

Cheshire Catchment Hub – review and recommendations for future work

Josie Martin (Cheshire Catchment Director)

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Top five learning points

- 1) Clear objectives need to be set by the steering group
- 2) Hub members should be held accountable by the steering group
- 3) The Hub, or steering group need to be able to influence the availability of technical resources
- 4) Smaller task and finish groups, bringing in other people and organisations as necessary, are more successful than the broad remit Hub working group.
- 5) Leadership is critical – someone needs to own and champion the work.

1.0 Background

“The Cheshire Hub hasn’t always been easy, we’ve tested our relationships and had difficult conversations. We’ve struggled to come to consensus about what’s most important and how we should work together, sometimes forging ahead alone to keep work moving. However, despite that, the Cheshire Hub made time for key organisations to really think about how we could improve the water environment. We’ve been able to develop new spatial partnerships with Valley Brook and Bollin Valley Group to take forward our planning work into delivery and develop new funding mechanisms.

Josie Martin, Cheshire Catchment Director, Environment Agency.

1.0 The Cheshire Catchment Hub (the Hub) was set up in phase 3 of the Natural Course¹ project, to run from April 2019 to September 2021.

1.1 Aims for the Cheshire Hub were set out in the Natural Course document C10 – Natural Course – Phase 3 Planning – Catchment Operation v4. Success was described as:

1.1.1 “All organisations would work together to develop a joined up understanding of what is going on in a catchment. There would be an abundance of data on the performance of the catchment and water quality sampling and all organisations

would work collaboratively to resolve issues and target interventions at the right locations to deliver the greatest benefit.”

- 1.2 Activities and outputsⁱⁱ were also detailed in the C10 document and described bringing together operational resources, improving understanding of the catchment and collaboratively plan the deployment of operational resources to deliver the greatest catchment benefit.
- 1.3 Membership of the Hub included Environment Agency, United Utilities, Natural England, Mersey Rivers Trust and the host of the Weaver Goway Catchment Partnership.
- 1.4 United Utilities took a lead for this action for Natural Course, but leadership of the Hub came from the Environment Agency’s Catchment Director.
- 1.5 Partners funded some resources as part of the Natural course project;
 - Environment Agency - 1 FTE of Catchment Director and 0.2FTE of environmental planning and catchment coordinator time,
 - United Utilities - 0.2 FTE of time through the Natural Course collaborative team member
 - Natural England – 1FTE of catchment officer time
- 1.6 Additional resources to support the Hub activities were secured by partners.
- 1.7 Other Hub members, from the catchment partnership and the rivers trust were not funded for their involvement.
- 1.8 The start of the project was delayed until the Catchment Director was in place in September 2019.
- 1.9 The COVID 19 pandemic meant that from March 2020 until the end of the phase all work in the Hub was carried out remotely.

2.0 Start up and work planning

“The Cheshire Hub has produced valuable catchment planning work for Valley Brook and the Bollin Valley. The pilot has highlighted that additional capacity commitment from EA, United Utilities and Natural England can produce robust integrated multi benefit spatial plans however a spirit of authentic win-win collaboration has not been a key driver in this case. Each organisation has primarily focused on their own priority agendas. The Weaver Gowy Catchment Partnership as a growing collaborative consortia is well placed to build the sustainability/legacy of the Valley Brook initiative and has already committed to work with its wider membership to secure additional finance to deliver on the Action Plan via Groundwork HS2 funding opportunities.”

