

## Poole Harbour Catchment Initiative Delivery Group Meeting

11<sup>th</sup> May 2021

14:00 – 16:00

### MS Teams

Organisation	Invitees	Present
Dorset Catchment Partnerships	Fiona Bowles (Chair) Natalie Poulter (Co-ordinator) Caitlin Quilty (Support Officer)	FB NP CQ
Dorset Wildlife Trust	Amanda Broom	AB
National Trust	Gen Crisford, David Brown	GC
Westcountry Rivers Trust	Scott West	-
Game and Wildlife Conservation Trust	Dylan Roberts, Stephen Gregory	-
Environment Agency	Aly Maxwell, Keith Calder	AM, KC
Natural England	Doug Kite	-
National Farmers Union	Paul Cottington, Louise Stratton	PC
FWAG SW	Nicola Hopkins, Tim Bowden	NH
Catchment Sensitive Farming	Charlotte Woodford	-
Poole Harbour Agricultural Group	Wakely Cox	WC
Poole Harbour Nutrient Management Scheme	Tess Tidman	-
Frome, Piddle & West Dorset Fisheries Association	Richard Illingworth	-
Riverfly Partnership	Angus Menzies	-
Dorset Council	Natural Environment Team: Lyn Cooch, Alice Quinney FCERM team: Oliver Rendle, Chris Osborne	LC
BCP Council	Jez Martin, Cally Barnes	JM, CB
Dorset AONB	Ian Rees	-
Litter Free Coast & Sea	Matilda Manley	-
Wessex Water	Dave Jones, Adrian Moore	DJ
Queen Mary University of London	Iwan Jones	IJ
Forestry Commission	Jon Burgess	JB
Correspondence members		
Dorset FCERM partnership	Alan Frampton	
Dorset Council	Andrew Proberts	
RSPB	Renny Henderson	
Natural England	Nikki Hiorns	
Game & Wildlife Conservation Trust	Will Beaumont	
Wessex Water	Vicky Farwig	
Southern IFCA	John Humphreys	

## 1. Welcome & Apologies

### Apologies:

Matilda Manley, LFCS  
Steve Oliver, DWT  
Ian Rees, D AONB  
Ali Quinney, DC  
Adrian Moore, WxW

Chris Osborne, DC  
Kate Tobin, FC  
Stephen Gregory, GWCT  
Scott West, WCRT  
Angus Menzies, Riverfly

### Additional invitees:

Rohan Smith, RaNTrans  
Giles Bryan, EA

### Covid updates:

None.

### Actions from last meeting:

Who	Action	Progress
All	Contact NP with particular aspects of data which are useful in project planning (to help shape GIS work)	None received, NP to follow up
All	Identify potential future site visits to see work being delivered on the ground.	None received, on agenda
NP	Contact Maria Clarke to confirm timetable for river habitat mapping.	Complete
NP	Check timescale for Defra taskforce with Matt Wheeldon, WxW.	Ongoing
All	Anyone interested in getting involved with developing a large-scale catchment project on the Frome to contact NP & DR for participating in a meeting in March/April to develop project scope.	Complete
KC/AB	Set up a separate meeting to chat through outcomes/outputs & development of the project objectives.	Complete
DJ	Share previous modelling mapping on the Hooke.	Complete
All	Please provide comments & points for inclusion in consultation responses as well as partner submissions for BCP Climate Action Plan (by Thursday 25 <sup>th</sup> February) & Dorset Council Local Plan (by Monday 8 <sup>th</sup> March)	Complete
CB	Investigate the opportunity for Catchment Partnerships to be mentioned in the Dorset Council talk to parish councils & community flood wardens.	Complete

### Actions carried forward/arising:

**Action all:** Contact NP with aspects of data which are useful in project planning (to help shape GIS work)

**Action all:** Identify potential future site visits to see work being delivered on the ground.

**Action NP:** Check timescale for Defra taskforce with Matt Wheeldon, WxW.

Minutes of the last meeting were agreed and signed off.

## 2. Dorset Wildlife Trust Enclosed Beaver trial update - Amanda Broom (presentation circulated with minutes)

Steve Oliver is managing the Beaver Trial. A pair of beavers (male and female) were introduced to an enclosed site in Dorset in early Spring 2021. Measures are in place to ensure that the beavers cannot escape the enclosure, such as a high specification fence with an anti-dig skirt which is checked daily, and grills on the watercourse entering and leaving the site.

