

ENVIRONMENT AGENCY

**Fens Waterways Link
Implementation Plan**

**Supporting Report 2:
Economic Analysis**

FINAL

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Appendix A: Forecast Boat Numbers

GLOSSARY OF TERMS

<i>Term</i>	<i>Meaning / Definition</i>
EA	Environment Agency
BW	British Waterways
FTE	Full Term Equivalent
NPV	Net Present Value

1 Introduction

While the proposed Fens Waterways Link will create a valuable facility for the fenland area which can not readily be valued any more than an urban park or a rural footpath can be valued, it is the economic benefits to the fenland area that will form a key justification when seeking funds to progress the scheme. This report evaluates these economic benefits and compares them with the capital cost of the scheme to give an indication of value for money.

The primary economic benefits will arise from an increase in visitors to the area, and an increase in the amount of money visitors spend whilst in the area. At point of purchase, all this money is spent within the local economy; some goes on to be recycled within the local economy as well, in that outlets servicing visitors use local labour and local suppliers. This gives a multiplier effect in that for every £1 spent in the local economy, more than one pounds worth of value is gained. In calculating costs and benefits, we have not used this multiplier effect, but its presence should be noted, as it means that the overall economic benefit is greater than described in this report.

In addition to benefits from visitor spend, there is an economic benefit from the construction phase of the work, as local labour and plant will be used in much of the construction. This is also considered without a multiplier, again meaning that actual economic benefits are greater than described in this report.

2 Economic Benefits

2.1 Introduction

An assessment has been made of the costs required to create the new navigation and these are reported in Supporting Report 3 (Ref 1). In this Economic Analysis Report, the potential economic benefits are assessed.

Economic benefits have been estimated for the full navigation including an aqueduct at Salter's Lode linking the Great Ouse to Well Creek, and a navigable link between Chatteris and Earith. The costings used in this report assume this will be via Welches Dam and then access to the New Bedford River, however, so long as the route is acceptable to novices in hire boats that actual route taken will do little to affect the economic benefits achieved.

The benefits arising from the canal restoration relate to the potential for:

- ◆ Water-based recreation activities, such as hire and private boats, trip and restaurant boats, canoeing and angling;
- ◆ Land-based recreation activities, such as walking, cycling, horse riding, sightseeing, picnicking and bird watching;
- ◆ Development opportunities associated with the scheme, including the provision of facilities for use of the waterway;
- ◆ Expenditure on construction and maintenance of the canal, in addition to the boats and other facilities associated with use of the canal.

For the purposes of this study we have concentrated only on new revenue to be generated by the scheme. We have not included existing revenue from leisure or water supply functions.

2.2 Water-based Recreation

2.2.1 Hire Boats

As with other sectors of the holiday market, the hire boat industry is increasingly being required to cater for short break holidays. This situation has evolved over the last 20 years. The majority of boatyards offer three day weekend and four day mid-week breaks at around 60% of the price of a full week. This development has significantly increased the market potential of shorter waterways, where a week long cruise covering the whole waterway may be too leisurely for some users.

Currently there are just 29 boats for hire on the existing East Anglian waterways. As the existing available water space is 415 km this is well below the British Waterways (BW) national average of approximately one hire boat for every 2 km (Ref 2). The reasons for this are explored below

At present there are three significant systems where neither tides nor narrow locks are an issue, these are:

- ◆ Great Ouse System - including Great Ouse above Earith, Old West/Ely Ouse/Ten Mile River, Cam, Little Ouse, Lark, Wissey, Cut-Off Channel;
- ◆ River Nene and Middle Level - including River Nene above Peterborough and Middle Level to Ramsey and Salter's Lode; although there is further navigable water in the Middle Level it is not very interesting to the casual user;

- ◆ Fossdyke and Witham - Torksey to Boston.

A summary of the boat hire availability and cruising area for each of these navigations is shown in Table 2-1.

