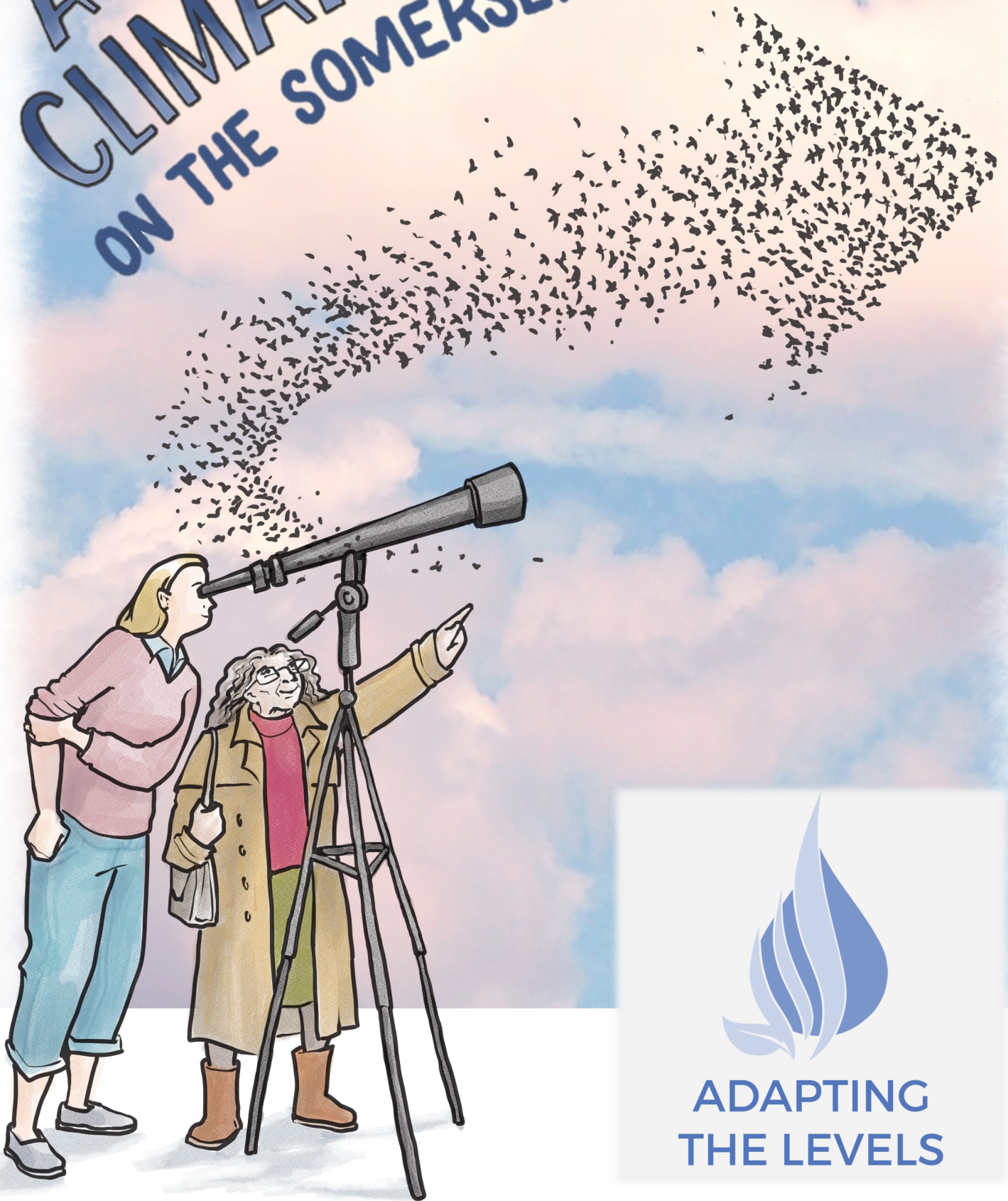


ADAPTING TO CLIMATE CHANGE ON THE SOMERSET LEVELS



ADAPTING
THE LEVELS

Introduction



Between December 2019 and March 2020, Adapting the Levels held events with the communities of Langport and Wedmore.

