

= River Welland =

The River Welland is a lowland river in the east of England , some 65 miles (105 km) long . It drains part of the Midlands eastwards to The Wash . The river rises in the Hothorpe Hills , at Sibbertoft in Northamptonshire , then flows generally northeast to Market Harborough , Stamford and Spalding , to reach The Wash near Fosdyke . It is a major waterway across the part of the Fens called South Holland , and is one of the Fenland rivers which were laid out with washlands . There are two channels between widely spaced embankments with the intention that flood waters would have space in which to spread while the tide in the estuary prevented free egress . However , after the floods of 1947 , new works such as the Coronation Channel were constructed to control flooding in Spalding and the washes are no longer used solely as pasture , but may be used for arable farming .

Significant improvements were made to the river in the 1660s , when a new cut with 10 locks was constructed between Stamford and Market Deeping , and two locks were built on the river section below Market Deeping . The canal section was known as the Stamford Canal , and was the longest canal with locks in Britain when it was built . The river provided the final outlet to the sea for land drainage schemes implemented in the seventeenth century , although they were not completely successful until a steam @-@ powered pumping station was built at Pode Hole in 1827 . Navigation on the upper river , including the Stamford Canal , had ceased by 1863 , but Spalding remained an active port until the end of the Second World War .

The Environment Agency is the navigation authority for the river , which is navigable as far upstream as Crowland , and with very shallow draught to West Deeping Bridge , where further progress is hindered by the derelict lock around the weir . The traditional head of navigation was Wharf Road in Stamford . The management of the lower river has been intimately tied up with the drainage of Deeping Fen , and the river remains important to the Welland and Deepings Internal Drainage Board , for whom it provides the final conduit to the sea for pumped water .

Wildlife in the river varies along its length , the faster headwaters being a habitat for trout and the slower lower reaches for perch . The estuary conditions and flat landscapes beyond Fosdyke favour wading birds and migratory species .

= = Geography = =

The River Welland , with its tributaries , form a river system with a catchment area of 609 square miles (1 @,@ 580 km²) . Within this area , 257 miles (414 km) of waterway are designated as " main river " , and are therefore managed for flood control by the Environment Agency under the River Welland Catchment Flood Management Plan (CFMP) . Of this total , the 14 miles (23 km) below Spalding are tidal , and have sea walls to protect the adjacent land from flooding , while 56 miles (90 km) are fresh water , but run through low @-@ lying land , and are therefore embanked . Within the catchment area , 179 square miles (460 km²) are below sea level , and would be flooded without such defences .

The basin runs in a broadly south @-@ west to north @-@ east direction , with an extension to the north around the West Glen and East Glen rivers . The underlying geology consists of Lias clays at the western end of the catchment , with Lincolnshire limestone in the centre , including the valleys of the Glen . The eastern third is mostly alluvial soils , and it is this part that relies on artificial pumping to prevent flooding . Rainfall over the area varies between 26 and 30 inches (660 and 760 mm) per year , which is quite light , and because the land is efficiently drained during the winter months , there are few reserves , making the area prone to drought in the summer months .

For much of its length the Welland forms the county boundary between Northamptonshire and Leicestershire or Rutland , and lower down between Lincolnshire and Cambridgeshire .

= = Course = =

The Welland rises in the Hothorpe Hills , close to the 540 @-@ foot (160 m) contour , near

Welland Rise , Sibbertoft in Northamptonshire . Within 2 miles (3 @. @ 2 km) , the small stream forms the border between Northamptonshire and Leicestershire . It flows westwards , before looping round , passing through the grounds of Hothorpe Hall in Theddingworth , now a conference centre , to flow generally eastwards through Lubenham to Market Harborough . One of the driveways to Thorpe Lubenham Hall is carried over the river by an early nineteenth century ashlar bridge which is a Grade II listed structure . To the east of Lubenham , the river passes Old Lubenham Hall , part of an H @- @ plan house built in the late sixteenth century and modified in the early eighteenth century . King Charles I is believed to have stayed there before the Battle of Naseby . Three arms of a square moat surround the house , and the site is a scheduled ancient monument .

