

**ENVIRONMENT AGENCY**

**Fens Waterways Link**

**Supporting Report 1: Navigation**

FINAL

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**Appendix A: Details about Rights of Navigation**

## GLOSSARY OF TERMS

<i>Term</i>	<i>Meaning / Definition</i>
EA	Environment Agency
BW	British Waterways

# 1 Introduction

The Fens Waterways Link is a proposal to create an inland navigation connecting the rivers Great Ouse, Nene, Welland, Glen and Witham. At present the only route between all these rivers is via the Wash, which is unsuitable for general passage by inland cruisers. There is passage through the Middle Level from the Nene to the Ouse, but this involves a short tidal length and the management of navigation on these waterways is not presently geared to large numbers of craft making the passage. It is also possible to reach the Nene from the Witham using the national canal network, but the route is long winded and suitable only for canal narrow boats, which are not the typical cruisers of the area.

The issues facing navigation on the proposed waterway are investigated. These issues include the vessels that should be provided for in creating the through route, and the difficulties that are faced on the existing waterways on the route. It is assumed that, where new waterways and structures are required, these can be designed in such a way as to not inhibit navigation. The report considers the waterways connected by the Link, the constraints on vessel dimensions imposed by the existing navigable waterways on the route, and navigation features that may either be difficult for amateur boat crews or may deter boaters.

The Fens Waterways Link will create a through route from above the Grand Sluice in Boston to the reach of the River Great Ouse between Hermitage and Brownhill Locks. This Link can be subdivided into the following components:

- ◆ River Witham to Black Sluice
- ◆ South Forty Foot Drain: Black Sluice to Guthram Gowt
- ◆ River Glen: Guthram Gowt to Surfleet Seas End
- ◆ River Welland: Surfleet Seas End to north of Peterborough
- ◆ New Canal: River Welland to River Nene in Peterborough
- ◆ River Nene: Through Peterborough to Middle Level
- ◆ Middle Level: River Nene to Welches Dam and Salter's Lode
- ◆ Old Bedford River; Welches Dam to Earith
- ◆ New aqueduct link; Salter's Lode to Denver
- ◆ Ten Mile River, Ely Ouse and Old West River: Denver to Earith

## 2 Creating a Suitable Navigation

### 2.1 The Potential User of the Navigation

One of the key principles of the proposed navigation is to provide an inland route between the five rivers that feed into the Wash, namely the Witham, Glen, Welland, Nene and Great Ouse. If the scheme is to have value for the area, not only must the navigation from the River Ouse to the River Witham be free from tidal passages, it must be acceptable to novice users and those companies that are expected to hire boats to these novice users. At present, passage between the Witham, Welland and Nene must be made via the Wash, which is unacceptable and uninsurable for these novice groups. Passage from the Nene to the Great Ouse can be made via the Middle Level, but this requires a tidal passage from Salter's Lode. Only experienced boaters will attempt this, which severely limits the market for hire boats. In addition, while CT Fox, who operates steel narrow boats on the Middle Level, will allow this passage, Bridge Boatyard, which operates fibreglass cruisers on the River Great Ouse, will not. This latter response is typical of fibreglass cruiser operators throughout the country, and reflects a number of factors including the insurability of these craft and their comparative fragility. In the case of Bridge Boatyard, it may also reflect nervousness about the short tidal window at Salter's Lode/Denver, as having a boat stuck the wrong side of this length on changeover day would be severe embarrassment for the boatyard when dealing with the next hirer.

The importance of this can be seen when considering the present number of boats available for hire in the area compared to national averages for British Waterways (BW). These numbers are themselves significantly lower than the Broads and the Thames. BW waters currently averages one hire boat for every two kilometres of water (Ref 1). Leaving aside the Welland and the Glen (which are too short to support a hire trade at all) the rivers in the area form three systems where fibreglass cruisers can cruise without using tidal water and without having to pass through a narrow lock. These are as follows:

- ◆ 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.

Details of these three navigations are shown in Table 2-1.

Navigation	Kilometres	Locks	Hire Boats
Great Ouse system	306	21	21
Nene/Middle Level	250	41	8*
Witham	112	2	0

Table 2-1 Summary of hire boat availability and cruising area, note \* = narrow boats based at March, on the Middle Level

In addition to this it should be noted that around 60 kilometres of the Great Ouse is prone to flooding during the cruising season, and that 95 kilometres of the Nene is also prone to flooding. On both rivers locks are closed during flood periods. These limited cruising mileages, plus the uncertainty of parts of the system, severely depress the attractiveness of the area for hire boat operators. The Fens Waterways Link will connect each system, provide new water itself, and bring other water to active leisure use, making a single system totalling 885 kilometres in length, which is considerably bigger than the Norfolk Broads. With the Salter's Lode aqueduct it will be possible to cruise from Cambridge to Lincoln via Ely, March, Whittlesey, Spalding and Boston without significant risk of interference from floods. This is a route of 240 kilometres, with possible side trips to Ramsey and Market Deeping, far more than can be covered in a weeks cruise.

