

What people want to know about water

Based on feedback given by 120 people at the BLC/WRT Water Resilience Summit, Sept 2019, in response to *'what do you want to know about water, what are your questions and concerns?'* Organized/structured by BLC with thanks to Lee Eyre.

Top Level Questions

- What is water resilience?
- Why is it important?
- How do you measure (progress towards) water resilience?
- How much water resilience do we have now and how much do we need?
- What are the biggest threats to water resilience?
- Whose responsibility is water resilience?
- How / what actions can we take to increase water resilience?

Relatively straightforward questions to answer

Overarching

- What is the biggest threat to water resilience?

Wellbeing

- What is the implication of polluted waters on our health?

Ecological

- What is the predicted effect of sea level rise?
- How long does it take to build topsoil?
- How reliant are we on aquifers?
- How can we get quickly to fully functioning ecosystems in catchments rather than ploughed ecological deserts?
- If the rivers were clean enough to drink in the first place people need not panic if it temporarily stops coming out of their taps—just head down to the river with a bucket or two. Is this feasible?
- How can wildlife (like beavers) help us (rather than technology and money)?

- Have Atlantic salmon become extinct?

Societal

- Agricultural run-off and its contribution to climate change—what % of UK land is in private ownership and therefore how reliant are we on private patronage to address some of the water issues we face?
- Does bottled water have a place in a more resilient future?
- What can the hospitality industry do to help?

Questions for the Environment Agency (EA)

- How much is *Working With Natural Processes* (WWNP) embedded in comments on planning applications? How can other agencies encourage this e.g. councils?
- Who is monitoring microplastics in water? And their effects and consequences?
- Limited information and research is applied to the understanding of *multiple* chemical and environmental stresses and the resulting impacts on ecosystems and their functions. Why is this?

Questions for South West Water

- What is in our drinking water?
- How safe is our river water?
- Will our river water become more polluted due to drought as it becomes more concentrated?
- How quickly do our reservoirs empty?
- Will we have to pay more for water because of climate change?
- If there are more droughts will water bills go up?
- Why are bills / pricing not reflecting reducing use, i.e. discourage high use?
- Can Countess Weir in Exeter continue to cope with population growth in Exeter?
- Why do sewage treatment works smell?
- How close did we come to a hosepipe ban in 2018? What did SWW do to deal with that particular water shortage?
- What is SWW doing about its 22% leakage of water prior to supply, especially along Devonport leat?
- If and when we get a drought in the future will the cost of coping with the drought be passed on to the water company customers?
- How much land does SWW own and where is it?

Observation

Personal experience

- I swim in the dart 52 weeks of the year. I see virtually no fish and when I do they have fungus on their heads

- I live on a river bank and I see the decline in number of wading & diving birds
- I live in a city center where there are otters and kingfishers – hope as a result of action

Seeing the system/s

- The system doesn't work unless it all works—water+food+energy—what if the whole system starts to fall part?
- Water quality / quantity in relationship with soil; habitat; woodlands

Expression of concerns/fears

Profound impact

- I find the possibility of being without water frightening
- What will my child's life be like if we fail to become resilient?
- Mass famine and war
- Irreversible species loss—Extinction is forever!
- Ecological collapse, including tree disease, climate, pollution, plastics
- Agricultural collapse
- Global population increase vs. demand
- I'm concerned that our consumer society continues to be 'hungry'
- The problem is less about the lack of water but rather our thirst to consume and have whatever, whenever

Specific concerns/issues

- My main concern and worry is water quality in rivers
- Western lifestyles
- UK land use
- Decline and loss of biodiversity
- Habitat loss
- Diffuse pollution effects in water supply
- Tidal waves and storm surges
- Surface water flooding
- Development planning—being part of the problem and not addressing resilience
- Thousands of new houses and utility pressure
- What about new housing on farmland creating new flood risk?
- We pretend the seas are clean, why do surfers suffer higher instances of illness?
- Water quality—I'm more concerned about pollution, the unknown effects, the ignorance of pesticide use
- Given the necessity of watershed-scale land management for water, how do we overcome current boundaries of ownership and responsibility?

