

Taking control and responsibility for water

The UK Irrigation Association (UKIA) held its annual conference at the Orton Hotel, Peterborough, and this year's event saw record attendance.

Dr Heather Briggs went along to find out more.

With an overall theme of taking control and responsibility for water, topics discussed included the updates from the Environment Agency and advice on how to form a Water Abstractors Group. Sadia Moeed, Environment Agency Area Deputy Director for East Anglia West, spoke about the importance of local solutions, and the importance of local Abstractor Groups, particularly for efficiency and scheduling of water use and to enable collaboration to improve the resilience of water supplies.

Sadia said: "We have always had an important relationship with irrigators and farmers, and while

we have not always agreed on everything, we have always worked together with the collective aim of making sure there is enough water for a thriving economy alongside a thriving environment."

She pointed out how vulnerable her area is to the changing climate; and while the water table is currently the highest it has been for a number of years, this is something that can change quickly.

"The Environment Agency's role is to ensure water is used properly and responsibly, allocating needs across the many users that need it, balancing the need for water of



Sadia Moeed.

business and the public vs the needs of the environment. Alongside administration of licences, we are looking to address the national pressures and challenges in this country for water resources."

Because of climate change and population growth, access to

water resources will become more limited and constrained in the future, she warned, so without action there is a likelihood of environmental damage, restricted economic growth and interruptions to supplies. "In the east, we are already seeing lower flows of water at times of peak demand, and restrictions on abstractors, so we need to understand the scale of the challenge and the potential solutions."

The updated National Water Resources Framework, due to be published in summer this year, outlines the future demands for public water supply, for energy and agriculture and for a sustainable environment, plus the climate change impacts. "The framework sets out not only national plans, but also regional plans and the unique issues in each region and what might need doing to work together.

Projects assessing resource options

Mima Boardman, Water Resources Advisor at the Environment Agency, updated the audience on some of the projects she is currently working on. A local resource option is a solution that improves resilience or supply of water for a group of abstractors in their area, and is owned, operated and controlled by these abstractors, she explained.

Resource options include reservoirs, rainwater harvesting, water rights sharing, improving connectivity, and possibly the use of recycled water. "These options are owned and run by those using the water, including farmers and other users such as golf courses," said Mima.

An introductory programme launched last year which mainly covers 20 projects across 100 farms based in East Anglia, also has participants in Shropshire, Northumberland and on the south coast, with wheat, potato plus blueberry farmers plus chicken and livestock producers taking part.

Participants started with a screening study managed by water resources consultants, supported by funding from Defra. This involved a site visit from the consultant to get to know the farm and the area, from which a desk-top study was made and to understand the water-balance of the farm. This recorded current water use, how it was sourced, and the likelihood of what the water need was to be in the future and how climate change may affect availability.

"The aim was to gain a picture of what the scale of the problem is for the farmers," said Mima, adding that the consultant then devised a list of options for the farm group, following this with a qualitative and quantitative assessment to rank these options.

"The top three options were then assessed according to water availability and costs of developing this option, which would then be passed on to the farmer." The top options include looking at sources of water, ways to store water, and ways to share water with the group.

For all projects the Environment Agency asked the water resources contractor to consider water sharing between the farms as a top option, in order to explore how headroom of water already allocated to agriculture could be minimised, she revealed. Water recycling was highlighted in three projects, and while there are concerns about water quality and pathogens, accumulation of heavy metals and salts, plus regulations concerning the use of such water, she does not believe they are insurmountable.

In terms of opportunities in this area, she talked about a growing market for phosphate credits and the potential of using wastewater with pre-loaded N and P.

"One of the projects comprising five farms is exploring the possibilities of building a wetland to 'polish' the water."

Moving on to talk about projects to utilise land drainage, she highlighted the potential of working with Internal Drainage Boards (IDBs) in different parts of the country. Multiple projects looked at taking water before it is discharged into the sea, pumping it up-catchment; another is looking at raising the level of the water table to improve its accessibility; while a third is exploring conveyance, to get water from one place to another where there is no upstream/downstream flow to enable water sharing.