## 2.2 Issues Affecting Novice Users and Hirers

There are particular features along the Link at present that might make passage from above Grand Sluice in Boston to the River Great Ouse both hazardous and deter users. These particular issues are as follows:

- ◆ Tidal passage at Boston
- ◆ Tidal passage at Spalding
- ◆ Tidal passage at Salters Lode
- ◆ Tidal Passage at Earith
- ◆ Structure of Stanground Sluice
- ◆ Limited opening hours of locks
- ◆ Lack of mooring opportunities
- ◆ Uninteresting waterways

### 2.2.1 Tidal Waters

Tidal waters are not necessarily an obstacle to navigation, as the whole of the Norfolk Broads are tidal, and many hire boats use the tidal Thames from Teddington to Brentford. Nevertheless, tidal links in this route must be assessed. There are two tidal links in the route as proposed; the first from Fulney Lock to Surfleet Seas End and the second from the Black Sluice on the South Forty Foot to the Grand Sluice in Boston. In addition, the tidal link between Salter's Lode and Denver Sluice will form part of a circular route taking in Ely, March, Ramsey, Chatteris and Ely once navigation on the Middle Level is extended to Earith.

### 2.2.2 Tidal passage at Boston

This tidal passage at Boston is probably the most fundamental on the Link, as it passes through the heart of Boston, and provides an interesting cruise in its own right. The tidal window is also less frustrating here, as the passage is only 2 km, and both ends are within walking distance of the town centre, providing an opportunity for visiting the town (and spending money) while boats wait for passage.

However, there will still be issues of whether hire boat companies will be willing to allow passage of this length, or whether they can get insurance for it. Thus to maximise the use (and therefore the economic benefits) of the navigation a non-tidal solution is needed. At present it appears that relocation of the Grand Sluice to approximately the location of the Black Sluice will yield significant flood prevention benefits, and also extend non-tidal navigation on the Witham through Boston town centre. This presents an opportunity for a safe and insurable passage of the town centre for hire craft and novice boaters.

### 2.2.3 Tidal Passage at Spalding

The tidal passage at Spalding involves passing Fulney Lock on the level or locking up into the tide before making a passage of some 6 kilometres to Surfleet Seas End. On arrival the boats would have to make a tight turn into the Glen and then pass Surfleet Sluice on the level. The sluice consists of two pairs of outward facing pointed doors side by side behind which are two guillotine gates. The doors resist the tide when it is higher than the level in the River Glen and the guillotines allow drainage of the Glen when the tide falls below this level. Passage is achieved by waiting for the tide to make a level and then raising one of the guillotines to pass a boat underneath. It is not known when either Fulney Lock or Surfleet Sluice were last operated.

The main problems relating to this passage are the need to pass Surfleet Sluice on the level and the tight turn between the Glen and the Welland. The level passage is primarily a time and capacity

restraint as the level is only made for a few minutes on the rising and falling tide. If traffic levels justified it presumably both guillotines could be raised increasing the number of passages possible. Even then, however, boaters heading for Spalding would have to wait in a pleasant but otherwise uninteresting location. Even the nearby pub has gone, having been demolished this spring. Another significant problem is that boats must make the passage along the Welland against the tide in order to avoid the river drying out and to pass the turn from Welland to Glen at slack water high tide.

If this tidal length is not removed then only a few boats a month will make the passage, removing any hope of real economic benefits. The proposals currently being put forward remove the tidal effect on this reach by relocating Fulney Lock towards Surfleet, and then putting a link into Vernatt's Drain, and from this to the Glen above Surfleet Sluice. Access to the tideway would be maintained through the relocated Fulney Lock, and Surfleet Sluice could be decommissioned for navigation if desired.

#### **2.2.4 Tidal Passages at Salter's Lode**

This tidal passage is not part of the direct route, but on the new circular route created by the Link extending navigation on the Middle Level to Earith. The passage is already made at present by around 1000 craft a year. The passage itself is not hazardous, as witnessed by the fact that hired narrow boats from CT Fox of March are allowed to make the journey unsupervised so long as they follow the lock keepers instructions regarding the time of commencing the passage. The problems primarily relate to the fairly short time window and the limited capacity of the two locks effectively restricting the number of boats that can pass in a day. It has been estimated that the maximum that can be passed in one day is around 20 boats. This would equate to a maximum annual flow of around 2000 vessels per annum, a serious constraint on benefits. In addition, fibreglass hire cruisers from the Great Ouse are not permitted to make this passage.

While 20 boats is low in comparison with the main canal system (the Llangollen Canal peaks at around 80 to 90 boats a day, the Thames well in excess of 100) if the Fens Waterways Link was not developed then in the context of the fenland rivers this is probably adequate for many years to come. Once navigation to Earith is achieved the only boats going through Salter's Lode/Denver will be those completing the circular route or those making a through journey but wishing to call in at Downham Market and Kings Lynn. With the likely concentration of boats in Peterborough once it becomes the axis of the new navigation this figure could easily exceed 2000 per annum, especially if hire boats are allowed to navigate this way.

The tidal window at Salter's Lode is erratic and the link between Chatteris and Earith still subject to much development. In view of this, there is merit in considering ways of avoiding the passage at Salter's Lode. One suggestion is for an aqueduct over the New Bedford River, with locks lifting boats from the Old West River and the Old Bedford River. A cut from the Old Bedford River to Well Creek would complete the link.

Such a link could be built relatively quickly. In view of the fact that both Well Creek and the tidal Great Ouse to Kings Lynn do not currently need a toll paid for passage, it will be necessary either for navigation through Salter's Lode to be maintained or for boats moving from Well Creek towards Kings Lynn (which are very few in number) to be given a toll free concession for the new route.