= = = Market Harborough to Stamford = = =

The county border leaves the river on the west side of Market Harborough , as the town is wholly in Leicestershire , and picks it up again on the east side . The River Jordan joins the Welland in the centre of Market Harborough , flowing northwards to the railway station . Langton Brook and Stonton Brook join from the west near Welham . The county border meanders from side to side across relatively straight sections of the river , suggesting that the channel has been engineered . A three @- @ arched bridge , built in 1881 of fine ashlar masonry , with a causeway to the south , carries the Welham to Weston by Welland road over the river , while a four @- @ arched bridge dating from the early nineteenth century carries the Ashley to Medbourne road . Macmillan Way , a long distance footpath , crosses on its way from Abbotsbury in Dorset to Boston , Lincolnshire . Medbourne Brook joins from the north , after which the river approaches a dismantled railway and is joined by the Stoke Albany Brook , approaching from the south . The river remains on the south side of the railway , while the county border follows a meandering course to the north of it , but rejoins the river near the Brighthurst to Cottingham road . The bridge over the river is plain , but to the north of it is an eighteenth @- @ century causeway , some 110 yards (100 m) long , which is made of stone and pierced by seven large arches and numerous smaller arches for drainage pipes . The causeway has two large semi @- @ circular passing places on its western side .

The Welland passes to the north of Corby near Rockingham , and then to the south of Caldecott , where it becomes the county border between Northamptonshire and Rutland , and the Eye Brook , which has been dammed to form the Eyebrook Reservoir , joins from the north . As it flows past Harringworth , the river forms two channels , with the county border following the smaller , northern channel . It is crossed by the 1 @, @ 275 @- @ yard (1 @, @ 166 m) Welland Viaduct , with its 82 brick arches , which was completed in 1879 , and carries the Oakham to Kettering Line over the valley . Apart from viaducts carrying suburban lines into London , it is the longest railway viaduct to be built in Britain . Uppingham Brook flows eastwards from Uppingham to join on the north bank , and the Jurassic Way long distance footpath crosses the river at Turtle Bridge . This probably dates from the fourteenth century , although it was widened in 1793 , and a parapet has been added subsequently . On the road from Barrowden to Wakerley , there is a medieval bridge with five pointed arches , which was widened in the eighteenth century . Gretton Brook flows from the south to join the river near Duddington , where there is a well @- @ known mill building of earliest known date 1664 . A limestone ashlar bridge with four arches crosses the river , dating from the fifteenth century but widened in 1919 . After the river passes under a railway bridge at Ketton , its flow is swelled by the River Chater . The county border again leaves the river to the west of Stamford while below the town the river forms the border between Lincolnshire and Cambridgeshire .

= = = Stamford to Spalding = = =

Just before Stamford , the Great North Road , now labelled the A1 , crosses the river , and a pumping station on the north bank at Stamford Meadows has pumped large quantities of water to the Rutland Water reservoir since its construction in 1975 . Stamford was the lowest point at which the river could be forded so the Roman Ermine Street crossed the Welland there . The A16 road crosses the river by a three @- @ arched stone bridge designed by Edward Browning in 1845 .

Below it , Albert Bridge is made of iron with stone piers , and was erected by Stamford Town Council in July 1881 , to replace an earlier bridge which was washed away in a flood . Beyond Stamford , the river passes the site and ruins of the Benedictine St Leonard 's Priory . Hudd 's Mill marks the point at which the Stamford Canal left the river . The present mill building dates from 1751 and 1771 . The River Gwash , which the canal crossed on the level , joins from the north , and the remains of the canal follow the river on its north bank . Below Uffington , the county border follows the old course of the river , first to the south to Tallington and then to the north , while the main course now flows along the Maxey Cut to Peakirk . The old course consists of two streams , fed by sluices from the Maxey Cut , which meander to The Deepings . The eastern stream supplied power to Lolham and Maxey mills , while the western stream did the same for Tallington Mill , which dates from around 1700 , West Deeping mill , and Molecey 's mill , which still retains its seventeenth @-@ century undershot waterwheel , modified in the 19th century to Poncelet 's improved design , and the only surviving waterwheel of its type in Lincolnshire . At the western edge of Market Deeping the two streams join , and they are also joined by the Greatford Cut , which has carried the diverted waters of the West Glen river since the early 1950s .