The beavers' behaviour suggests that they are settling in well to their new surroundings – they haven't been seen around the perimeter of the enclosure since the beginning of the trial. The 1st dam was built only 3 days after the

beavers were introduced and now there are 3 online dams within the enclosure which are raising water levels as expected.

Camera traps have captured beaver behaviour at night (video footage displayed in presentation), such as using hazel and boulders for reinforcement of structures. The beavers are choosing to fell trees which will fall in convenient locations instead of trees which would get caught in the canopy.

Areas of beaver activity are already attracting wildlife. Video footage shown of Redwings being territorial in areas which have been disturbed by beavers, as it is a good site for feeding.

There were initial concerns that the grills on watercourses might limit otter movement, however otter have been sighted on the camera traps moving freely.

Monitoring of the trial includes establishing a comprehensive baseline for later comparison, as well as a control site. The scientific study will be peer reviewed. The trial will monitor hydrology (flow rate and water quantity), sediment (turbidity and suspended solids), nutrients (N and P), ecology (macrophytes, invertebrates and fish) & vegetation structure (heterogeneity). A range of monitoring methods will be used, including fixed point photography, to assess changes.

A key aim of the monitoring is to identify issues that arise and how they might be managed or controlled in a long-term plan to reintroduce beavers, should the evidence suggest that it would be beneficial.

**Action AB/SO:** Report back on who will be peer reviewing the enclosed beaver study once this is known.

### **3. Poole Harbour Consent Order update - Giles Bryan (presentation circulated with minutes)**

Poole Harbour is internationally important for its ecological diversity. However, the rivers feeding the harbour have seen rising nitrate levels since the 1960s, causing excess growth of seaweeds into macroalgal mats in the harbour.

The Nutrient Management Plan (NMP) introduced N targets in 2013, and in 2015 a judicial review into the non-use of Water Protection Zones in Habitat Regulations Sites began. In February 2021, the Environment Agency and Natural England produced results of the review (Poole Harbour Consent Order Technical Investigation and Recommendations) which concluded that nitrate targets need to be tightened compared to previous NMP targets and a new P target to be introduced as well.

The Consent Order sets out 'fair share' targets for each sector and recommends what types of measures could be used to reach the targets. The target will be enforced until 2027 and might need updating then based on the data gathered. The original targets were calculated based on the objective of reducing macroalgae density to 500g/m<sup>2</sup>.

The source apportionment between N and P has been updated and a model is being developed by the Centre for Environment, Fisheries and Aquaculture Science (CEFAS) to analyse nutrients and water mixing in the harbour. The Combined Phytoplankton and Macroalgal (CPM) model of the harbour is being split into 3 sections: Wareham Channel, Holes Bay and Outer Harbour. The CPM model was run with various scenarios to decide which measures might work to achieve macroalgae density below 500g/m<sup>2</sup>. The decision was to set targets for c30% reduction in diffuse N and P inputs, Poole WRC permit reduction & other more minor changes, based on these models.

The final target from non-marine sources is 1500 tonnes/yr N & 22 tonnes/yr OP. It will take years or even decades to observe water quality improvements in the harbour.

Agricultural recommendations in the Consent Order:

- Farmers must begin implementing measures 6 months after publishing of Consent Order (by August 2021).
- Farmers will remain non-compliant with Farming Rules for Water until the N target is achieved.
- Minimum farm rules:

- If a farmer signs up to an EA approved scheme (e.g. Poole Harbour Nutrient Management Scheme), they will have a target of 27 kg/ha/yr reducing each year on a 'glidepath' to 18.1kg/ha/yr in 2030. Within a scheme, farmers complete a whole farm nutrient balance and report to an independent 3<sup>rd</sup> party, who reports this at a waterbody scale (or nearest appropriate scale to provide reasonable anonymity)
- Outside an approved scheme, farmers must reduce N loss to 18.1kg/ha/yr immediately and must complete a whole farm nutrient balance and report to EA annually on an individual basis.