#### **2.2.5 Tidal Passage at Earith**

This passage is already made on a regular basis, indeed anecdotal evidence suggests that many users do not realise this length is tidal. No particular obstacles are foreseen at this location.

#### **2.2.6 Structure at Stanground Sluice**

Stanground Sluice is a much modified early 19<sup>th</sup> century structure that is perhaps not well suited to frequent passage by novice crews in hire boats. It is a sluice as well as a lock, thus water is often running through the chamber and boaters are warned not to enter the lock unless supervised by the lock keeper for this reason. This is one reason why passage is supervised. In addition, although the lock is now nearly 25 m in length, until comparatively recently the lock was only 14 m long, and the original lower sill, with depth of only 0.7 metres, is still in place, thus any vessel over 11 metres long must not require more than 0.7 metres of water in the upper part of the lock. This may require a large motor cruiser to go through the lock bow upstream regardless of the direction of travel.

As this hazard could result in propeller shaft damage or even structural damage to a large cruiser not well positioned in the lock it is likely that any new hire boat firm would be reluctant to allow cruisers through it. This in turn affects the viability of such business and ultimately the economic benefits of creating the navigation.

To resolve this problem a new lock could be built alongside, leaving the existing structure to act purely as a sluice, thus removing the need for supervision, and allowing full navigational depth for all vessels.

### **2.2.7 Restricted operational hours**

It is a fundamental part of boating that a “go as you please” timetable is available, with the obvious common sense constraints. However, restrictions to navigation can go well beyond simply fettering the “go as you please culture” and become a major irritation to both operators and users. There are already three such locations on the route. These are;

- ◆ Surfleet Sluice, Surfleet Seas End
- ◆ Fulney Lock, Spalding
- ◆ Stanground Sluice, Peterborough

In addition, Salter’s Lode and Denver Sluice are restrictive if travelling this way between the Middle Level and Great Ouse.

The restriction at these locations is not related to tidal windows (Stanground Sluice is not tidal) but to operational restrictions. At all locations, passage is by requiring 24 hours notice. The casual holiday maker expects to be able to turn up and go, within the limits of tidal constraints, as they can on BW waters at Limehouse, Brentford, Cromwell, Torksey, and with the Environment Agency (EA) at Teddington. In addition, there is no way a 24 hour notice system will stand the strain of even 500 boats a year, when the figure expected for this waterway is likely to exceed 2,000. Boston Grand Sluice already deals with this number of vessels, and although a booked passage is recommended, the lock keeper is always in attendance.

The current proposals for connecting the Glen and the Welland will overcome the restrictions at Fulney and Surfleet, so long as the locks on the new route are user operated. A new lock at Stanground, capable of user operation, would overcome this problem and the problems identified with the current structure.

### **2.2.8 Mooring opportunities**

On much of the proposed waterway mooring opportunities are limited by either the banks being in private ownership, or shelving banks making it difficult to moor. Where new canals are proposed, the navigation authority ultimately will own the banks and have command of the channel profile. The significance of mooring opportunities is two-fold:

- ◆ The cruising time between mooring opportunities must be acceptable; and
- ◆ Boaters expect to be able to moor at a reasonable time.

Firstly, a boat crew do not expect to be confronted with a choice between a one hour cruise and an eight hour cruise to the next mooring point. Secondly, boaters do not wish to moor at 2pm to guarantee a space, or find at 6pm they must cruise for another 2 hours because their favoured moorings are full. Ideally moorings should also have facilities such as a pub, restaurant or shop, but boats are self catering accommodation, and somewhere to moor, even if no facilities are available is both welcome and necessary.

### **2.2.9 Uninteresting Waterways**

The biggest challenge the Fens Waterways Link faces is that the area that the proposed waterway passes through is “flat and boring”. Also, much of the route is through watercourses with high banks,

meaning that from a boat the view of the surrounding countryside is restricted. It is vital that the waterways are made interesting.

It should be noted that the flat and boring accusation is equally well levelled at the Norfolk Broads and the Dutch Waterways, which are both popular cruising areas. The reason these two areas thrive is due to a combination of added interest and marketing. The Economic Analysis (Ref 2) investigates this added interest and marketing in detail, but this can be summarised here to suggest that the occurrence of interesting features plays a part (e.g. windmills and pretty townscapes) and that the reputation of “a good place to go on holiday” counts for much.

Leaving the marketing aside, there is little doubt that there are lengths of the route that are potentially dull unless something is done. Two possibilities suggest themselves, one is a series of features which mark progress (milestones, only more elaborate) and another is to simply make the waterways prettier in their own right. “New England in the fall” is sold on the prospect of endless trees with turning leaves; the Black sluice on the South Forty Foot in spring could have much the same appeal if bulbs were planted along the route.

## 3 Navigation Rights and History

### 3.1 Introduction

This section describes the history of navigation along the various significant watercourses that are proposed to be used as part of the Fens Waterways Link. Watercourses too small to carry a boat (such as the Catswater Drain) are not included.