This section is crossed by King Street , which follows the course of a Roman road . Where it crosses the Maxey Cut , to the south of the original channels , there are a series of 14 arches which comprise Lolham Bridges . They are grouped into five structures to cross the channels in the area , and were funded by the County of Northamptonshire in the seventeenth and eighteenth centuries . The longest span is 16 feet (4 @. @ 9 m) , and the cutwaters carry inscribed stones recording the County 's involvement . To the north , an early nineteenth century stone rubble arched bridge carries the road over a drainage ditch near Lolham Mill , while an eighteenth @-@ century bridge , probably rebuilt in the following century , crosses the mill stream . Another pair of early nineteenth @-@ century bridges , built of coursed limestone with ashlar dressings , carry the road over the northernmost channel .

The bridge at Deeping Gate carries the date 1651 , and is a Grade II * listed stone structure with three round arches . After the remains of Deeping High lock and Deeping Low lock , there is a junction where the old course , the Maxey Cut , the South Drain and the Folly River , also a drain , meet . The river is officially navigable below this point . Through Crowland and Cowbit to the edge of Spalding , the river is laid out with washlands , which were historically used as pasture , because the river was allowed to flood the land when tidal levels prevented the water discharging into the sea . The river is bounded on the north and west by a bank , while the New River , a drainage channel to the south and east of it , is bounded by another bank . The land between the channels forms Crowland High Wash , Crowland Fodder Lots and Cowbit Wash . The southern bank is variously named Corporation Bank , Wash Bank and Barrier Bank . These wash lands were designed to be flooded in extremis , although the building of the Coronation flood relief channel has made this purpose obsolete .

= = = Spalding to the Wash = = =

Passing through Spalding , where most of the flow is diverted through the Coronation channel , the town is protected by Marsh Road sluice and a sea lock to the east . Below the town , it is approached by Vernatt 's Drain , which runs parallel to the river carrying water pumped from Deeping Fen , and is crossed by the A16 road bridge . Nearby is Pinchbeck Marsh Pumping Station , which houses the last beam engine and scoop wheel to be used in the Fens for land drainage . It was built in 1833 , and ran until 1952 , when it was replaced by electric pumps . It now forms part of a museum of land drainage run by the Welland and Deepings Internal Drainage Board , in partnership with South Holland District Council . Vernatt 's Drain passes through a sluice to join the river , while the sluice that protects the entrance to the River Glen is navigable , to allow boats to reach Tongue End , some 11 @. @ 5 miles (18 @. @ 5 km) upstream from its mouth . There are pumping stations for Sea Dike and Lords Drain , and the outfalls of the Risegate Eau and Five Towns drainage channels before the final bridge at Fosdyke is reached . After it is joined by the Holbeach River , it is bordered by salt marshes , and finally flows into The Wash at The Cots in

Fosdyke Wash .

Beyond the river banks , much of the fertile arable land is composed of marine silt , which suits the bulb @-@ growing for which Spalding is famous . The commercial growing of bulbs was pioneered in the 1880s , with the first large @-@ scale tulip fields introduced by Sam Culpin in 1907 . At its peak in 1939 , there were 10 @, @ 000 acres (4 @, @ 000 ha) of bulb fields , and 3000 tons of flowers were exported through Spalding railway station . Tulips were grown on around 3 @, @ 000 acres (1 @, @ 200 ha) in 1965 , but this had reduced to less than 1 @, @ 000 acres (400 ha) by 1999 .

= = = Points on course = = =

= = History = =

The origin of the name for the river is unknown but appears to be Pre @-@ English . In Old English the form was Weolud and may have changed to the Middle English form due to folk @-@ etymology or Scandinavian influence . The Welland (Weolud) is first mentioned in the Anglo @-@ Saxon Chronicle for 921 AD .

Richard de Rulos , who was Lord of Deeping Fen during the reign of William the Conqueror erected a strong embankment to prevent flooding of the meadows adjoining the river , which then became fertile fields and a pleasure garden . During the reign of Henry III (1207 ? 1272) , complaints were made that of the two channels below Crowland , the one to Spalding was more favourable to the passage of barges , but the Abbot of Crowland had obstructed and narrowed its course by planting willow trees . In the fourteenth century , Spalding was charged with failing to scour and repair the river , causing damage to the king 's liege people , but argued that because it was tidal at this point , it was an arm of the sea , and so they were not responsible .