Sara Clowes, Weaver Gowy Catchment Partnership Host

- 2.1 The project started formally in September 2019 – a steering group and a working group (the Hub) were formed. Terms of reference for both the steering group and the Hub were agreed by the groups (appendix 1).
- 2.2 Membership of the Hub included:
- Environment Agency – Josie Martin, Catchment Director; Kate Gamble, Integrated Environmental Planner and Rachel Argyros, Catchment Coordinator
 - United Utilities – Mark Sewell, Waste Water Catchment manager (south); Kate Snow/Ed Lawrance Water Catchment Manager and Phillip Wright, Biosolids Agricultural Advisor (first three months only).
 - Natural England – Ben Dugdale, Natural Course Project Officer – Cheshire Hub
 - Mersey Rivers Trust – Sally Potts, Project Manager
 - Weaver Gowy Catchment Partnership – Sara Clowes, Catchment Partnership Host
- 2.3 At the first Hub meeting members discussed their interests in Cheshire and looked for common themes to work together on in the Hub. They agreed to work on three geographical areas, and develop catchment action plans for those areas to understand what action needed to be taken to achieve Good Ecological Status under the Water Framework Directive.
- 2.4 The Hub collectively agreed three main area plans to develop, based on the identified requirements of each organisation. These included: Valley Brooke in Crewe, the River Gowy and the Northern Meres. Initially the Environment Agency, United Utilities and Natural England were going to concurrently lead the development of a plan, however this quickly evolved to all organisations supporting on plan development sequentially, due to available resource. The first plan focussed on was Valley Brook, Crewe.

3.0 Successes

“The Cheshire Hub has helped to remove barriers to collaborative working. Jointly agreeing priority areas enabled a more focused approach to plan work and through shared evidence helped to identify opportunities to work together. However, working collaboratively has been challenging – it takes time to build trust, develop relationships and commit time and resources which was particularly evident during the Covid19 pandemic.

The creation of the Valley Brook Partnership has improved ties with stakeholders and resulted in a consensus on the aspirations to improve Valley Brook that will bring lasting sustainable benefits to the water environment.”

3.1 Development of catchment action plans

- 3.1.1 The Hub completed development of a catchment action plan for Valley Brook, which was primarily led by the Environment Agency.
- 3.1.2 Hub members agreed the purpose of a catchment action plan and what a plan should look like.
- 3.1.3 The Environment Agency data provided most of the basis of the planning work, although most of this data is available to catchment partnerships.
- 3.1.4 Environment Agency staff carried out planning activity, this included the development of an intelligence report, (which was developed for the Gowy and Northern Meres) review of monitoring data, use of modelling tools SAGIS and FARMSCOPER and skills and experience of water quality experts and geomorphologists to develop a river restoration report.
- 3.1.5 The Catchment Director presented the outputs from the Farmscoper work to the Life IP Platform event – Making Space for Water.
- 3.1.6 The Valley Brook action planning/plan has led to the development of the Valley Brook Partnership, a group including representatives from the Hub as well as the local authority, eNGOs and local interest groups.
- 3.1.7 The Environment Agency and Local Authorities developed a successful bid for central government Town Fund. This £3.5m project will re-naturalise a section of Valley Brook, connect people to nature and develop a green transport corridor along Valley Brook route.
- 3.1.8 The Hub agreed to trial the development of one action plan, then use that learning to develop others. Natural England is continuing to lead the development of the Northern Meres Catchment Action Plan including Rostherne Mereas well as Tatton and Tabley Meres, engaging relevant stakeholders in the development process. The Gowy Plan has evolved since it was first discussed at the start of the Cheshire Hub.
- 3.1.9 A task and finish group has emerged towards the end of Phase 3 looking at catchment nutrient balancing opportunities in the Northwich area, this activity will continue beyond Phase 3 and remain a dedicated task and finish group in Phase 4.

“The Cheshire Hub has had its fair share of challenges and set-backs. Initially, all members embraced the ethos of collaboration, but in reality - organisational priorities and objectives were not always aligned. Over-time, the hub has managed to evolve and by successfully working together – we’ve managed to make real progress in our understanding of catchment pressures, and the relevant interventions required, that will actually make a difference in improvements to water quality within our main rivers and Cheshire Meres & Mosses protected sites.

Working with wider stakeholders including the Tatton Estate, has resulted in a better understanding of the challenges faced by landowners and provided valuable insight into how Natural Capital approaches can demonstrate the value of the water environment and result in positive changes on the ground”.