Navigation	Length (km)	No. of Locks	No. of Hire Boats
Great Ouse system	190	21	21
Nene/Middle Level	155	41	8
Witham	70	2	0

Table 2-1 Summary of hire boat availability and cruising area

The national average on BW waters is around one hire boat for every two kilometres so clearly these waters are well under the national average, partly because of the restricted cruising range and partly because 60km of the Ouse above Earith and most of the Nene can be closed at short notice due to flooding. If everything proposed for the Fens Waterways Link was built, then a single non-tidal system comprising of 535km and 78 locks would be created. A boatyard in Peterborough, where currently only one full weeks cruise is available (Wellingborough and back, around 40 hours cruising) would have at least four routes available to hirers:

- ◆ Lincoln and back;
- ◆ Wellingborough and back;
- ◆ Bedford and back via Chatteris;
- ◆ Cambridge via Chatteris, return via Ely and Salter's Lode.

This is likely to make hire cruising much more attractive.

If the full scheme was to be implemented, we estimate that the area would attract around half the BW national average for hire boats; which is one boat per 4 km. This provides around 130 hire boats which could be supported and let out for an average 25 weeks per year. Assuming an average weekly hire fee of £700, this could yield £2,275,000 per annum.

Local economic benefit will arise from the daily expenditure of holidaymakers using the hire boats. The bulk of this spend will be on food and drink from shops, public houses and restaurants along the route of the waterways. A spend per day per boat of £48.92 has been assumed, based on figures from the East Midlands Waterways Boating Survey in 1991 (Ref 3). Therefore, the full scheme could generate a total spend of £953,940 per year.

Boats that cater for people with mobility impairments are available on some canals. For example, the Bruce Charitable Trust is a registered charity that provides four wide beamed canal boats on the Kennet and Avon Canal for self-catering holidays. The proposed waterway is well suited to this type of provision as disabled access is much easier in wide beam boats than in narrow boats.

2.2.2 Private Canal Boats

Unlike hire boats, the number of private boats tends to reflect both the size of the population living in the area and the perceived attractiveness of the waterway system. The BW national average is around 5 boats per km (Ref 2), and this sector of the market has shown sustained growth for some years. Currently the Great Ouse System and the Nene are well above this figure, at 15 and 10 boats per km respectively (Ref 4). While this has dropped over recent years, it would be reasonable to assume that the new link would halt any decline, and that the national average figure would pertain on new lengths of waterway and on waterways such as the Middle Level once these were incorporated in the system. Based on creating 120km of new water we would therefore expect a minimum of 600 new private boats to be based in the area. The spend per boat can be estimated as follows:

- ◆ **Expenditure on moorings and maintenance of boats** - The average annual expenditure on boat maintenance is assumed to be £1954.49 based on data originally calculated by

'Waterways World' (Ref 5). This figure includes mooring fees, repairs and maintenance costs. Thus, 600 private boats moored on the new waterway could be expected to generate an estimated £1,170,000 per annum to local boatyards.

- ◆ **Daily expenditure by individuals using the boats** - Daily expenditure per boat is likely to be slightly less for private boats compared to hire boats, as local owners are less likely to spend money on souvenirs and visiting attractions. Typically private boaters cruise for about 16 days per year. Therefore, a daily spend per boat of £38.86 has been assumed (Ref 3), resulting in a total spend of £373,056 per year.
- ◆ **Expenditure generated by boat owners when making visits to their moored boats but not using them for cruising purposes** - Boat owners make a number of visits to their boats each year without going cruising. Expenditure per visit is likely to be substantially less than spending whilst cruising. A survey of visitors to the Kennet and Avon Canal indicated that boat owners make an average of 16 such visits per year and spend on average £5.45 per day (Ref 3). Therefore, the full scheme could produce an annual spend of £52,320.

2.2.3 Trip Boats and Restaurant Boats

Trip boats and restaurant boats tend to operate in proximity to centres of population. Thus, Fens Waterways Link should provide good opportunities for such ventures, especially from/to the well-populated centres of Boston, Spalding, Peterborough and March. It has been assumed that four such boats could operate, with:

- ◆ one trip boat and one restaurant boat serving the northern section;
- ◆ One trip boat and one restaurant boat serving the southern section.