The following pages explore the information gathered.

Care has been taken to analyse the data in the spirit in which it was given, with the sole purpose of making the data more digestible and accessible.

A pdf of this report and the raw data can be downloaded from our website

www.adaptingthelevels.co.uk



Adapting the Levels is funded by Somerset Rivers Authority and the Interreg 2 Seas Programme. The EU funding is secure regardless of the outcome of Brexit.

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Summary



A wide range of inspiring ideas and knowledge was shared at the workshops and drop-ins, with a number of themes that emerged.

Interestingly, there was little evidence of disunity. Although there will always be different opinions about how to tackle climate change adaptation, there was a clear call for action and change across the board.

A great deal of support was expressed for the wider adoption of nature-based solutions to flooding and drought.

At the events, it was made clear that these methods sit alongside and complement traditional hard engineering, and there were many ideas about schemes that could help – from the small scale, with water butts in individual properties, to the large scale, with turning over amenity or agricultural land to temporary flood water storage.

People expressed a strong desire for more robust legislation and leadership, with a focus on working in partnership.

There was some sense of frustration at current blocks, whether in the political or planning systems or wider legislative frameworks.

There was a call for better subsidy systems for farmers, and payment schemes that would compensate them for storing floodwater.

Alongside this was a call for unity between the farming and wider communities, with a desire for positive land management practices.

The councillors who attended the workshops demonstrated a wide understanding of the range of issues that climate change might bring.

They also highlighted the limitations of their ability to influence or direct important local issues, such as planning.

The events were very well received, and there was a strong desire for more education on these subjects.

People were enthusiastic about the idea of having practical ways to implement their learning.

While the comments vary widely in their focus, there is one thing that is very clear – the feeling that the issue of climate change is a very serious one, and that change in some form is coming, and we must meet this with a range of responses from the small to large scale.



The Events

Between December 2019 and March 2020 in Wedmore and Langport, Adapting the Levels held two large public drop-ins, and four smaller workshops with Parish and District Councillors.

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Purpose Of The Events

The events shared accurate information about local climate change projections for the Somerset Levels and Moors (SL&M), nature-based solutions to flooding and drought, and introduced the adaptation pathways process of planning for climate change adaptation.

The project was also seeking ideas from the community about where investments in nature-based solutions might be made, with a view to funding some small-scale schemes.

The events were well attended, attracting a wide range of people including farmers, business owners, educators, representatives of NGOs and local government, and interested individuals.

Local Focus

At the inception of the project, Adapting the Levels identified two areas of the SL&M to focus on – Tealham and Tadham Moor near Wedmore, and West and West Moor near Langport. By focussing on individual moors, the project was able to take a very local view and allow residents, landowners and farmers the opportunity to make meaningful contributions.

All the information that was presented at the events

is available on our website: www.adaptingthelevels.co.uk

What Happened At The Events

For the councillor workshops, each parish council with a footprint on these moors was invited, as well as the District and County Council representatives for the area.

The workshops were divided into two parts, with the first session dedicated to exploring climate change projections, what the implications of this might be, and potential blocks to adaptation.

In the second workshop, attendees were invited to create their own plans for the future, using their local knowledge and experience to draw up adaptation pathways.

The public drop-ins attracted around 330 visitors – 130 at Wedmore and 200 at Langport. There were tools for opinion sampling, with the opportunity for people to share their views and level of knowledge.