3.2 Rostherne Mere wetlands creation

- 3.2.1 Rostherne Mere is a SSSI, Ramsar and National Nature Reserve status.
- 3.2.2 Natural England used the Ecological Network Model (NE C18 Natural Course action) to identify multiple key locations within the site to create or restore priority wetland habitats.
- 3.2.3 Natural England used the Hub to work with other Hub members including United Utilities, as well as wider stakeholders including Tatton Estates (Landowner) to produce a site management restoration plan and mapped multiple natural capital benefits for Rostherne Mere.
- 3.2.4 Natural England secured funding through Natural Course and their own project funds to restore wetland habitats next to the main inflow to the Mere – Rostherne Brook, Mere Meadow and have also secured funding for Gale Bog restoration which will take place later this year. This includes multiple leaky willow dams installed to direct the inflow (in times of high flow rates) through the wetland ponds, helping to capture and filter high concentrations of nutrients, predominantly from surrounding agricultural sources.
- 3.2.5 Whilst the primary focus of the wetland creation was to help improve water quality, the creation of priority habitat has also led to significant improvements in biodiversity and making the site more resilient to the current and future adverse impacts of climate change.
- 3.2.6 Ongoing engagement with the Tatton Estate has also led to multiple environmental benefits throughout the site including: the change in farming practice, arable reversion of land within the reserve, reduction of high cattle grazing densities (reducing DWP pressures), and rewilding of wildflower meadows (further increasing site biodiversity).

3.3 Use of reactive media in phosphate removal from streams

- 3.3.1 Natural England trialled the use of reactive media – Water Treatment Residuals (WTR’s), a bi-product of water treatment previously shown to have a significant impact in Phosphate removal.

- 3.3.2 The trial is being completed on Rostherne Brook to understand if this treatment could be used in phosphate reduction in rivers.
 - 3.3.3 United Utilities supported the project providing expertise in monitoring and lab analysis.
 - 3.3.4 The Environment Agency agreed a Local Enforcement Position to cover the trial monitoring program.
 - 3.3.5 Due to wider procurement challenges associated to the project, the trial will start mid-September 2021. As a result – Natural England will report on the trial in October/November 2022 (Phase 4 rollover).
- 3.4 Natural Capital Farm plans
- 3.4.1 Natural England worked with Mersey Forest to understand how Natural Capital assets could be mapped and assessed at Farm level to help with the ongoing development of the new Environmental Land Management program. Mersey Forest was engaged as specialist consultant to assist with the assessment due to their expertise in Natural Capital mapping.
 - 3.4.2 To test a new Natural Capital approach to asset mapping, the Grosvenor Estate were approached to help map existing and potential Natural Capital assets across their estate. Match funding was secured through the Catchment Sensitive Farming program to test the Ecometric matrix. Using both desk-top mapping and ground-truthing, a comprehensive report was produced and the newly developed Ecometric matrix was implemented, to test at farm level. The Ecometric matrix was successful in showing both positive and negative environmental impacts due to land management changes. However, we didn't think it went into enough detail or was of particular use to farmers in helping map and identify Natural Capital assets.
 - 3.4.3 Natural England worked with two other farms (dairy and arable) to map existing Natural Capital benefits and explore the potential to deliver further environmental benefits alongside their current farm model. This included a more detailed investigation into the financial implications of both inputs and changes in land management, to deliver more for the environment.
 - 3.4.4 Due to the extensive engagement required directly with each farmer, COVID restrictions meant the delay in submitting final written reports. These have now been completed in time with the end of the Phase 3 deadline.
- 3.5 Sampling of Valley Brook catchment
- 3.2.7 Mersey River trust completed sampling to gain an indication of the water quality in the Valley Brook catchment (source to Englesea Brook GB112068074630; Englesea Brook to Weaver GB112068055310), and Englesea Brook catchment (GB112068055270).
 - 3.2.8 8 sample points were selected on Englesea Brook as suitable sampling points, and 13 points were sampled on Valley Brook. These sites were chosen in liaison with Environment Agency technical experts, to ensure that sites were accessible, and would also be able to provide data that could help characterise the waterbody, and did not overlap with existing EA sample sites.
 - 3.2.9 Samples were taken on a monthly basis from November 2019 to June 2021. The data is incomplete as there were breaks in sampling due to the impacts of Covid-19.
 - 3.2.10 The results were analysed using a Hanna Instruments Multi-Parameter Photometer. The tests run on this photometer determine levels of nitrate, phosphate, ammonia

and pH in the water samples taken. In the field there are also air and water temperature measurements taken as well as information gathered on the environmental conditions such as weather and water flow.

