposes would be expected to derive an enjoyment from the river which contributes positively to their overall wellbeing.

This included a range of benefits including opportunities for leisure and recreation, social interaction, education, and improving physical health and/or mental wellbeing. The river also provides a place of residence for a number of residential boat owners who have chosen to moor on the Cam and is a source of amenity value for those who spend time in the area. The river serves a number of important ecosystems functions which offer indirect benefits to local residents, for example carbon sequestration and flood prevention, and is an important natural habitat which supports a range of plant and animal species. Many of these benefit streams and functions are heavily dependent on the river being maintained in a navigable state.

A number of commercial operations also benefit from the river environment and are able to use it to generate a monetary return (e.g. punt hire). Again, these operations are largely dependent on the river being maintained in a navigable condition.

In addition, theory suggests that non-users may also attach a value to the current or continued existence of the river in a navigable state (see Figure 4.1).

4.4 Usage and Benefits

There is only limited information available on levels of use of the river corridor and there is a lack of information on the levels of benefit derived from this use.

Registration data provides some indication of levels of use and the increasing trend in registrations has already been discussed in Section 2. Stakeholders consulted in the early part of this study were generally in agreement that overall use of the river was increasing and this trend would be expected to continue in the near future.

The majority of respondents to the survey (59%) classified their own use of the river as high (defined as direct use at least once per month). Rowers were the stakeholder group most likely to classify their use as high and significantly more likely than, for example, canoeists, powered boat owners, riparian owners and punters. Powered boat owners were most likely to classify their use as low (defined as direct use of less than once a month) and significantly more likely to do so than all other use categories except angler and towpath users.

Almost two-thirds of survey respondents said that they had been involved in organised events on the river (64%), with the majority of these as a participant or spectator. Those who identified themselves as a representative of a formal club or group were most likely to note that they had been involved as an organiser of such an event (60%) whilst those who identified themselves as rowers were most likely to have been involved as participants or competitors in such events (92%).

The survey also asked respondents to rate the level of use of the river by each main stakeholder group. This provides an indication of perceptions of use by others. Punt operators were considered to have the highest level of use of the river, closely followed by residential boat owners and rowers. Further analysis shows that residential boat owners were significantly more likely to consider rowers to make the most use of the river (compared to rowers themselves, commercial business operators, local residents and towpath users) while rowers were significantly more likely to consider residential boat owners to have high use levels (compared to canoeists, punters, residential boat owners and anglers). However, it is recognised that these perceptions are likely to reflect conflicts of use on specific sections of the river.

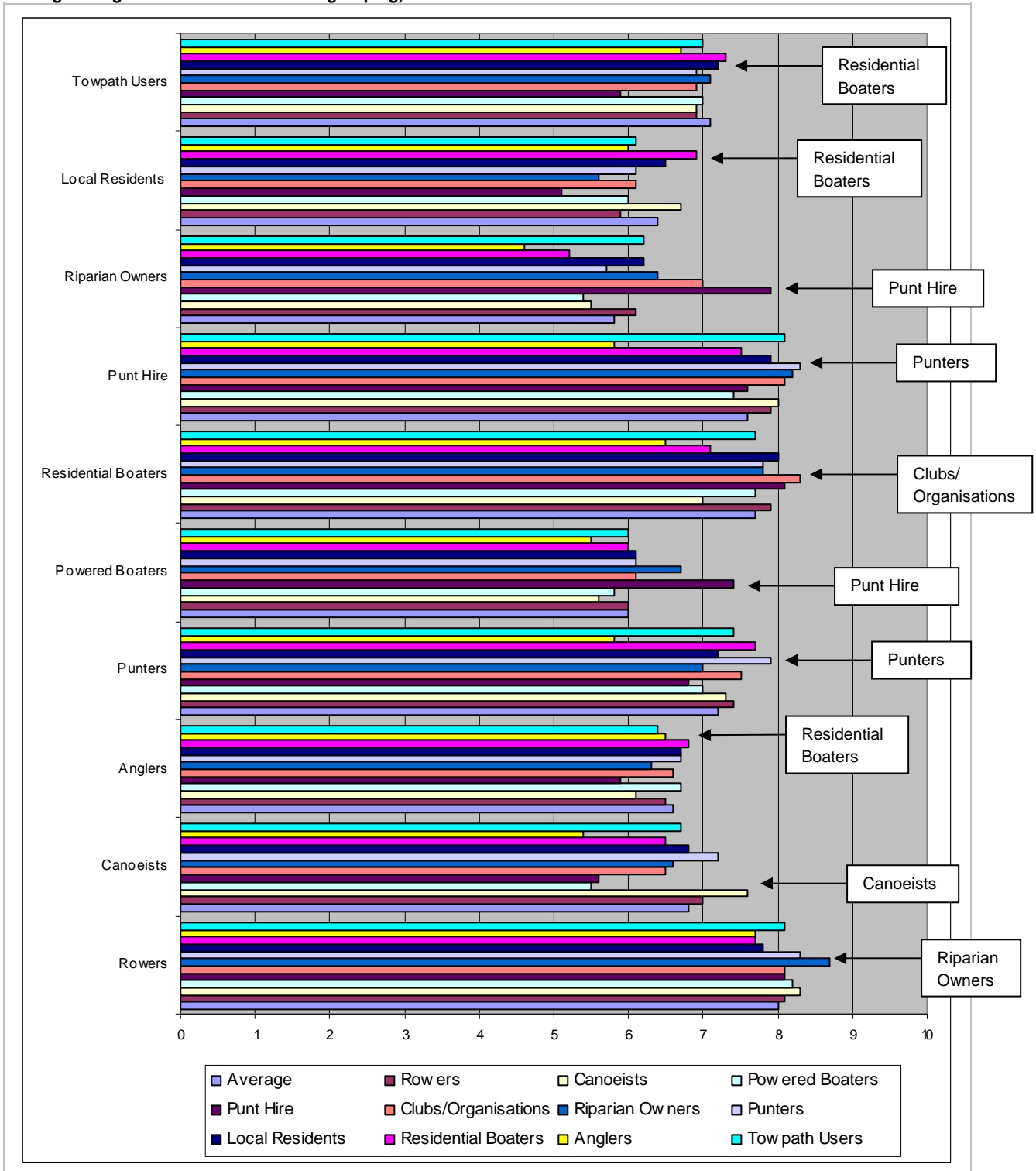
Time spent on the water is another way to assess level of use. Intuitively residential boats and any other craft moored on the river spend the most time on the water. Punts are most heavily used in the summer months and generally taken off the water over the winter. Similarly rowing boats spend time off the water while not being used for practices or racing.

The majority of stakeholders obtain benefits as private individuals; however a number of operations generate commercial benefits from the river, the most prominent of which are the punt hire operators. It was not possible to obtain verifiable data on the revenues generated from this activity; however, recent entry to the market by a number of new independent operators alongside continued operation by established companies indicates that demand is strong and that a surplus (profit) can be made. In addition, residential benefits can be seen as being derived by a sub-set of private individuals (i.e. residential boats moored on the Cam).

With regards to benefits, survey respondents were asked to rate the level of benefits gained by each stakeholder group from the river on a scale of 1 – 10. Rowers were considered to gain the highest level of benefit, closely followed by residential boaters and then punt operators. Interestingly, no groups were considered to obtain a low level of benefit (all received a mean score in excess of 5). The majority of stakeholder groups felt that rowers gained the highest level of benefit (particularly riparian owners but also rowers themselves). However, those classifying themselves as commercial operators or club representatives felt that residential boaters derived the highest benefits and towpath users felt that the greatest benefits accrued to punt operators.

Figure 4.2 Perceived Benefits

(Note on interpretation: text boxes highlight which group scored the level of benefit to the category in question most highly and the average rating is the bottom bar in each grouping)



Marked on a scale from 1 to 10 where 1=very low and 10=very high

It should also be recognised that the actions of any individual can potentially create a disbenefit to another by reducing in some way their enjoyment of the river. Survey respondents were asked to quantify the perceived effect on the navigation of different stakeholder groups using a scale of 1 (very low) to 10 (very high). Overall, it was felt that punt operators has the biggest effect, closely followed by residential boaters and then rowers. In addition to the effect on river users, it was noted that the presence of moored residential boats in some areas creates a disamenity to local residents. Rowers and club representatives were most likely to think that residential boaters had the highest effect on the navigation, whilst canoeists were most likely to think that punt operators had the greatest effect.

Respondents were also invited to provide a comment on whether they felt any groups had a disproportionate effect on navigation which was not taken into account by the current registration system. Almost 30% did not provide a response to this question and a further 16% indicated that no user group had a disproportionate effect on the navigation. The user group most frequently cited as having a disproportionate effect on navigation was rowers (noted by around 14% of the total responses). Within this, specific issues regarding rowers included events which prevent others from using the Cam, and the issue that rowers are able to utilise one boat with one license by many different users. The second most frequently cited user group was residential boat owners (about 10%); generally this was noted as being due to the length of time spent on the Cam in contrast to other user groups. Specific issues which were raised included problems with boats which were moored on narrow sections of river (again reflecting a specific conflict with rowers).

Within the Conservancy Area it can be said that there is a precedent for charging for activities which have an effect on navigation, including the charges levied on pontoons and river lowering.

4.5 Wider Research

Evidence from the wider valuation literature provides strong evidence that individuals attach a value to access to, and use of, the natural environment and other similar assets. For example, Garrod and Willis⁴ estimated the non-market benefits of informal waterway recreation using a travel cost method⁵ and contingent valuation⁶ for a sample of 12 canals and inland waterways in England. The results highlighted that even low value estimates exceeded the subsidies provided by Government at that time to waterways and canals. A travel cost approach uses estimates of the time and expenditure incurred in making a journey to a recreational site in order to estimate the willingness to pay for that particular recreational activity. A problem with this methodology is that it can underestimate the true willingness to pay of those who either walk or travel only a short distance to reach the site.

Garrod and Willis found that the travel cost method resulted in a higher average overall willingness to pay value⁷ of 84 pence per visit (2004 prices). As would be expected, the travel cost method revealed a significant divergence between the willingness to pay values of locals and those from outside the immediate area. The contingent valuation approach resulted in an average willingness to pay for all canals of 60 pence per visit (2004 prices). Fishing and picnicking were the activities which yielded the highest willingness to pay values.

⁴ Valuing Open Access Recreation on Inland Waterways (1991).

⁵ The travel cost method is an example of a revealed preference technique (see Table 4.1).

⁶ Contingent valuation is an example of a stated preference technique (see Table 4.1)

⁷ Compared to the contingent valuation methodology findings.

The values estimated by Willis and Garrod were lower than the recreational use values estimated by Middlesex University in a study of residents local to the Rivers Wey and Misbourne⁸. This study found the average value of informal recreation to range from £1.03 per trip for local residents near the River Misbourne and £1.92 for local residents of the River Wey (2004 prices). The difference in values between the two studies can be partly explained by differences in the recreational value associated with rivers compared to canals.

Subsequent research undertaken for British Waterways as part of a cost-benefit analysis of the Bedford Milton Keynes Waterway⁹ concluded that the towpath values estimated by Willis and Garrod were reasonable but suggested that a higher range of £2.00-£5.00 per visit should be used for boating, canoeing and angling given the limited sample size of this type of user in the Willis and Garrod research (which was focused on towpath users and therefore only captured a small number of anglers and boaters), and other available evidence relating to these groups.

Therefore, drawing upon previous research, we can estimate that the benefits derived by those participating in waterway-based activity can be valued in the range of up to £5 per person per visit.

4.6 Benefits from Upkeep and Expenditure

Another way of analysing the pattern of benefits is by considering how stakeholders will benefit from the capital expenditure which is incurred.

Although initial discussions revealed that many were unaware of the full range of responsibilities and duties undertaken by the Conservators, the survey document attempted to give an overview of this and also set out the associated day-to-day expenditure and income generated. The bulk of this day-to-day expenditure results from payment of wages but the work done by paid staff can be seen to be contributing towards fulfilling the mission of the Conservancy (see Section 2.2) and, in doing so, ensuring the continuation of the various benefit flows which are experienced by river stakeholders. A proportion of staff time is also used to earn fees (e.g. by fulfilling the terms of various service level agreements) and the resulting income is used to fund other areas of expenditure.

Without continued day-to-day maintenance and capital works the river could cease to be navigable. If this were the case, users would potentially incur additional costs in travelling to an alternative site to undertake rowing, punting or boating activity. If moorings were closed then residential boat owners would be required to move to another site, incurring costs in the process and incurring mooring fees in a new location.