- How do we farm to feed 9 Billion people sustainably and without increasing the area of land under cultivation? NB 'Conventional' wheat yield is 12T/Ha, Organic wheat yield is 6T/Ha
- How to square sustainable management of water & resources with agricultural productivity?
- Loss of coral reefs due to heat waves caused by accelerated climate change
- The extremes of flood and drought and how they can be managed
- Can the Council work fast enough on our behalf or do we need to establish an alternative (Cosmo food solutions) and race ahead? How to organize?
- People not told the truth
- I worry about whether enough people will care to make a difference before it is too late
- I'm worried about people being scared about climate change

Localized concerns

- Will water from this watershed be pumped to London? How can that be justified?
- I am concerned, I care about all life on the river Dart, especially wildlife—fish, kingfishers, otters, dippers, oaks and all the life they support
- How do I know when the river water is safe for swimming? What can I do to monitor this myself?
- My water supply is a borehole—should I water the garden and vegetable patch?
- Pollution—run-off from Dartmoor farms down tributary
- Abstraction:
 - By farms
 - For new houses
 - For existing houses
 - Need more reservoirs?
 - Efficient re-use of water

Meanwhile at Dartmeet the mean average water level has dropped some 2 feet since 1940.

Questioning the role of government

- I'm worried the government aren't taking this seriously
- I am worried about environmental legislation and environmental funding in a post Brexit UK; that society will collapse to either a Hobbesian state or authoritarian regime
- The dysfunctional, adversarial political system prevents real action
- Are politicians, decision makers, statutory bodies alienated by the messages and findings, or do they lack the necessary resources to respond?
- A connecting feature of most of the excellent projects is EU funding. What resilience is there to replace this if/when necessary?
- Why have coastal/estuarine rivers stopped Water Framework Directive (WFD) monitoring? Surely that is where all water ends up?
- Water quality is all about soil – why does the government policy (ref NFU) not mention soil?

- How do we change planning for climate emergency from forecasting to scenario planning?

Abdicated responsibility

- Why should I bother when there are major issues such as the Amazon, expansion of coal use in China etc.?
- Water supply—doesn't worry me in UK compared to many other countries We have few problems and we and the environment can adapt to change
- Will water ever run out?
 - Probably not in UK although some parts of the world have extensive drought – some UK
 - Do we worry unnecessarily?
- It's my understanding that an "M3" (motorway) of water has a low carbon footprint? With that in mind, why should I reduce my water use?
- There are many well intentioned motivated and engaged people in the room but there are more disengaged, and, importantly, powerful, self-interested financially-controlling people who are absent
- The challenge is to convince those who think money will protect them to understand ecological crisis will affect them as well
- How can we make the power holders really understand?
- Converting the unconverted
- Education of the masses
- The startling lack of engagement of individuals with natural resources, their expectations of companies and lack of responsibility to take action
- I am constantly in groups where we are preaching to the converted. I work in the NHS, these issues are largely given no thought or attention from the people I engage with
- How do we care to get the 'average' person to care enough to change?
- How can we get people to care?
- How to get the general public motivated to engage in resilience?
- How can we engage more people in becoming active with resilience rather than falling into apathy?
- How do we engage people to understand we are in a climate emergency?
- Public complacency
- Lack of sense in general public that this is an emergency
- What aren't we acting with all this info?

Not knowing what to do, needing direction

- I'm a privileged person; there's stuff I can do, money I can give but I don't know what to do with that privilege. Where is the direction coming from? How should I spend my time?
- How much can I really achieve towards this goal as an individual?
- Why do we think we aren't taking radical action?

Inequality

- Inequality in the impacts of climate change; suffering of those least responsible

Urgency

- The urgency of NOW is not getting through to consumers and producers of everything from clean water to felt tip pens
- I'm worried about TOO MUCH TALK AND NOT ENOUGH ACTION Personal / private action is NOT EVER ENOUGH
- Encouraged by the amount of initiatives, but feel we could achieve more if we were better integrated to maximise everyone's contributions. Water won't wait for us to do that—we need to do it now!

Narratives

- Very fear based narratives and the way this affects negatively how people can respond in a positive and inspired manner
- I'm worried that the word respect seems not to apply to nature
- Do people really see the 'prize' of what they get if we get resilience right? That vision seems absent to me—the only vision being promoted is Armageddon
- Sheer terror... Abaca here... Sahara here... Torbay once at the equator.

Doing it for ourselves

Business as usual

- Problems tend to be mitigated rather than regenerative solutions found
- Why do water companies not have effective communication plans?
- Will it ever be possible to communicate the intention for action WITHOUT the recourse to business derived language and metaphors?

Trying to understand scope and scale

- We are used to utilities being there, do we need to change this assumption?
- We have always had dry summers, wet winters etc. so how dry/wet do things have to be before there is a problem?
- When and how do we know things are not 'Normal'?
- If we carry on, how long will our rivers last?
- When do you predict that demand will outstrip supply?
- Should we promote ecological water quality when shrinking water supplies are threatened?