Water company requirements to significantly reduce N and P:

- Improvements to treatment required at Poole WRC, or possible relocation of discharge to sea or another catchment. Discharge of wastewater to the Stour catchment could solve low flow issues there, however the wastewater must be good quality so must receive additional advanced treatment. It is a possibility that the wastewater could be discharged to a wetland within Stour Valley Park.
- No net increase in N and P from commercial and residential growth.
- Water companies must work with local authorities to solve misconnections.
- Water companies can use agriculture to offset their N emissions if a farmer has reduced nitrate loss on their land below their target.
- Wetlands are identified as a measure to deliver or offset nutrient reduction which NE will investigate.

There needs to be agreement between organisations on how the data is reviewed to update targets.

Discussion:

- JM: It will be important not to compromise water quality in the Stour. GB: Agree that it will need much further investigation to see if this is a viable option – it is being considered at this stage under the assumption that treatments at both ends and a wetland would hopefully solve possible water quality issues.
- JB: Has any work been done on the ability of trees to sequester P? It doesn't seem to factor in models, but it could be a useful tool to reduce nutrient losses from agriculture. GB: Woodland is considered with regards to surface run off but currently the uptake of P whilst trees are growing is not considered in the mass balance, although it could be.
- FB: Have there been advances around the strategic wetlands recommendations in the consent order? GB: The main direction being taken to deliver the target is the nutrient trading approach between farmers, but another approach is online wetlands. Lyn Cooch and Nikki Hiorns will be looking in more detail at how wetlands could deliver N and P targets in the region.
- Nitrate SPD will be reviewed.

#### 4. Poole Harbour Nutrient Management Scheme (PHNMS) project update - Paul Cottingham

The PHNMS project is constantly evolving and providing new learning. The Poole Harbour Agricultural Group WhatsApp chat is already full of photos of measures being taken to reduce N loss (cover crops, grass after maize stubble, etc.), and there is great pride in this work. The farmers on the trial are engaged and already planning how they will work to reduce nutrient loss on their farms.

The scheme is not cost neutral, it will require costs around £3 million/year to make the reductions required for the consent order targets.

General project work:

- University of Hertfordshire are analysing several nutrient accounting tools used internationally to work out what might be most appropriate for the scheme. The contract was signed today (11<sup>th</sup> May) and will run for 2 or 3 months. Therefore, the scheme might start with one nutrient accounting tool but move to others should that be the recommendation.
- PHAG are in the process of becoming a Community Interest Company (CIC) with legal help from Hogan Lovells.
- Triodos Bank are investigating the business model development, such as where income might come from & what role private investment might have. Triodos are involved in 3 other similar projects.

- The scheme's website & logo have been set up for farmers by the Catchment Partnership and Exmoor Creative. Currently the website being used by trial farmers for all the trial related information such as recordings of presentations, feedback forms and typed document of the Q&A sessions to allow it to remain anonymised. The Consent Order and a short summary are available on the PHNMS website Resources page <https://pooleharbournitrates.org.uk/resources>
- Outcomes of the scheme which will be useful are understanding the feasibility of creating a scheme, what systems are required and whether there are key learnings for other catchments.

#### PHNMS Spring Trial:

- Approx. 20 farms taking part in the trial of different scales, types, soils, and so on. There are a whole range of partners involved including the Catchment Partnership, University of Cambridge Institute for Sustainability Leadership, WxW & NE.
- The trial is taking farmers through the sequence of the problem, the solution, compliance, Nutrient Accounting Tools, measures & finally, trading. There has been a Q&A session at the end of the presentation on each topic which farmers have engaged with positively.
- Measures are key for farmers- what will they physically need to do on farm to reduce nutrient loss. There will be the formation of a farmer measures group to discuss what measures can be taken and then a high-level science group to sign the measures off as appropriate.
- There are 2 presentations left:
  - The Environment Agency's Nitrate Leaching Tool (NLT) is being demonstrated in the trial by Woods Consultancy. The aim is to get farmers to populate the NLT which will give a better idea of what the current N loss baseline is in the catchment and to get farmer feedback on the tool.
  - Exploring how trading could operate, using the NLT data from the previous session.
- Following the trial and the analysis of the feedback, the information will help to tidy the scheme up and create an operation which fits into the aspirations of the Consent Order.
- Would like PHNMS to align with all partners because there is such a close relationship with many partners operations.