The river was one of the earlier rivers to be granted an act of parliament for improvements , to allow navigation to Stamford . The act was granted in the reign of Elizabeth I in 1571 , and detailed how Stamford had prospered as a result of the river , but also stated that mills built between Stamford and Deeping had resulted in it no longer being navigable , as they had diverted the water . Powers were granted to restore the river using either the old channel or the new one , although it is not clear exactly what was meant by this . There is no evidence that any work was carried out under the terms of the act .

The powers were revived in 1620 , when Stamford Corporation was given permission by the Commission of Sewers to build a new 9 @. @ 5 @-@ mile (15 @. @ 3 km) artificial cut , which would run from the eastern edge of Stamford near Hudd 's Mill , to Market Deeping , where it would rejoin the river . The decision was ratified in 1623 by a grant of James I , and the corporation expected to have the work completed by 1627 . However , they were unable to find a suitable contractor to carry out the work , and failed to reach agreement on terms with David Cecil in 1636 , and two other potential contractors after that . Finally in 1664 , an alderman from Stamford called Daniel Wigmore took the job . He built the cut and 12 locks , which included the High Lock and the Low Lock on the river at Deeping St James , at a cost of £ 5 @, @ 000 . In return for his expenditure , he was given the lease of the tolls for the next 80 years , for which he paid a rent of one shilling (five pence) . The cut , known as the Stamford Canal , is one of the earliest post @-@ Roman canals in England . It opened in 1670 , around 100 years before the start of the Industrial Revolution which brought about the " golden age for canals " in Britain . When built , it was the longest canal with locks in Britain , and was very busy with barges carrying flour , malt , coal , timber and limestone .

The people of Market Deeping , Deeping Gate and Deeping St James , together with other villages along the river presented a petition to Elizabeth I , requesting that the fens should be drained , as the banks of the river and of the neighbouring Glen were in a poor state of repair . They suggested that Thomas Lovell should undertake the work , which he did , at a cost of £ 12 @, @ 000 , for which he received 15 @, @ 000 acres (6 @, @ 100 ha) of the land which was reclaimed as a result of the

work . Unrest in the early 1600s resulted in most of the works being destroyed , but in 1632 a group of adventurers led by the Earl of Bedford were granted permission to drain Deeping Fen , South Fen and Crowland . The work included making the Welland deeper and wider from Deeping St James to its outfall beyond Spalding , and the construction of side drains . These included a drain running from Pode Hole to below Spalding , which is still known as Vernatt 's Drain , after one of the adventurers called Sir Philibert Vernatti . Although declared completed in 1637 , efficient drainage would have to wait until the construction of Pode Hole pumping station in 1827 .

At Crowland the river used to split into two channels , one broadly following the present course of the river , and the other joining the old South Ea to reach the River Nene near Wisbech . Dugdale , writing in 1662 , described the Spalding channel as " a most slow course " . The river no longer flows through Crowland , but the unique triangular Trinity Bridge , which spanned the junction , remains in the centre of the town .

Spalding had been a port from before any of the river improvements were made . The townspeople had refused to repair the river during the reign of Henry III , as they claimed it was part of the sea here . Its importance as a port increased with the river improvements and the Stamford Canal , and although it did not have a customs house , by 1695 it had various officials who acted as customs officers for goods arriving at the quays and warehouses . Exports included oats , coleseed , rape oil , hides and wool , with a much greater variety of imports , including stone , timber , coal , groceries , glass and beeswax . More exotic imports included French and Spanish wines , and some of the first imports of tea , coffee and chocolate .