Measurement

- How do you measure resilience? How much more resilience is required?
- How do we measure our progress toward water resilience?
- Concern—unrecorded pollution incidents = increased water treatment costs

- Pollution levels in rivers under-reported
- Water domestic use—How can we achieve a TARGET consumption of 50l/day/person when we currently use 150l/day?
- How do you pursue the argument between priorities for natural and built environments? Natural processes have few metrics/standards/tolerances but man made processes are bounded by regulations, policies, standards, metrics etc.
- What will be the effects on productivity of reforming farming practices to make them more climate/environmentally friendly?
- Biodiversity loss—will we incorporate a measurement system across the UK to measure biodiversity loss or gain? How will this be done and when?

Communication, Message, Perception

Media's role

- Why do we think nothing is happening, why don't we know about this work?

Connecting the dots

- How can we help people to connect the dots and see the links between different activities and consequences and how they are connected?
e.g. not seeing 'problems' in isolation from each other
e.g. River health links to consumerism, links to immigration, links to food, links to etc.
- Many communities and stakeholders are involved. How do we get everyone to align?
- How to include all stakeholders in the conversation e.g. big Agri farmers? What happens when we don't?
- How can we align our interests and act now?
- Response to climate change and providing water resilience needs a joined up approach from Government, conservation charities and individuals. At the moment everyone is fragmented. How can we do this joined up and together? Otherwise people will stick to entrenched positions / be defensive / hang on to what they've got and fight each other (eventually) for declining resources (inc water)
- How can South West communities be actively engaged with and involved in co-creative conversations about climate change and resilience?

Inclusivity, polarization

- How to get the attention of everyone?
- How to be more inclusive
- Concerned that the deeply entrenched binary assumptions that underpin street dialogue/popular wisdom (raw/cooked, wild/tamed, nature/culture, rural/urban permeate the discourse

- Environmental issues are the concern of still a small section of society. How do we engage everyone?
- We are polarizing towards those with climate anxiety and those who don't care. How do we stop polarization?
- I am concerned that society is divided at every level. People have limited understanding of food production, the natural world and the wider environment. There is a huge level of misinformation. Society remains largely selfish
- Most important from the day—involve the public in, and inform them regularly / the basic problems besetting their community v- money – lack of it – and how they can offset
- Communications in a crisis—not everyone has/can use the internet etc. Treatment of vulnerable people
- How can meeting for one day (very valuable) be more inclusive to include voices of the people who work the land FARMERS rather than LANDOWNERS
- I'm worried that we are increasing the split between farmers and wider society
We need to make huge changes in land use and are facing food shortages due to climate change—this requires all of us to work together and all too often these discussions alienate farmers further. Making it hard to change things. Simple language like 'good farm' 'bad farm' is very confrontational. No farm will sit purely in one camp and it undermines their hard work and progress. It's like expecting everyone here to be already perfect.
- There also major issues with the whole food system—let's deal with this, not demonise individual farms

A philosophical approach

- Is resilience an aspect of acceptance?
- Are we all trying to attain the same thing?
- What IS resilience??
- How to identify the symptoms vs. causes of lack of resilience?
- Is humanity worth saving? Arrogant?
- Sense of place
- With all this action why aren't we winning?

Terminology

- Why do we use the term resilience—which means weathering the storm: returning to the way things are—does it not need to be transformation?
- Sloppy thinking: no definition of 'resilience' what does it mean here and now?
- Some clarity of definition of 'Water Resilience' - one speaker referred to Water Act 2014 definition
- We need to be clear that resilience can be a bad thing as well as a good thing. Kim Jong-un is very resilient... Dictatorship is resilient. That type of resilience prevents transformation. Transformation is actually what we need now.
- Need to define: resilience of what to what?
 - Without these definitions we cannot start to identify or take actions

- I'm worried that we are not thinking this through fully
- Be clear on whose perspective we are speaking from
- We need to see the rivers and sea as living entities in their own right, not resources to be plundered or territory to be occupied. Economic language of 'Natural Capital' completely misses the point. We need a huge shift in our concept of the living world. We are 'nature'
- Water inside / Water outside

Potential Solutions

Personal commitment

- I am going to get poorer due to Environmental Action but how can I afford not to partake?
- What are the particular sustainable actions I can take to make a difference?
- Get a composting toilet
- Keep 20l of bottled water for emergency drinking water
- Learn to love your aroma
- Have a water butt
- As individuals, challenge government policies regarding climate change and our need to be resilient