#### Discussion:

- FB: How will you catch up with farmers that aren't involved in trial? PC: A farmer bulletin which aims to reach the whole catchment is sent via various channels: Catchment Sensitive Farming, NFU and the Catchment Partnership. Information regarding the Consent Order will need to be circulated and questions from farmers answered – the PHNMS website will help with this and the 'onboarding' process. NP: Deliberately chosen not to release the website yet, will start publicising scheme once it is more polished. Would appreciate feedback (particularly from partners who work closely with farmers) on whether the website is appropriate or could improvements be made on the wording, etc. Would also appreciate knowing whether firewalls block out the website – especially NE, EA & Forestry Commission staff.
- FB: Webinar on floodplain reconnection Thursday 13<sup>th</sup> May (recording will be available) will be useful for wetlands planning. FB presented an update on PHNMS to the CaBA agricultural group – interesting case study as it is first of its kind nationally.

**Action all:** Explore the PHNMS website and provide feedback to NP – particularly those working closely with farming <https://pooleharbournitrates.org.uk/>

#### 5. RaNTrans project update - Rohan Smith (presentation circulated with minutes)

Rapid Reduction of Nutrients in Transitional waters: RaNTrans

Will compliment PHNMS, but instead of looking at what is happening upstream, RaNTrans focusses on the downstream legacy of nutrients entering Poole Harbour and other transitional waters and how to reduce the algal mats. RaNTrans is an EU funded project through Interreg and led by University of Portsmouth with other partners

Bournemouth University, Natural England, Sustainable Feeds & CEFAS – and French universities & organisations. The project was originally 3-years but extended to total 5 years due to Covid restrictions, until June 2023.

There are 5 work packages to develop novel methods to achieve a 20% increase in water quality, which will in turn have a favourable effect on ecological status. The Natural England budget is £230k, with FTE 1.4 staff resource to support the project. The project is at a research stage now and may move to a commercial stage depending on the results. NE supports technical and non-technical communication.

Active stakeholder engagement has taken place for information and any concerns to be raised. For example, in Russel Lake in Langstone Harbour, Portsmouth a recent stakeholder event revealed useful citizen science data regarding native oyster populations in the area.

Study locations in England: Holes Bay, Poole Harbour & Langstone Harbour, Solent. France: Ledano Mudflat /Trieux estuary (Côtes d'Armor) & Baie des Veys / Orne Estuary (Calvados).

Work packages and outputs:

1. Novel algal mat removals method that will remove 4000t/yr. A vessel to remove algal mats at low tide.
2. Novel marine worms that will remove 30 t/yr. Worms consume algal mat collections, before being converted to aquaculture feed. The pilot will calculate what rate the worms eat the algal mats and whether the rate is fast enough for commercial aquaculture feed use. If successful commercially, the marine worms will reduce dependency on foraging fish, such as sand eels, for aquaculture feed.
3. Seaweed culture of sugar kelp will take up nutrients from the water via bioremediation at an expected rate of 25t/ha.
4. Oyster culture will take up nutrients at an expected rate of 400t/ha.
5. Some algal mats and seaweed will be fed to marine worms, but some will be used for biochemical extracts depending on the species composition of the algae. Biochemical extracts can produce chemicals which can be utilised for human use.
6. End user interactive maps will be created by CEFAS and CEVA which can be used to understand how algal mat growth will change based on water quality modelling.

Alongside the work packages, macroalgal species composition, macroinvertebrate species & bird interactions will be monitored.

[www.rantransproject.com](http://www.rantransproject.com) – sign up on the website to receive updates. There is a quarterly newsletter and an active twitter account to keep updated with.

Discussion:

- GB: Is the harvesting macroalgae being piloted across all study locations or just in one area? RS: The pilot is being run in Langstone Harbour outside of the Institute of Marine Sciences, University of Portsmouth and in Poole Harbour either in Holes Bay or Brands Bay run by Bournemouth University.
- GB: What technology is being used for the pilot harvesting? RS: The methodology is currently in design but will use the watercraft which Harbour Clean uses in Langstone Harbour. Some of the algal mats will then be fed to marine worms in a container unit. Oysters will be cultivated in suspended units, elevated above the seabed which allows greater nutrient removal from the water. Native oysters are challenged, and this project should help to alleviate some of these challenges.
- FB: Do the high levels of nutrients impact the native oysters? RS: Nutrients themselves haven't been shown to affect oysters but low carbon does affect oyster shells. There is lots of plankton in the water as a result of nutrients and this means there is ample food supply.