= = = Deeping Fen = = =

The drainage of Deeping Fen was again addressed in 1664 , when the Deeping Fen Act awarded the Earl of Manchester and others 10 @, @ 000 acres (4 @, @ 000 ha) of land in return for the drainage works . They were also obliged to maintain the banks of the river , to ensure that both the Welland and the Glen were kept clean and free @-@ flowing , and to ensure that no tolls were charged for navigation on any part of the river below East Deeping . The inadequacy of the outfall and a spate of bad weather stopped them from completing their task . They tried renting out the land they had been granted , but many tenants were unable to pay the rent , due to the poor state of the drainage which reduced crop yields . In April 1729 , the Deeping Fen Adventurers received a letter from Captain John Perry , expressing the opinion that the only way to improve the drainage was to improve the river outfalls , and proposing the construction of scouring sluices on the river at Spalding , on Vernatt 's drain at its outfall , and on the River Glen at Surfleet . Perry was an engineer of some repute , who had set the standard for engineering reports in 1727 , when he published his recommendations for the North Level of the Fens . His plans were approved , and the Adventurers offered to give him land covering nearly 6 @, @ 000 acres (2 @, @ 400 ha) in payment for the work . He sold one @-@ third of the land to finance the project , and began work in 1730 . Cowbit sluice on the Welland had six 6 @-@ foot (1 @. @ 8 m) wide gates which were operated by chains connected to a treadwheel . At high tide , water was penned in Cowbit Wash , between banks which were set well back from the main channel . The bed of the river below the sluice was loosened by dragging wooden rollers with iron spikes over it . At low tide , the sluice gates were opened , and the flow scoured out the silt for some 3 miles (4 @. @ 8 km) downstream . A navigation lock was constructed beside the sluice , so that vessels could still gain access to the river above . Perry died in February 1733 , and was buried in Spalding churchyard . The lock lasted until it was removed by the Welland commissioners in 1813 .

Perry was succeeded by John Grundy , Sr. , who published a paper in 1734 on flow in open drains . He calculated theoretic flow rates , and then used observation in the field to modify the results . He oversaw a programme of repairs to the Deeping Bank , which ran for 12 miles (19 km) along the north and west side of the river , while John Scribo was employed to do the same for the Country Bank , which ran for 6 miles (9 @. @ 7 km) on the south and east . Grundy made the river deeper above Spalding , and also constructed a sluice and reservoir at the mouth of the Glen . The reservoir covered 8 acres (3 @. @ 2 ha) and provided water to scour the channel below the sluice .

His son , John Grundy , Jr . , took over after the death of his father in 1748 , and spent nearly £ 10 @, @ 000 on bank repairs between then and 1764 . He rebuilt Perry 's sluice soon after 1750 , with taller doors and a set of tide gates to prevent the tide moving upstream , and rebuilt the navigation lock in 1754 . After 1764 , Thomas Hogard became the surveyor of works , but Grundy continued to act as a consultant engineer .

Hogard devised a scheme to cut a new channel from the junction of the Welland and the Glen to Wyberton , on the estuary of the River Witham below Boston . At the end of the 7 @. @ 5 @- @ mile (12 @. @ 1 km) cut , there would be a huge sluice and a navigation lock . The Adventurers asked Thomas Tofield for a second opinion , who suggested a shorter 5 @- @ mile (8 km) cut from Spalding to Fosdyke . They requested help from Grundy , who proposed a 1 @. @ 5 @- @ mile (2 @. @ 4 km) cut to Fosdyke , and that the outfall of Vernatt 's drain should be moved 2 @. @ 5 miles (4 @. @ 0 km) downstream . Improvements to the drain were carried out under an act of parliament obtained in 1774 , and an act was obtained in 1794 to sanction the Wyberton cut , although the work was not carried out , and Grundy 's cut was built under a new act of 1801 .

Several prominent civil engineer considered the problems of Deeping Fen and the river outfall at the end of the 1700s . Two reports were produced , one by George Maxwell , and the second by Edward Hare , who had been assisted by William Jessop and John Rennie . They formed the basis for the Deeping Fen Act of 1801 . The channel above Spalding was made deeper , the north bank was made stronger , and the North and South Drove Drains were enlarged through the fen . One of Rennie 's recommendations had been to replace the windmills which drove the drainage pumps with a steam pumping station at Pode Hole , but this was not implemented . After reports by Rennie and Thomas Pear in 1815 , and by Rennie alone in 1818 and 1820 , the provision of steam engines was authorised by an act in 1823 . The trustees appointed by the 1801 act continued to manage Deeping Fen until they were replaced in 1939 by the Deeping Fen , Spalding and Pinchbeck Internal Drainage Board , subsequently renamed the Welland & Deepings Internal Drainage Board .