As highlighted in Section 2, the Conservators have also identified a programme of capital expenditure required to keep the river in a navigable state. The key items within the expenditure programme, set out for the period to 2019/20, are shown in the table below, along with a summary of the rationale for this work and distribution of benefits.

⁸ The Evaluation of the Recreational Benefits and Other Use Values for Alleviating Low Flows (1994).

⁹ GHK for British Waterways (2005).

Table 4.2 Capital Expenditure, Rationale and Benefits

Item	Rationale	Benefits
Jesus Lock	Essential repairs to ensure continued navigability.	Powered boaters who use the lock will benefit most from this work but all stakeholders will indirectly benefit as the lock provides a structure which helps to maintain navigability.
Baits Bite Lock	Essential repairs to ensure continued navigability.	Powered boaters who use the lock will benefit most from this work but all stakeholders will indirectly benefit as the lock provides a structure which helps to maintain navigability and also provides a flood relief function.
Baits Bite property	Essential maintenance to ensure continued flow of rental income.	All stakeholders will indirectly benefit from this expenditure as the rental income supports day-to-day maintenance work.
Clayhithe property	Essential maintenance to ensure continued use for staff operations.	All stakeholders will indirectly benefit from this expenditure as the property supports day-to-day maintenance work.
Jesus Lock property	Essential maintenance to ensure continued flow of rental income.	All stakeholders will indirectly benefit from this expenditure as the rental income supports day-to-day maintenance work.
Plant and equipment	Replacement to ensure that day-to-day maintenance can continue to maintain navigability and attractive river environment.	All stakeholders will directly benefit from this expenditure.

Although it can be seen that those who actively use the locks will benefit more from them being kept in good working order than those who do not make any direct use of these assets, it would not be realistic to attempt to wholly fund their maintenance by levying a toll on lock movements due to the limited number of people who would share this cost¹⁰. Implementation of such a toll would also require investment in technology (which would be likely to present practical challenges) or employment of a new member of staff to man the lock and so would not be cost effective. In addition, all river users benefit to some extent from the structure which the locks provide and this is reflected in the statutory responsibility of the Conservators to ensure that they are maintained.

A failure to properly maintain the navigation would also impact on the flood prevention benefits which the river provides to riparian owners and local residents more widely, potentially causing significant additional and ongoing costs to property owners and the Environment Agency.

4.7 Proxy Evidence

As noted in Section 4.2, where the value of benefits is not directly observable, the associated costs can be used as a proxy measure based on the assumption that the costs incurred in obtaining a benefit must be at least equal in value to the utility obtained.

¹⁰ With an estimated 1,000 to 1,200 boat movements through Baits Bite lock and an estimated 80 to 100 boat movements through Jesus Lock per year this would require a levy of around £15 to £20 to cover the cost of capital maintenance on both locks over the period (assuming no change in patterns of use).

Both the Environment Agency and British Waterways have undertaken work to explore the relationship between the price of licences and the demand for private boating. Research on demand elasticities for the then NRA estimated the mean consumer surplus¹¹ of powered boat users to be £924 per annum and for small unpowered craft this figure was estimated at £31 per annum (in 1999). Later work found that, although boating was felt to be becoming an increasingly expensive pursuit, the licence fee is a small component of the overall costs of boating (estimated at 17% by British Waterways) and was therefore unlikely to be a major criteria influencing usage decisions as these would be taken on the basis of the overall cost. Mooring costs, meeting boat safety standards and fuel costs were noted as being significant elements of the overall cost.

Research also highlighted, unsurprisingly, that licence fees are contentious as they are perceived as a tax and higher prices need to be justified by improvements to services. The balance of evidence was that the price elasticity of demand for private boating had remained relatively low. This conclusion is supported by more recent survey evidence which suggests a mean annual spend per boat of £3,863 with the licence fee accounting for 17% of this total.¹² On average the mooring fee was the most significant component of this cost (43%).

Although elasticity models have focused on powered boating, it is also evident that other user groups also incur significant overall costs in undertaking their activity of which the licence fee is only a relatively small component. For example, there are costs associated with the purchase and maintenance of rowing boats, punts, canoes and kayaks. In these cases, however, it is recognised that the required equipment is often purchased by a club for use by its members or by a commercial provider for use by customers although costs are still incurred by these individuals in the form of club membership fees or hire charges, along with a range of other costs such as the cost of travel to the club or point of hire. Additional costs are also incurred for participation in events.

In the case of commercial providers, the benefit of their use of the river comes in the form of a financial reward (i.e. turnover). The river provides the opportunity to generate a turnover although it is recognised that the size of this reward is to a large extent dependent on a range of variables. For example, in the case of a punt operator the potential to generate turnover depends on the number and type of boats available for hire and the level of demand at the chosen price.

Evidence from the wider literature also shows that the value to riparian owners and to other local residents of proximity to and/or views of the river environment is likely to be reflected in property prices. There is evidence to suggest that property values are enhanced by proximity to waterways. Work by Garrod and Willis (1993) found that waterfront properties (i.e. those that are adjacent or close to the water) commanded a premium over similar properties which were located elsewhere. Using a contingent valuation approach, based on the judgement of a random sample of members of the Royal Institute of Chartered Surveyors, the average uplift in value of new residential waterside properties was found to be 19%, while properties in the hinterland of the waterway attracted an average uplift of 8%. The paper also reported that a hedonic pricing model, based on actual sales data for the existing property stock (waterside properties, houses near the waterside and properties located some distance away), identified an uplift value of between 3% and 5%. Work carried out by Lambert Smith Hampton in 2003, comparing the offer prices for a range of residential properties in Hertfordshire, both with and without proximity to water, found an average uplift of 18% for waterside properties.

¹¹ Consumer surplus is an estimate of the benefits derived by users in excess of the price they pay.

¹² British Waterways 2009 Boat Owners Views Survey

4.8 Benefits by Stakeholder Group

Given the complexity of the benefit flows provided by the river, this chapter has presented evidence from a range of sources in order to illustrate the significant value which it provides. In particular, wider evidence shows that users place a positive value on access to waterways for informal recreation and consultation with River Cam stakeholders shows that most respondents classify their use of and benefits from the river as high.

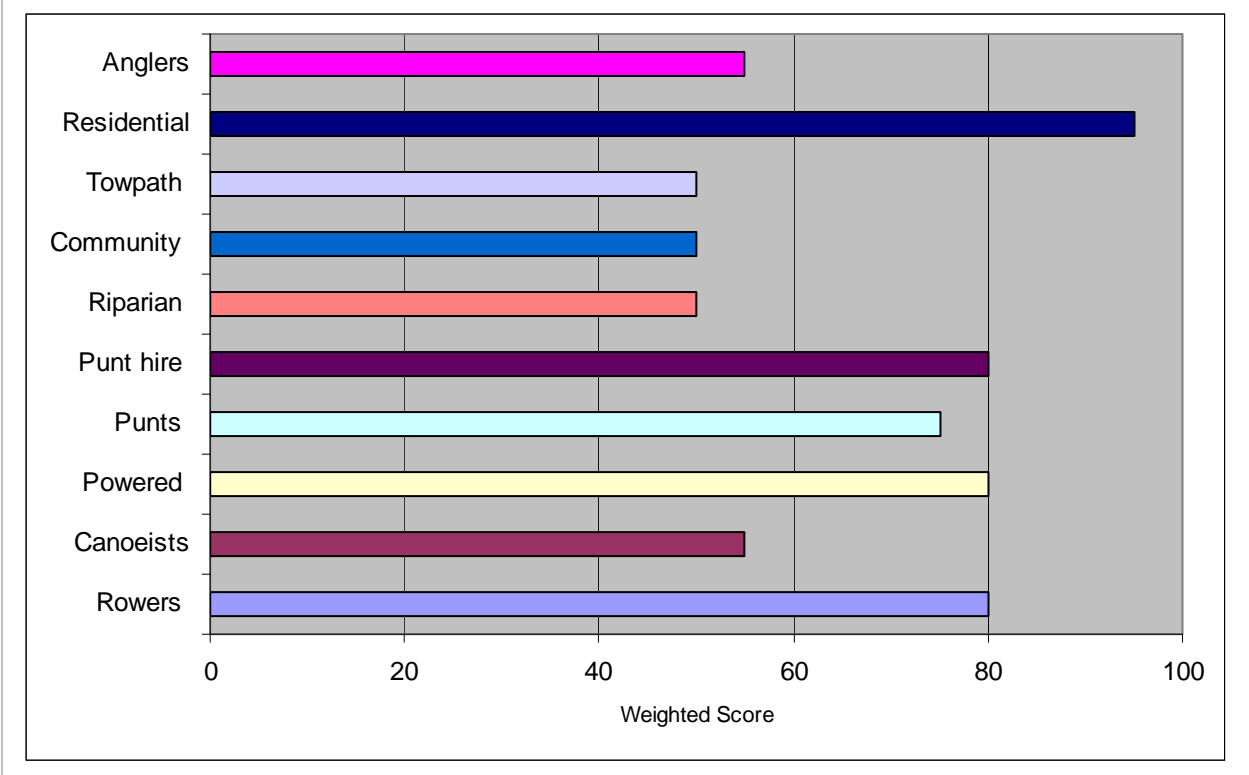
Evidence suggests that many stakeholder groups incur significant costs in order to pursue their chosen activity. It is also clear that all stakeholders will benefit (be it directly or indirectly) from the ongoing maintenance and capital expenditure incurred by the Conservators. The extent to which these stakeholders currently and could potentially contribute to these costs is considered in Section 5.

Taking into account the range of factors outlined in this chapter the following table provides an overview of benefits by stakeholder group. This information has then been combined by scoring each low, medium and high response to produce a total for each group. This total score has then been proportionately scaled (so that the maximum possible score = 100, if high were to be scored across all categories) and this is illustrated graphically in Figure 4.3.

Table 4.3 Benefits by Stakeholder Group

	Use	Benefits	Effect	Time	Cons Exp	Costs Incurred	Wider Evidence
Anglers	Medium	Medium	Medium	Low	Low	Low	Medium
Residential boaters	High	High	Medium	High	High	High	Medium
Towpath users	Medium	High	Low	n/a	Low	Low	Medium
Local residents	Medium	Medium	Low	n/a	Low	Low	High
Riparian owners	Medium	Medium	Low	n/a	Low	Low	High
Punt hire cos.	High	High	Medium	Medium	Low	High	Medium
Punters	High	High	Medium	Medium	Low	Medium	Medium
Powered boaters	Medium	Medium	Medium	Medium	High	High	Medium
Canoeists	Medium	Medium	Low	Low	Low	Medium	Medium
Rowers	High	High	Medium	Medium	Low	High	Medium

Figure 4.3 Benefits by Stakeholder Group



Note: 'community' refers to local residents, 'residential' to residential boaters and 'powered' to powered boat owners.

5.0 Practicability

5.1 Introduction

This section considers the feasibility and practicality of levying a charge on stakeholders as a contribution to the costs of maintaining the River Cam.

5.2 Current Situation

At present the only means by which stakeholders contribute to the costs of maintaining the navigation is by paying a fee to the Conservancy for registration of vessels (or, less significantly, by paying a fee for pontoons or angling rights or similar). Licence fees are currently set by type and size of craft with a multiplier applied to differentiate between private and commercial use (see Table 2.1). Fees are levied on the owners of the vessels so many users of river craft do not need to purchase licences as these are paid for by a club or hire company, although they may contribute to this cost indirectly through membership fees or hire charges. As noted previously, motorised craft have been permitted to choose to register with the Environment Agency and use Conservancy waters without incurring additional fees. This group have therefore only contributed to Conservancy costs to the extent that a proportion of fees collected by the Environment Agency have then returned to the Conservancy under the terms of the Interchange Agreement.

As no grant funding is received by the Conservators there is no contribution to costs made by general taxation and so no (indirect) contribution is made by local residents, riparian owners and visitors for the passive use benefits they obtain. Similarly, no contribution is made by users of the Halingway towpath.

5.3 Ability to Levy Charges

The registration of vessels is a clear requirement of the byelaws and highlights the Conservancy's right to charge for active use of the river. Lock tolls are also permitted by the byelaws although they have not been in force for some time. This is mainly due to the minimal level of traffic passing through and the relatively high cost and labour-intensive nature of collection. With regard to events, the byelaws note that information must be provided by the organiser at least 28 days prior to the event and that the organiser shall ensure that it takes place within any conditions imposed by the Conservators. Although administration costs are incurred by the Conservators as a result of events taking place, and costs (or disbenefits) are also imposed on other stakeholders who may find their own use of the river to be restricted, historically a charge has not been levied for use of the river for the purpose of events although it would be possible to do so.