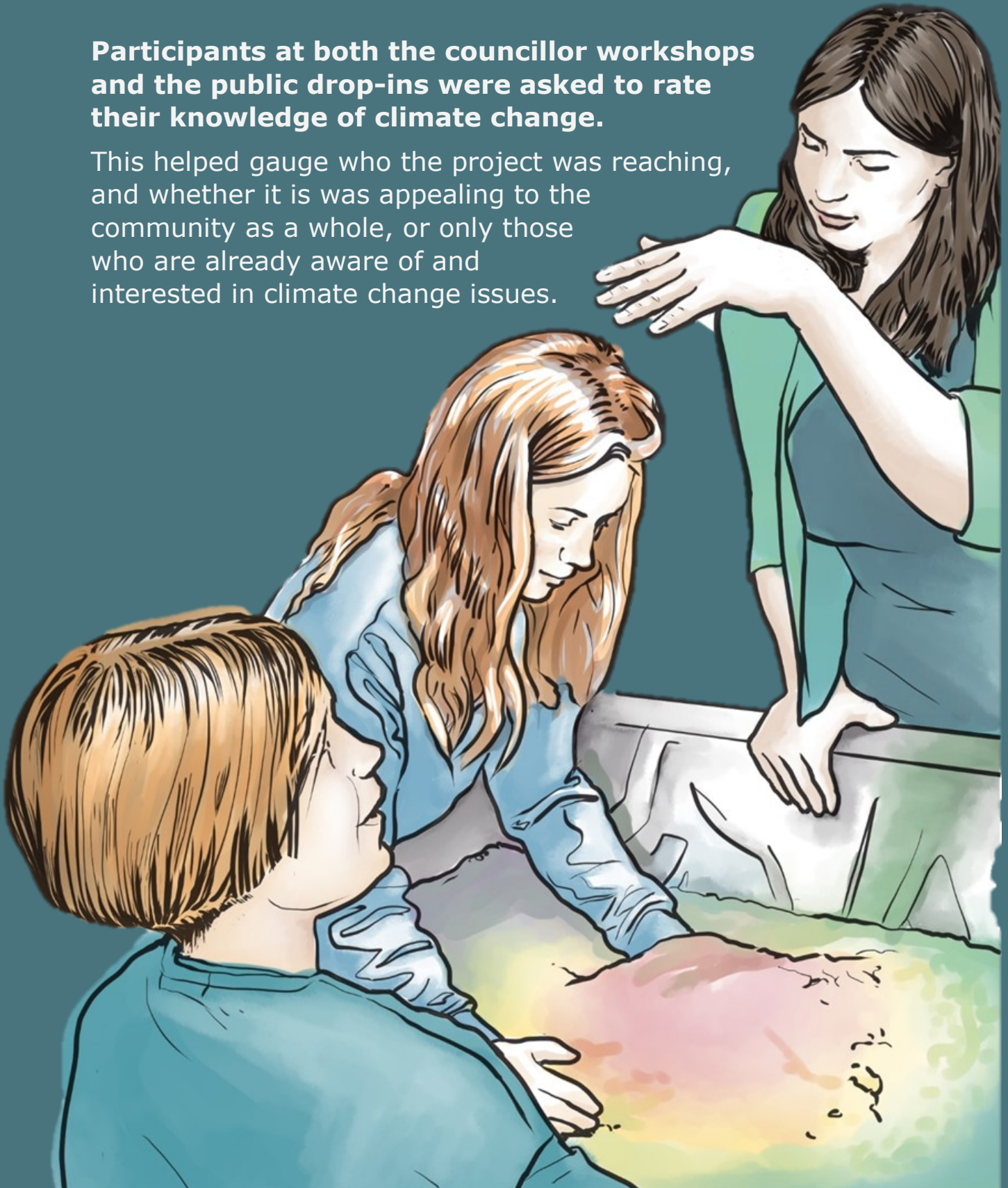
The exhibits were highly interactive and hands on, taking participants through climate science, water management in Somerset, nature-based solutions to flooding and drought, and finally inviting people to share their own ideas, knowledge and experience.



Climate Knowledge

Participants at both the councillor workshops and the public drop-ins were asked to rate their knowledge of climate change.

This helped gauge who the project was reaching, and whether it is appealing to the community as a whole, or only those who are already aware of and interested in climate change issues.