= = = The Outfall = = =

Plans to re @- @ route the outfall along a new channel which would meet the River Witham at The Scalp , near Boston , were authorised in 1794 , but the money could not be raised at the time , due to the financial crisis caused by the French Wars . Grundy 's shorter channel had been finished by 1810 , improving both drainage and navigation . James Walker reported in 1835 on further improvements , making the recommendation that the river below Spalding should be constrained between high banks , so that the scouring action of the water would dredge its own channel . Rather than excavating , which he estimated would cost £ 70 @, @ 000 , he suggested using fascines made of thorn branches , around which silt would be deposited . Such a scheme would only cost £ 13 @, @ 000 , and the work went on for many years . The effects of the embankments had resulted in the bed of the river below Fosdyke being around 7 feet (2 @. @ 1 m) lower by 1845 . In 1867 , the River Welland Outfall Act enabled the trustees to raise money to repair the walls where the tide had washed away some of the fill behind the fascines . A dredger was employed between 1889 and 1890 , which had been invented by a Mr Harrison , the superintendent of works .

With the passing of the Land Drainage Act 1930 , the Welland Catchment Board was created . They had spent £ 91 @, @ 537 on the outfall by 1937 . Towards the end of the Second World War , E. G. Taverner , the chief engineer for the drainage board , devised a plan to relieve flooding in Spalding by creating a bypass channel , and building the Greatford Cut to divert the waters of the West Glen river into the Welland upstream of Market Deeping . The scheme cost £ 723 @, @ 000 , with much of the work being carried out by W. & C. French , and the Coronation Channel around Spalding was opened in September 1953 . Fulney lock was constructed at the same time to exclude the tide from the upper river , as was the Maxey Cut , an embanked channel that bypasses the villages of Market Deeping , Deeping Gate and Deeping St James . During the 1960s and 1970s , several sections of the river above Stamford were made straighter and deeper , to reduce the risk of flooding of agricultural land . To address the habitat and environmental issues causes by such engineering work , the Welland Rivers Trust , a limited company and charitable trust , was set up in

2010 . They are seeking to direct regeneration of the river by co @-@ ordinating various organisations , which are known collectively as the Welland Valley Partnership . They published a major document outlining their proposals in February 2013 .

= = Navigation = =

The river as far as Stamford was used by the Romans for navigation , as it formed part of a system including the Car Dyke , which ran along the western edge of the Fens and crossed the river near the modern Folly River . Navigation to Stamford was improved by the canal . Boats used on the canal were small lighters , around 7 feet (2 @. @ 1 m) wide , capable of carrying from seven to fourteen tons , and normally worked in trains of four vessels . With the arrival of the railways , river trade declined . The Midland Railway reached Peterborough in 1846 , and opened their line to Melton Mowbray , passing through Stamford , in 1848 . Carriage of coal on the upper river stopped , and the locks deteriorated . By April 1863 , all traffic had ceased , and Stamford Corporation tried to sell the line at auction , but failed because their ownership of it was disputed .

Trade on the lower river was carried in barges and keels . During the early 1800s as trade was increasing , so the river was simultaneously silting up . Around 1800 , vessels carrying 60 tons could reach the port facilities at Spalding ; however , by the 1820s , ships could only be loaded with 40 tons each as the river silting had worsened . Trade records indicate that in 1829 , vessels carried just under 20 @, @ 000 tons to and from Spalding , and by 1835 this had increased to over 34 @, @ 000 tons . There was pressure from merchants to cater for larger vessels , and with later improvements , carried out under an act of parliament obtained in 1837 , barges and sloops of up to 120 tons could use the port . Because the river was maintained for drainage , some commercial traffic continued despite the railways , and tolls of £ 478 were collected on 11 @, @ 690 tons in 1888 . Coal for Spalding gasworks arrived by boat until the early 1900s , and the last regular trade was the carriage of corn , hay and straw from Spalding to Fosdyke , where the cargo was transferred to larger ships . All commercial carrying had ceased by the end of the Second World War .

In July 2005 a water taxi service was launched in Spalding . Its route is from just off Spalding 's High Street upstream along the river , turning onto the Coronation Channel , and going to Springfields Outlet Shopping & Festival Gardens , and back .

