



All Party Parliamentary Group for the Waterways

General Meeting

“Water transfer projects on the inland waterways”

**Tuesday 23rd November 2021 from 9.45am to 11.15am
by Zoom video meeting**

Waterways APPG members present Michael Fabricant MP (Chair), Lord Bradshaw, Lord German, and a representative from the office of Gagan Mohindra MP.

Apologies had been received from Baroness Redfern.

Also in attendance were 3 officials from Defra and 65 representatives of navigation authorities and waterway organisations.

Welcome and Introductions

Michael Fabricant MP, Chair of the Group, welcomed parliamentarians, department officials and representatives of navigation authorities and waterway organisations to this meeting to discuss how water transfer projects can facilitate use of inland waterways for leisure and recreation, alongside flood management and enhancing the natural environment.

Paul Rodgers, National Chairman of The Inland Waterways Association (secretariat) ran through the Zoom video meeting functions and explained how attendees could raise questions later on.

Michael Fabricant MP then introduced the first speaker, Claire Beloe from Ofwat/RAPID.

Claire Beloe - Principal Engineer in Ofwat and RAPID: “Open channel transfers - benefits and opportunities - a RAPID perspective”

Claire started her presentation by giving some background about RAPID (the Water Regulators’ Alliance for Progressing Infrastructure Development) which is a joint team made up of Ofwat, the Environment Agency and Drinking Water Inspectorate. RAPID’s purpose is to “support the timely delivery of resilient, environmentally beneficial water resources which are acceptable and affordable for customers”. RAPID has been set up to accelerate the development of new water infrastructure and design future regulatory frameworks. It works with the water industry to promote the development of national water resources infrastructure that is in the best interests of water users and the environment.

RAPID will facilitate and assess the 17 strategic solutions (plus new solutions) through four

gate 'check-points' during the 2020-25 period and make recommendations on future funding. As well as allowing funding for the development of strategic water resources, Ofwat has been encouraging a focus on efficient alternative solutions to achieving long-term drought resilience. Ofwat is supporting the bidding market for water resources which allows third parties to bid into the water resources planning process by requiring the publication of water resources market information and bid assessment frameworks. RAPID aims to facilitate the coordinated development of these strategic solutions so that they are in the construction stage by 2025–2030 and can increase the resilience of national water supplies.

Claire noted that identifying and developing water resource solutions at a regional and national level, and fully exploring third party opportunities, can help unlock the best value solutions for customers, environment and society.

Claire showed a map showing the location of some of the projects, which include:

- 17 solutions identified for the initial stage of this process with development funding of up to £469 million divided between nine water companies
- Funding to accelerate investigations and feasibility enabling solutions to be 'construction ready' in 2025-30
- 11 source development options, including three new reservoirs, effluent reuse and desalination
- Six water transfer options, utilising rivers, canals and pipelines. Two transfer options include elements of raw water transfer by canal.

Claire outlined the benefits of using open channel rather than pipelines for water transfer:

- Can be cost effective
- Geographically well placed across England and Wales
- Preservation of national heritage
- Wider societal benefits through positive impacts on the water environment, biodiversity and ecology; social and amenity value through recreational use and connected communities and local economies
- Possible reduced carbon impact through re-purposing existing infrastructure and low carbon heating and cooling opportunities

Claire then outlined the risks of using open channel:

- Invasive Non-Native Species (INNS) transfer
- Funding through water industry for open channel transfers only if shown to be the best value solution
- Lack of water quality data for canal network
- More complicated commercial arrangements

Claire noted that there is a desire to use open channel opportunities where they are shown to be the best value solution.

Claire then outlined the locations of potential opportunities for existing navigable waterways to be used for water transfer, based on a University of Manchester report to RAPID in July 2021. The model helped to identify cost-effective portfolios, choosing from over four thousand water supply options. In the study transfers between water resource zones made use of canals or rivers where doing so would reduce the pipeline length and therefore reduce cost. This study investigated the Canal & River Trust network of canals within the selection of transfers. However, many more navigations exist. Future studies could examine additional canal networks to include those managed by the Environment Agency and the Broads Authority. The model results have been shared with companies and regional groups to help them decide what they want to investigate further.

