

Thursday 7th July 2016

The John Jarrold Suite, Norwich Sportspark
University of East Anglia, Norwich NR4 7TJ

MEETING SYNOPSIS

Around 40 people (catchment practitioners and DTC researchers) attended this meeting organised by the Wensum DTC. The audience was updated on latest research results from the Avon, Eden and Wensum DTC projects -

- **Hampshire Avon DTC:** scaling up of farmer-preferred measures and basic measures; modelling upscaling of cover crops
- **Eden DTC:** the 'treatment train': mitigating agricultural water pollution from source to stream: an aerial fly-through; temporal dynamics in ecological communities in Newby Beck
- **Wensum DTC:** field experience of cover cropping to reduce nitrate leaching; biobed pesticides retention on a large arable farm; socio-economic barriers to uptake of measures

Additionally, invited guest speakers Ger Shortle and Neil Punchard outlined the work being undertaken by the Agricultural Catchments Programme in Ireland and more locally by the Broadland Catchment Partnership.

The afternoon session included workshops where participants discussed ideas for rolling out the DTC measures work and how to overcome barriers to catchment management.

Key points from the workshop are given below. (Note takers: Steve Dugdale, Emilie Vrain, Trudie Dockerty, and Sarah Taigel).

WORKSHOPS

(A) How to roll-out the DTC measures work

Q: How can the DTC research be of most use in practice?

- There needs to be more synthesis work conducted and this then needs to be translated for the different audiences. There is never funding for this type of work at the end of the project.
- This question needs to be asked to agronomists and other advisors on the ground.
- The DTC needs to cross match their mitigation measures with those of the CSF and provide evidence for them.
- As the Wensum DTC site uses a 7-year rotation there was concern that it doesn't represent farms that use a 3-year rotation (or other rotation period less than 7 years). Suggested that further work with agronomists might overcome this issue.
- Because of problems with blackgrass farmers using a 3-year rotation are starting to move to a longer rotation.

- (from water company perspective) the research is relevant to all farms of different sizes, bringing agronomists together with farmers to integrate ideas, and this collaboration should continue.
- Extending rotations (5&6) and also spring cropping, encouraging cover crops – spin off already in the Wensum. Also, there may be spin offs from farmers deciding to adopt methods from the DTC off their own back in the Eden and Avon as well.
- Demonstration is the first step to uptake.
- The Wensum is not representative of large parts of East Anglia: the Wensum DTC lessons should not be seen as reflective of all the Anglian region. Farmers need the techniques to be seen much more locally relevant to them to adopt.

Q: How best to present the results of DTC research?

- Farmers won't read a newsletter, they are inspired by a speaker so it is important to get speakers at events talking in their language.
- Likewise, DTC results need dissemination at CaBA and other events.
- Utilise advisors to do the translating and dissemination of knowledge.
- Key messages in simple form to summarise the important findings.
- Presentations, YouTube, fly-through filming. Make greater use of video (YouTube) to reach a wider audience.
- Engage outside the catchment.
- Re-visit the CSF national events and present results to officers.
- Potentially use a similar template to Rivers Trusts (e.g. PinPoint) for the DTC outputs.
- Messages need to be placed in context.
- The DTC needs to create a one pager which outlines what will be delivered and when so that stakeholders can anticipate the messages.
- A database of questions (with answers) to be published e.g. a 'Catchment Wiki' where people can pose questions to the team.
- Have a presence in the local press on a frequent basis. There could also be a section next to the weather report almost like a 'water quality forecast' which would advise when to spread slurry etc.
- A national website with downloadable case studies and fact sheets etc. that cover all the DTC's work.
- One suggestion was that a series of PowerPoint slides were made available from which slides relevant to a particular scenario could be extracted to assist communicating a message tailored to the audience for use by CSFs/CaBA advisors on the ground and in their own leaflets and communications.
- Produce a number of case study sheets (scale up to the national level). These should show the step-by-step processes used in the various mitigation measures works (almost method statements) and include contact details of key people or organisations. These should also include costs of implementation. Use potted facts (can also be dished out to CSFOs) such as £ in terms of yield, also water on land improves soil – bring £ to everything. (An alternative to case studies might be to distil DTC results into 'sets of principles' (key messages fact sheets).
- Tease out and present DTC "no regrets" mitigation measures.
- Pose questions raised by DTC research that others might come forward to answer (farmers often happy to have a go and it involves them as a stakeholder) – e.g.
 - How does this work on heavy soil?
 - How does this work when a shorter rotation is used? etc.
- Need a compendium of what has been done in simple terms on the web (including details of farms that have implemented measures so that "real-world" experience is available).
- A single list of all the findings from all the DTC's is produced using non-scientific language.
- "Show the process". How did you get there? What didn't work as well as what did. (Useful to avoid someone else trying it unnecessarily).
- A useful model is the animal welfare database produced by The Duchy College(<http://www.farmhealthonline.com/>).