3.2.11 A full report of the findings of this sampling project is available, but in brief conclusion the main significant results were the correlation between nitrate and rainfall events. The nitrate response to rainfall on Englesea Brook was converse to that recorded on Valley Brook. An increase in nitrate 24hrs following rainfall on Englesea Brook suggested leaching of nitrate from the surrounding land. Conversely, a decrease in nitrate concentration on Valley Brook 24hrs following rainfall indicated dilution of the nitrates within the brook.

3.2.12 Due to the significance of rainfall upon nutrient concentrations at some locations within the brooks, it is recommended that a record of weather conditions within the previous 24hrs is maintained when sampling, and perhaps further wet weather sampling, and identification of the nitrate sources could be undertaken as part of a future project.

3.6 Developing investible catchment thinking

3.6.1 Hub members from the Environment Agency, United Utilities and Natural England have supported the development of the Bollin Valley Group, the aim of which is to develop the Bollin as an investible catchment.

3.6.2 This work has led to the successful bid to the Natural Environment Investment Readiness Fund with allocation of £95k to develop an investible model in the Bollin.

3.7 Delivery of SuDS awareness training

3.7.1 Hub members worked together to develop a two session training course to promote the use of SuDs as a multiple benefit solution to urban drainage.

3.7.2 The events were attended by over 40 people.

“The Cheshire Hub has allowed some external barriers to be broken down and different organisations’ challenges to be appreciated. In a few areas it has been able to focus on what is really needed to achieve WFD. However a lack of funding and versatility against the norm has constrained the ability to carry out improvements or to trial innovative solutions. Clear, strong, pragmatic, unified messaging is key to challenging bad practices and implementing change. It would be great if in the future the Hub’s organisations can put aside individual interests and produce some universally agreed messaging around some of the most polluting activities. These may not all be agriculture and farming related.”

Kate Snow, Catchment Manager, United Utilities

3.8 Agricultural task and finish group

- 3.8.1 An agricultural task and finish group was formed in early 2021, to explore how hub members could work together to develop a joint communications approach to Agriculture, in order to promote best practice and guidance.
- 3.8.2 The group has explored several different approaches, due to operational challenges the group have not been able to fully produce communication outputs, however this activity will continue into Phase 4 to continue to develop options and outputs.

4 Areas of learning to develop

“The Cheshire Hub has been successful in bringing together stakeholders from various organisations to focus on the water quality of specific water bodies in Cheshire. The creation of an Agricultural Task and Finish Group has facilitated discussions with additional stakeholders as has the development of the Valley Brook Partnership.

There have been difficulties in ensuring equal input from all parties due to staff resource, and relevance of the focus area for that organisation. How this barrier could be overcome should be explored further in future.”

- 4.3 **Identification of shared interests, priorities and objectives** - when the Hub came together the main ask was to understand if we can work better together. This meant that although we had a blank page, it also meant members came with very different objectives, which were broad. Although we were able to overcome this and deliver a number of successful projects, identified in Section 3, Hub members spent a lot of time talking about what we should be doing. Going forward it would be ideal to address this as soon as possible in order to make progress on delivery.
- 4.4 As **resources are limited in all organisations**, and with competing pulls on these resources there was a tendency for Hub members to focus on their organisational priorities. Although collaboration was seen on projects, going forward having a clear understanding of resource requirements before commencing an activity is key.
- 4.5 Securing the **right resources**, especially technical experts resulted in delays to the work, in particular Farmscoper expertise was difficult to secure from any organisation. Although the Environment Agency were able to secure a new resource who was trained on Farmscoper, a key takeaway is to ensure early identification of technical resource and develop plans accordingly to avoid delay.
- 4.6 The Hub experienced some **overlap with other existing groups** in Cheshire, and has taken some time to understand what each group is doing and how we could work together. Five out of eight members of the Hub also sit on the Weaver Gowy Catchment Partnership, all of the

organisations represented on the Hub also attend the Cheshire and Warrington Local Nature Partnership. The Cheshire Hub was able to streamline into distinct task and finish groups and collaborate on pertinent activity, however a key learning is to carry out gap analysis work of existing activity to avoid any repetition and look for areas of collaboration.