Assuming that such boats will achieve a similar pattern of operation and use as that for existing operators on the Kennet and Avon Canal, each trip boat could expect to carry approximately 3,200 passengers per year at an average charge of £3.50 per head, which would yield a total of £22,400 per annum for two boats. Each restaurant boat could expect to carry approximately 1,800 passengers per year at an average charge of £20.00 per head (Ref 6), yielding a total of £72,000 per year for two boats.

In addition to the expenditure on a boat trip, visitors will also spend money elsewhere in the local area as part of their overall visit. Based on the Kennet and Avon survey, this is likely to be around £4.52 per visit (Ref 6). Thus, an additional spend of £39,600 may be generated by people taking boat trips.

2.2.4 Day Boats

Self-drive boats designed for one day or half day hire are offered by increasing numbers of boatyards on the main British Waterways network. The majority are of narrow boat style accommodating up to 12 passengers which are frequently seen by operators as a means of promoting their holiday hire fleets. An alternative is the smaller glass fibre 'picnic boat', typically powered by silent electric motors and rented for about £35-40 per day. This type is already popular on the East Anglian Rivers.

Typically, day boats will be hired as an ancillary part of another business, either an existing boatyard or marina (whether or not holiday boats are hired) or a waterside public house or hotel.

Day boats designed for the mobility impaired are also available on some canals. For example, day trips for groups of people with physical disabilities are available on the Kennet and Avon Canal, through the aforementioned Bruce Charitable Trust.

There would appear to be the potential for day boats on the new waterway, and especially from places like Spalding and Peterborough where a significant visitor market is already in place. Cruise style boats are likely to be the preferred type in this market. It is anticipated that a minimum of ten such boats will be supported by the scheme. Assuming hire for 60 days a year this would result in a spend of £24,000 per annum (Ref 6).

As with trip boat users, there would also be some additional spending associated with one day or half-day hire. Assuming an average of 5 people in each boat party, some 3,000 visits would be generated. With a daily spend of £4.52 per person; a further £13,560 of associated indirect spending would arise from a successfully established day hire boat operation (Ref 3).

2.2.5 Canoeists

It is assumed that the canals will be suitable for canoeists. Canoeists who are members of the British Canoe Union are permitted to use the main canal system managed by British Waterways free of charge. As a result it is assumed that it would not be practical to levy a licence fee on canoeists and other unpowered boats. Although there may be some potential for leasing unpowered vessels, the income would be minimal.

2.2.6 Angling

It is estimated that coarse fishing attracts some 3-4% of the population, although it is not one of the faster growing sports in Britain. The new waterway is not likely to provide particularly good fishing conditions in the early years after restoration as it will take time for a stable ecological habitat and fish population to become established. It must also be appreciated that this area is not exactly short of watercourses for fishing.

In the longer term, sympathetic and active management, possibly through the leasing of fishing rights to a local angling club, has the potential to increase the value of the canal for angling. However, for the purposes of this study, the use of the canal for fishing and its associated spending are assumed to be limited.

2.3 Land-based Recreation

The waterway corridor will provide opportunities for a wide range of informal activities, including walking, cycling, horse riding and “gongoozlers” (i.e. sightseers attracted by the canal environment). Such uses rarely attract any direct costs, although in this case it must be assumed that an extensive towpath will be constructed.

2.3.1 Towpath Users

Findings from a national survey of over 2,000 towpath users, undertaken by British Waterways in 1998 (Ref 7), reveals that:

- ◆ The majority of towpath use is very local - 24% of the sample surveyed lived within one mile and 60% travelled five miles or less. Of the 25% who travelled over eleven miles to access the towpath, around half (53%) were day trippers.
- ◆ A geographical variation exists in relation to the trip type of non-local visitors whereby London and the Midlands attract higher proportions of day visitors, Scotland is more popular for holidays and the South is popular for both short breaks and holidays.
- ◆ Towpaths attract visitors of all ages, although the 15-24 year age group appears to be under represented.
- ◆ The most popular reason for visiting a towpath is ‘to walk for pleasure’. This accounted for 33% of all respondents, although holidaymakers seemed more likely to visit a towpath ‘to look around the area’.
- ◆ The average length of time spent on a towpath was 1-2 hours, with almost 40% of those surveyed staying one hour or less. However, 20% intended to stay for three hours or more.
- ◆ A similar proportion of people walk to a towpath as arrive by private motorised transport (40% and 38% respectively).
- ◆ Of those questioned, the average number of visits to a canal or river used by boats was just under 40 per year.

