



Welcome to the first newsletter from the Wensum catchment Partnership!

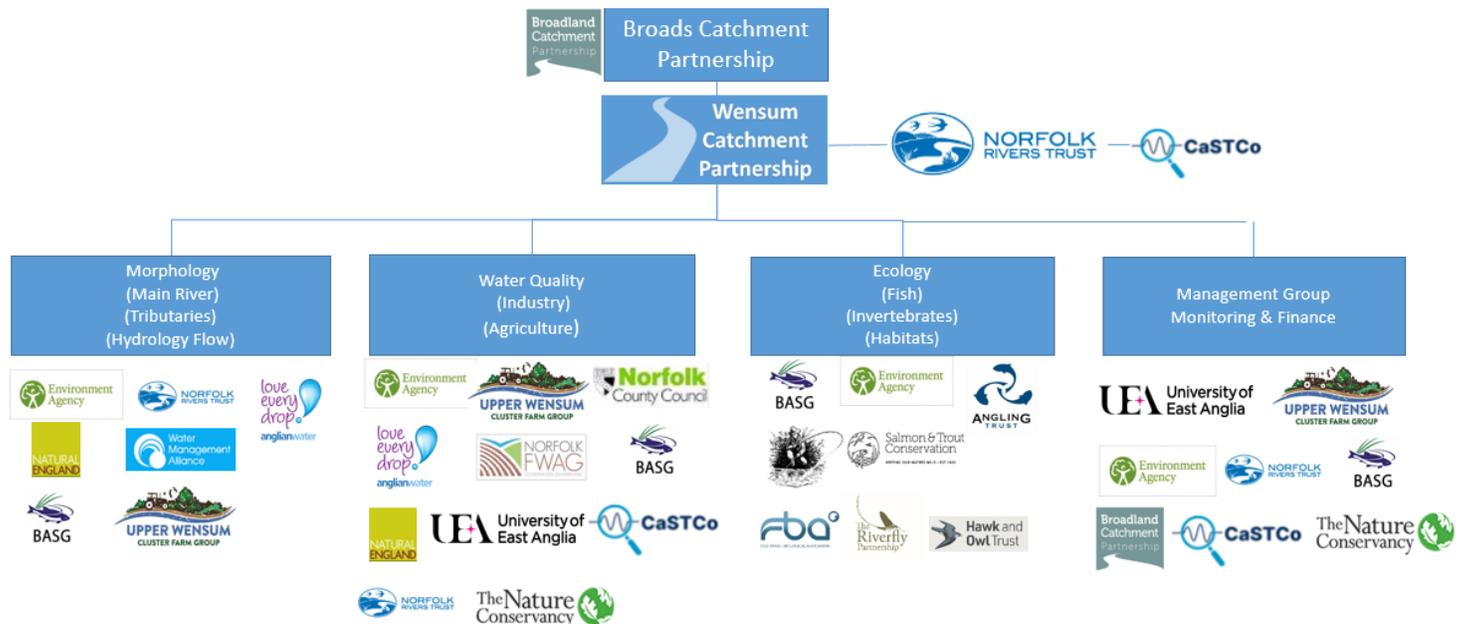
The Wensum Catchment Partnership aims to improve the health and restoration of the Wensum catchment through gathering monitoring data evidence to inform and help prioritise catchment-scale interventions.

The catchment based Approach promoted the formation of the Wensum Catchment Partnership (WCP) in 2019 as a sub-catchment of the Broads Catchment Partnership. Bringing members together under the WCP has established a more joined up and coordinated approach, with organisations working in partnership.

Our current structure and membership can be seen below. We are keen for new members and groups to get in contact if interested in taking part in this worthwhile work.

This briefing headlines

<p>ECOLOGY Defining its Status Finding the needle Fishery Recovery Plan What's in our River Riverfly Explained</p>	<p>WATER QUALITY Defining its sources Water Quality Volunteers Nutrient Neutrality Catchment Planning Focus on the River Tud</p>	<p>MORPHOLOGY River, Flow & Restoration Foulsham Restoration Wendling Beck Exemplar Keeping the Flow Vision and Objectives Bank Breach Repair</p>	<p>ORGANISATION Making it Happen Our Structure & People Keeping You Informed Collaborative Monitoring</p>
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CALUM LOOKING FOR A NEEDLE IN A HAYSTACK

Taking informed actions to sustain healthy Roach Densities

PhD student from Nottingham University is leading on the studies of contaminants on fish and mammals in the Wensum and the linkages to chemicals and pesticides.