The history of navigation in the fenland area is both longer and more complex than in most of the rest of Great Britain. By virtue of the time that marsh covered most of the area, boats were the only way to move goods and people over large areas. Drainage initiatives dating back over 500 years have altered the rivers of the area beyond recognition, such that a bridge in Crowland that once spanned the confluence of two rivers is now over a mile from both, while Wisbech, whose name derives from the River Great Ouse, now sits on the Nene. These changes were primarily for drainage, but often did much to assist navigation as well, for example, the New Bedford River was regarded as a boon by boatmen on the Ouse, cutting of ten miles and having a more reliable channel than the old circuitous route via Ely (Ref 3).

The history of navigation on each element of the Link is described and the rights of navigation investigated. Further details about navigation rights are in Appendix A.

### 3.2 The History of the Navigations

#### 3.2.1 Old Bedford River

The Old Bedford River leaves the River Great Ouse at Earith, although confusingly, this is not the same watercourse as the Old Bedford River at Welch's Dam. This was completed in 1631 (Ref 3) as a drainage channel, to relieve the course of the Ouse via Ely. (The original course of the Ouse was not via the Old West River, the route through Ely being established in the 13<sup>th</sup> Century, but the changes are too complex to document and not relevant to this study). The purpose of the Old Bedford River was entirely for drainage, and while navigation undoubtedly occurred, as it did on any watercourse big enough to carry a boat, navigation between Earith and Mepal was never officially recognised. Sluices were erected at Earith when the New Bedford River was constructed in 1652, blocking the Old Bedford River for navigation. At some point the Old Bedford River was modified, resulting in the split watercourse that exists today.

The Old Bedford River has no history of navigation at Earith since the opening of the New Bedford River. The Old Bedford River has been used for navigation between Welch's Dam and Salter's Lode since 1651 when the Forty Foot Drain connected to it at Welch's Dam (Ref 3). The Counter Wash Drain (which is the continuation of the Old Bedford River south towards Earith) was also navigable for 5 km to Mepal. Regarding navigation towards Earith on the Old Bedford River Bradshaw comments in 1904 that "the Old Bedford River is now unnavigable south west of Welches Dam, as the Old Bedford barrier bank has been placed across the river at this point, cutting it in two and diverting navigation into the counter wash drain" (Ref 4).

Visual inspection suggests that the Old Bedford Sluice at Salter's Lode is impassable, as there is heavy silting against the pointing doors on the tidal side.

#### 3.2.2 New Bedford River

The New Bedford River may form part of the Link from Welches Dam to Earith; if this is considered it should be noted that the river was once regarded as the main route from Kings Lynn to Bedford, and has a right of navigation by virtue of being tidal. When the river was first cut in 1651, it was regarded as a significant improvement for navigation, as passage was much easier than along the old route (Ref 3). There is a statutory right of navigation dating from the authorising act, and almost certainly a

prescriptive right as the river is tidal. The river is not used much at present, due to it being shallow, especially at low tide. It is reputedly easier to navigate in an upstream direction with the tide, rather than downstream, as the ebbing tide will leave a boat aground when navigating downstream. In its current state it would not be suitable as part of the Fens Waterways Link, as hire boats would not be allowed to use it. Improvements will be needed if the New Bedford is to form part of the route to Earith.

### **3.2.3 Middle Level Navigations**

The following navigations, the Forty Foot River (part of), the Old River Nene, Well Creek, Whittlesey Dike and Kings Dike, all fall under the jurisdiction of the Middle Level Commissioners. While the Commissioners are the navigation authority, it appears they have no power to register craft or to demand payment of tolls, at least on passenger craft (Ref 5). This may reflect the role of the navigations in draining an area previously flooded, in which boats would have been the main, and sometimes only, form of transport. A toll on boat use may have been seen as unwise as a toll on walking in other parts of the country. It appears that the Middle Level Commissioners examined the possibility of changing their powers in this respect, but found the legal costs outweighed the likely revenue.

### **3.2.4 Forty Foot River/Old River Nene**

The Forty Foot River and the Old River Nene will form the Link between Welches Dam and Floods Ferry, where the through route meets the through route from Salter's Lode.

The Forty Foot River (also sometimes referred to as Vermuydens Drain) opened for both drainage and navigation in 1651 (Ref 3). This was 120 years before the Bridgwater Canal opened, which supposedly heralded the start of the canal age. Thus, navigation in the Middle Level is extremely ancient by British standards. It is not recorded when the locks at Welch's Dam and Horseway were built; it is possible they were later additions as the fens sank. There has been near continuous navigation on the Forty Foot river since 1651, with the exception of Horseway and Welch's Dam locks, which were inoperable for a period in the late 20<sup>th</sup> century, and still have restrictions on navigation (Ref 6). There is a right of navigation throughout the Forty Foot river, by virtue of the 1649 Act (Ref 3).

In 1904 Bradshaw notes that Welches Dam lock was usually level, only rising to the Old Bedford river when water levels were high (Ref 4).

The Old River Nene is exactly what it says; being one course of the River Nene prior to its straightening. The date in which the Old Nene ceased to be part of the river Nene's watercourse is not recorded, but this may have occurred when Morton's Leam was constructed, prior to 1476 (Ref 3), but even in 1605 it was referred to as the Old River Nene (Ref 3). The River Nene has been used for navigation literally since time immemorial, being used to carry monks and stone for the foundation of Peterborough Abbey. The right of navigation on the old River Nene is probably manifold; it qualifies on at least two counts, having once been tidal, and having a prescriptive right through custom and practice. The rights may have also been consolidated in the Pretended Act of 1649.