The mean expenditure for all respondents for the day on which they were interviewed was just under £10, although 50% of towpath users spent nothing at all (see Table 2-2). However, although this figure is backed by research it appears high given anecdotal experience and the volume of visitors who are from the immediate locality of the canal. Therefore, for this study, this figure has been halved to assume an average spend of £5 per visitor.

Activity	Mean Expenditure (£)	% Spending Nothing
Eating and drinking in pubs	3.18	76
Eating and drinking in cafes and restaurants	2.10	74
Food/Drink/Snacks from shops	0.83	81
Car Parking	0.11	90
Admission Tickets	0.23	93
Boat trip/Cycle hire	0.24	93
Gifts/Souvenirs/Books	0.85	90
Overnight Accommodation	1.83	92
Other Activities	1.14	85
Total	9.96	-

Table 2-2 Summary of spend by towpath users (Source: Ref 7)

2.3.2 Cyclists

Almost one in ten of those questioned for the British Waterways survey had cycled to the towpath. With regard to this study, it needs to be considered whether a towpath can be provided along the whole route, as in places where the route uses existing navigations the banks may be in private ownership. This will not radically depress visitor numbers as these lengths tend to be in rural areas where visitor numbers would be low anyway.

2.3.3 Horse Riding

The potential for horse riding exists but the economic benefit is unlikely to be great where no provision exists already. It is also important for the client to consider whether horse riding would be a desirable activity given the potential conflict with pedestrians and the design and maintenance implications of providing access under bridges.

2.3.4 “Gongoozlers”

Sightseeing and watching water-based activities is a major attraction to canal visitors. A survey of the Kennet and Avon Canal (Ref 6) indicated that 30% of leisure towpath users fell into this category. Levels of interest can be enhanced through the provision of interpretive facilities that inform visitors about the build and wildlife heritage of the canal. Special interest groups, such as canal historians, archaeologists and education groups can also benefit from such provision.

2.3.5 Other Uses

Other activities that a canal towpath and adjoining public open spaces can provide for include bird watching, jogging, photography, picnicking and general relaxation.

The Kennet and Avon canal is 86 miles long and visited by an estimated 11 million visitors per year (Ref 8). However, almost one third of users are either on non-leisure trips, visiting a specific attraction, or involved in a water-based activity such as angling or trip boats. Therefore, the land-based leisure use per mile of canal is approximately 87,582 visits per mile. In view of the influence of this figure on the overall benefits, caution is required in assuming a number this high, as the Kennet and Avon Canal is surrounded by other tourist attractions and is internationally known. A very conservative figure of 10,000 visits per mile of new navigation is more realistic, giving 800,000 visitors per year.

Applying the findings from the towpath users survey regarding mean daily expenditure, 800,000 visitors could be expected to spend £4,000,000 in the local area per year.

2.4 Development Opportunities

The development of the Fens Waterways Link will have an important impact on the value of existing property and of potential development sites.

Research undertaken by Newcastle University (for British Waterways) on the impact of canal side locations in terms of added value indicated that there was a positive premium associated with the proximity of residential properties to waterways (Ref 8). The extent of the premium varied according to the type of property and its associated railway environment. Thus new property developments in a pristine waterway environment with a water frontage attract an average premium of 19% compared with similar properties at some distance from the canal or river. The premium for other properties in a waterside development compared to those at some distance away from the water was 8%.

Therefore, development of the Fens Waterways Link could result in increased property values along the length of the navigation. However, the benefits will accrue to individual property owners and be realised only on resale. Although this effect has been recognised, no attempt has been made to estimate the overall value that may be attached to such properties.

2.4.1 Potential Canal Side Development

The development of the waterway will enhance the development prospects and value of available development sites along the canal route as a result of the additional premium attached to waterside property. The effect will primarily apply to residential development but such environmental enhancement may also attract in commercial and industrial development. There will also be the opportunity for water related development on some sites for uses such as boatyards and marinas.