The Conservancy also has the power to levy charges on visiting craft (i.e. those registered with another authority), except for powered boats registered with the Environment Agency which have benefited from the Interchange Agreement. There is no obvious legal basis to allow a charge to be levied on passive users of the river environment (i.e. those enjoying river views or making use of the towpath).

In September 2011, the Environment Agency gave notice to the Conservators that the Agency wished to terminate the current interchange agreement with effect from 31st March 2012, with a view to renegotiating the terms which apply from 2012/13 onwards. The current agreement has been in place since 1994 and since that time the income received by the Conservators from the agreement has varied on the basis of the outcome of the annual boat count rather than any reflection of use of the Conservancy Area by boats registered with the

Agency. It is considered that this termination of the current agreement provides an opportunity for the Conservators to negotiate a more favourable agreement which better reflects the extent to which Agency registered craft are making use of the Conservancy Area.

At present, charges are based on type, size and use of craft. A further option would be to consider other variables which could be used to differentiate prices. Currently size is determined by length except in the case of punts where a higher fee is imposed on those with a larger beam (width). However, it would be possible to introduce a similar system for residential and powered boats as consideration of both length and width provides a better reflection of the effect on navigation.

It would also be possible to design a differential pricing scheme which more explicitly considered the effect on navigation (or contribution to congestion), e.g. by considering times and places of use, including locks. Such a differential pricing approach would contribute to the achievement of economic efficiency objectives (with regards to allocation of a scarce resource). However, such a scheme would also be complicated to design and relatively costly to implement and enforce. Introduction of lock tolls in isolation would also face significant practical difficulties.

5.4 Enforcement

Conservancy staff administer and actively undertake enforcement of the current charging regime. Non-compliance with byelaws, or any other behaviour which generates complaints which require investigation by staff, imposes a cost on the Conservancy. Unregistered boats are served with a notice although there sometimes follows a lengthy and complex process before the situation is resolved. Partnership working is essential to effective enforcement, particularly given the multiplicity of land ownerships along the river and the fact that moorings (and associated enforcement) are generally not in the control of the Conservators.

More effective enforcement could increase Conservancy income where this helps to reduce the number of unregistered craft but enforcement of regulations could also reduce income if this leads to a decline in registrations from some categories (e.g. by reducing the number of independent punt hire operators). However, on balance, more effective enforcement should be viewed as a positive step which will improve the river environment for compliant users and help to increase benefit flows and income. Discussions with the Environment Agency suggest that a more proactive approach can be extremely effective both at recovering outstanding payments but also sending a signal which encourages compliance more generally. Such an approach would require the Conservators to engage the services of a professional debt collection agency.

A differential pricing regime would introduce a much greater degree of complexity which would be more costly to implement and enforce, and most probably rely on investment in new technology such as smart cards. Lock tolls would also bring challenges to implement and again require some investment to ensure that tolls could be collected (e.g. through a payment meter). Event charges could be administered by existing staff as part of the process of collecting information from the organiser, although it is recognised that there may then be subsequent costs for the organiser in terms of collecting and making the payment.

Craft visiting the Cam for the purposes of participating in an event are not required to pay a registration fee. However, other visitors are required to register although many (e.g. visiting canoeists or kayakers) do not realise that this is required. There may be potential for the Conservancy to discuss an interchange agreement with

other bodies (such as the British Canoe Union) or to consider introducing a range of visitor licences in order to simplify arrangements for visitors¹³.

5.5 Practicability by Stakeholder Group

This chapter has highlighted that at present many individuals who make active use of the river do not make a direct contribution towards the costs of maintenance and repairs, although many do so indirectly through payments made to other bodies. In addition to registration fees, the Conservators have powers to impose lock tolls and could also consider implementing specific charges for use of the river (e.g. events). A differential charging regime could be designed to improve the efficiency use but the required complexity could make such a system impractical. Therefore the existing registration system, alongside active enforcement measures, appears to be the most practicable although the Conservators should also consider the potential for additional charges to be levied as permitted by the byelaws.

The following table draws together the evidence on practicability of charging by stakeholder group. This information has then been combined by scoring each low, medium and high response to produce a total for each group. This total score has then been proportionately scaled (so that the maximum possible score = 100 if high were to be scored across all categories) and is illustrated graphically in Figure 5.1.

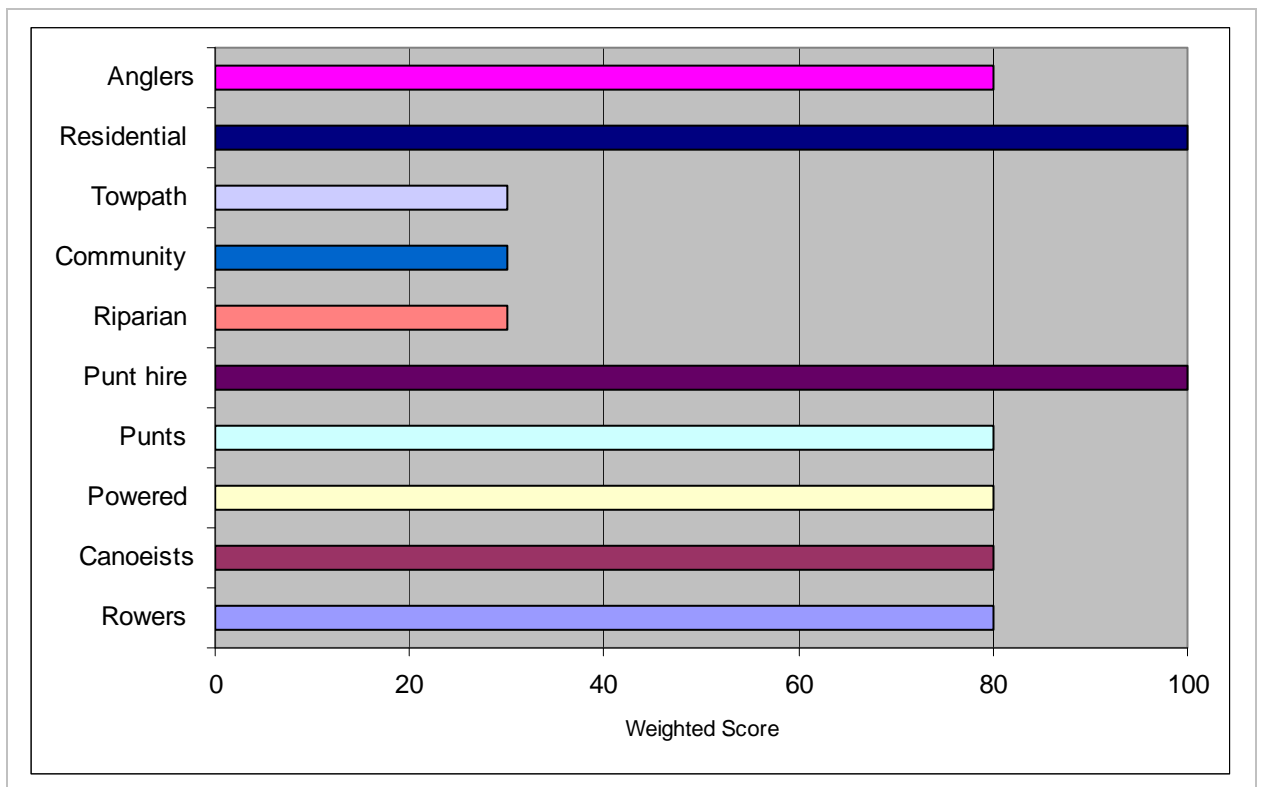
The scoring for riparian owners, local residents and towpath users reflects the fact that it would theoretically be possible to collect a fee from these groups indirectly to account for amenity benefits (i.e. through a contribution from local and national taxation). Overall the practicability of collecting a fee from punt operators is currently affected by the issues surrounding independent operators although steps are being taken to increase enforcement in this area. There are also potential difficulties in extracting a payment from visiting craft in all categories.

¹³ It should be noted that the byelaws only permit the Conservators to issue annual licences so this would need to take the form of an annual visitor licence and careful consideration would need to be given to the restrictions which should be placed upon this category and if they could be practically enforced.

Table 5.1 Practicability by Stakeholder Group

	Feasibility	Practicality
Anglers	High	Medium
Residential boaters	High	High
Towpath users	Low	Low
Local residents	Low	Low
Riparian owners	Low	Low
Punt hire cos.	High	High
Punters	High	Medium
Powered boaters	High	Medium
Canoeists	High	Medium
Rowers	High	Medium

Figure 5.1 Practicability by Stakeholder Group



Note: 'community' refers to local residents, 'residential' to residential boaters and 'powered' to powered boat owners.

6.0 Acceptability

6.1 Introduction

This section considers the acceptability of different charging options, taking account of stakeholder views and specific consideration of ability to pay criteria.

6.2 Stakeholder Views

Respondents to the survey were asked to respond to a series of statements designed to explore their views on the current licensing system and also the acceptability of potential elements of any future charging system.

Around two-fifths of respondents classified themselves as neutral when asked to comment on the clarity of the current licensing system, although a similar proportion (39%) agreed to some degree that the system was clear. However, there was less agreement regarding fairness with 32% agreeing (that it is currently fair) and 38% reporting that they were neutral. The relatively high proportion of neutral responses may reflect the fact that the majority of respondents do not own a Conservancy licence and so may have limited knowledge of the current system. Powered boat owners were the group most likely to consider the current system to be clear and also fair.

The majority of respondents agreed with the principles that fees should be based on the extent of obstruction to the navigation (55%) and level of use (58%). Anglers and powered boat owners were the groups most likely to strongly agree that fees should be based on the level of obstruction; powered boat owners and riparian owners were most likely to strongly agree that fees should be based on the level of use. There was an even higher level of support for the principle that those who generate income from use of the river should pay a higher fee than those who do not with 54% agreeing strongly with this statement and a further 21% slightly agreeing. Canoeists were most likely to agree strongly, followed by riparian owners, anglers and residential boat owners.

The retention of the Interchange Agreement prompted a neutral view from the majority of responses (54%), again perhaps because of a lack of awareness; although 27% strongly agreed that it should be retained (with powered boat owners and residential boat owners most likely to hold this view). During initial discussions with stakeholders prior to the survey, it was suggested that the Conservators should seek to renegotiate the agreement to secure a more favourable return for those vessels which are moored (and so spend the majority of their time) in Conservancy waters.

Survey respondents were asked to indicate their support for a number of proposed approaches to dealing with the Conservators' funding deficit. The abandonment of the Interchange Agreement attracted the least support, followed by the idea of a uniform increase in registration fees (across all categories). An increase in enforcement activity generated the most support, followed by the suggestion of a home mooring fee. Rowers were the group most likely to strongly support maintaining the status quo (the do nothing option), while commercial operators were most likely to strongly support a uniform increase. Respondents who identified themselves as riparian owners were the group which expressed strongest support for abandonment of the Interchange Agreement, the introduction of event fees and a targeted increase, while rowers were most likely to express strong support for a home mooring fee and powered boat owners were the group most likely to strongly

favour increased enforcement. Free text comments revealed a strong view that Conservators should control their own costs in order to minimise any rise in fees.

Respondents were also presented with a list of hypothetical examples of approaches to addressing the funding deficit and asked to rank these in order of preference. The options ranked as most preferred by the highest proportion of respondents were a targeted increase through the multiplier on commercial operations from five to seven (ranked as most preferred by 31% of respondents) and the introduction of a home mooring fee (also ranked as most preferred by 31% of respondents). Rowers, club representatives, local residents and towpath users were significantly more likely than canoeists, powered boaters and residential boaters to rank the home mooring fee as the most preferred option; whilst canoeists and punters were the groups most likely to rank the targeted increase as most preferred. The options which were least preferred were the event charge (given a ranking of eight by 32% of respondents) and the uniform increase (22%). Canoeists were most likely to rank the uniform increase as the least preferred option while rowers and club representatives were most likely to rate the event charge as least preferable.

6.3 Ability to Pay

In addition to the broad equity argument of ensuring similar treatment of those with similar needs and characteristics (horizontal equity) there is also a strong rationale for considering issues of fairness between different income groups (vertical equity).