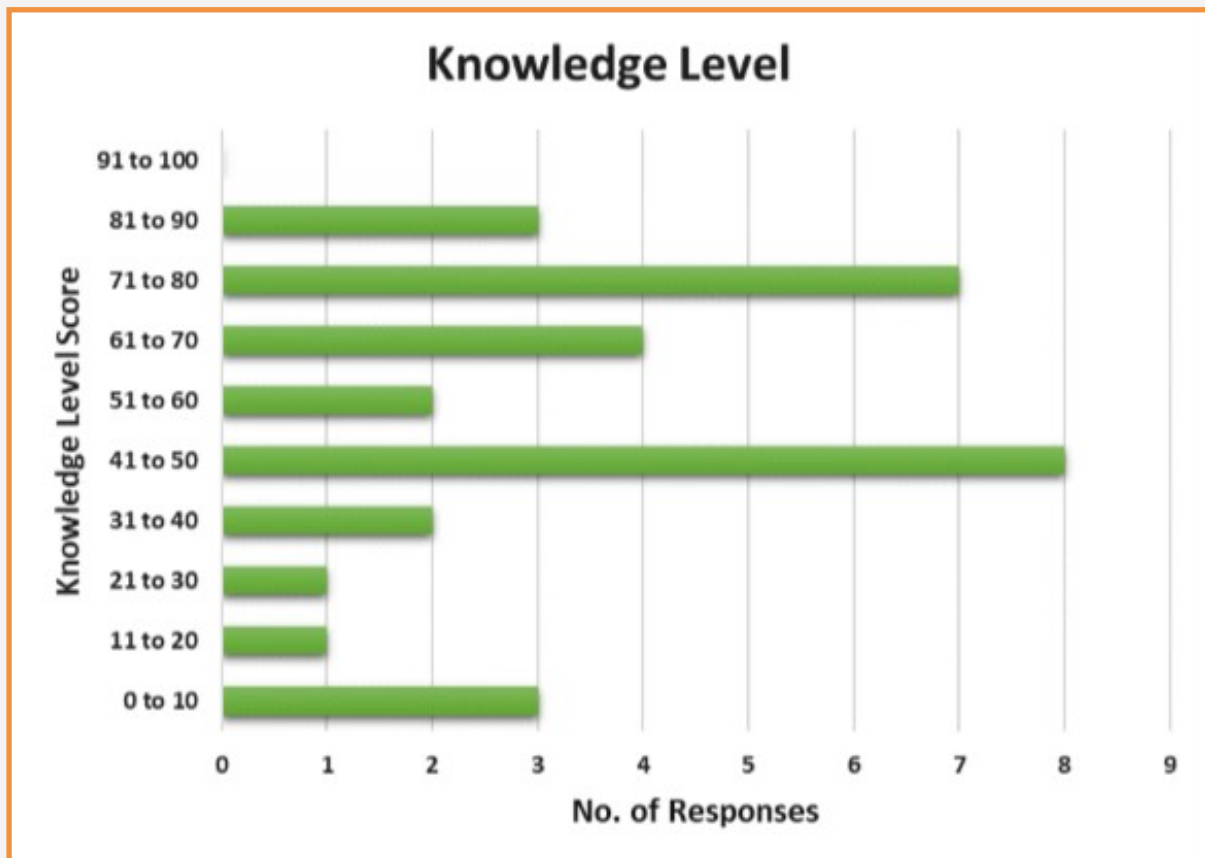




Workshop attendees completed an anonymous feedback form, and drop-in attendees placed a token along a scale to represent their knowledge.

Not all attendees chose to participate. Of those who did, there was a wide spread of knowledge/understanding, from those to whom this information was new, to those who considered themselves almost expert.

The average of all scores was 50 out of 100.