2.5 Expenditure on Construction and Maintenance

The construction of the waterway together with the ongoing maintenance will generate employment in the area.

2.5.1 Capital Cost of waterway construction

The total capital works cost to develop the Fens Waterways Link is estimated at £149 million (Ref 1). Employment benefits arising from this expenditure will arise from direct employment on the site and from indirect employment in the companies supplying both materials and expertise to the project. The development will involve major civil engineering work and it is assumed that much of the work will be carried out under contract by a national construction company. However, it is likely that 80% of the employees will be drawn from the local area.

2.5.2 Employment Generation

With a total capital works cost of £149 million, it is estimated that 1750 Full Time Equivalent (FTE) direct jobs will be generated, with an 80/20% split in favour of the local area workforce.

Indirect employment will also be significant as it is likely that many of the building products and materials will be supplied locally. A further 4400 FTE indirect jobs could be generated, half of which are likely to be drawn from the local area. It is also estimated that approximately one third of the construction cost for materials and plant will be fed back into the local economy (Ref 9).

2.5.3 Canal Related Development

The development of facilities to serve the leisure and recreation activities that will arise from canal restoration will generate capital investment in the form of boatyards, catering and retail outlets along the canal. It is difficult to estimate the scale of the latter as such investment will be dependent on a number of variables, such as the ability of existing establishments to cope with increased demand and the development opportunities that may arise along the canal routes. Therefore, no estimate of capital investment with regard to catering and retail outlets has been made.

It has been assumed that boatyard capacity sufficient to provide the bulk of the additional moorings for private boats as well as the base for hire boat operations will be developed to meet the anticipated potential demand.

2.5.4 Maintenance Costs

It is assumed that maintenance costs will be met by licence revenue.

2.6 Summary of Economic Benefits

Table 3-1 shows a summary of the economic benefits of the Fens Waterways Link.

Source	Economic Benefit (£)
Hire boat fees	2,275,000
Hire boat daily spend	953,940
Private boat moorings/ maintenance	1,170,000
Private boat daily spend (in use)	373,056
Private boat daily spend (visiting)	52,320
Trip boat income	22,400
Restaurant boat income	72,000
Trip/Restaurant boat spend	39,600
Day boat hire	24,000
Day boat spend	13,560
Canoeist spend	-
Angler spend	-
Informal visitors spend	4,000,000
TOTAL	8,995,876

Table 2-3 Summary of Economic Benefits

3 Cost Benefit Analysis

3.1 Comparison of costs and benefits

The benefits identified in this report have been set against the cost to provide an initial indication of value for money. This has been done by using recognised techniques for cost benefit analysis. This is not simply setting the capital costs of the scheme against the annual benefits. To do this would be the equivalent of getting an interest free loan to undertake the project. In practice, we have taken the capital costs for the scheme and compared them with the benefits over a thirty year period following completion.

The critical factor for this type of work is the discount rate. This is the rate at which future year costs are discounted compared to present day costs. The principle of this concept can be described in two ways. The first is to pose the question, which is worth more, £1,000 now or the same amount this time next year? The answer is clearly that the money now is worth more, as it could be invested to yield a greater sum by next year. Alternatively, if a sum of money was borrowed, how much would need to be raised to pay it back? Clearly a loan of £10 million could not be repaid with 10 annual payments of £1 million due to the interest accrued. Therefore the value of future expenditure and future monetary benefits is reduced compared to present day values. The rate at which future year values are discounted is known as the discount rate.

For this exercise we have adopted a discount rate of 3.5%, the rate used by the Environment Agency (EA) in their flood alleviation scheme, which is featured in Treasury Guidelines (Ref 10). This rate of 3.5% has been chosen, rather than the higher 8% used for highway schemes, as the Environment Agency model compares monetary costs with monetary benefits, whereas the highway COBA model includes assigned monetary values for non-monetary benefits such as the value of time. Thus the EA model is directly comparable with the monetary costs and benefits used in our model. The effect of this is that for each future year the value of any cost incurred or benefit gained is reduced by 3.5% per annum.