- Farmers are interested in soil health and the financial aspects of farming. What is needed is a VALUE driven system (not just a system driven by financial costs and benefits). Use farmer interest in soil health to 'root out' new ideas of land management.
- Catchment matcher needs to identify geographic locations and farm types such that results can be extrapolated.
- Evening meetings with farm advisors are very important.
- The agronomist is key – the farmers listen to the agronomist.
- Farmers still want to see something working locally rather than rely on something 40 miles away (even if the soil type etc. is similar).
- Demonstration/lessons must be practical and realistic to adopt.
- Use common currency between farmers/agronomists and policy makers – impacts on farm incomes and improving WFD.
- Transferability between the DTCs needs to increase. Would also be good to have a list of findings in layperson's language to link together
- Information management needs to improve or be streamlined as risk of knowledge being lost.
- Embed within the EA 'working with natural processes' language.

Q: Are the core datasets of use through the National DTC Archive?

- In raw format the datasets are not useful. Stakeholders do not have time to understand them.
- Probably useful for other researchers who want to conduct their own analysis.
- It is good to provide all data somewhere to allow for traceability. One farmer looked every day.
- Avon DTC advised that they had been inundated with requests from all types of user.
- The distinction between data and information needs to be very clear. Data needs to be distilled down into information to make it useful in a practical sense. Also, farmers are interested in complex data.
- It is important to identify the key messages.
- The practitioner needs the message, NOT the data.
- The archive needs to be open – if nothing is hidden it will instil confidence (e.g. details of the journal publication that data was used in).
- The question "How can it be made more accessible?" was asked but no specific answers were given.
- Not everyone knew how the data archive worked.
- Needs to be some distillation for ease of use to farmers, although others have had raw data and used it.
- Greater commentary on datasets needs more contextual data or examples of how others have used it.

Q: What about other datasets?

- Lidar revealing and fascinating on flood pathways.
- While there is a role for modelling it isn't cheap, can't be used everywhere and results shouldn't be extrapolated to another situation without due care and understanding.
- 'what we know as scientists' needs to link to 'what we know as practitioners'.

Q: How useful are the DTC models? Identify where these are useful or not useful.

- The limitations of the models should be expressly published.
- There is a distinction between the requirements of scientists and practitioners. Modellers are needed to do further work on this.
- Model results produce both a direction of change and a magnitude of change. More emphasis should be put on the direction and less on the magnitude when interpreting model results and trying to apply them to different (but similar) catchments.
- There was a general lack of awareness of what is available.
- People want to find answers to specific questions. However, there is a danger that if the models are made available to "non-experts" results could be mis-interpreted and gain a reputation that the 'computer says "No"'.
"No".

- Sometimes local knowledge is better than the output from a model.
- The elephant in the room is – where will the resources come from to interpret the output from models?