## 6. West Country Water Resources Group- regional water resources plan update - Keith Calder

The group looks at water supply regionally, heading to 2050. Cheddar 2 reservoir plans have now been rejected. The three water companies in the South West are looking at how they will meet water demand with requirements for

less abstraction. There will be detailed investigations into 5 catchments to carry out detailed survey work on - including the Stour, Poole Harbour and rural Bristol Avon Catchments.

EA Catchment Co-ordinators have been tasked with engaging stakeholders; KC and his Somerset/Bristol Avon equivalent Matt Pang are keen to do this through the Catchment Partnerships. KC, MP, NP and Zoe Hancock (CP Co-ordinator from Bristol Avon Catchment Partnership) are working together to ensure a consistent approach to stakeholder engagement, particularly recognising that there is significant organisational overlap across the region's selected catchments.

Transferring wastewater from Poole Harbour catchment to the Stour is being considered as a water resource option. There are multiple options being considered, such as desalination and water recycling. KC/NP would like to hear from partners with particular interest in being involved in the investigation: input is likely to be via a short workshop likely to take place in June, and a longer half-day workshop following in July. We are aware that stakeholders and partners are busy and will influence the design of these where possible to ensure best use of partners' time, particularly those involved in multiple catchments.

**Action all:** Contact NP to volunteer for West Country Water Resources Group workshops.

## 7. Future site visits for Delivery Group- options discussion – NP

An often-neglected section at the end of delivery group meetings is the theme of next meeting/possible site visits, therefore it is an agenda item to get a better idea of what partners would like to get out of these. After Covid regulations allow, it would be great to get back together in person. It would be best to line up the site visits in advance, so they aren't forgotten and rushed. What would partners like to get out of a site visit: evaluating progress, sharing knowledge, or resolving problems in a project you're working on?

Discussion:

- FB: Could present a chance to get some volunteer work done. NH: Devils Brook project has community engagement events planned, such as riparian planting & fencing, although this might not be that interesting for partners. Volunteer tasks surrounding NFM or habitat management might be more relevant. Could be beneficial to hear about more peripheral projects than Stour headwaters/Dorset Wild Rivers, which aren't heard about as much.
- KC: Less familiar projects that could be visited include the realignment of River Frome at Arne, The Dorchester development adjacent to the Frome or Woodsford restoration on Frome where there is a km of planting taking place. A site visit will be most useful where it might expand understanding and knowledge of the catchment, as well as inviting useful input and discussion between the visitors.
- WC: A farm visit with presentations and fact & figures about the impact the Consent Order and PHNMS will have on farmers and their livelihoods would provide a good angle. PC: Could demonstrate the process of reducing nitrate loss on farm, e.g. building a slurry store and the planning process required for that.
- FB: A restoration visit with the landowner present, to discuss how restoration has impacted them.
- NP will prioritise the site visit, and if there is a convenient location for a meeting nearby then the visit and meeting can be tied in together. Otherwise, the site visit can take place separately to the meeting.
- DJ: A visit to Poole Wastewater Recycling Centre can always be arranged.
- RS: A visit to the RaNTrans study locations could be possible once they are operational and there is something to visit. At Langstone Harbour the worms and some of the oysters are in tanks so are easily visited, but some of the studies are only reachable by boat which could be more difficult to arrange. RS can give a month's advance notice once these projects are underway and arrange a visit from then onwards if partners were interested.

**Action WC:** Investigate which farms could work well as a site visit.

**Action NP:** Contact project leads of possible site visits to start lining them up.

## 8. Co-ordinator update - NP

### Project development

- Medium Term Plan (MTP) update due in September. Due to changes in EAs funding this year, partners might need to focus on a broader funding stream beyond the Water Environment Improvement Fund (WEIF). The CP project workshop will go ahead as usual and will begin to be organised in the next few weeks.

### Environment Bill principles consultation

- NP is drafting a CP response which will be sent round and would appreciate partners feedback on.

### CP internal comms planning

- Both the Dorset Catchment Partnerships and the Bristol Avon Catchment Partnership are developing a plan to improve internal comms with WxW to better utilise internal opportunities. There is also a wish to expand this beyond WxW – how can the CP get messages out via partners comms channels. CP would like to better understand the comms needs/systems of partners organisations and make direct contact with central comms leads within partner organisations, as opposed to going through our usual partner contacts/project leads.