To make the model more realistic the following assumptions have been made:

- ◆ Construction would be phased evenly over twenty years;
- ◆ For the first five years of the construction period, the only benefits to the local economy will be from spending one third of the construction cost in the local economy;
- ◆ Restoration benefits will come online in year six, with the first improvements taking effect;
- ◆ Restoration benefits would start at 20% of their predicted level, growing over twenty years to their full forecast value.

The results from the model are shown in Table 3-1.

Costs and Benefits	Value (£)
Capital Cost	149,000,000
Annual Benefit	8,995,876
Net Present Value	48,300,674

Table 3-1 Summary of costs and benefits

It can be seen that the scheme has a positive net present value that more than justifies the cost. This would favour the implementation of the scheme although a positive cost benefit equation in itself is not the only consideration. The effect of the annual benefits in terms of jobs is 200 FTE jobs for the full scheme. This is based on one third of revenue to the local economy being spent on salaries, with the average salary per FTE job being £15,000. In practice, some of the jobs would be part time resulting in more people in total receiving employment. These jobs are based on the annual benefit

not the net present value (NPV), therefore they would arise even if the net present value was either zero or negative (Ref 9).

It should also be noted that the scheme first yields a positive NPV in year 29 (that is, nine years after the scheme is completed). In our experience, this is an exceptional performance for an inland waterway project.

Many of the costs included in the cost benefit analysis may be paid for from sources not seeking an economic return, such as the Heritage Lottery Fund, or seeking an economic return from a different source. For example, the proposed barrage in Boston is primarily motivated by flood defence considerations, and the works to improve the Old West River are required for the Great Ouse whether or not the Fens Waterways Link is opened. In this case these costs do not need to be included in the cost benefit analysis. We have not removed these costs at present but doing so would increase the NPV of the scheme still further.

4 Conclusions

The likely economic benefits have been assessed and compared against the estimated costs using a standard discounting rate over 20 years of construction and 30 years following completion. The cost benefit analysis demonstrates that the scheme is basically good value for money, and is justified in economic terms.

5 References

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9. Unpublished Data from PA Cambridge Economics
10. **Appraisal and Evaluation in Central Government – the “Green Book”**, 2003, HM Treasury.

6 Appendices

Appendix A: FORECAST BOAT NUMBERS

A.1 Calculating forecast boat numbers

For the purpose of economic benefits it is only necessary to estimate how many boats will be based in the area and what their likely spend is. This automatically assumes that the boats will be used for cruising but makes no assumptions about which way they might cruise so long as the craft stays within the area. Given the large area covered by the Fens Waterways Link, and the natural limits of navigation related to it (dead end, narrow canal or tidal waterway at all exits from the system) then it is a fair assumption that no boat trips leave the area for the purpose of economic analysis. In practice some will, but these will be offset by boats visiting the area that are not included in the analysis but would contribute in much the same way as those based in the area. Given that narrow boats based on the Grand Union Canal can easily visit the system, whereas river cruisers based on the Nene can not leave except via tidal water, it is likely that incoming visitors will out number boats based in the area leaving it for a trip.

For some purposes it is useful to turn these general figures into boat passages on different parts of the route. To do this it is necessary to estimate how far the boats will travel and where from. This involves a series of estimates from the baseline data to establish the following:

- ◆ Where private and hire boats are likely to be based
- ◆ How many days each year each boat is used for
- ◆ How far on average each boat will travel

The baseline data for boats is shown in Table A-1:

Item	Quantity
Hire Boats	130
Boat utilisation	25 weeks per year
No of cruising days per week	6
Private Boats	600
No of days cruising per year	16

Table A-1 Summary of new boats based in area as a result of new navigation

To this data there must be added an element for extra trips by existing boats in the area on the basis that there is now more cruising water available.