### **3.2.5 Well Creek/Old River Nene**

These waterways form the Link from Salter's Lode to Floods Ferry, and is currently the proposed route through the Middle Level. The history of the Old River Nene is described in Section 3.3.4. Between Outwell and Salter's Lode, the Link is formed by Well Creek. The origins of Well Creek are obscure, and part of it follows a sixteenth century drainage channel. No date is recorded when the creek opened for navigation, but it fulfilled a pivotal role when the Wisbech Canal opened from Outwell to Wisbech in 1796. The creek was in use by cargo carrying barges until 1969 (Ref 3) although this was probably diesel fuel for pumping stations and after a brief period in dereliction became a navigation again in 1973. Like other parts of the Middle Level, a prescriptive right of navigation will certainly exist if none has been enshrined in an Act of Parliament.

### 3.2.6 Whittlesey Dike/Kings Dike

These two dikes form the section of the Fens Waterways Link from Flood's Ferry to the southeast of Peterborough. Both watercourses were already in existence when modified for navigation in 1650 (Ref 3). At that time, Whittlesey Dike passed through Whittlesey mere until some time in the 18<sup>th</sup> century. Whittlesey mere was 5 km wide by 10 km long, and popular for pleasure boating even in the 17<sup>th</sup> century (Ref 3). The date of construction of locks at Stanground and Whittlesey is not recorded, and as with the navigations in the Middle Level, these may have been added as the fens sank.

Well Creek, the Old River Nene, Whittlesey Dike and Kings Dike were all subject to an Act of Parliament in 1754 for improving navigation from Salter's Lode sluice to Stanground Sluice and from Floods Ferry to Ramsey High Load". The Act empowered tolls to be charged and also presumably enshrined the right of navigation.

On a general note, Bradshaw reports that "the trade on the Middle Level navigations is principally the carrying of agricultural produce from the fen farms to the various railway centres for transshipment onto rail, and the supply of coal to the various pumping stations for draining the land". He also notes that "Lighters bound from the River Nene at Stanground to the River Ouse at Salter's Lode, or vice versa, prefer travelling via the Twenty Foot river between angle corner and Twenty Foot End instead of by the Old River Nene through March, as the Haling Way (towing path) is more convenient by the former route" (Ref 4).

### 3.2.7 River Nene (Branch to Stanground Sluice)

The section of the Link formed by the River Nene from the main channel, south of Peterborough, to Stanground sluice is actually part of Morton's Leam, constructed before 1476, on the order of Bishop Morton of Ely (Ref 3). At this time Morton's Leam was constructed for both navigation and drainage, and was enlarged in 1570 and again before 1631. Stanground Sluice sometimes formed a level with the River Nene in earlier times (Ref 4). This has ceased since the construction of Dog-in-a-Doublet lock in the 1930's which raised the levels in the Nene and Morton's Leam.

### 3.2.8 Car Dyke

It is likely that Car Dyke will not be used to create the Link between the Welland and the Nene due to its heritage value. There is doubt over whether Car Dyke was ever used for navigation, and if it was, navigation ceased in Roman times. There is no right of navigation along Car Dyke, as navigation, if it ever occurred, ceased before the reign of King John in 1189.

### 3.2.9 River Welland

The River Welland was subject to one of the earlier Acts of Parliament relating to navigation, in 1570 (Ref 3). Like many rivers, the present course bears no resemblance to the natural watercourse, especially along the length proposed as part of the Fens Waterways Link. Historically, the river was tidal through Spalding, but the flood relief scheme including the Coronation Channel and Fulney Lock impounded the water through Spalding. There was little trade done on the river (Ref 1), and other sources quote a maximum vessel size of 10.7 m length. This must have been the longest vessel in use. This has been quoted in all guides since, but these appear to perpetuate the statement made in Bradshaw's. Fulney Lock is 30.5 m long by 9.1 m beam, but a vessel this size would not be able to pass along the river upstream of the lock.

### 3.2.10 Vernatt's Drain

This drain may form a non-tidal route between the River Welland at Spalding and the Glen at Surfleet. Vernatt's Drain dates back to the sixteenth century, and is named after the Italian explorer Vernatti. Although local navigation will undoubtedly have occurred, Vernatt's Drain has never been an official navigation.

### 3.2.11 River Glen

Navigation on the Glen goes back before recorded history, although the river has had many different courses. The first navigation legislation was passed in 1781, with the Bourne Eau Act (Ref 3). This appointed trustees who were authorised to maintain a channel 3 m deep and 9 m wide “where its present banks will admit it”. It is fairly clear, therefore that the trustee’s were not authorised to widen the river. Boyes and Russell note that there was often either too much or too little water for navigation (Ref 3). In 1857 boats were still occasionally trading to Bourne, but in 1904 Bradshaw only describes navigation as far as Surfleet Station, stating that “although there is a good depth of water for some distance, no trade has been carried above this point for many years” (Ref 4). The Bourne Eau Act was repealed in 1962; removing the duty to maintain the waterways in a navigable condition (Ref 3).