Learning

- Water to be conserved... Not waste ever... Appreciated! Valued!
- Pioneers need to gently emphatically nudge everyone in a sensitive way
- Western people's perceptions of what is an acceptable level of water supply is very high—most people in much more arid and hot regions are used to far less. Change the Frame of 'Acceptable supply level?!
- To create climate resilience we need to educate the emotional intelligence to:
 1. Care about the environment / others
 2. Share info/resources/communication
- Provide safe spaces to have difficult conversations
- A key conduit to adults is through their children, they bring it through their doors from school. So much curriculum related material for schools
- (Infrastructure and) norms to support reduced water dependency
- Nobody mentioned the Somerset levels and decisions not to dredge and to restart dredging of drains
- What happened to the 'Precautionary principle'?
- I struggle with the whole Man Made Climate change thing NOT ONE PREDICTION HAS COME TO BE! The real issue is it's happening—no policing, no planning, no joined up Govt no priority give to environment

Land restoration

- Prioritize biodiversity rather than just human needs
- Insist that farmers and all landowners restore soil health, which will capture carbon, deliver climate resilience and improve productivity etc. We've known for years that 'modern' chemical farming is destroying soils.
- Regenerative agriculture could fix 1 Terra Tonne of carbon and reduce water pollution—but we need to maintain production or increase area
- To keep rivers, ponds, sea, STOP nitrates and antibiotics in farming general use.
- Antibiotics only as a last resort
- A financial incentive to garden well—a tax on paving, discount for absorbent soil
- Identify land most suitable for tree planting (FOC have made a start)?
- Why no voice from permaculture?
 - Keyline ploughing
 - Mob grazing
 - Flow observation and small pinpoint interventions for flood control
- Use philanthropy to showcase landscape design—conservation agriculture that will demonstrate healthy ecological systems
- Dartmoor needs to 'work for us'
- Focus on drought—Sponge and Water Resilient Cities seem more focused on flood prevention than other aspects such as drought
- Bring Back Beavers

Economics

- If we can price all products / services / goods to include the Externalized costs then economies will re-balance in an Environmentally friendly way

Government action, legislation, investment

- Environmental legislation and environmental funding in a post Brexit UK would enable us to be resilient
- Only a dynamic shift in agricultural policy and payment incentives will reverse the trend of how farming is funded, which has created the modern landscape and destroyed our ecology. With 2/3 of the UK's landscape farmed, the biggest challenge to water resilience is land management. 50 years of Common Agricultural Policy (CAP).
- Protect floodplains from development. In extreme events excess water has to go somewhere—without floodplains it will end up flooding property.
- The government should and could intervene with some emergency measures and slap a carbon tax on all goods, where those that benefit resilience have a negative tax
- Water pricing—fit all homes with water meters. Make first 50 litres free, then next 100 litres cheap, then increase cost as litre of consumption rises
- Drought provision/reservoirs
- Enough infrastructure—source to sewage works
- SWW Infrastructure and future proofing
 - Heated pipes

- Dawlish Floods
- Hydro Meldon
- Realistic financial ideas—poor can't cover costs

Reducing water use

- Re-using, i.e. greywater, not overusing clean water. Where is the impetus for reducing water use coming from (overall)? I don't see SWW pushing this hard.
- How do we implement at scale a system of retrofitting houses with rainwater harvest for toilet flushing?
- STOP building houses with flushing toilets
- Phase out flushing toilets
- Make use of grey water i.e. make us less dependent on treated water
 - We flush too much away—drinking water!
 - More ponds needed
 - Pay farmers to store water
 - No more tarmac driveways and roads on estates
- Water conservation—there are big reservoirs at the top end and water butts at the bottom end—there should be more in the middle. Small holding tanks for sports pitches, golf courses and parks and allotments which all suffer dry periods
- Fix leaks in pipes
- Build a network of accessible composting toilets

Technology

- A role for the river in tackling climate change... in particular with respect to small scale hydropower
- Support the cost of increasing water resilience by generating power from water
- If car exhausts can have restrictors there can be laws for flow restrictors on showers and taps? Quality of experience is not lessened if aerators are used, in fact it's quite pleasant
- Use water as a battery?
- Water and power companies working together to a) capture b) pump through renewable to high points c) hydroelectric power in times of need

Localising

- Localise water supplies—the village well?
- How could we create national rainwater collection at a local level in a safe way
- 1 weeks supply stored in every village (model of water systems in Jordan/Australia)
- How can we decentralise?
- We need citizens assemblies in each town to work on individual plans and national

Wellbeing

- Make sure all people are included in the future solutions so our most vulnerable people, young, old, people at the edge are supported with good water access?

- Reduce our expectations of everything we want immediately available and in any quantity
- Stop blaming everyone else and rather be more tolerant. That way honest conversations can occur
- Communities that help each other

Communications

- MOST people care about the environment
- Honest information during emergencies is vital to help people cope
- Do you know where the 'hidden Rivers' are in your town or village?