Over 1000 samples have been collected and frozen for analysis using the latest scientific research. With the process taking several months to analyze the results. Initial findings are expected to be available by June 2023. The PhD has been partly funded through a grant from the Broads Catchment Partnership.



The studies form part of a PhD which looks at two iconic rivers in the UK, the River Wensum in Norfolk and the River Tone in Somerset. Concerns raised by the initial histopathology report by the pathologist at the University of Stirling has now led to the Environment Agency undertaking their own pathology and examination of Wensum roach. We are currently awaiting the results from this.

In February and March the studies extended into analysis of Otter spraint found along the Wensum and collected by willing volunteers from the Ecology group.



Anglers have long questioned the status of Wensum roach and hopefully this study will provide some of the answers. The 2022 electro fishing surveys confirmed very low roach densities, indeed the lowest recorded since 1980.

WENSUM FISHERY RECOVERY PLAN

Taking informed actions to sustain healthy roach densities

The Ecology group has long discussed the issues relating to roach stocks in the Wensum. Indeed, the late John Wilson raved about the fantastic fishing when he first moved to Norfolk.

We have agreed a plan that has a number of milestones to ensure any future stocks can sustain themselves.

- Define fish population density
- Define the area of focus
- Understand the current health concerns
- Define the cause of these concerns
- Define and improve the habitat
- Reach agreement with Landowners
- Define a monitoring plan

The current density for roach following the EA electro fishing survey last Sept showed an average of 1.4 roach per 100m². Well below the national average, with one of the lowest reaches been between Swanton Morley falls and North Elmham.

The PhD research will have its initial results in June 2023, whilst the EA are undertaking more analysis in March at the national fish labs



We have opened discussions with landowners in terms of habitat improvements.

The late Terry Houseago with a quality Wensum Roach.

WHAT'S THAT IN OUR RIVER

Using Invertebrates to inform on river health - River fly

Most UK rivers now have some form of invertebrate assessment through sampling, through a process called Riverfly. Riverfly uses a scoring metric to rank the health of a river in terms of invertebrates. This is known as the Anglers Riverfly Monitoring Initiative (ARMI) and all results are uploaded into its database. Thresholds are set by the EA when the scores breach a given value, which gives an indication that an environmental incident has occurred.

There has been some form of monitoring undertaken by anglers at both Bintree Mill and Norfolk Fly Fishers at Swanton Morley for many years, but we felt this needed to be extended over the entire river. In 2022 Ecology Group of the WCP took on this challenge, extending to 9 locations with a further 12 locations visited twice on the headwaters. Jeremy Haddaway has agreed to take on a coordination role for the Wensum, covering the entire river from Norwich to its source, including the river Tud.

In April and September last year Prof. David Harper undertook an in-depth number of samples from across the headwaters. Interestingly the corresponding low ARMI scores correlate closely with the water quality data undertaken by the water quality citizen scientists in 2022.

The Fisheries Biological Association who manage the overall Riverfly system have agreed that Norfolk needs its own ability to train and provide accreditation to volunteers. This will really help the WCP to deliver Riverfly monitoring at scale.

A training day is taking place at Sculthorpe on the 15th April to train 3 people as educators and a further 9 with basic field accreditation.

Contact Jeremy Haddaway
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Actual ARMI scoring from Swanton Morley