At present no concessions are available to those registering their craft on the basis of income and/or employment status although it should be noted that the City Council offers a range of discounts on mooring fees to those on low incomes (which mirrors the concessions offered for Council Tax payments).

Survey respondents were asked to comment on whether ability to pay should be taken into account when developing a new charging system. There were a wide range of responses to this question, including a number of concerns about how such an approach would be implemented, particularly the means by which ability to pay could be determined (i.e. practicability). Around 30% of respondents did not respond to this question. However, approximately the same percentage indicated that they were against ability to pay being taken into account when setting charges for usage of the river. A slightly smaller proportion (around 24%) felt that ability to pay should be taken into account and the three most common views were that: (i) students should pay less, (ii) colleges should pay more; and, (iii) residential boat owners should pay more.

6.4 Acceptability by Stakeholder Group

Survey analysis shows that the majority support a system of fees which reflects the level of use, extent of obstruction to the navigation and differentiates between private and commercial operations. This is also reflected in the comparatively limited support expressed for a uniform increase in fees. Additional comments indicate that there is concern about the control of costs. The level of support for the approaches which involve increased enforcement activity and exploration of other funding or cost saving opportunities highlights that the Conservators need to do more to demonstrate that they are providing stakeholders with value for money.

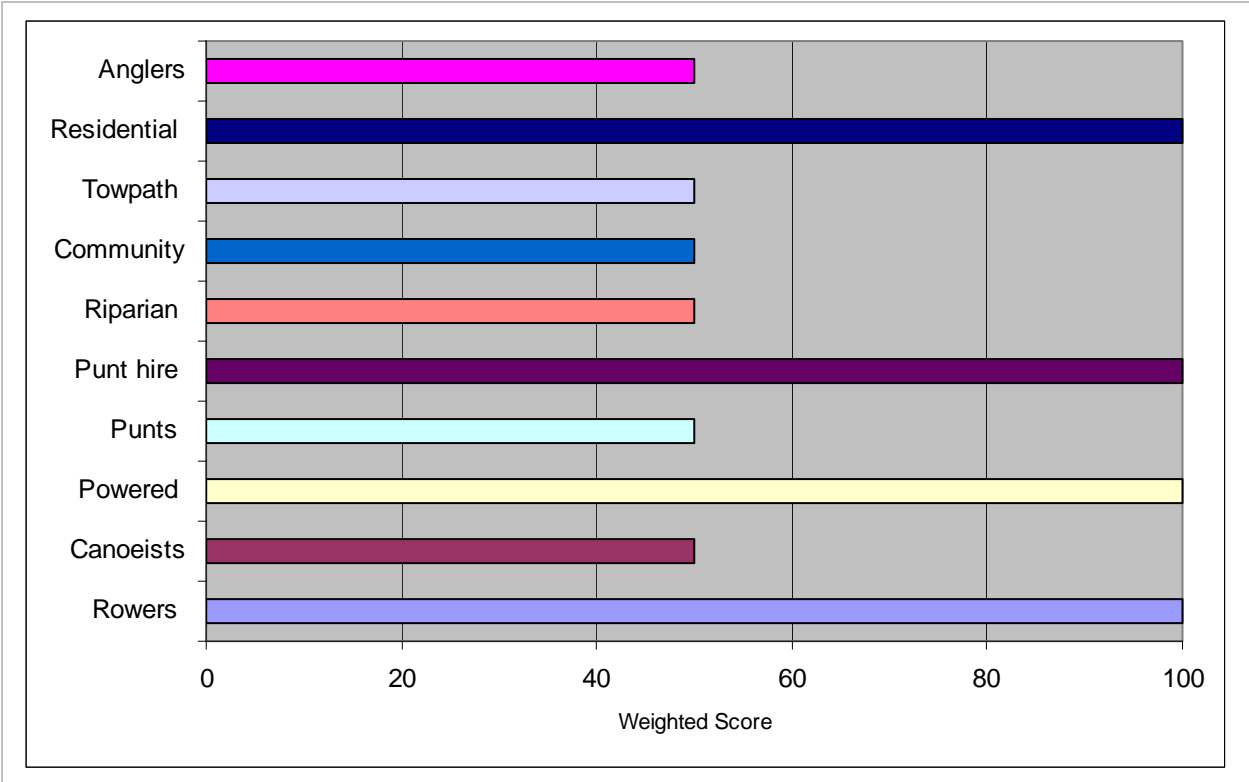
Taking all factors into account, the following table attempts to summarise the views of stakeholders regarding the acceptability of charging for different groups (where no specific view either way has emerged regarding a particular group this has been stated as neutral in the table and marked at the mid-point of the scale in the

chart). This information has then been combined by scoring the rating for each group. This total score has then been proportionately scaled (so that the maximum possible score = 100 for a high rating and 50 for a neutral rating) and is illustrated graphically in Figure 6.1.

Table 6.1 Acceptability by Stakeholder Group

	Acceptability of Increased Charge	Rationale
Anglers	Neutral	-
Residential boaters	High	Obstruction to navigation; level of use; home mooring
Towpath users	Neutral	-
Local residents	Neutral	-
Riparian owners	Neutral (except for comments regarding payments by colleges)	-
Punt hire cos.	High	Commercial benefit; level of use
Punters	Neutral	-
Powered boaters	High	Obstruction to navigation; home mooring
Canoeists	Neutral	-
Rowers	High	Use of navigation

Figure 6.1 Acceptability by Stakeholder Group



Note: 'community' refers to local residents, 'residential' to residential boaters and 'powered' to powered boat owners

7.0 Comparability

7.1 Introduction

This section considers the approaches which have been taken by other navigation authorities and looks at the comparability of licensing on the Cam with approaches taken elsewhere.

7.2 Approaches

Navigation authorities differ in their strategies for generating income and also in their circumstances, location and user groups. The common factor is charging for direct use of the waterway via a registration system that differentiates between different categories of user. The approach to charging is often determined by the historical legacies of the authority, although issues of rising costs and public funding cuts in recent years is forcing navigation authorities to look carefully at their income streams and spending profiles.

As previously noted, the Environment Agency and British Waterways have developed an elasticity model which is used to indicate how much powered boaters would be willing to pay, based on economic conditions and affordability, for use of waterways. It is considered that the relationship between registration fees and demand for boating is relatively inelastic, primarily because the cost of registration is a relatively small component of the overall costs of boating.

Registration systems in use elsewhere are broadly similar to that in place on the Cam, with different charges made for different types and/or sizes of vessel. However, some authorities, such as the Avon Navigation Trust, offer a range of short-term licences for visitors (with costs based on duration of stay) and others make a charge for events (including the River Wey and Godalming Navigations). A particular challenge for the Cam Conservators is the diversity and volume of use, including the long tradition of punting in Cambridge. The combination of intense punting and rowing activity and range of other uses within a single navigation authority is unique, with Oxford being the most obvious comparator (although even then does not seem to experience such high levels of demand).

Mooring fees are a major source of income for some navigation authorities, particularly British Waterways and the Environment Agency. However, the majority of moorings on the Cam are owned by the local authority (as the riparian land owner) and so do not provide a source of income for the Conservancy.

Some navigation authorities benefit from public funding, either from central government or a local authority, although the levels of this support are in decline and experience shows it is very difficult for a navigation authority to be self-funding. British Waterways will soon (from April 2012) transfer to charitable status which will allow access to new funding streams. This arrangement will be reviewed in 2014 and steps may then be taken to incorporate the Environment Agency navigations.

The following case studies summarise approaches adopted by other navigation authorities.

Avon Navigation Trust

The licensing system is broadly similar to that used on the Cam with different charges made for different types/lengths of craft. An annual system is used which means that all licences come up for renewal on 1st January and for people buying part way through the year the full annual fee must be paid except for licences issued after 1st September which attract a 50% discount. This system was put in place to reduce the administration burden to the trust as they have limited staff resources.

Sailing and rowing clubs benefit from a bulk licence, the cost of which is based on the normal cost per boat with a percentage discount applied to reflect bulk purchase.

The authority also offers a range of short-term licences (e.g. 24 hour, 48 hour, one week, etc) aimed at holidaymakers. The equivalent cost per day is considerably more than the annual licence and the fee based purely on duration, not size of boat. A reciprocal agreement with British Waterways allows them to offer a 20% discount on fees for those who already have a British Waterways licence.

Fees are reviewed annually in September and then set for the coming year based on the current financial situation of the trust (including any capital works required which increases the need for revenue generation) and potential activity volumes/demand for use of the river. Byelaws require that they are seen to be reasonable in setting fees.

River Wey and Godalming Navigations

Though they are part of the National Trust, the navigation authority operates as an independent entity. The licensing regime ('classification system') breaks down into five categories based on the length of the boat plus separate categories for portable canoes or rowing boats. In addition they also offer visitor licences based on the duration of stay.

Fees are reviewed annual with reference to a range of factors including the rate of inflation, the charges made by other navigation authorities, mooring capacity and length of waiting lists.

Income is also generated from the few events they run themselves as well as events run by others and use of the property more generally. This includes fishing matches, team building events and charity events.

7.3 Charges

Direct comparisons of licence fees are complicated by the number of different methods and scales which are in use. While size of vessel is commonly used to assess the licence charge, size brackets vary between different agencies. Most authorities use length as a measure of size; however, for the River Thames the Environment Agency calculates fees for powered boats on the basis of the chargeable area¹⁴ while the Broads Authority also define categories on the basis of area which allows both length and width to be taken into account. In addition, it is also difficult to compare like with like as each navigation offers a unique combination of features and circumstance (including funding arrangements) which in turn impacts on the diversity of use, the benefits which can be derived and the costs incurred.

¹⁴ "Registration charges for all powered boats are calculated on the area of your boat in square metres. Multiplying the length by the beam (width) of your boat will give the chargeable area. The charge per square metre for 2011 is £15.66, with a minimum charge for five square metres." (<http://www.environment-agency.gov.uk/homeandleisure/recreation/boating/31609.aspx>)

The following table presents charges levied by a selection of navigation authorities for the main categories of vessel although this does not allow for direct comparison given differences in a number of important contextual factors such as the availability of other income streams (for example moorings) and the provision of public funding (for example British Waterways currently receives around half of the cost of maintaining its network from the taxpayer). The table highlights the significant variability in fee rates between the authorities shown.

Table 7.1 Comparison of Registration Fees

Vessel	British Waterways	Avon Navigation Trust	Environment Agency (Anglian Region)	Conservators
Rowing craft	£43.78	£102.00 (scull) - £206.00 (VIII) (50% prompt payment discount available)	£30.00 British Rowing IA	£35.90 (scull) – £55.10 (VIII)
Canoes	£43.78	£62.00 - £78.00 <5m - £78.00 >5m (50% prompt payment discount available)	£30.00 British Canoe Union IA	£35.90 <5m – £71.84 >5m
Sail (3m – 5m)	£439.27 (10% prompt payment discount available)	£62.00 (50% prompt payment discount available)	£42.32	£59.86
Mechanically propelled vessel, engine not over 4hp (up to 5m)	£439.27 (10% prompt payment discount available)	£140.00 - £222.00 (50% prompt payment discount available)	£66.65	£60.98
Mechanically propelled vessel, engine over 4hp (12.5-15m)	£681.48 - £741.68 (10% prompt payment discount available)	£378.00 (50% prompt payment discount available)	£660.99	£621.41
Houseboat	Priced as per other powered or unpowered craft	Residential Licence £80 (or £200 for boats registering as residential for the first time) payable in addition to applicable boat licence fee (50% prompt payment discount available)	515.83	£653.72
Non-commercial craft - single punts	£469.38 (18' – 21'3") (10% prompt payment discount available)	£86.00 (17'7" – 25') (50% prompt payment discount available)	£30.00	£87.41
Unpowered boats for hire (e.g. single punts & ferry punts)	£65.45 (18'-21'3") - £69.61 (21'4" – 24'7") ¹ (10% prompt payment discount available)	£220 (17'7" – 25')	£37.50 ²	£437.05 (single) - £1,092.65 (ferry)

Note: IA = Interchange Agreement. For Avon Navigation Trust figures quoted are full licence charges which apply to craft already afloat on ANT water. 1: Unpowered boats for hire qualify for a 90% discount. 2: A multiplier of 1.25 applies to short-term or day hire.

The purpose of the registration fee is to provide a mechanism for users to contribute towards the costs of maintaining the navigation; these maintenance costs necessarily vary between locations depending on the characteristics and condition of the site but also other factors such as the frequency and pattern of use.