Vessels of 110 by 30 feet (33 @. @ 5 by 9 @. @ 1 m) and drawing 8 feet (2 @. @ 4 m) can still proceed along the estuary at high water , and can travel inland as far as Fulney lock . They cannot pass through the lock as it is only 62 @. @ 3 by 27 @. @ 8 feet (19 @. @ 0 by 8 @. @ 5 m) and at normal summer water levels , can accommodate boats drawing 2 @. @ 6 feet (0 @. @ 79 m) . The river is officially navigable to the point at which the Folly River joins it , but the length of boats allowed on this section is restricted to 35 feet (11 m) long , considerably less than the lock dimensions would suggest . Navigation on this stretch was severely restricted by Four Mile Bar footbridge , which provided just 5 @. @ 25 feet (1 @. @ 60 m) of headroom , but this was increased when a new single @-@ span arched bridge was installed in early 2007 by the Lincolnshire Waterways Partnership . Smaller boats such as canoes , which can be carried around obstructions , can continue up to Stamford , but they must use the old course of the river through the Deepings , rather than the Maxey cut .

Below Spalding , there were no restrictions on headroom , which allowed small coasters to reach the town . The bridge at Fosdyke was a swing bridge , to comply with the provisions of the Fosdyke Bridge Act of 1870 . The demise of such traffic allowed it to be replaced by a fixed bridge with headroom of 16 @. @ 5 feet (5 @. @ 0 m) , but the powers of the original act had to be rescinded , and the Port of Fosdyke Act was obtained in 1987 to allow this to happen . The redundant wharfs at Fosdyke have been developed to provide moorings for yachts and other pleasure craft . The lock at Fulney has three sets of gates , two pointing towards the sea , and a third between them which points upriver . The lock can thus only be used when the level below it is higher than the level above it , and as the tide falls , the intermediate gate closes to prevent its use .

The principle of there being no tolls for use of the river was established by the 1664 act of parliament . This was reversed by the 1794 act , which imposed high tolls , until they were reduced

by the provisions of an act of Parliament obtained in 1824 . The river is now managed by the Environment Agency between Stamford and just below Fosdyke bridge , and a licence is required to use it . From there to the Wash , it was managed by the Port of Fosdyke Authority , but since they went into administration , the Environment Agency have also managed the section from Fosdyke Bridge to below the Holbeach River .

= = Wildlife = =

The river , in its upper reaches , supports a wild brown trout population . Chub and perch dominate the middle reaches around Stamford , with pike , perch and zander inhabiting the lower lengths around Spalding .

A collaboration between the Welland Rivers Trust , the Wild Trout Trust and the Environment Agency has resulted in the construction of a rock ramp , to allow migrating sea trout to pass up the river beyond the weir on the Maxey Cut , which was acting as a barrier . Some 300 tons of rock , with 50 tons of finer material forming a top layer , were used to create the ramp . The finer material ensures that water mainly flows over the ramp , rather than through it . The ramp also enables young eels or elvers to move up the river , and provides habitat for stone loach and bullheads .

Large numbers of swans and geese use the river around Crowland , and out to sea . Smaller populations of each can be seen around the Stamford Meadows , and further upstream .

In 2015 a common grey seal found its way from the Wash up the river and spent a few weeks sleeping in gardens next to the river in Deeping St James . The seal was spotted further downstream in Spalding as it eventually made its way back to the sea .

On the south bank of the river below Fosdyke bridge , the Lincolnshire Wildlife Trust have established Moulton Marsh nature reserve , on a strip of land where soil was excavated to raise the banks in 1981 . Habitat is provided by some broad @-@ leafed woodland , covering 15 acres (6 @.@ 1 ha) , several salt @-@ water lagoons and tidal scrapes , covering 35 acres (14 ha) , and 40 acres (16 ha) of saltmarsh . A variety of birds can be seen , including little grebe and water rail , which spend the winter on the lagoons , while the scrapes , which consist of shallow pools and muddy shorelines , are visited by common redshank and little egret .

Between the river mouth and the River Witham , a large expanse of saltmarsh provides breeding grounds for common redshank , Eurasian oystercatcher and reed bunting in the summer , and Eurasian wigeon , mallard , common shelduck and common teal in the winter . Birds of prey such as hen harrier and merlin feed on the flocks of linnet and twite , while the mudflats support dunlin , whimbrel , and bar @-@ tailed godwit . The Lincolnshire Wildlife Trust have a reserve there , which is next to RSPB Frampton Marsh , a reserve managed by the Royal Society for the Protection of Birds .