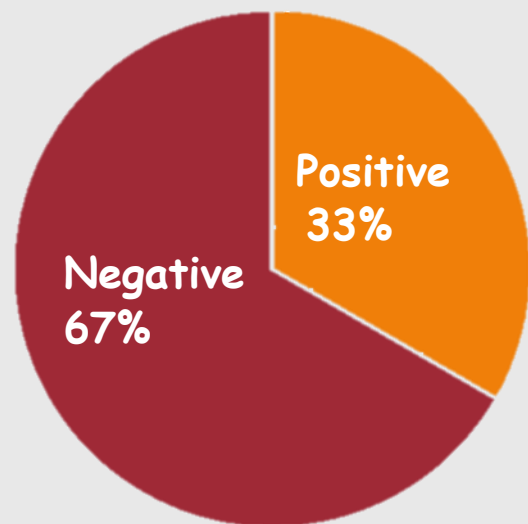
Emotional Impact

There is growing recognition that we are seeing a rise in 'climate anxiety'.

As people come to understand the far-reaching consequences of climate change, they can experience negative effects on their mental health.

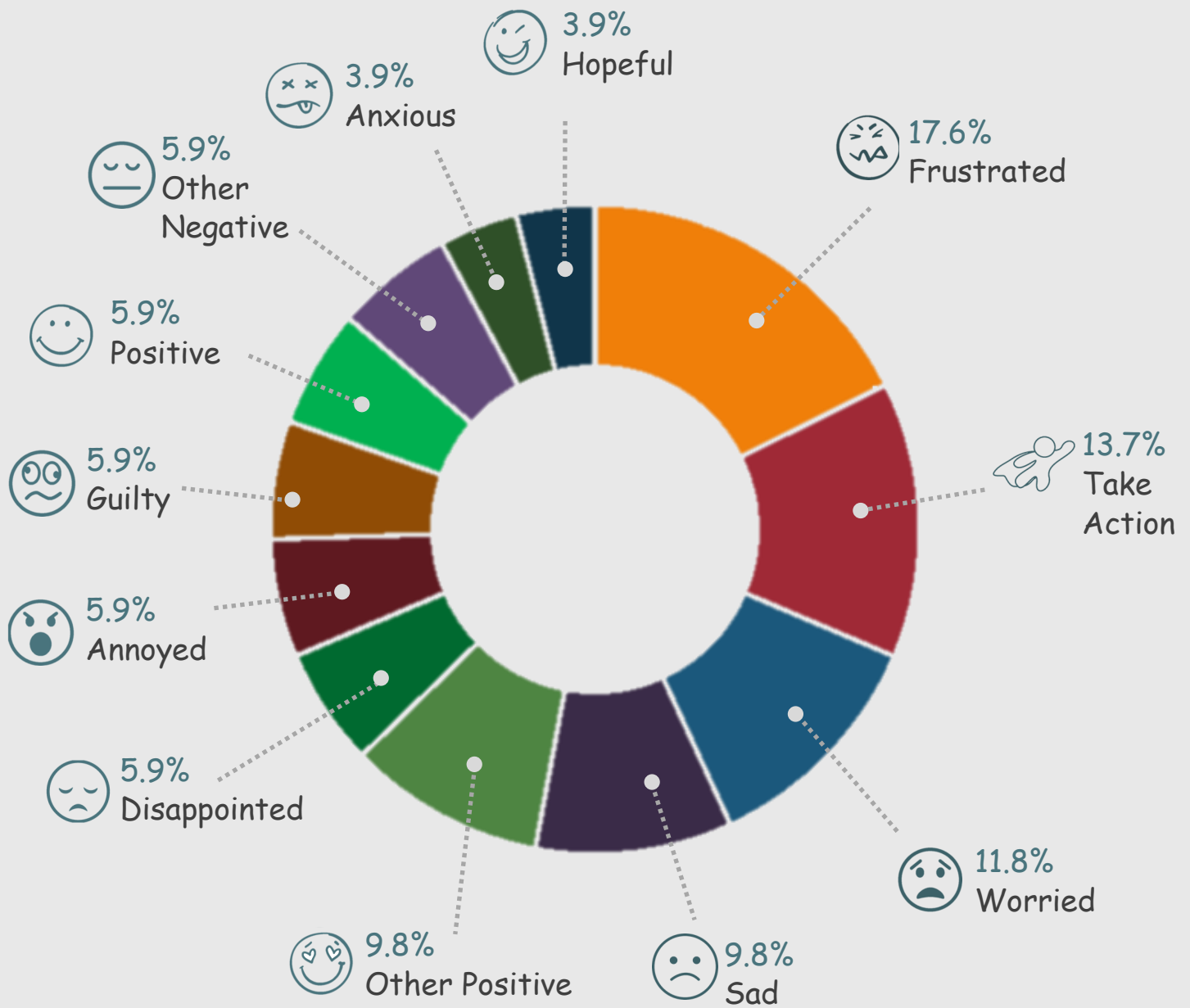
When not properly acknowledged, this can be a barrier to people's ability to engage with the subject and move beyond blocks and fears towards solutions.