Although technically the river environment is a non-market good the registration fee can be seen as a functioning as a 'price' as it provides a mechanism for the Conservators to recoup a contribution from users for the service they undertake in maintaining this asset.

According to economic theory, prices in markets are influenced by the interaction of demand and supply. Supply is influenced by the cost of providing the good or service in question while demand is influenced by the utility which consumers derive from their purchase. Therefore, although comparison of fees is instructive and provides an indication of market rates it does not account for specific variations in supply and demand, and the nature of the 'product' is such that variations in fee levels will exist.

Accepting that variation in fee levels between waterways is likely to exist, the next variable to consider is the rate of increase in fees. In general, registration fees have increased significantly (and by amounts above inflation) in recent years as navigation authorities have struggled to balance the costs of maintaining navigation against available revenue. The Environment Agency has recently announced that registration charges will increase by the Consumer Price Index (CPI) plus 2% per in 2012, 2013 and 2014. This equates to an increase of 6.4% in 2012.

For the Conservancy, historically fees for powered craft have been set at 95% of the equivalent Environment Agency charge to try to attract some registrations although most powered boat owners register with the Agency as the extra cost allows them to navigate in both the Conservancy Area and the Environment Agency Anglian region. As a result of this tracking of Agency fees, the charges for powered boats in the Conservancy Area have risen more slowly than those for unpowered craft.

Demand elasticity modelling suggests that for boating the decision to participate is based on the overall costs of the activity. Registration fees are an element of this but another is mooring fees. AINA report that demand for residential moorings is currently outstripping supply¹⁵. Residential moorings in Cambridge are primarily within the control of Cambridge City Council and there is known to be a waiting list. A charge is payable for these moorings but this is a flat fee, such that larger vessels pay the same amount as smaller ones. Discounts are available for a range of concessions, including single occupancy, student status and those in receipt of means tested benefits. Research undertaken on behalf of the City Council found that Cambridge was the least expensive residential mooring site uncovered by the study¹⁶. The differential increases when the available discounts are taken into account and also the fact that residential moorers in Cambridge are not liable to pay Council Tax. However, the report noted that other mooring providers take a market-led approach, pricing at market rates for their areas, rather than being responsive to ability to pay. The income generated by the City Council from moorings is not hypothecated and although some riverbank improvements and maintenance are planned each year, this is not necessarily or directly linked to the income from mooring charges.

As is the case in the Conservancy Area, multipliers are generally applied by navigation authorities to differentiate commercial operations from private users. However, British Waterways seek to enter into trading agreements with trip-boats, whereby when the operation turns over more than a certain threshold level then the operator pays British Waterways an agreed percentage of this amount. Commercial punt operators are also

¹⁵ AINA (2011), Residential use of waterways, online available at:

<http://aina.org.uk/docs/AINA%20Residential%20Use%20of%20Waterways%20Advisory%20Doc%20Feb%202011.pdf>

¹⁶ Tales from the Riverbank (Phil Back Associates, October 2009).

licensed by British Waterways in Oxford and East London. Recent market entry by independent operators suggests that demand for punt hire is relatively strong in Cambridge and, as noted previously, the benefit principle supports the application of a higher charge for those who generate a commercial return from the resource.

7.4 Comparability

As noted above, it is not possible to make a direct comparison of registration charges between authorities and also not meaningful given the differing circumstances of different navigation areas. The Cam has a series of unique characteristics in terms of infrastructure, mix of use and the legacy of the way the fee structure has evolved and is not able to subsidise fees through mooring charges and other public funding in the way that other navigation authorities are able to. The key point is that all navigation authorities have statutory obligations to fulfil and must take steps to ensure that they generate a level of income which allows them to do this. However, it is clear that going forward the Conservators must ensure transparency and be able to demonstrate the steps they have taken to control costs and justify significant increases in fees.

8.0 Multi-Criteria Analysis

8.1 Introduction

This section draws together the evidence presented in the preceding chapters in order to set out an overall multi-criteria analysis of the issues and then presents a series of future charging options for consideration by the Conservators. As noted in Section 3, the analytical framework is based upon the broad principle of linking charges to the benefits received along with consideration of practicability, acceptability and fairness.

8.2 The Benefit Principle

There are significant costs associated with the upkeep (both general maintenance and capital works) of the River Cam. These costs are borne by the Conservators with no contribution from general taxation, despite the public good characteristics of the river. Owners of vessels make a contribution to these costs via the payment of boat registration fees or contribute indirectly via the Interchange Agreement.

Significant benefits are gained from active use of the river and this is reflected in the increasing popularity of river-based activity and the costs of participation, ranging from the cost of a boat, fuel and moorings to the cost of club membership, travel to the river or payment of hire fees. These costs provide a proxy estimate of the value which individuals place on the activity in question, and registration fees are typically a relatively small proportion of this overall cost. Commercial returns also exist, primarily through the hiring of punts and other vessels to members of the public (both local people and visitors).

Consideration of the available evidence on the benefits of active use (primarily the costs incurred in participation and available evidence from the literature) suggests that the value to users greatly exceeds the cost of registration.

The high level of use and benefits gained by different groups (both active and passive users) was acknowledged by stakeholders in their responses to the survey, both in relation to the groups they identified themselves with and also their perceptions of the behaviour of others.

The funding gap has arisen primarily due to the high cost of capital repairs. These costs occur at regular intervals due to the time-limited nature of any work undertaken. However, they are ongoing and essential for either directly maintaining the navigation (e.g. lock repairs) or indirectly contributing towards maintenance costs (e.g. repairs to property which is then used to generate income). The types of vessel which make use of the locks will benefit most directly from this expenditure (i.e. powered boats), although all users will benefit to the extent that all of the expenditure contributes towards maintaining the navigation in its current state (and therefore maintaining current benefit flows for years to come).

Therefore, there is a rationale for seeking further contributions from stakeholders to enable this investment, and ideally this would reflect the uncaptured user benefits which currently exist.

8.3 Practicability

Although it is clear from the analysis above that many groups are not making a contribution which reflects the value they place on the resource, the ability of the Conservancy to elicit payments from users also needs to be considered.

The ability of the Conservancy to levy charges on users is centred upon registration of vessels. Lock tolls and event charges could also be potentially introduced although there are significant practical difficulties associated with lock tolls which mean that it is not considered to be a cost effective approach at this time. These mechanisms are focused on eliciting payment from owners or users of river craft. However, there is no obvious legal basis for the Conservancy to elicit payment from towpath users or those who derive 'passive' benefits. A contribution from general tax revenues could be sought from the relevant local authority in recognition of the public good aspects of the Conservancy Area. Given the current public spending cuts, securing a contribution of this type would appear to be unlikely. That said, it should be noted that other navigation authorities do benefit from public funding, for example British Waterways currently receives around half of the annual cost of maintaining the canal network from taxpayers who are, in return, free to use the towpaths. At present the Conservators are providing a significant stream of benefits to the public free of charge but it does not appear to be feasible for the Conservators to directly elicit a payment for this.

A variable (or differential) pricing scheme could be implemented in order to ensure that prices better reflect the costs imposed on others (and the river itself) by user behaviour. However, design of a workable system would be complex and, although this type of system can be used to improve the efficiency of the allocation of scarce resources, demand management is not the primary purpose of this exercise.

Administration and enforcement costs are also an important consideration and the current system requires a significant staff input although the introduction of online registration is being considered and may create some efficiency savings. The introduction of additional elements of charging would necessarily require further staff input, e.g. in the case of an event charge this could be incorporated into the process by which event details are passed to the Control Officer (River Manager). A more proactive approach to enforcement has potential to improve the recovery rate of unpaid fees and also to encourage improved compliance more generally.

8.4 Acceptability

The majority of respondents agreed with the principles that fees should be based on the extent of obstruction to the navigation, the level of use and that those who generate a commercial benefit should pay relatively more than private individuals. Combining this with the discussion of use and benefit in Section 4 suggests that moored boats should pay more than those which spend time both on and off the water and that commercial operators should pay more than other users.

Analysis of survey responses for different potential charging strategies showed that preferences are heavily correlated to stakeholder group. This could be interpreted as being indicative of the conflict between groups which share the same parts of the river (and therefore compete for the same allocation of the resource) and more generally the bad feeling which exists between some groups because of perceived differences in the contribution they make (or do not make) to the costs of maintaining the river. However, overall it is clear that a uniform increase (or sharing of the burden of the deficit) was considered to be less acceptable than a targeted increase. The introduction of event fees was also given a low ranking although further analysis shows that there

is a divergence between the views of different groups with regards to this option. Overall, the introduction of a home mooring fee obtained strong support.

In addition, there was strong support for options which involved action being taken by the Conservators to increase revenue from other sources and a view that more should be done to control costs. It is clear that the Conservators need to be seen to do more in this respect, e.g. through developing and maintaining partnerships to explore the potential to create efficiencies.

8.5 Fairness

Fairness is multi-dimensional in this case and we have already considered equity in terms of the benefits gained whilst stakeholder views on acceptability provides an insight into perceptions of fairness.

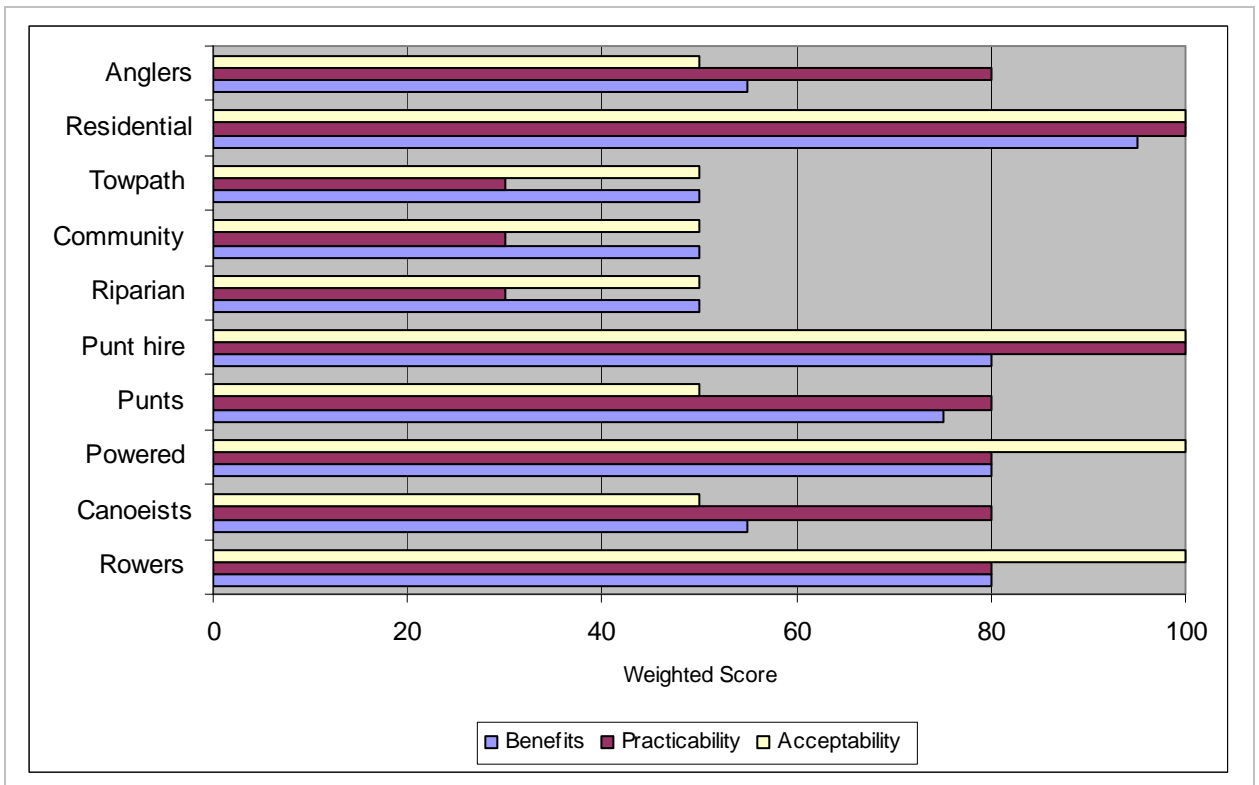
Comparison of the approach taken by the Conservators shows that it is broadly in line with the approaches adopted by other navigation authorities. The problem of increasing costs and a diminishing supply of public funding had led other authorities to review their income generation options in recent years and while some are also able to generate significant income from mooring fees, this is not an option for the Conservators due to the majority of moorings being on land which they do not own.