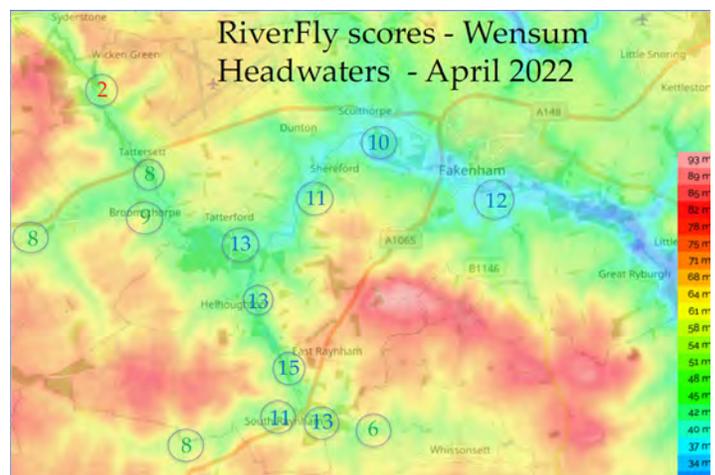
Actual ARMI scoring from Bintree Mill



Below collecting a kick sample from Swanton Morley



Correlating ARMI scores to actual water quality



WATER QUALITY VOLUNTEERS

Citizen Scientists monitor the Wensum

Much water quality monitoring on the Wensum has in the past occurred on limited locations on the main river Wensum, and we had little data on the condition of the tributaries and drains that feed into the river. To solve this problem, Water for Tomorrow funded an in-depth feasibility assessment to establish an approach for citizen scientists to regularly monitor water quality across the whole catchment. The report presented a set of monitoring locations, a methodology and cost-effective but accurate equipment for a citizen science approach to monitoring water quality on the Wensum.

In July 2022, the WCP approved a project run by Norfolk Rivers Trust with funding from Water for Tomorrow and The Coca-Cola Foundation, to train and equip 13 citizen scientists to carry out weekly monitoring on the headwaters for six months (July to December 2022).



This pilot has progressed into the Catchment Systems Thinking Cooperative (CaSTCo) - a partnership led by United Utilities between the Rivers Trust, twelve water and sewerage companies as well as academia and environmental charities. CaSTCo will run for 2.5 years and aims to transform how crucial data about England and Wales' water environment is gathered and shared, in particular on the health of the nation's rivers. The Wensum and the Lark are the two catchments in East Anglia involved in this project.

UPDATE:

The Citizen scientists have now carried out two 'water blitzes' where multiple points on one stretch are monitored on the same day to help understand point source and diffuse pollution sources. The data from these will be shared with landowners and the WCP early in 2023.

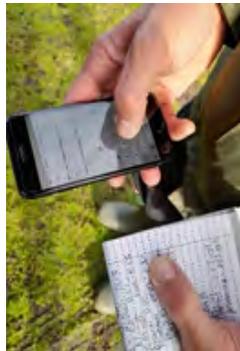
In March 2023 the project 'scaled up' and now covers both the Wensum Headwaters and the River Tud from Mattishall to Hellesdon.

The project also provided two full time support officers and national technical support to ensure measures and results stand up to scrutiny, across 9 catchments within England.

Get in Touch:

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Volunteer Coordinator - Elle Claiborn:
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NUTRIENT NEUTRALITY, DATA EVIDENCE and CATCHMENT PLANNING

Compiling evidence about water quality on the Wensum is an essential step towards developing a relevant and effective catchment management plan, aimed at improving the overall health of the river. WCP members are collaborating on this action, and include EA, AW and NE monitoring data, as well as the recent analysis of twenty-two year data set of 10,950 water quality samples undertaken by Dr Richard Cooper at the University of East Anglia ¹. Citizen Scientists are also contributing current data from the headwaters, including any potential point or diffuse pollution sources within their monitoring areas.