Other general points raised -

- A question was asked as to whether any of the models could be improved, with attendants responding they had not heard of them so couldn't comment. It was suggested the models need to be more accessible and for the model output to be synthesised.
- There is a risk of tools designed by academics being used by stakeholders who want a 'press the button' tool and results from the tool are misunderstood. People will just do what the tool says and not apply common sense. There needs to be a tool which provides an answer and then the model developer can explain the answer.
- There needs to be more resources to interpret results at a local level.
- Opportunity mapping needs to be done across the country.
- There is a need to get the advisors on-side – not just the farmers themselves. Therefore, there is a need for the DTCs to have more contact with advisors.
- Is there a 1-2 page "Idiot's Guide" on how to engage with advisors etc.?
- Catchments partnerships need to engage beyond the DTC catchments.
- Priorities suggested were:
 - Publish golden nuggets of wisdom.
 - Widen the footprint of contact.
 - An end of project catchment symposium.
 - Go out to catchment partnerships nationwide.
- A timetable of future deliverables should be published.
- Set up a catchment Wiki.
- Get farming groups to give input.
- A view that received a lot of support within the group was that the profile of the DTCs should be increased in the media, especially the farming press. Ideas suggested/discussed were:
 - Produce a water quality forecast in conjunction with the weather forecast.
 - A forecast of £ lost down the drain (e.g. fertiliser application in close proximity to heavy rain).
 - A constant media presence – one article per week.
 - For the Wensum, getting a high profile in the EDP and/or East Anglian Daily Times farming Supplement
- It would be good to make biodiversity connections – use an ecosystems services approach.
- Identify five key measures in each catchment.
- The concept of "water farming" – farming is part of the solution, not part of the problem, e.g. link with flood avoidance.
- **Funding – what to deliver before end of funding**
 - Need to share with industry (CSFOs) so they can carry on spreading the word.
 - Integrate with new flood mitigation plans and show usefulness.
 - Evidence must be brought to the table to deliver the changes for land management.
 - Water companies have finance and with an ecosystem services approach, then rivers trusts can be brokers.
- While CaBA works it lacks good science to back up decisions, and so the science must find the gaps and provide the evidence.
- Push DTC speakers out to every industry conference, get speakers into the catchment laboratories

(B) Overcoming barriers to 'Smart Catchment Management'

Q: What is your interpretation of 'Smart Catchment Management'?

- Integrated catchment management which entails landscape management considering all sectors/aspects, 'joined up thinking'.
- 'Smart' refers to management which is realistic and achievable through the coordination of multiple stakeholders, balancing top-down and bottom-up.
- Delivering behaviour change within agencies and on the ground.
- Making sure that flood, drought and biodiversity aims are identified and managed together rather than achieve competing outcomes through different management policies.
- Wide ranging and social.

Q: What have we learnt from recent past experience?

- There is a need to co-ordinate effectively across agencies and sectors, listening to each other, considering the different languages used and balancing the different interests.
- It is necessary to convince stakeholders there is value in participating in catchment management.
- Evidence of what works well is needed to provide a persuasive argument.
- Catchment partnerships should be community led.
- Landowners need to be engaged throughout the whole process.
- Praise for actions is vital.
- Value people who are delivering measures on the ground.

Q: What are the drivers for future catchment management approaches?

- The framework is there but it was felt there just needs to be more support from organisations.
- CaBA needs to incorporate much more than just water quality. It needs to encompass everything in a catchment.
- Prove cumulative effect.
- Cultural change to work together.

Q: How might governance structures be adapted to face future challenges?

- A form of governance which is halfway between regulation and recommended good practice guidance would be best.
- The bottom-up approach should continue to be emphasised as top-down hasn't worked.
- There needs to be more engagement with business partners such as retailers.
- There needs to be a knowledge broker who is unbiased, e.g. Rivers Trust.
- There is a huge unknown with Brexit.
- Smarter and wider and let money flow faster.
- Recognise which stage a catchment is at and act appropriately.
- Being aware of policy changes.
- Strengthening partnerships.
- Properly engaging spatial planning (threat to ICM losing out to flood management priorities).
- Need a single legitimised approach – currently lots of splinter initiatives.
- Catchment partnerships should be community led with the main agencies having only a 'light touch' - the framework is there it just needs organisation of activities to bring people together.