There is some confusion over boat sizes that the Glen could accept. Bradshaw (Ref 4) states that barges carrying sixty tons could reach Surfleet, which they probably could, but further up river the maximum was fifteen tonnes (Ref 3), which is very small. (A typical canal narrow boat could carry 25 to 30 tonnes). The dimensions of a 15 tonne barge would be of the order of 3 m beam by 10.5 m length, and this may well be the origin of the 10.5 m length given for the Welland. It must also be remembered that even at the height of trade only a few barges a day would travel the river, thus boats passing one another was not a major issue.

As the Bourne Eau Act did not confer a right of navigation, its repeal will not have caused this right to be withdrawn.

### 3.2.12 Black Sluice Navigation

The Black Sluice Navigation was the official title of what is now generally known as the South Forty Foot Drain. There is very little detail recorded on the navigation of the drain, save to say the lock at Boston was removed in 1971 (Ref 3). The Black Sluice Commissioners have been credited as being the navigation authority, but is not clear whether navigation was a right or simply permitted. Vessels up to 22 m in length and 6 m beam could be accommodated, but this may have simply been the size of the lock at Black Sluice (Ref 4). Depth was stated to be 2.5 m at Boston reducing to 1.2 m at Guthram Gowt.

There are reports that not much trade was done, and what little there was in 1904 seems to have been entirely between Donnington Bridge, 12.8 km north of Guthram Gowt, and Boston (Ref 4). Thus it is unlikely that there has been any navigation to Guthram Gowt since the latter part of the nineteenth century. There are reports that navigation by pleasure craft was prohibited (Ref 7). This may indicate that there was no right of navigation, although it might equally indicate that the Commissioners did not expect a challenge to this rule. By 1962 this restriction appears to have been lifted, and there are even advocations for the use of Clay Dike for small craft, by passing through the (normally open) flood doors from the Black Sluice Navigation (Ref 7).

### 3.3 Summary of navigation status of major watercourses on Fens Waterways Link

Table 3-1 provides a summary of the navigation status on the watercourses that will form part of the proposed Fens Waterways Link.

Navigation	Dates open and closed	Original size of craft	Right of navigation	Practical Status
Old Bedford River	1631-prior to 1904	Not defined	No	Unnavigable
Old Bedford River	1631-present	13.7m by 2.7 m	Yes	Impassable at Salter's Lode
New Bedford River	1651-present	Not defined	Yes	Problematic
Forty Foot River	1651-present	13.7m by 2.7 m	Yes	Navigable but little used
Old River Nene	Time immemorial	Not defined	Yes	Navigable and well used
Well Creek	C1500-present	Not defined	Yes	Navigable and well used
Whittlesey Dike/Kings Dike	Before 1650-present	13.7m by 2.7 m (since enlarged)	Yes	Navigable and well used
Morton's Leam	Before 1476-present	Not defined	Yes	Navigable and well used
Car Dike	Roman	Not defined	No	Unnavigable
River Welland	1570-present	10.7m by 2.7 m (origin unclear)	Yes	Navigable but little used
Vernatt's Drain	Built 15 <sup>th</sup> Century	Never used	No	Unnavigable
River Glen	Time Immemorial	Various	Yes	Navigable with difficulty
Black Sluice	Unknown-1971	22.9 m by 5.8 m	Probably not	No access for navigation

*Table 3-1 Summary of Navigational Status*

## 4 Licensing Arrangements

### 4.1 Current arrangements

Within the Fens Waterways Link study area there are three navigation authorities at present. These are:

- ◆ British Waterways;
- ◆ Environment Agency; and
- ◆ Middle Level Commissioners.

British Waterways is the authority for the Witham, with the Environment Agency being responsible for the Welland, Glen, Nene and Great Ouse. The Middle Level Commissioners are the navigation authority for the Middle Level. Each authority also has varied policies over charges by length or area of craft, whether the craft is available for hire, and whether it is mechanically propelled or not. For the purpose of this report we will focus on the area available for navigation once a craft is licensed or registered, and upon the arrangements for powered pleasure craft, the target market of the Fens Waterways Link.

#### 4.1.1 British Waterways

Any boat moored or used on the Witham or Fosdyke must be licensed by British Waterways. There are two BW only licenses available (joint licenses are considered later). These are a:

- ◆ Full Licence; or
- ◆ River Registration.

The full licence covers all waterways under BW control. The river registration allows use of a number of waterways which are entirely or primarily river navigation. Holders of a river registration certificate on the Witham can travel to Nottingham, Leicester, York and Ripon. Neither license is valid on other authorities' waterways except through some limited reciprocal arrangements that are negotiated on an ad hoc basis (Ref 1). These licences can be purchased for periods of 3, 6 or 12 month periods. Short term Visitor licences are also available for a period of up to 28 days.

BW has a policy of requiring boats moored in off-line marinas to be licensed for the waterway the marina is connected to.

#### 4.1.2 Environment Agency

The Environment Agency has a regional licensing structure, and the waterways in the area of the Fens Waterways Link are covered by the Anglian Region. An Anglian Regional Licence allows the holder to use the rivers Great Ouse (and tributaries), Nene, Welland and Glen, as well as the Ancholme and Stour. A more restricted license is available for boats that use only the Welland Glen and Ancholme (Ref 8).

The regional license allows 15 days on other EA regional waters, and also navigation of the River Cam to Cambridge which falls under the jurisdiction of the Conservators of the River Cam. There are no reciprocal arrangements with BW (Ref 8).