Fee rates can be seen to be a reflection of the costs involved in maintaining and managing a particular navigation which are, in turn, influenced by the features and circumstances of the waterway in question. Comparison highlights how the larger authorities are able to benefit from economies of scale and also how costs are influenced by the level and diversity of use. This latter point is important as it is difficult to find a waterway which can be considered comparable to the Cam given the number of active users and diversity of activity (particularly the high volume of events and demand for punting), and the associated complexities of management and administration.

8.6 Assessment by Stakeholder Group

Drawing together the analysis, the following chart highlights residential boats, punt hire companies, powered boat owners and rowers as the groups which derive the highest levels of benefit from the river and also the groups for which charging is both most practicable and acceptable. As explained in the relevant chapters, the chart is derived from rating each assessed element of the benefits, practicability and acceptability criteria as low, medium or high then scoring each rating to produce a numerical total for each group. This total score has then been proportionately scaled (so that the maximum possible score = 100 if high were to be scored across all elements with a category).

Figure 8.1 Assessment by Stakeholder Group



Note: 'community' refers to local residents, 'residential' to residential boaters and 'powered' to powered boat owners.

8.7 Funding Approaches

The following table revisits the charging options presented in the consultation document and provides an assessment on the basis of each element of the analytical framework and the balance of evidence reviewed.

Table 8.1 Charging Options

Option	Benefits Principle	Practicability	Acceptability	Fairness
Uniform increase	Low	High	Low	Medium
Event charge	High	High	Low ¹⁷	High
Targeted increase ¹⁸	High	High	High	High
Home mooring fee ¹⁹	High	High	High	High
Lock toll & event charge	Medium	Medium	Low	Medium
Lock toll & uniform increase	Medium	Medium	Medium	Medium
Home mooring fee & uniform increase	Medium	Medium	Medium	Medium
Targeted increase and event charge	Medium	Medium	Medium	Medium

The options which score most highly against these criteria are a targeted increase and home mooring fee followed by an event charge. Each of these is considered in more detail below.

Targeted Increase

The example provided in the survey questionnaire concerned an increase in the multiplier on commercial operations. The support for this option reflected the views that charges should be based upon the level of use and effect on navigation and also that commercial operators should pay relatively more than private individuals. Making a targeted increase also provides an opportunity to address perceived unfairness in the current system and better reflect the level of benefits gained by different groups.

Home Mooring Fee

This would involve a fee being levied on boats which have a home mooring in the Conservancy Area (to be termed a 'Conservancy Resident Fee' or similar). The application of such a fee provides a means of addressing the limited contribution made by those who choose to register with the Environment Agency then moor, and spend the majority of their time, on Conservancy waters. The City Council provides moorings for 70 residential boats and further residential boats are moored at other locations such as Riverside, Fen Ditton and Bottisham. In addition, there are a number of powered boats kept at riparian moorings. The support for this option shows that it is broadly acceptable and the rationale accords well with the benefit principle and the view that residential boats have a disproportionate effect on the navigation. However, the opportunity for renegotiation of the Interchange Agreement may allow this charge to be levied more indirectly (i.e. by negotiating a higher return for boats resident in the Conservancy Area).

¹⁷ The overall assessment here reflects the survey findings which in turn reflect the dominance of rowers in the survey sample.

¹⁸ Assuming that the targeting is based upon the available evidence and consideration of the different aspects of the analytical framework.

¹⁹ A modification made to the terms of the Interchange Agreement in April 2010 allows the Conservators to apply an additional registration fee to those craft with home moorings in the Conservancy Area should they choose to do so. For this purpose a home mooring shall be any place or area where a vessel can be left lawfully when it is not being used for cruising and for the avoidance of doubt shall not include visitor moorings.

Event Charge

Although the idea of an event charge emerged as being one of the options which was least favoured by survey respondents overall, further analysis shows that this was skewed by rowers in the survey sample. However, this approach scores well against other criteria as it provides a means to address the perception by some that rowers have a disproportionate effect on the navigation, primarily due to the disbenefits that events cause to other stakeholders. Rowers, along with residential boat owners and commercial operators, were generally perceived as obtaining the highest level of benefit from the navigation and analysis by stakeholder group showed no significant differences in ratings for these categories of user. Another way that this option could be presented is as a fee for visiting craft. At present, visiting craft participating in an event are not required to pay for their use of the Cam, although if this requirement was to be introduced a range of visitor licences would need to be made available.

Lock tolls were presented in combination with other approaches due to their limited income generation potential (resulting from limited use of the locks) and these combinations did not score highly. As noted, further consideration has shown that implementation of lock tolls would present a number of practical challenges and the need for disproportionate revenue and / or capital expenditure. Therefore such an approach would not be cost effective at the present time.

9.0 Implications for Charging

9.1 Introduction

Following on from the multi-criteria analysis for each stakeholder group and charging approach, this section focuses on quantifying the basis for a new charging strategy.

9.2 Base Increase

Although the stakeholder survey revealed a uniform increase to be one of the least popular approaches to closing the funding gap it is recommended that a base increase is applied in order to fairly attribute the effects of any inflationary cost increases over the coming years.

It is suggested that this increase is equal to the rate of CPI plus an additional 2% and that this formula is applied for 2012/13 but also 2013/14 and 2014/15. Should CPI fall below zero (i.e. deflation) then the inflationary component will be taken as zero and an overall base increase of 2% will apply. The CPI figure used should be that for October of the previous year as this figure is generally available in the second half of November, thus allowing the Conservators to make a timely announcement about the increase for the coming year. CPI in October 2011 was recorded at 5%.²⁰

Announcing that this formula will also be applied in 2013/14 and 2014/15 is good practice as it allows fee payers to anticipate future base increases and make decisions accordingly²¹. The impact of a base increase is summarised in Table 9.1 below.

Table 9.1 Base Increase

Component	Additional Income (2012/13)	Notes
Base Increase	£13,888 <i>Of which:</i> <i>CPI linked: £9,920</i> <i>Above inflation: £3,968</i>	A base increase of 7% increases income from Conservancy registrations by £13,888, assuming no change in the volume of registrations. The CPI component (5% in year 1) contributes to inflationary costs increases but the remainder contributes to the funding shortfall. Some reduction in demand for licences may occur which would reduce the income generated by the base increase; however, this is countered by the increase in receipts from the Interchange Agreement which would be expected to occur as a result of a similar 2% above inflation base increase being applied to Environment Agency registration fees.

By setting the base increase at a level slightly above inflation this approach also makes some contribution to the funding shortfall (as set out in Table 9.1). This approach is in line with that taken by the Environment Agency which has recently announced that registration charges will increase by the consumer price index plus 2% in

²⁰ Source: Office for National Statistics <http://www.ons.gov.uk/ons/rel/cpi/consumer-price-indices/october-2011/index.html>

²¹ Based on current medium-term forecasts, CPI is expected to reach 2.7% in 2012 and 2.0% in 2013 (annual average of new forecasts). Source: Forecasts for the UK Economy – a comparison of independent forecasts (HM Treasury, November 2011).

2012, 2013 and 2014 and it is anticipated that British Waterways will also levy an increase in fees which is above the rate of inflation in 2012 and 2013²².

An alternative approach to the CPI-linked base increase would be to announce a fixed base increase of 5% to apply in each of the next three years. This would eliminate uncertainty about the level of the base increase but, given that significantly lower levels of CPI are being forecast in the coming years it is fairer to apply a variable increase which is linked to CPI.

9.3 Targeted Increases

As noted above, the implementation of a base increase of 2% above the rate of inflation will make an anticipated net contribution of around £4,000 to the funding shortfall.

Our recommendation is that the remaining shortfall should be sourced from the stakeholder groups which receive the highest net benefit from the river. Based on the analysis in the previous chapters these are; commercial punt operators, rowers, residential boat owners and powered boat owners. Increases can be levied both through appropriate targeted increases and the introduction of event fees. The following sections set out the rationale and suggested mechanisms for achieving this, ending with a table which sets out the recommended proportion of the shortfall to be targeted from each of these groups along with the rationale for this assessment.

Punt Operators

Punt operators are able to generate a commercial benefit from their use of the river. Although it was not possible to verify the amount of turnover generated, an analysis of the prices charged by the established operators show that the price of a tour costs at least £12 per person for one hour while self-hire costs in the region of £16 per hour. It is noted that there are some individuals who operate from non-recognised punting stations and as a result are able to charge significantly less. However, plans by the Conservancy to strengthen enforcement would be expected to reduce this behaviour and also potentially increase trade for established operators.

There are currently 139 hire punts registered with the Conservancy plus a further 80 ferry punts. Assuming an average party size of eight people, a ferry punt would be able to generate the cost of an annual licence after completing 11 one hour tours. Similarly, a self-hire single punt would need to generate 26 hires to cover the cost of a licence. Assuming that each registered ferry punt can generate an average of two one hour tours per day over a six month season and that each single is hired for approximately 1.5 hours per day over the same period, suggests that each ferry is able to generate turnover around 30 times the cost of the registration. It also suggests that each single punt generates turnover 10 times the cost of registration which illustrates the potential level of commercial return compared to current licence fees.

Clearly, operators have other costs which must be covered by this turnover but the high and seemingly inelastic demand for punting (an activity which has a strong association with the city) and the illustration of the high

²² It was reported that the British Waterways business plan for 2012 and 2013 projected licence price increases of 2% plus inflation in these years <http://www.britishwaterways.co.uk/media/documents/Changes-to-boat-licences-April-2011-consultation.pdf>

potential for revenue generation highlights that significant benefits are being gained from the river. This provides a strong rationale for increasing the fees paid by commercial operators. The most obvious mechanism for achieving this would be by increasing the commercial multiplier²³.

An alternative mechanism for charging punt operators would be to remove the commercial multiplier and instead require operators to pay the standard registration fees for their vessels but also to pay an additional fee of 50p per customer per hour²⁴. In order to generate an equivalent level of income to the above mechanism at the level of the current multiplier, around 240,000 customer hours would need to be achieved (and payments collected). However, such an approach may generate enforcement difficulties unless commercial operators were supportive of the approach and agreed to provide records to verify the payments made.

Rowing

As with punting, rowing is also strongly associated with Cambridge. The perception of both rowers themselves and other user groups was that rowers have high use and derive significant levels of benefit. Rowing regattas and similar events are frequently held and provide additional benefits for competitors although this type of activity is considered separately below. The majority of rowing is undertaken through clubs which own and therefore register vessels. These craft are then used by a number of different people unlike, for example, powered boats which tend to be used primarily by their owner.

In recognition of the fact that each club-owned craft provides a benefit stream to multiple users (rather than just a single owner) it is proposed that an increase in fees is made through application of a multiplier.²⁵ This is consistent with the application of a multiplier on college owned punts which also provide a benefit stream to multiple users²⁶.

Residential Boats and Other Powered Boats

At present, the majority of residential and powered boat owners with a home mooring in the Conservancy area are able to register with the Environment Agency. As a result of the Interchange Agreement, the Conservancy received a payment from the Agency equal to 33% of a tariff 36 licence fee (currently approaching £170) which equates to a much lower relative contribution to costs from these craft compared to those which registered with the Conservancy. Initially it was considered that the application of a 'Conservancy Resident Fee' (termed 'home mooring fee' in the survey document) provided a possible mechanism to address this situation. However, the termination of the existing Interchange Agreement in September 2011 has provided an opportunity to secure a more proportionate contribution from Cam resident craft by renegotiating the terms of the agreement and making changes to the licence options which are available for owners of residential and (non-residential) powered boats.

There is a strong rationale for seeking a greater contribution from these craft; this applies to those owners who register with the Environment Agency and also those register with the Conservancy as the pegging of

²³ An alternative presentation would be to establish a new class 'commercial punt operations' with sub-classes for single and ferry punts which would be set at the appropriate level.

²⁴ This basis for charging is consistent with that proposed for events below.

²⁵ An alternative presentation would be to create a new class for 'club-owned rowing craft.'

²⁶ For consistency a multiplier should also be applied to other club owned craft e.g. canoes and sailing dinghies which are currently licensed as part of a bulk agreement.

Conservancy licences for motorised craft to 95% of the equivalent Environment Agency charge has meant that increases in registration fees for these craft have been proportionately less than those for non-powered vessels. Both residential and powered boat owners appear to receive a relatively high level of benefit from the waterway. In particular, residential craft spend all of their time on the river in contrast to most other vessel types which are taken in and out of the water, so there is a rationale for these craft to pay a relatively higher fee due to their effect on the navigation.