Claire ended her presentation by giving an overview of the potential restoration of Cotswold Canal to support the Severn to Thames Transfer. Water could be abstracted from the River Severn during high flow conditions, discharged back into the Severn during low flow periods, and re-abstracted again further downstream into the Gloucester & Sharpness Canal and transferred along the Cotswold Canal to the River Thames. This project has the potential to facilitate restoration of parts of the canal, augmented with pipelines and pumping stations. The preliminary feasibility assessment identifies that this solution would increase natural capital ecosystem service provision more than the pipeline option, and could also improve social, economic and environmental aspects which the pipeline would not.

Michael Fabricant MP thanked Claire Beloe for her presentation and then introduced the next speaker, Robin Price from Water Resources East.

Robin Price - Managing Director at Water Resources East: “Reimagining the role of waterways in Eastern England”

Robin Price started his presentation by giving some background about Regional Water Resource Planning. This seeks to change water resource planning from being water companies alone looking at a 5 year period to something that is planned by a multi-sector approach looking at all water users over a wider geography over a 25+ year period. This is brought together under a national framework for all water resources published by Defra and EA in 2020. There are five Regional groups (East, South East, West Country, West and North), which work together on a national water strategy.

Each region will be looking at a set of options which represent the best value for all sectors, in terms of future demand for water, environmental ambition and economic ambition, all framed in the context of climate change.

By September 2023 all regions are due to publish regional plans. Water Resources East (WRE) has a vision for Eastern England to have sufficient water resources to support a flourishing economy, a thriving environment and the needs of its population, and for the region to be seen as an international exemplar for collaborative integrated water resource management.

Robin outlined WRE’s overarching 7 point strategy for Eastern England, one of which is the transfer of water from areas of surplus to areas of deficit, increasing connectivity using both open water channels as well as pipelines. Storage is key, along with how the water is moved around. Central to WRE’s strategy is how they can do this using open water transfer to realise all the benefits outlined in the earlier presentation from Claire Below, while being mindful of the risks.

Michael Fabricant MP asked how much water is lost to evaporation by using open channel rather than pipeline. Robin said this can be significant, especially on a hot summer day, but this is quantifiable and can be planned around. In WRE on an average day 2311 megalitres of water is supplied per day, but only 85% is turned into drinking water, with the rest used for irrigation and power generation. It is estimated that a further 2,481 megalitres a day will be needed by 2050 and beyond, so the requirement will be more than doubled. WRE has taken a slightly different approach to the other regional groups in being an independent not-for-profit membership organisation. Among their members are IWA, Stamford Canal Society and the Bedford to Milton Keynes Waterway Trust.

Robin outlined the key components of WRE’s Regional Plan:

- Demand management – leakage and per capita consumption (PCC) reduction and multi-sector water efficiency

- Large infrastructure options (eg mega reservoirs, transfers, desalination, effluent re-use) >10MLD (million litres per day)
- ‘Local’ non-water company and smaller (<10 MLD) water company infrastructure projects – case studies such as Boston to Peterborough Wetland Corridor, Stamford Canal, North Walsham & Dilham Canal and Bedford to Milton Keynes Waterway Park

Central to WRE’s plans are two new strategic reservoir systems – one in south of Lincolnshire and one in the Fens on the Norfolk/Cambridgeshire border. Waterways can be pivotal to how water gets to and away from those reservoirs. The Boston to Peterborough Wetland Corridor is 12 miles of new waterway that would unlock 50 miles of connectivity. The Stamford Canal could offer the opportunity to link Rutland Water Reservoir with the new south Lincolnshire Reservoir. The Bedford to Milton Keynes Waterway offers 11 miles of connection between the Grand Union Canal and the River Great Ouse to provide a strategic connection between the West and the East. This could act as an urban drainage system as part of the Oxford to Cambridge Arc, reducing flood risk and acting as a header tank for water taken from the bottom of the Great Ouse system into the new Fens reservoir.

The North Walsham & Dilham Canal offers an opportunity for abstraction and water for irrigation. Opportunity for effluent re-use, nature based solutions to treat the water and put it back into the system rather than losing it out to the sea. There is also a potential opportunity for linking the Great Ouse system to the Norfolk Broads. Many other opportunities exist involving the waterways and IDBs (internal drainage boards) in the Fenland waterways.

Robin concluded his presentation by mentioning the importance of co-creating, financing and delivering multi-beneficiary infrastructure (large and small).

Michael Fabricant MP thanked Robin Price for his presentation and then introduced the final speaker, Clare Carlaw from Affinity Water.