### Catchment Reporting - CaBA

- CaBA have still not released their annual reporting form so no known deadline yet – but CQ is already beginning to gather this data from partners. Please respond as quickly as possible allow time to gather the data together ready for the deadline and only fill in the information for March 2020-March 2021.

### Floodplain reconnection webinar

- The CP have organised a webinar to introduce Aly Maxwell, John Phillips & Dr Peter Stone's 'Stage Zero approach' Floodplain reconnection GIS project. The webinar will be held on Thursday 13<sup>th</sup> May 10am-12pm and a recording will be available for those who can't make it.

### Frome catchment project (GWCT)

- Dylan Roberts is leading a workshop on May 19<sup>th</sup> on the development of a catchment wide project on the Frome. Contact [droberts@gwct.org.uk](mailto:droberts@gwct.org.uk) if you'd like to attend.

**Action NP:** Contact partners about Project Development workshop ahead of MTP update.

**Action all:** Feedback to NP on Environment Bill Consultation draft response once it is circulated.

**Action all:** Complete CaBA project reporting forms when contacted.

## 9. Chair update – FB

- FB is standing down this year after 10 years as chair of the Dorset CPs. The CP would like to thank FB for all her hard work over the years and being instrumental in setting the partnership up.
- The opportunity of recruiting a new chair has allowed for the role of the chair to be reviewed -RB will be contacting partners to discuss their thoughts on this. The terms of reference of the partnership will also be updated.
- River 'buffer' campaign by the Rivers Trust, Beavers Trust, Woodland Trust, etc. The project would be better described as encouraging landowners to make space for water; it's not about delivering agricultural buffer strips. FB is involved via RRC and CaBA. Partners are encouraged to share any sites that would provide good footage for a lobby video – particularly where agriculture is right up to the river but there are plans to make space for water which could provide before/after footage. Contact FB with suggestions.
- The Beaver Working Group is waiting on Government's National Beaver Strategy consultation which has been pushed back to summer. The consultation is likely to consider the wild release of beavers, as well as enclosed.

### Discussion:

- PC: Thanks FB for her dedication as chair.

**Action all:** Discuss with RB thoughts on the role of CP chair.

**Action all:** Feedback to FB if know of any good sites for River Buffer Campaign film, such as examples of where agriculture is right up to the river edge.

### 10. Matters arising & AOB - FB

Questions arising from partner updates:

- RS: Have WxW/ Titan progressed WQ testing in Holes Bay? DJ: WxW commissioned Titan for intensive surveys in Holes Bay for Poole Harbour Environmental Investigations – more detail in partner update. More to follow in next sampling season in summer. Contact [Dave.jones@wessexwater.co.uk](mailto:Dave.jones@wessexwater.co.uk) to discuss.
- JM: The data WxW is collecting now will be used to calibrate BCP remote WQ sensors, along with the RaNTrans sensors in Holes Bay once they are deployed.

Date and location of next meeting

- Doodle poll will be produced for dates in September 2021.

Theme of next meeting

- Theme may tie into a site visit.

### Summary of actions:

Who	Action	Progress
All	Carried forward: Contact NP with aspects of data which are useful in project planning (to help shape GIS work)	
All	Carried forward: Identify potential future site visits to see work being delivered on the ground.	
NP	Carried forward: Check timescale for Defra taskforce with Matt Wheeldon, WxW.	
All	Explore the PHNMS website and provide feedback to NP – particularly those working closely with farming <a href="https://pooleharbournitrates.org.uk/">https://pooleharbournitrates.org.uk/</a>	
All	Contact NP to volunteer for West Country Water Resources Group workshop.	
WC	Investigate which farms could work well as a site visit.	
NP	Contact project leads of possible site visits to start lining them up.	
NP	Contact partners about Project Development workshop ahead of MTP update.	
All	Feedback to NP on Environment Bill Consultation draft response once it is circulated.	
All	Complete CaBA project reporting forms when contacted.	
All	Discuss with RB thoughts on the role of CP chair.	
All	Feedback to FB if know of any good sites for River Buffer Campaign film, such as examples of where agriculture is right up to the river edge.	