A number of wide beam boats currently moor in the Conservancy area (the City Council provides moorings for up to 15 residential boats with a beam of 2.15m or more) and there is also a rationale for an additional fee to be charged for these given the increased effect on navigation and also given the precedent for charging a premium on wide beam craft which is evidenced by the higher registration fee for wide beam (ferry) punts.

The river provides the occupants of these craft with a place to live and residential boats provide a relatively inexpensive option in a city which has recognised issues of housing affordability. In addition to boat registration, the owners are required to pay a mooring fee to the city council, the standard rate of which is currently just over £1,000 per annum but reduces by 25% for single occupants and by 50% for those who qualify for a range of concessions. Cambridge is significantly less expensive as a place to moor than many other locations in the country and living costs are reduced further due to the fact that occupants are not required to pay Council Tax (an amount likely to exceed the current mooring fee). The average rental price of a two bedroom house in Cambridge is around £850²⁷ and although it should be recognised that some of the saving in rent payments is likely to be offset by payments on a loan to cover the cost of purchasing a residential boat²⁸ this comparison illustrates that living on the river is likely to be considerably cheaper than procuring rented accommodation and that significant levels of benefit are being obtained by those who do so²⁹.

Event Fees

It is recommended that the Conservators use their byelaw powers to impose a fee on events based upon their scale. Such a fee would be imposed in recognition of the effect which events have on the navigation, and the potential disbenefits to other users which occur as a result, and the administration cost to the Conservancy. There is already a precedent for charging for events on the Cam as organisers of the Dragon Boat Festival are already required to pay a fee of £500 per day.

Based on current figures, over 130 events per year take place on the Cam, the vast majority of which do not directly pay for this use of the waterway, although most organisers require participants to pay an entry fee. Events range from fishing matches to rowing regattas to races involving kayaks, powered and sailing boats. The duration of these events varies from 1.5 hours to those which span several days and participation varies from those which attract less than 50 participants to the May Bumps which attract over 1,200 participants. The popularity of events is reflected in the survey responses which shows that a high proportion of respondents have either participated, helped to organise or watched an event.

²⁷ Source: www.findaproperty.com

²⁸ Our research suggests that second-hand residential boats are available to buy for around £50,000 (with some costing slightly less and others costing considerably more).

²⁹ Monthly repayments of a £50,000 loan over a period of 10 years at an interest rate of 5% would be in the region of £530.

Those who participate in events derive a benefit from this activity which is evidenced by their willingness to pay an entry fee, as a result this benefit can be seen as being additional to the benefit they would derive from their use of the river at other times (the utility provided by this regular use is evidenced by their willingness to incur a range of costs such as club membership fees or, in the case of powered boat owners, registration fees). As noted previously, the costs incurred would be expected to provide a lower estimate of the level of utility derived.

Entry fees vary although typically are in the range of £2 - £5 per person (but can be higher). These fees help organisers to cover their costs (e.g. insurance and prizes) with any surplus contributing to club funds. Demand from participants is assumed to be relatively inelastic, particularly for university events although perhaps less so for rowing events organised by the city clubs, suggesting that if a reasonable fee were to be imposed by the Conservancy, this could be passed on to participants via entry fees. Benefits evidence discussed in Chapter 4 suggests a willingness to pay of between £2.30 and £5.70³⁰ per visit for boating and other similar activity, which suggests that participants derive a value from the event which is over and above current entry fees.

Conservatively assuming an average duration of 3 hours, results in approaching 400 hours in which events are taking place on the river. During this time disbenefits potentially accrue to other river users if their activity is interrupted by the event. Again referring to the available willingness to pay evidence (between £2.30 and £5.70 per visit) highlights the potential scale of the loss in utility although there is a lack of evidence of the number of people directly affected by events and the extent to which this impacts on the benefits they derive with which to produce a collective estimate.

Overall, it is suggested that a fee should be applied to on-water events. Initially this should be applied only to the largest events (such as the Bumps), but with potential for this it to be extended over time. Based on the available willingness to pay evidence it is suggested that an initial fee in the region of 25p to 30p per participant per day should be applied. The available evidence on elasticity of demand suggests that this relatively small per person contribution would not be expected to impact significantly on participation.

There are two possible mechanisms by which such a charge could be levied:

1. Organisers are required to submit details of event dates, timings and entrant numbers to the River Manager and are responsible for paying the charge on this basis (and the extent to which this is passed on to participants would be left to the organiser to decide).
2. Organisers are required to pay an administration charge to the River Manager with the charge varying according to the scale of the event (with fee bands designed to approximate the number of participants and/or number of days and/or length of course and therefore the effect on navigation).

Summary of Targeted Increases

The following table sets out the approximate contribution to the shortfall that should be sought from the identified groups. This is primarily based upon analysis of the benefits gained but also consideration of the fairness and acceptability taking account of factors such as number of craft in the identified groups and current contributions.

³⁰ Values updated to 2010 prices.

Table 9.2 Targeted Increases

Group	Proportion of Shortfall	Rationale
Punt Operators (and other commercial operators)	50%	The notion that those who generate income from use of the river should pay more provides a rationale for seeking a higher proportion of the shortfall from this group compared to non-commercial users.
Rowing Boats	15%	The fact that club boats are used by multiple beneficiaries provides a rationale for increasing fees for club-owned boats. Application of a multiplier is consistent with the situation for college owned punts.
Residential Boats Powered Boats	20%	Seeking a higher contribution from these groups helps to correct distortions created by the current Interchange Agreement. The fact that these boats spend a high amount of time on the navigation and are also considered to cause obstructions to other users provides a rationale for an increase in income from this group.
Event Fees	15%	A fee for events reflects the potential disbenefits to other users due to the effect on navigation.

Implementing Change

It is also recommended that new measures are publicised widely in order to allow planning by the affected groups and that the introduction of event fees is focused initially on larger events. During 2012/13 the Conservators should review and explore other income streams and the effect of new measures on demand, before making a decision on whether event fees should be applied more widely. It is also suggested that the Conservators closely monitor the impact of increases annually to ensure assumptions around impacts are realised. The table below sets out recommendations regarding the introduction of these measures.

Table 9.3 Staged Introduction

Component	Implementation
Increase in commercial multiplier	Implemented in full from 2012/13 alongside additional enforcement against operators at unauthorised locations (e.g. Garret Hostel Bridge).
Application of multiplier to club-owned rowing boats	Implemented in full from 2012/13.
Higher contribution from Cam resident boats	Implemented in full from 2012/13 as part of renegotiation of Interchange Agreement.
Event fees	Applicable only to large events in 2012/13 (e.g. the Bumps). Wider application to be considered.

9.4 Sensitivity Analysis

The calculations undertaken assume that the number of registrations remains relatively unchanged in 2012/13 compared to 2011/12. The available evidence suggests that demand is relatively inelastic and as a result will not be significantly affected by the proposed increase in registration fees although there is likely to be some minor adjustment across all categories in the short-term as a result of the increase.

In the case of residential boats the relatively long waiting list held by the City Council provides strong evidence of unmet demand and it is highly likely that a replacement occupier will be found for any residential boat owner who decides to give up their mooring.

However, one area where there may be more significant change is the registration of commercial punts due to increased enforcement against operation in unsuitable locations such as Garret Hostel Bridge. Assuming a reduction in commercial registrations of 10% (i.e. 14 single punts and 8 ferry punts) would in turn reduce total projected income from commercial punts by 10% which is a significant sum in the context of the amount required (around 40% of the target amount). However, if the proposal to mirror the Environment Agency's plan to increase fees in 2013 and 2014 by CPI plus 2% is adopted then this increase would provide some contingency against reductions in commercial punt registrations in the short-term. During this time it is possible that the reduction in competition from independent operators may encourage some established operators to increase the number of punts they register again off-setting some of the potential initial reduction in registrations.

10.0 Conclusions and Recommendations

10.1 Introduction

The analysis has shown how designing a solution to the problem being faced is a complex and multi-dimensional undertaking. This section highlights the main conclusions and sets out a series of recommendations to the Conservators concerning their future funding strategy which are rooted in the analysis and interpretation presented throughout this report.

10.2 Conclusions

The key conclusions of this research are that:

- The River Cam generates significant benefits for a range of stakeholders. Evidence suggests that these benefits exceed the current costs of participation (which include registration fees payable by craft owners).
- Application of an analytical framework focused on the benefits principle, but also taking account of practicability, acceptability and comparability, highlights residential boats, punt hire companies, powered boat owners and rowers as the groups which derive the highest levels of benefit from the river and also the groups for which charging is both most practicable and acceptable.

10.3 Recommendations

The recommendations emerging from our research can be summarised as follows:

- Increase relative fees for residential boats, powered boaters, punt operators and rowers to better reflect the benefits derived. Introduce a system of event fees to reflect the benefits derived by participants but also to compensate for the effect on navigation (and associated disbenefits imposed on other users).
- Fee increases should be staged and, mirroring the Environment Agency, announcements should be made on fees for the coming three year periods to promote transparency and facilitate planning of investments and other expenditure by clubs and individuals.
- Renegotiation of the Interchange Agreement should focus on amending the current method of calculation to better take account of the benefits derived by those boats which have a home mooring in the Conservancy Area, with potential for the payment for visiting boats to be based upon movements into and out of the area, although an agreement based upon days of use would require a more developed evidence base (e.g. small-scale survey work). Termination of the existing agreement also presents a risk which should be closely monitored alongside development of future Conservancy registration fees.
- Consider providing a range of visitor licences – to enable those without the required registration to visit the Conservancy Area without having to purchase a full annual licence. This is particularly relevant given the renegotiation of the Interchange Agreement. However, as this would need to be framed as an

annual visitor licence (due to the byelaws) consideration would need to be given to how restrictions on the duration of visit could be effectively enforced.

- Approach the local authorities to discuss the possibility of a funding contribution for the provision of a public resource which has a value both to local people and to tourists. To discuss partnership working with the local authorities more generally, including on issues such as tourism, leisure and recreation.
- Reflect on the results obtained by the Environment Agency from taking a more proactive approach to enforcement and consider adopting a similar approach in the Conservancy Area.
- Seek to increase community involvement in order to encourage a greater sense of ownership amongst stakeholders, for example a volunteering programme could be instigated with support from the Waterways Trust and would build on work existing work such as the clean up days organised by Camboaters and the similar work done by the Cambridge Canoe Club.
- Undertake a periodic review of assets and their income generation potential. Also explore other potential sources of funding (including the possibility of introducing a small number of paid for moorings) or cost savings through collaboration and partnership working.

Annex One: Consultation Document

See separate file

Annex Two: Survey Findings

Background to the survey

In September and October 2011, Ecorys carried out a consultation exercise on behalf of the Conservators of the River Cam into ways of raising funds in order to meet the costs of maintaining and managing the river and fulfilling its statutory duties. The consultation exercise included postal, online and face-to-face versions of a survey to ascertain the views of stakeholders on the use of the river; benefits gained from its use and views on current and future licensing options.

This report discusses the key findings from the survey.

Demography

The survey which was carried out as part of the consultation exercise generated over 700 responses; it is not clear what proportion of the river users this represents. Over two thirds (69%) of the responses were from men with the rest (31%) from women.

Gender (n=730)	
Male	69%
Female	31%

The respondents came from a wide range of age groups with no age group representing the majority. However, the findings highlight that a significant proportion (21%) of the responses were from those aged 16-24 as set out in the table below.

Age (n=729)	
16-24	21%
25-34	15%
35-44	17%
45-54	17%
55-64	16%
65 and over	15%

The survey attracted a wide range of users of the River Cam. Just under half (45%) of those who responded to the survey were rowers, a similar proportion (44%) were local residents and 41% were towpath users. Powered boat owners, mainly those that used powered pleasure crafts represented approximately a quarter (23%) of the responses. The lowest proportion (2%) of responses was from operators of commercial business. Table XXX below provides a breakdown of the respondents.

Stakeholder type (multiple responses permitted) (n=732)	
Rower	45%
Canoeist/kayaker	13%
Boat owner (powered pleasure craft)	23%
Operator of commercial business (which makes use of river)	2%
Representative of formal club or user group	9%
Riparian owner	3%
Punter	13%
Local resident	44%
Boat owner (residential)	7%
Angler	5%
Towpath user	41%
Other (included swimmers, workers, coxes)	3%

Over half (56%) of those who responded to the survey did not have a Conservators of the River Cam or Environment Agency licence and indicated that neither of these licences were relevant to them. Of the two licensing structure held by those who used the River Cam, most (30%) were from Environment Agency with only 14% from the Conservators of the River Cam.