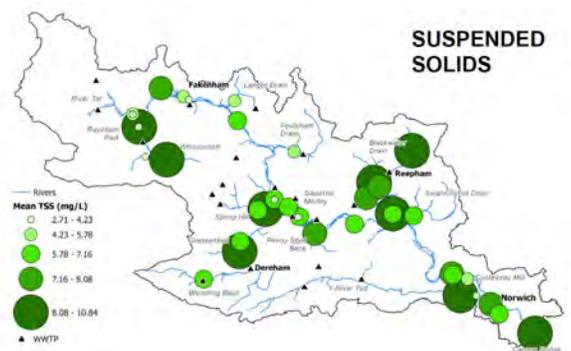
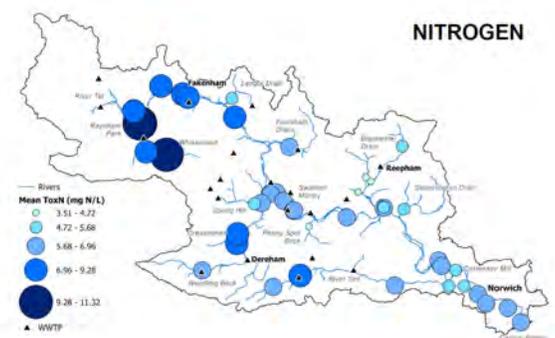
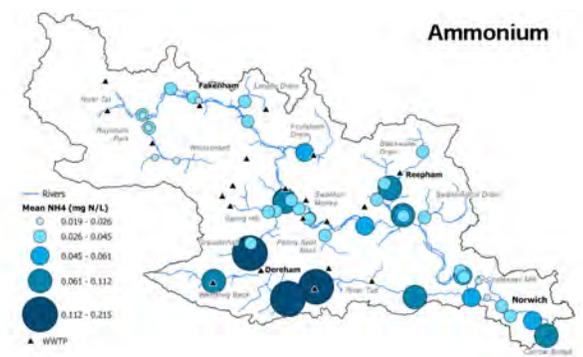
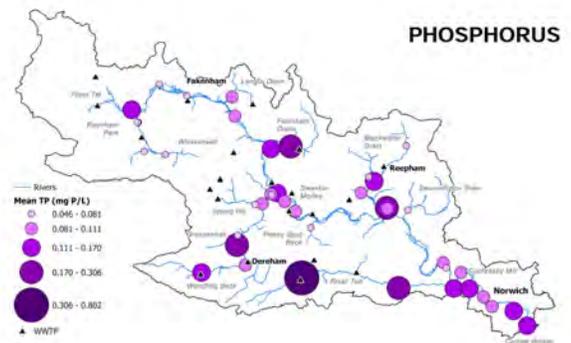
The Wensum is one of 27 catchments that are subject to the Natural England's Nutrient Neutrality policy which has restricted developers building new homes within the Wensum Catchment.

This is meant to prevent increases in levels of problem chemicals like Phosphate and put measures in place to mitigate the impact of new development. However there are concerns that the process of deciding the best sites for mitigation projects are not being determined in the light of existing evidence for where they would make the best impact on the health of the river. The WCP is working on identifying solutions where they are needed to avoid the danger of commodity brokerage trading rather than actually reduce the pollution in the river.

WCP is looking at how the actual in river measures of Phosphate can be linked and apportioned to clearly defined and measured upstream point sources. The Natural England target for Phosphate is set at 0.04mg/l & 0.02mg/l long term on rivers like the Wensum.

We aim to work through these issues with partners and reach consensus with the respective landowners to achieve effective, real in-river reduction in the coming years. There is no quick solution, despite growing public frustration after many decades of weak regulation and abuse of our rivers.

Maps of nutrient load from Dr Cooper's research. As these maps indicate, there is a need to examine the high nutrient levels in the Tud. A new group of citizen scientists is starting this month on this area



¹ (Science of the Total Environment 869 (2023) 161837: Two decades of the EU Water Framework Directive: Evidence of success and failure from a lowland arable catchment (River Wensum, UK)

MORPHOLOGY WORKING GROUP

The long term vision for the River

Vision - A naturally functioning chalk stream and floodplain from source to Norwich with a restored morphology and flow regime which supports the high quality wildlife and fishery expected of an internationally protected river habitat and maintains its important role within Norfolk heritage.

Objective 1 - To enable natural river restoration by removing or by-passing impoundments to improve longitudinal connectivity and reintroducing more appropriate channel dimensions and planform.

Objective 2 - To re-establish appropriate connection with the floodplain to improve lateral connectivity of wetland habitats, restore the SSSI status of the Wensum, and retain a diverse fishery and mosaic of habitats

Objective 3 - To employ a range of natural flood management techniques to hold water in the catchment for the benefit of water resources and flood management.

Objective 4 - To work towards a sustainable flow regime within the river that supports the ecological flow targets for the SSSI.

Objective 5 - To promote a wider understanding and greater engagement to achieve the vision and benefits of natural river form and function within the wider Wensum community.



The image left shows some of the work completed at Swanton Morley enabling delivery of objective 2.

As part of the River Wensum Restoration Strategy approximately 28km of the river's morphology has been restored but the SSSI designation is around 78km, this means there is still 50km to do.