Visitor licences are available, but only for 28 day or 14 day periods. Visitor licences for a 28 day period are available for a craft that is already licensed with another navigation authority. If a craft is not licensed with another navigation authority, then a visitor licence of only 14 days can be obtained. Regardless of the length of the visitor licence any one craft can only have one visitor licence per year (Ref 8).

It is not clear whether boats moored in marinas are required to be registered with the Environment Agency.

#### **4.1.3 Middle Level Commissioners**

The Middle Level Commissioners have no licensing arrangements. Boats entering the system are required to register with the lock keepers at Stanground and Salter's Lode (Refs 6 and 9). This is only a formality as these locks are only operated by the keepers anyway. No charge is made for use of the Middle Level by boats, and it appears that the Commissioners do not have the power to charge for use (Ref 7). However, any boat based on the Middle Level wanting to travel regularly on the Nene or the Ouse requires an annual licence from the EA, as the EA only permits one 14 day visitor licence per year per boat for boats not registered with another authority, or a 28 day licence if the craft licensed by another navigation authority (Ref 7).

#### **4.1.4 Joint Licences**

There are two joint licences available that allow movement between BW and EA waters. These are:

- ◆ Gold Licence; and
- ◆ Eastern Rivers Licence.

The Gold Licence allows navigation over all BW and EA waters except the Thames. The Eastern Rivers Licence combines the EA Rivers of the Anglian Region with those rivers available from the Witham under BW river registration. The Gold licence is primarily aimed at narrow boats, as these are the only vessels able to pass between EA waters via the canal system. The Eastern Rivers Licence is only useful to those able to make a passage across the Wash between the Ouse, Nene and Witham (Ref 8).

## **4.2 Future Arrangements**

Assuming the current management remains on the rivers Witham, Welland, Glen, Nene and Ouse, licence arrangements for the new waterway will need to be considered. It is possible that all these waterways will be transferred to either the EA or BW before the link is complete, as the role of each organisation with respect to navigation is reviewed at interval. It should be noted, however, that BW's last proposal to take over management of EA navigations did not include the Welland and Glen.

Broadly there are three options for the licences on the new navigation:

- ◆ Accept both BW and EA licences;
- ◆ Accept only EA and joint licences; or
- ◆ Accept only joint licences.

#### **4.2.1 Accept both BW and EA licences**

At first site this appears to have merit in that all craft licensed on adjoining waterways can use the Link. However, there may be administrative problems and there is also the issue of revenue from those using the waterway with a BW licence; it can not be assumed that BW will make a transfer payment to the EA on the basis of this reciprocal arrangement. There is also the issue of what happens when a boat leaves the Link for another waterway, as at that moment the relevant licence will be required; this is particularly tricky as the Nene forms part of the through route, as do the Welland and Glen. The issue of what licence a boat should hold to be based on the Link would also need to be resolved; there is a potential loophole of BW boats basing themselves on non-BW water without needing a further licence.

#### **4.2.2 Accept only EA and joint licences**

This is based on the assumption that the EA would manage the new navigation. Logically this position is much easier to defend as the navigations forming part of the Fens Waterways Link are all controlled by either the EA or the Middle Level Commissioners, with only one point of contact with BW waters at Boston.

The junction at Boston creates two potential difficulties. Firstly, part of the larger network highlighted in section 2 will only be available with a joint licence, thus diminishing the benefit of the through route; and secondly, it is likely that there will be an interim stage where access to the Black Sluice Navigation, and possibly the Welland and Glen, will only be practical from Boston as the link canal to Peterborough will not have been completed. Thus there will be a length which is realistically only useable to by joint licence holders from the Witham.

Both these problems could be overcome if a sensible reciprocal arrangement can be made. This would entail allowing EA licence holders to travel to either Lincoln or Gainsborough (where they leave BW waters) in return for BW licence holders being allowed as far as Peterborough or Denver. However, this might restrict the incentive to buy a joint licence in the first place.

#### **4.2.3 Accept Only Joint Licences**

This approach recognises that the Fens Waterways Link is a new facility and thus users should pay a premium for using it by having a joint licence. While this would provide a hefty incentive to purchase a joint licence, and also be equitable in that existing users who do not wish to navigate the Link will not face an increased fee to pay for it, there are pitfalls. First, demand for the new Link would be stifled due to the extra cost, and this would undermine economic benefits and thus threaten the justification for the scheme. Second, a joint licence would be required just to get from the Middle Level to the Great Ouse, as Salter's Lode Lock will have closed on the opening of the aqueduct here.

### **4.3 Recommendations**

It is recommended that the Link be available for holders of EA and joint licences, with reciprocal arrangements to allow EA licence holders to reach Lincoln and a similar concession for BW licence holders to reach Peterborough, for example.

## 5 Conclusion

From this report it can be concluded that:

- ◆ The potential user of the Fens Waterways Link has been defined as a novice user in a hire boat.
- ◆ In order to make the Fens Waterways Link suitable for this potential user the following issues have to be resolved:
  - All tidal links must be removed or bypassed;
  - The structure of Stanground Sluice needs to be replaced to resolve both the physical and operational restrictions;
  - Restricted opening hours of some of the locks along the Link need to be overcome;
  - Lack of mooring opportunities need to be resolved; and
  - Marketing and added interest to ensure the Link is not “dull and boring”.
- ◆ There is a right of navigation on all major watercourses proposed to be used in the Link with the exception of the Old Bedford River, Car Dyke, Vernatt’s Drain and the Black Sluice Navigation.
- ◆ Due to the heritage value of the Car Dyke it is unlikely this will be used to create the Fens Waterways Link.
- ◆ In the Fens Waterways Link area there are three navigation authorities, British Waterways, the Environment Agency and the Middle Level Commissioners.