Clare Carlaw - Water Resources South East Engagement Lead, Affinity Water: “The Grand Union Canal – a Strategic Resource Option for the South East”

Clare Carlaw explained that she looks after the customer and stakeholder engagement for Affinity Water but also wears a Water Resources South East (WRSE).

WRSE are developing a plan to ensure a secure and sustainable water supply for all water using sectors to 2100. There is a significant challenge. WRSE forecast a significant water deficit - by 2050 (~2-2.5 Bn litres/day) and increasing to 2100. There are uncertainties in long-term planning so they are developing a range of future scenarios. The aspiration is to develop a plan which provides additional value to the region using a “best value” framework to understand the areas and extent of value that can be provided. They have looked at over 1000 potential schemes.

Clare outlined the Grand Union Canal scheme which is a transfer of treated wastewater from Minworth waste water treatment works (Severn Trent) via the existing canal network to Affinity Water, working (unusually) with a third party (Canal & River Trust). Three possible sub-routes have been identified for water entering the canal, with four shortlisted abstraction locations, with Leighton Buzzard being the most likely.

One of the major advantages of this scheme compared to others is that by using the canal as a current asset they are not building new structures or digging up large areas for new

pipes, which has a huge advantage in terms of impact on communities, the environment and cost.

The scheme will involve:

- New additional treatment at Minworth Wastewater Treatment Works
- Pipeline and pumping
- Pumps and lock workarounds
- Abstraction offtake
- Small pipeline and new Water Treatment Works

The scheme will include some engineering but will minimise disruption by planning and engineering in ways that cause least impact. They aim to work with stakeholders to co-create and co-design to ensure the best outcome for all.

They are working collaboratively with stakeholders and the canal community, including:

- RAPID – the process has enabled them to progress the SRO schemes and explore the challenges and opportunities and work hand in hand with regulators to explore areas such as procurement which are new challenges on schemes of this size.
- Regional Groups - the importance of Regional Planning and working across company and across region to explore options and solutions.
- National Advisory Unit – includes Environment Agency and Natural England
- Drinking Water Inspectorate
- Local Environment Agency offices – they had some initial high level of concerns – especially around interactions in the lower end of the scheme where the canal interacts with a number of rivers – this engagement has been absolutely critical to come up with a good solution and has led to looking at ‘earlier’ abstraction points before Tring where it effectively goes downhill.
- Historic England, Highways England and Local Authorities - setting up workshops to work with them to explore and work through issues
- Canal community –workshop held last month with representatives from canal users, boaters, fisherman, canoeists

Investigations are underway in the following areas:

- Hydraulics – working closely with CRT to improve the models
- Impacts on structure –really key for both the boating community and Historic England
- Abstraction points – key to assess options looking at best locations through a variety of lenses, they will work with the community and the LAs to short list and explore options around added value
- Water quality is key – they need to continue in depth monitoring and work with the DWI and EA to ensure all concerns are understood
- Ecology - Habitats Regulation Assessment (HRA) CPET sampling, Fish surveys,
- Increasing flow of water along the canal might have a positive impact on invasive species such as zander (*Sander lucioperca*), located throughout the Midlands, and signal crayfish (*Pacifastacus leniusculus*) throughout the upper, middle and lower canal reaches surveyed. EA records obtained also indicated the presence of zebra mussel (*Dreissena polymorpha*), demon shrimp (*Dikerogammarus haemobaphes*) and floating pennywort (*Hydrocotyle ranunculoides*).
- Targeted INNS surveys are planned at locations where river and canal waterbodies are closely connected e.g. at Batchworth Lock where the GUC has confluences with the River Colne and River Chess.

Clare noted that the Grand Union Canal scheme is hugely beneficial and outlined four areas of where value can be added through collaboration:

- Ecology - Surge ponds
- Recreation:

- Connecting walkways/ cycle ways
- Access and accessibility (including parking)
- Visual enhancement / educational enhancement
- Flooding - interaction with rivers / flood defence
- Engineering, e.g. River Tove

Clare concluded her presentation by noting that the key for this scheme is partnership working – looking for nature based solutions and maximising the value of this scheme. Clare said that support would be essential, whether supporting joint funding, breaking through the barriers and helping facilitate conversations and innovation

Questions and Answers/Discussion

Michael Fabricant MP thanked the speakers for the three presentations, and asked for any questions.