Around 67% of the river is impounded or 'backed up' behind mill structures so traditional restoration measures like woody debris will not work until the obstructions are addressed.

Great Ryburgh Mill is currently being considered as the potential next location, after Lyng Mill with initial assessments taking place with the landowner.



FOULSHAM RESTORATION

Restoring a Wensum tributary at Foulsham

Norfolk Rivers Trust, the Water Management Alliance (IDB), and a private landowner completed a six-week project in the Foulsham tributary in January 2023. This EA-funded project aimed to deliver natural flood management solutions within the Wensum Catchment.

The project reconnected the tributary to its floodplain by diverting an existing IDB straight drain through a redundant reservoir which was desilted and re-profiled to trap sediment, store water and provide a haven for wildlife. A meandering stream with scrapes and pools flows across the meadows and rejoins the ditch downstream.

The project has greatly improved wetland habitat and will create a mosaic of wildflower meadow, grazing wetland, open woodland and a meandering stream with pools.

This is a great example of partnership working to deliver improvements to the river catchment to improve riparian and aquatic habitats, whilst storing water in the floodplain.



Image of the Foulsham restoration work

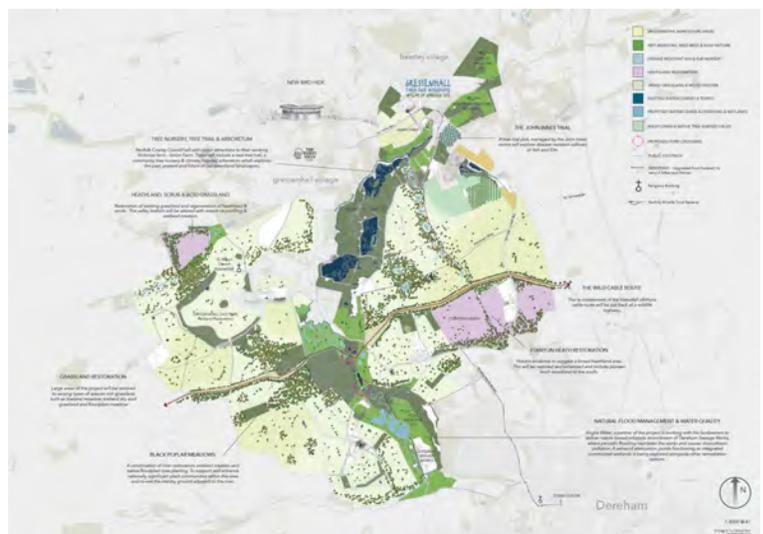
WENDLING BECK EXEMPLAR PROJECT (WBEP)

A nature restoration project covering just under 2000 acres of farmland near Dereham, Norfolk

Landscape-scale transformation will occur through river restoration and the creation and enhancement of grasslands, woodlands, wetland and other habitats. This will not only support nature recovery in Norfolk, but will also deliver improvements to water, soil and air quality, as well as capture carbon. In addition, WBEP aims to provide public access and education opportunities via a new 'Environment Hub' at Gressenhall Museum, as well as sharing experiences nationally and globally.

WBEP is a collaboration between 4 farmers, Norfolk Rivers Trust, Norfolk Wildlife Trust, Norfolk FWAG and Norfolk County Council - forming the 'Wendling Beck Alliance (WBA, and is supported by The Nature Conservancy (TNC, Natural England, Anglian Water and UEA.

Dereham STW, a solution to stop flooding and address nutrient ingress shown right.



KEEPING THE FLOW

A strategic look on how our water is managed and the process of Environmental Recovery by our chair Kelvin Allen

The UK has a complex regulatory framework which surrounds our Rivers and the water within them. This is owned by DEFRA and managed through the Environment Agency. The water companies within the UK are some of the largest users of our river resources. These companies run 5 year investment cycles which is known as the Water Industry National Environment Program (WINEP). These investments funded through water bills, are the most significant source of funding for both water use and water disposal, running into 100's of millions of pounds.

The current WINEP is known as the AMP7 round of investment within the water companies, which runs between 2020 - 2025. Discussions are well in progress for AMP8, these include the WRMP24 which lays out the Water Resource Management Plan. This feeds into a formal Price Review presented to the Water Regulator OFWAT to agree the next 5 year budgets for AMP8 delivered from 2026-2030.