From the above, and assuming approximately 25km a day cruising, it is possible to calculate that there will be an extra 727,000 boat km travelled on the Fenland Rivers as a result of this scheme. Spread evenly over the 535km of waterway this would give an average of 1350 boat movements per km. In order to estimate where extra boat movements occur, it is necessary to give a weighting to lengths of the waterway. This is done primarily on the basis of route choice: Bedford and Lincoln will be comparatively unattractive compared to Peterborough because from Peterborough there are four one week cruises available while Bedford and Lincoln can offer only one. Equally, Bedford, Lincoln and Northampton are some distance from the new waterway so the attraction of the new waterway is restricted. Weighting has been carried out using crude factors related to route choice. The estimated extra trips on each length of waterway that results are illustrated in Table A-2.

Fens Waterways Link

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Appendices



Ely to Earith	From	To	Length (Miles)	No. Locks	Basic Link	With Salters Lode Aqueduct	With Chatteris	With Both
Ely Ouse	Ely	Popes Corner	2.5	0	1000	2000	1500	1800
Old West River	Popes Corner	Hermitage	10	1	350	600	1700	2000
Great Ouse	Hermitage	Earith	0.5	0	250	500	1800	2000
Earith to Floods Ferry	From	To	Length (Miles)	No. Locks	Basic Link	With Salters Lode Aqueduct	With Chatteris	With Both
New Link	Earith	Chatteris	12	2	n/a	n/a	2500	3000
Forty Foot River	Chatteris	Wells Bridge	6	0	n/a	n/a	2500	3000
Old River Nene	Wells Bridge	Floods Ferry	7.25	0	n/a	n/a	2500	3000
Ely to Denver	From	To	Length (Miles)	No. Locks	Basic Link	With Salters Lode Aqueduct	With Chatteris	With Both
Ely Ouse	Ely	Littleport	7.5	0	1000	2000	n/a	2500
Ten Mile River	Littleport	Denver	10	0	1000	2000	n/a	2500
Tidal Great Ouse	Denver	Salters Lode	1	2	1000	n/a	n/a	n/a
Denver to Floods Ferry	From	To	Length (Miles)	No. Locks	Basic Link	With Salters Lode Aqueduct	With Chatteris	With Both
New Link	Denver	Salter's Lode	1	4	n/a	2000	n/a	2500
Well Creek	Salters Lode	Outwell	5.25	0	1000	2000	n/a	2500
Old River Nene	Outwell	Floods Ferry	12.75	1	1000	2000	n/a	2500
Floods Ferry to Boston	From	To	Length (Miles)	No. Locks	Basic Link	With Salters Lode Aqueduct	With Chatteris	With Both
Whittlesey Dike	Floods Ferry	Whittlesey	6	1	1000	2000	2500	3500
Kings Dike	Whittlesey	Stanground	4.25	1	1000	2000	2500	3500
River Nene (Stanground Branch)	Stanground	Peterborough	0.75	0	1000	2000	2500	3500
River Nene	Peterborough	(Car Dyke) Peterborough	1	0	n/a			
Car Dyke	(Car Dyke) Peterborough	Folly River Outfall	9	2	1000	1800	2000	2500
River Welland	Folly River Outfall	Spalding (Fulney Lock)	13.5	0	1000	1800	2000	2500
Vernatts Drain	Fulney Lock	Surfleet	3.75	2	750	1000	1200	1500
River Glen	Surfleet	Guthram Gowt	8.75	0	750	1000	1200	1500
Black Sluice Navigation	Guthram Gowt	Boston (Black Sluice)	20.5	2	750	1000	1200	1500
River Witham	Boston (Black Sluice)	Boston (Grand Sluice)	1	1	750	1000	1200	1500
Connecting Routes	From	To	Length (Miles)	No. Locks	Basic Link	With Salters Lode Aqueduct	With Chatteris	With Both
Great Ouse	Earith	St Ives	7	2	250	500	700	1000
	St Ives to Hnutingdon		5	2	150	300	400	600
	Above Huntingdon		25	12	50	100	150	400
River Cam	Popes Corner	Cambridge	14	2	100	100	100	100
River Nene	Peterborough	Oundle	23	9	300	600	1000	1200
	Oundle	Wellingborough	26	15	200	400	700	800
	Above Wellingborough		12	13	100	200	400	600
River Witham	Boston	Lincoln	32	2	750	1000	1200	1500

Table A-2 Forecast Boat Numbers