"Again, there were some concerns; for example, if the water table is higher, there is less of the buffer for flood prevention, so this would need managing in conjunction with the IDB." In terms of capital expenditure, over 50 percent of the projects saw a cost of less than £0.50 per cubic metre of water as part of an investment return period over ten to fifteen years.

She has observed increased interest in farmers working together in local Water Abstractor Groups, and by 2026 she expects 16 WAGs to be working in England, with potentially more being promoted by Regional Water Resources Groups.

"We have found local farmers are enthusiastic about working together on bigger projects to improve water resource resilience," she explained. "There is a lot of enthusiasm for working together, and while there are barriers to this, such as costs and regulations there are lots of different options to help work round these.

"We are collating the results from the projects and will use them to advise government departments on the development of future policy and to consider how the Environment Agency and other stakeholders can make improvements."



Mima Boardman.

“There is a need for collaborative planning between the different sectors, to improve water supplies and support environmental resilience. We have already seen some fantastic results from Water Abstraction Groups (WAGs) in East Anglia which have identified areas for investment, and local resource options.”

Local resource options include rainwater harvesting, farm storage reservoirs, water sharing, water trading rights, drainage water use, and the re-use of treated effluent.

“We want WAGs to work with farmers to improve local supplies and improve resilience.” This could be through improved irrigation scheduling, ensuring abstracted water is stored and distributed efficiently.

Water Resources East is one of five regional groups, creating a local layer to the national framework. These identify challenges for each region, and potential solutions. An example of this, is a trial on smart farming currently being developed by Water Resources East, which is about the use of digital technology on-farm to optimise practices, improve productivity and sustainability. “This is about how smart farming can be used at catchment scale, and the use of real-time data to enhance efficient use of water.”

The Environment Agency is also working with groups of farmers on local resource options that will impact on local water availability, such as rainwater harvesting, said Sadia. “Weather patterns around us are changing, and this may mean the need for greater flexibility in the system for you to adapt your own practices around abstraction.”

“This includes the ability to abstract more water when there is too much water around, such as when there is flooding, or during droughts being able to request short-term options, improving access to water outside licencing

Water: the future is in our hands

Access to water is no longer as secure as it once was abstractors transition into the new environmental permit regime, and the Environment Agency strips headroom from licences, said Dr Steve Moncaster, Membership and Technical Advisor to Broadland Agricultural Water Abstractors’ Group (BAWAG) and National Framework lead for the Water for Food group.

North-east Norfolk has long experience in reductions in licences, and BAWAG is a voluntary organisation that provides farmers with practical assistance in respect of these as well as a forum to discuss policy developments and implementation.

Steve said: “There are no guarantees on access to water in over-licensed, over-abstracted catchments because licences are going to be cut back. Anyone abstracting and using water needs to think about whether they are in the position to plan for these changes, or whether they need help.”

Farmers with licences that are at risk need to work together to prepare Water Resource Management Plans. These should estimate how much each licence will change over the next few years, and where necessary, select preferred options for more sustainable supplies. This could entail exploring new opportunities for collaboration or preparing Masterplans to help with the planning and the delivery of schemes.

Abstractor groups generally have two means of funding; those that are self-funded and those that rely on external funding such as grants and contributions from the Environment Agency or the new regional planning groups.

The experienced hydrologist and water resource planner told delegates that his own role is divided into two parts; general membership activity and briefings, and technical work. “Increasing competition for resources can mean that finding the balance between collaboration and competitive advantage is not always straightforward.”

The new National Framework for Water Resources will be published in June, and he will then evaluate how Water Abstractors Groups and the Water for Food group can best work with this. “There will be risks, issues and opportunities, and there will be trade-offs. We cannot rely on anyone to look after our industry and so need to be prepared to make our own plans and strategies – otherwise this important work will be done by others. The future is in our hands.”



Dr Steve Moncaster.

conditions. Such changes would have to be balanced with the needs of other users, and we are assessing short time options to create flexibility and agility across the system.”

She also drew attention to the Fens 2100 project, which is seeking to tackle challenges in the fens, and has attracted a host of partners who are collaborating across all sectors to bring in an integrated water management solution. The programme aims to develop a Fens-wide flood resilience investment strategy to achieve long-term value and generate benefits at both regional and national level, she said, adding that the strategy will be published in 2025. ♦



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