Below is the current status of 30 Wensum actions within the AMP7 WINEP program and their agreed delivery date.



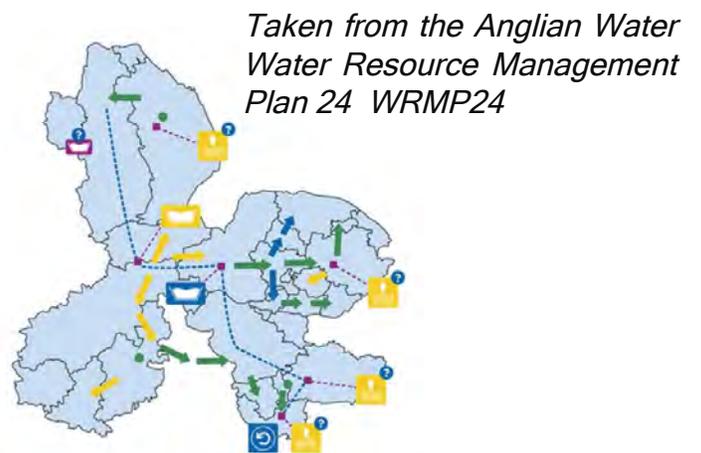
The WCP, like many other 3rd sector partnerships, have struggled to engage in what has been a very closed process between the EA and the water companies over the past 5 year investment cycles, as we attempt to clean up our rivers. We are encouraged that the Government has announced that reform is coming and that by AMP9 2035 this will become a fully engaged process.

However, the WCP continue to challenge and ensure current actions are delivered. Future needs are both defined and funded, to secure the rivers future.

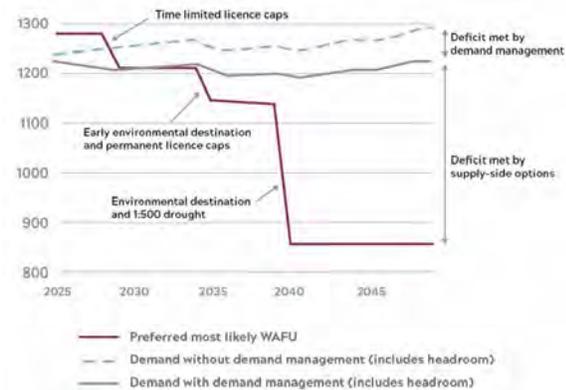
Alongside the WINEP, the government set out its 25 year environment program. This takes a much longer-term view on strategic investments.

In terms of water resources, this links directly into the Water Resources East planning for long term water sustainability for the East of England.

For the Wensum Resource Supply Zone, this now sets out plans for bringing additional water from the Fens Reservoir by the mid 2030's.



Future Regional Demand - Supply balance



To achieve these environmental objectives and balance Supply against Demand, it links into the 5 year cycle of investments AMP / WINEP programs as described left.

The Wensum continues to supply 46 ml/day to meet Demand, until future demand outstrips local supply in 2035. Despite future demand reduction measures like smart metering. Its why decisions made today impact the future.

BREACH REPAIR ABOVE BINTREE MILL

Protecting the rivers flow



The bank breach above Bintree Mill has successfully been repaired by the IDB working on behalf of the EA. It is recognised this repair took too long to instigate the fix on a complex marshy area of land, however many lessons have been learned from this.



The two images of the actual breach and its repair above.

OUR STRUCTURE & PEOPLE

Our governance, structure and people

Partnership Chair

Morphology Group Chair
Water Quality Group Chair
Ecology Group Chair
Management Group Chair

Kelvin Allen
Rory Sanderson
Richard Cooper
Kelvin Allen
Sarah Gelpke

Management Team

Sarah Gelpke	NRT
Kelvin Allen	BASG
Jonah Tosney	NRT
Steve Lane	CaSTCo
Elle Claiborn	CaSTCo
John Findlay	EA

Back in 2019 and prior to that, many of the initiatives in place on the Wensum tended to be disjointed and siloed in nature. Clearly bringing it together under CaBA the Wensum Catchment Partnership has established a more joined up and coordinated approach, with organisations working in partnership. Time will only tell if together we can deliver the needs of the river.