- Focus on “multiple benefits through integrated outcomes”.

Other general points raised -

- Farm contractors are a huge barrier for behaviour change as they are restricted with timing and the weather. There is no incentive for them to change and we need to tackle this.
- DTC has shown it all works on a small scale but does it work on a larger catchment scale? We need to be able to evidence larger scale benefits to show that individual efforts are worthwhile.

Attendees:

Name	Role/Organisation	
WORKSHOP GROUP 1		
Nigel Simpson	CSF River Basin Coordinator, Anglia South	
Antony Williamson	Environment Agency, Evidence Advisor, Agriculture, Risk & Evaluation	
Clare Benskin	Eden DTC	
Ed Bramham-Jones	CamEO Catchment Farm Advisor, Water Sensitive Farming, Norfolk Rivers Trust	
Fiona Woods	Catchment Management Scientist, Anglian Water	
Ger Shortle	Manager, Agricultural Catchments Programme, Johnstown Castle ERC	
Gilla Sunnenberg	Wensum DTC, GIS Analyst	
Jennine Jonczyk	Eden DTC	
Jon Hillman	Soil, Water and Catchment Management (SWCM)	
Martin Blackwell	Avon DTC / Rothamsted Research	
Murray Hart	DEFRA, Nutrient Management Team, Farming for the Future Programme	
Neil Punchard	Broadland Catchment Partnership Officer	
Nick Barber	Eden DTC	
Nick Garrard	Wensum DTC	
Rob Davies	Defra Water Quality Team	
Rob Holland	Anglian Water, Catchment Advisor (Norfolk and parts of Suffolk)	
Sim Reaney	Eden DTC, Durham University	
Yusheng Zhang	Avon DTC	
Steve Dugdale	Wensum DTC	
WORKSHOP GROUP 2		
Adie Collins	Avon DTC, Project Lead	
Barry Bendall	Rivers Trusts, Chief Executive	
Paul Quinn	Eden DTC	
Will Cleasby	Eden DTC	
Alison Smyth	Norfolk Rivers Trust Farm Advisor, Broadland Catchment	
Damian Crilly	Environment Agency, CaBA	
Des Kay	Catchment Sensitive Farming Officer (CSFO)	
Gareth Owen	Eden DTC	
Georgina Wallis	Catchment Sensitive Farming Officer, Nene	
Iwan Jones	River Communities Group, Queen Mary University of London	
Lister Noble	Wensum DTC, Farm Liaison	
Maria Snell	Eden DTC	
Marta Assunção	Fish Biologist and Team Leader, CEFAS Salmon and Freshwater Team	
Martin Bowes	CaBA Project Manager, Anglian Water	
Richard Cooper	Wensum DTC, Monitoring Programme Manager	
Richard Reynolds	Anglian Water, Agronomist	
Rosanna Kellingray	CSF River Basin Coordinator, Anglia North	
Teresa Meadows	Essex and Suffolk Water, Chelmer and Blackwater Catchment Advisor	
Dinah Hillier	Thames Water	
Victor Aguilera	DEFRA, Water availability and quality evidence programme	
Kevin Hiscock	Wensum DTC, Project Lead	Lead workshop (A)
Emilie Vrain	Wensum DTC, Farmer Surveys	Notes workshop (A)
Trudie Dockerty	Wensum DTC, KE	Notes WS (A) (session 2)
Phil Barker	Eden DTC, Project Lead	Lead workshop (B)
Sarah Taigel	Wensum DTC	Notes WS (B) (session 1)
Steve Dugdale	Wensum DTC	Notes WS (B) (session 2)