### 5.1 Recommendations

It is recommended that the following issues be addressed in order for the Fens Waterways Link to realise its potential:

- ◆ All tidal links be removed or bypassed.
- ◆ The structure of Stanground Sluice should be replaced.
- ◆ The limited operational hours of the locks should be extended.
- ◆ Increase the number of mooring opportunities along the Link.
- ◆ The Link be marketed and interest added to realise the visitor potential of the area.
- ◆ Rights of navigation be obtained for the sections of the Link for which this right does not exist, namely, Old Bedford River, Vernatt’s Drain, Black Sluice Navigation and any reaches of new canal.
- ◆ It is recommended that if the management of the waterways within the Anglian Region remains as at present, with the three navigation authorities, that the waterway should be managed by the EA with EA Anglian region licences and all joint EA/BW licences being valid.

## 6 References

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## 7 Appendices

***Appendix A: DETAILS ABOUT RIGHTS OF  
NAVIGATION***

## A.1 Rights of Navigation

In this report there are frequent references to rights of navigation. These are literally what is stated, a right to navigate in much the same way as a public footpath is a right of way for pedestrians. A right of navigation does not imply a right to moor to the banks, or a right to undertake works to improve navigation. In essence there are three ways in which a right of navigation may exist. There are:

- ◆ Tidal Waters;
- ◆ Prescription rights by use; and
- ◆ Statutory rights of navigation.

### A.1.1 Tidal Waters

There is a prescriptive right of navigation wherever the tide ebbs and flows, and wherever it has ebbed and flowed if subsequent works have restricted the tide. This right can be removed, by Act of Parliament or by an order under the Transport and Works Act. In most modern examples, works that restrict the tide will address changes to the right of navigation in the enabling legislation. This would not necessarily have been the case in the past. In essence, if a watercourse is or has been tidal, there will be a right of navigation on it. However, this infers no right at all to maintain or improve the navigation (although unlawful obstacles can be removed, including tree branches and debris in the channel), and all land rights remain with the riparian owners.

### A.1.2 Prescriptive Rights of Use

Where a watercourse has been used for a prolonged period without challenge, it may have a prescriptive right of navigation on it. For this to occur the riparian owners must not have prevented navigation nor expressly given permission for it. There is no definitive time period for a right of navigation to be established in this way, and each case is potentially to be decided in the courts. Any watercourse used for the length of time the watercourses in the Fens Waterways Link have been used will certainly have a prescriptive right of navigation. As with tidal waters, this infers no right at all to maintain or improve the navigation.

It should be noted that a prescriptive right of navigation can not be established where a statutory right of navigation exists.

### A.1.3 Statutory Rights of Navigation

A statutory right of navigation exists when navigation is authorised by statute. This normally takes the form of an Act of Parliament but more recently an order under the Transport and Works Act could also be used. Before about 1700, rights were also established by mechanisms such as Letters Patent from the King.

Normally a statutory right of navigation also established a navigation authority with the power to construct navigation works and maintain the navigation. This right is also only applicable “on payment of the appropriate toll”. This can be applied to tidal waters and prescriptive rights as well where a navigation authority has the power to maintain the navigation under statute. The user can then be charged a toll for use of the maintained works. The toll can not be refused, and if it is offered, navigation must be allowed.

On non-tidal waters (and especially on artificial waterways) statutory rights of navigation are straightforward. However, no prescriptive rights of navigation can be established where there is a statutory right; that is, use of the statutory right does not constitute “custom and practise” for the

purpose of a prescriptive right. Thus when a statutory right is withdrawn, and the navigation abandoned, there will be no prescriptive right of navigation.

The situation is much more complicated where prescriptive rights of navigation existed or may have existed before the statutory right was granted. In these cases the other rights effectively lie dormant until the statutory right of navigation is extinguished, at which point the prescriptive rights become active again. To avoid this some navigation authorities in the past ensured that their Parliamentary Act of abandonment extinguished previous prescriptive rights as well as their own statutory rights.

## **A.1.4 Situations where no Right of Navigation Exists**

Where no right of navigation exists this does not necessarily preclude navigation. Most of the BW canal system has no right of navigation by virtue of the 1968 Transport Act. In these instances it is necessary for the riparian owners to give permission for navigation. Where the navigation authority is also the sole riparian owner, as on the canal network, this is straightforward. Otherwise agreement with riparian owners will be required.

## **A.1.5 Time Immemorial**

For all legal purposes there is a definition of Time Immemorial that overrides any other time related factor. Time Immemorial is set at 1189, and is regarded as the limit of legal memory. This has some relevance in considering prescriptive rights of navigation, as only use after this date is relevant (hence Car Dike can not have a prescriptive right of navigation, as it was never used after this date) and changes to tidal patterns predating this date do not imply a prescriptive right on the basis of having been tidal in the past.