Do you hold any of the following licences? (n=731)	
Conservators of the River Cam	14%
Environment Agency	30%
None-not relevant	56%
Other	2%

The survey highlights that a significant proportion of the users of the Cam had been involved in organised events either as organisers, participants or spectators. Just under a quarter (21%) indicated that they had organised events on the Cam, over half (54%) had participated in organised events and 47% had been involved as spectators at these events (Table XXX) .

Almost all (92%) of the rowers responding to the survey reported that they had participated in events on the Cam as competitors.

Have you ever been involved in any organised events on the Cam? (n=732) (multiple responses permitted)	
Yes – as organiser	21%
Yes – as participant	54%
Yes – as spectator	47%
No	36%

Usage and Benefits

To examine the extent to which people used the stretch of the River Cam of interest to this study and the benefits derived from its usage, the survey asked respondents to rate their usage using a 5 point scale from 'High' to 'Not at all'. The findings suggest that the survey generated a lot of interest from regular users of the Cam. Over half (59%) of those who were involved in the survey used it at least once a week and only 2% reported that they never used it at all. In between these two ranges, were those that used it less than once a month (19%) and those that used it at least once a month (15%).

How would you rate your usage of the Cam? (n=732)	
High (direct use at least once a week)	59%
Medium (direct use at least once a month)	15%
Low (direct use of less than once a month)	19%
Passive use only	6%
Not at all	2%

The majority (88%) of those who used the River Cam did so for purely recreational purposes. and just over a third (36%) indicated that the benefits derived from the use of the river were in relation to amenity benefits (such as enjoying the view). Only a small proportion of the responses (2%) related to commercial benefits and a similar proportion (2%) also reported that they did not get any benefits from the Cam. This proportion ties in with the proportion of those who indicated that they did not use the river at all. Those who indicated that they gained residential benefits from the Cam represented 11% of the overall responses.

What benefits do you currently get from the Cam? (n=733) (multiple responses permitted)	
Recreational	88%
Commercial	2%
Residential	11%
Amenity benefits (derived from passive use)	36%
No benefit	2%
Other	5%

To examine the perceptions of respondents on who they thought used the river, the survey asked them to rate the extent to which other stakeholders used it, the benefits gained from these users and the general impact on other users. Respondents were asked to rate these three key elements using a scale of 1 to 10, where 1 = very low and 10 = very high.

The findings suggest that the respondents felt that the top four types of users were:

- Rowers;
- Residential boaters;
- Punters; and
- Punt operators

Canoeists were on the other hand felt to be the group that least used the Cam.

With respect to the benefits gained, the findings again highlight that respondents felt that rowers derived the most benefits from using the Cam, followed by residential boaters, punters and punt operators. Riparian owners were felt to benefit the least from the river.

On the impact of the activities of the types of users on other users, respondents felt that the activities of rowers were likely to have the most impact on other users. This was followed closely by residential boaters, punt operators and punters. The type of user respondents felt were likely to have the least impact on other users were local residents, walkers and cyclists, riparian owners and canoeists.

Use, benefits gained and effect on navigation (mean average score by category/group, where 1=very low and 10=very high)			
	Level of use	Benefits gained	Effect on navigation
Rowers	7.6 (n=613)	8.0 (n=584)	6.2 (n=588)
Canoeists	4.2 (n=590)	6.8 (n=555)	3.5 (n=559)
Anglers	5.5 (n=581)	6.6 (n=547)	4.4 (n=559)
Punters	7.1 (n=556)	7.2 (n=530)	6.1 (n=534)
Owners of non-residential boats	4.9 (n=578)	6.0 (n=546)	5.2 (n=554)
Residential boaters	7.6 (n=572)	7.7 (n=541)	6.3 (n=550)
Punt operators	7.8 (n=540)	7.6 (n=518)	6.4 (n=519)
Riparian owners	4.7 (n=428)	5.8 (n=419)	3.3 (n=422)
Local residents	5.3 (n=539)	6.4 (n=522)	2.2 (n=513)
Walkers and cyclists	6.6 (n=574)	7.1 (n=546)	2.2 (n=525)

When respondents were asked whether any of the above user groups had a disproportionate effect on the navigation which was not currently being taken into account by the charging system, around a third of respondents (29%) chose not to respond, and a further proportion (16%) explicitly stated that they thought no user group had a disproportionate effect on the navigation.

However there were others who felt that some users groups had a disproportionate effect which was not currently being taken into account by the charging system. The user group having the most disproportionate effect on navigation cited most frequently by survey respondents was rowers. Approximately 14% of the total number of respondents to the survey specifically cited this group as having a disproportionate effect. Within this, specific issues raised regarding rowers included events which prevented from using the Cam, and multiple use of one rowing boat with one license by many different users.

The second most frequently cited user group was residential boat owners (cited by approximately 10% of total respondents as having a disproportionate effect on navigation), comments generally focused on the length of time spent on the Cam compared to other user groups and a number specifically referred to problems with boats which were moored on narrow sections of river.

The third group cited by 4% of respondents as having a disproportionate effect on the navigation were those deriving commercial benefits from the Cam, such as commercial punt operators and commercial cruise ships. A similar proportion (4%) also felt that moored boats had a disproportionate effect on navigation due to issues regarding boats moored on narrow stretches of the Cam.

Views on current and future licensing arrangements

The survey also explored respondents' views on the current licensing system and on a number of options for increasing funding. Over half (54%) of those involved in the survey strongly agreed that those who generated income from the use of the river should pay a higher fee than private users.

With regards to views on the current licensing system, a significant proportion (40%) had no view on whether the current licensing system was clear or not. A similar proportion (38%) also had no view on the fairness of the current licensing system. This could be due to the fact that over half (56%) of the respondents did not hold a licence and therefore were not aware of the licensing arrangements.

On the how the fee structure should be set, over half (55%) either strongly agreed or slightly agreed that the fees should be based on the extent of obstruction to navigation. A slightly higher proportion (58%) also strongly agreed or slightly agreed that the fees should be based on the level of use.

The findings suggest that a significant proportion of the respondents may not have been aware of what the interchange agreement is, just over half (54%) had no view on whether this should be retained or not. However over a quarter (27%) felt that this should be retained.

Please indicate the extent to which you agree or disagree with the following statements					
	Strongly agree	Slightly agree	Neutral	Slightly disagree	Strongly disagree
The current licensing system is clear (n=675)	19%	20%	40%	12%	9%
The current licensing system is fair (n=666)	13%	19%	38%	16%	15%
Those who generate income from use of the river should pay a higher fee than private users (n=708)	54%	21%	13%	5%	7%
Fees should be based on the extent of obstruction to navigation (n=699)	26%	29%	22%	11%	11%
Fees should be based on the level of use (n=706)	27%	31%	22%	11%	9%
The interchange agreement should be retained (n=666)	27%	8%	54%	4%	7%

In relation to future fee arrangements, the top three options were:

- Increasing enforcement activity to reduce the level of non-payment of registration fees – just under two thirds (64%) either strongly supported or slightly supported this approach.
- Applying an additional home mooring fee of £210 on boats registered with an Environmental Agency licence but based on Conservancy waters – 58% either strongly supported or slightly supported this approach.

- Exploring the potential for new commercial ventures, partnerships (e.g. river stakeholders group) fundraising and added value services such as event support) – 56% either strongly supported or slightly supported this approach.

The least popular route for increasing funding was the introduction of a fee for events which take place on the river. Just under half (48%) either strongly opposed or slightly opposed this approach. A slightly lower proportion (45%) were also strongly opposed or slightly opposed to a uniform increase in the registration fee for all categories of vessel increased.

Please indicate the extent to which you support or oppose the following approaches.					
	Strongly support	Slightly support	Neutral	Slightly oppose	Strongly oppose
Do nothing (n=719)	34%	12%	23%	17%	14%
Uniform increase (n=717)	8%	23%	24%	15%	30%
Targeted increase (n=719)	26%	27%	20%	8%	20%
Event charge (n=720)	23%	17%	12%	9%	39%
Interchange agreement abandoned (n=716)	11%	9%	41%	10%	30%
Home mooring fee (n=719)	37%	21%	23%	5%	14%
Lock toll (n=721)	18%	32%	20%	9%	21%
Increase enforcement activity (n=719)	36%	28%	24%	6%	7%
Commercial opportunities, partnership working and fundraising (n=717)	28%	28%	22%	5%	17%

The survey also explored different combinations of approaches and methods for increasing funding from which respondents were asked to rank the options with 1 indicating the most preferred and 8 the least preferred option. The list provided was as follows:

Uniform increase: the registration fee for all categories of vessel increases by 25% (e.g. for a rowing eight the basic charge would increase from £55.10 to £68.88).
Event charge: an average fee of £500 would be charged per event (with some variation depending on duration/size/length of navigation affected)
Targeted increase: the multiplier for commercial punt operations increases to x7 (from a current level of x5)
Home mooring fee: application of an additional home mooring fee of £210 on boats with an Environment Agency licence but currently based on Conservancy waters
Lock toll and event charge: a toll of £15 on boat movements through Baits Bite lock, coupled with an average fee of £350 per event.
Lock toll and uniform increase: a toll of £15 on boat movements through Baits Bite lock, coupled with an increase in the registration fee for all categories of 18% (e.g. for a rowing eight the basic charge would increase from £55.10 to £65.02).
Home mooring fee and uniform increase: application of an additional home mooring fee of £80 for boats with an Environment Agency licence based on Conservancy waters, coupled with a uniform increase in the registration fee of 15% (e.g. for a rowing eight the basic charge would increase from £55.10 to £63.37).
Targeted increase and event charge: an increase of 15% on all punt licence fees, coupled with an average fee of £300 per event.

The findings suggest that the most preferred approach was the application of an additional home mooring fee of £210 on residential and powered (non-residential) boats with an Environment Agency license but currently based on Conservancy waters. Just under a third (30%) preferred this approach. However, the findings also highlight clear differences of opinion between some user groups. For example, over half (54%) of the rowers and 43% of those who described themselves as representatives of a formal club our user group preferred this approach, compared to 24% of punters, 12% of canoeists/kayakers and 15% of powered boat owners. Only 5.4% of the residential boat owners ranked this as their most preferred option.

The second most preferred approach selected by respondents was in relation to applying a targeted increase in the multiplier for commercial punt operations (from x5 to x7); again further analysis suggests that canoeist/kayakers were most likely to prefer that option. Just over half (53%) of respondents in this category selected that option compared to 37% of riparian owners, a similar proportion (37%) of punters and 29% of powered boat owners. Only 21% of rowers preferred this option.

A minority of respondents (59) further commented that there should be change in management from the Cam Conservators to the Environment Agency in order to save money, 68 respondents also felt that the Conservators had to manage their costs more effectively to save money rather than putting up any charges. Other revenue raising suggestions included,

- Interchange agreement with the British Canoe Union
- Asset management by the Cam Convertors – selling / renting assts
- Increasing the number of available moorings
- Building a new marina to rent out moorings

- Commercial sponsorship
- Statutory funding
- Lottery funding
- Becoming a charitable trust
- Impact charges on the basis of usage and / or environmental impact

Comments which illustrate emerging themes on some of the views raised by respondents with regards to future funding arrangements:

"We object to any fee on rowing events. Rowers have already paid fees to use the river. Events are run by volunteers to create some funds for their clubs. An event charge would wipe out the profit and put an end to any motivation to organise events."

"Please control your costs and do not raise fees more than inflation."

"The amount one pays should be proportional to the level of benefit one gains from using the river, but in stating this I am assuming that the level of benefit is as I determine it to be. If it is not then obviously I need to withdraw all of my answers to section 13."

"The residential boat owners when mooring on corners and narrow stretches of the river, and when double or even triple parking."

When respondents were asked whether the ability to pay ought to be taken into account when setting charges and the user groups that would be affected as a result, just under a third (31%) of respondents were against this suggestion and approximately a quarter (24%) felt that ability to pay ought to be taken into account, when setting charges for usage on the Cam. A significant proportion (31%) however didn't have a view on this. A number of concerns were also generally raised about how such an approach would be implemented, and the fact that the perceptions of the wealth of some groups -in particular the colleges – could be more of a perception than a reality therefore raising issues around how this will work in practice.