- 4.7 The **role of the Hub** initially was quite varied, with views ranging from a strategic group setting direction for Cheshire (or sub-catchments) to an operational group who could secure resources on the ground to respond to issues arising. Although this became much clearer as the group matured, it is key to have clearly defined outputs early in planning phases.
- 4.8 The Environment Agency's role as regulator and partner was sometimes difficult to balance.
- 4.9 The Hub members agreed that stronger governance is needed from the steering group. The steering group need to set the broad objectives, and hold the Hub members accountable for delivery. This is leading to structural changes within Cheshire Hub in Phase 4 and clearer line of sight between the steering group and task and finish groups.
- 4.10 Some membership within the Cheshire Hub changed and evolved over the duration of Phase 3. Although the group has remained largely consistent throughout, a key learning is to keep membership as consistent as possible, particularly during inception phases of group development, to ensure a robust foundation.

5 Future work for the Hub

"The Hub provided the driver needed to secure resource to undertake technical analysis and progress discussions from the high-level overview. By doing this we are now able to specify exactly what needs to happen to improve the environment, take the planning through to delivery and secure funding from a variety of sources.

The approach taken should be adopted for future catchment planning, and many valuable lessons on the methodology taken have been learnt. The main one being the fact it has emphasised the complexities involved in undertaking this kind of work that should not be underestimated."

- 5.3 The Cheshire Hub has been put forward as one of the Phase 4 Natural Course projects and a new Hub will be created within the Fylde area between Fylde coast and Wyre catchment.
- 5.4 It takes time to build relationships and ways of working. The global pandemic commenced early into the Cheshire Hub's development and did stifle some of the early progress. Although organisations were able to move successfully to virtual platforms, this naturally took some time. Going forward organisations will benefit from the ability to be agile in collaboration, be that virtually or in person.

- 5.5 Hub members carried out a lessons learned session in July 2021. This was a useful session which demonstrated the health of relationships between organisations. It was positive that organisations had developed a rapport where each was able to share honest feedback, including aspects where the Hub was not working so well and could be improved. This session, along with routine surveys of ‘relationship health’, have been useful in making changes to the Hub which will be seen in Phase 4.
- 5.6 The steering group have discussed the future of the Cheshire Hub and have proposed the following for phase 4:
- A steering group will remain in place with representation from EA, NE, UU and Natural Course. The group will meet monthly to steer activity.
 - Under the steering group will sit a collection of task and finish groups that will have specific remits such as Valley Brook, Bollin, agriculture, catchment nutrient balancing.
 - The T&F Groups will remain in the present format with representation from relevant individuals / organisations.
 - Representatives from the individual T&F groups will report / feed in to steering group to create a direct two way dialogue between steering group and the T&F groups.
 - An independent chair will be sought for the steering group.

ⁱ Natural Course is a Life IP funded project looking at barriers to delivery of the North West River Basin Management Plan in England. It is a partnership between the Environment Agency, United Utilities, Natural England, the Rivers Trust and Greater Manchester Combined Authority.

ⁱⁱ The activities required were:

“The formation of a catchment Hub to bring together operational resources from several of the key organisations involved in the catchment. This would include United Utilities, Natural England, The Environment Agency, Mersey Rivers Trust, Cheshire East Council and the Catchment Host. There should be a sampling programme to really understand what is happening in the catchment and utilising innovative technology to give a far more up to date picture. The catchment Hub would utilise this data to understand the operation of a catchment and collaboratively plan the deployment of resources such as countryside stewardship and the development of the Environmental Land Management Scheme to deliver the greatest catchment benefit. The Hub will involve resources from the parties involved meeting to discuss the priorities for the catchment, assess data, plan interventions, identify operational issues and decide on the likely cause and appropriate action jointly but under the leadership of the EA Catchment Director to ensure that the best action is taken to meet the objectives of all organisations in the most efficient way. There will also be some funding available to the Hub to invest in innovation to help achieve its goals of improving catchment operation.”

The required outputs from the Cheshire Hub were:

C10.D1 – Lessons learnt log detailing issues identified and how the joint teams have worked together

C10.D2 – Delivery of 3 farm plans detailing how farm business can deliver nutrient reductions and other ecosystems services in an integrated way through a Natural Capital approach

C10.D3 - Report on sampling results and the benefits of capturing this information and the approach taken