Bernie Jones (Shrewsbury & Newport Canal Restoration Trust) asked how best value is determined. Claire Beloe responded by saying that best value is determined through a suite of best value metrics that the regional groups and water companies use. As well as how much water a solution provides, other aspects such as wider resilience benefits, social and amenity value, flood resilience, ecology, improvements to nature, which take into account cost and wider benefit to society. Bernie asked what weight the cost element had – Claire said this would depend on the water company and regional groups.

David Chapman (IWA Trustee) asked whether, other than growth of the connected network, there any other benefits to the existing canal network, eg new income stream for Canal & River Trust. Claire Beloe responded that there is the potential for third parties to be involved. Adam Comerford, National Hydrology Manager at Canal & River Trust, confirmed that as well as a potential income source for the Trust this also improves the usability of the system by upgrading and improving some of the 200 year old infrastructure, improving resilience for the future. John Dodwell, as a former CRT trustee, noted that the potential for extra income is important and there is definitely scope for Canal & River Trust to benefit from such schemes. The alternative of laying a pipeline and all its associated disruption would be much more costly.

Ken Burgin of Cotswold Canals Trust noted that they have been working with the various water companies on the Severn Thames scheme which would deliver some massive benefits to the canal restoration. The scheme has got through Gate 1 along with an alternative scheme for a very long pipeline, with a decision to be made before Gate 2, likely to be in the next month or so with a public consultation in January next year. Ken has concerns that the detail being worked up for a decision between the two schemes may not go into enough depth. He was also concerned that previous figures were skewed against the canal. CCT have asked for details of construction costs but have been told that this detail cannot be shared. Claire Below responded that RAPID try to be transparent, lots of information is published on its website and she was happy to take specific questions away and to get back to Ken with specific feedback.

Terry Cavender said that Buckingham Canal Society had applied to the first round of the Natural Environment Readiness Investment Fund. Their bid included a proposal for water transfer, following conversations with Milton Keynes Council who are looking to see 100,000 new houses to be built. Using a quarry and balancing lakes there are opportunities for water supply, flood control, and even linking into the Bedford to Milton Keynes Waterway, creating a 29 mile linear waterway park. Terry asked how individual restoration charities, Canal & River Trust, and the organisations speaking today can all work together as he feels that it ideally needs one organisation to take the lead. Robin Price responded that today's presentations are about raising awareness about the regional

groups, with everyone working together openly and collaboratively. He hadn't heard about the BCS scheme but is very happy to talk to Terry and suggested a meeting between WRE and BCS and B&MKWT.

Ken Otter, Chair of Stamford Canal Society noted that the wider benefits about opening canals for water transfer in the East shouldn't be overlooked. To get water into the East of England the Boston to Peterborough waterways transfer would be a good start, with the cost benefit analysis identifying a 3 to 1 benefit for recreational use. There is an opportunity to include Stamford in the link. Rutland Water is at the start of the canal and the South Lincolnshire reservoir is at the bottom, using the 20 metre contour line with gravity doing all the work. Costs can be minimised and benefits can be maximised, building on the recreational use to provide a ring around eastern ring that has never before been available. There is also the potential for extension to Ely and Peterborough and then it's only a short distance to the Norfolk Broads. He commended the project to members of the Group.

Jane Hamilton, chair of the Bedford & Milton Keynes Waterway Trust who are working closely with WRE and IWA and others, noted that engagement is a bit hit and miss and asked how waterway organisations can get better engagement with those who need to be involved with these schemes. Clare Carlaw responded that Jane made a pertinent point and she feels that water companies and regional groups can be that catalyst. In talking to Historic England and Highways they are starting that engagement. As major infrastructure projects planning permission will be required so local authority engagement is also key. Robin agreed that these are serious infrastructure projects, increasing water demands means everyone needs to crack on with the projects. It is good for the water industry and regional groups to take the lead, but it can't be left to them to fund all the projects. These are big regional issues and regional collaboration is essential.

Summary, actions, and closing remarks

Michael Fabricant MP thanked the three speakers on behalf of the All Party Group and closed the meeting.

The presentations from this meeting are available on request from Alison Smedley, APPGW Secretariat by emailing alison.smedley@waterways.org.uk.



The Inland Waterways Association provides the secretariat to the All Party Parliamentary Group for the Waterways.