In order to help 'park' their feelings, people at the drop-ins were invited to select two mood cards to represent the emotional effect of the information about climate change. Unsurprisingly, the large majority of people reported negative reactions.



The most common response was frustration, followed by a desire to take action, with worry and sadness close behind. **This suggests that amongst the participants, there is a significant appetite for more action on climate change.**

Frustrated	9	Disappointed	3	Mindful	1
Take-Action	7	Annoyed	3	Forgiving	1
Worried	6	Anxious	2	Brave	1
Sad	5	Hopeful	2	Negative	1
Positive	3	Confident	1	Stressed	1
Guilt	3	Love	1	Fear	1



"Never doubt that a small group of thoughtful citizens can change the world; indeed, it is the only thing that ever has."

Margaret Mead



Finding Help

Eco Anxiety:

Psychology today describes eco-anxiety as *"a fairly recent psychological disorder afflicting an increasing number of individuals who worry about the environmental crisis"*.

Experiencing anxiety is a normal response to very worrying situations, just as people would feel anxious in wartime or if they were given a serious medical diagnosis.

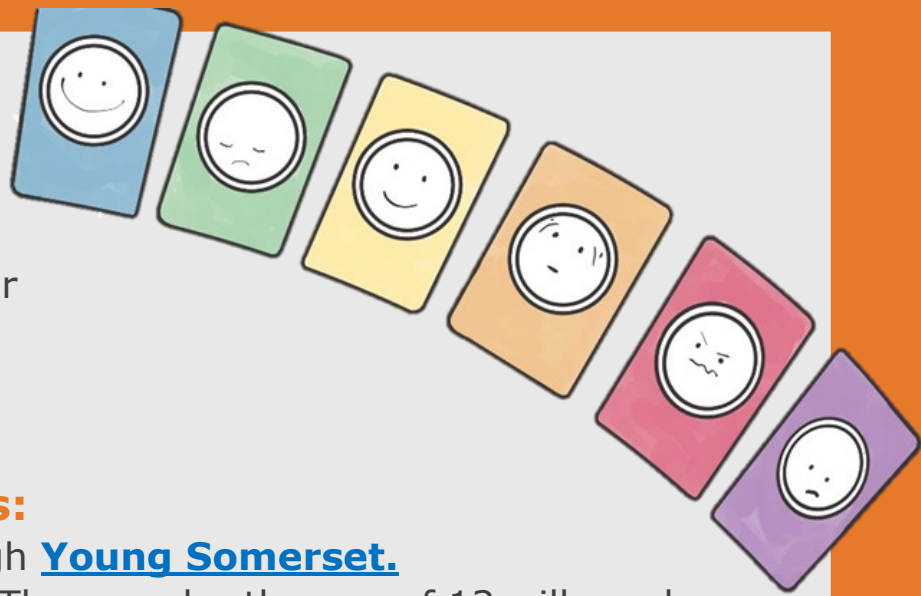
However you choose to view it, for many people the knowledge of the climate and ecological emergencies has a profound effect on their mental health. This is especially true in an area such as the Somerset Levels which is already facing increased risks from flooding and drought.

Whilst there's no formal treatment for eco anxiety, Cognitive Behavioural Therapy (CBT), is the most widely used for anxiety disorders and can be accessed at the links opposite.

To find out more about eco anxiety:

- Read the [Somerset Wildlife Trust blog](#) by Shelly Easton, which includes helpful hints for coping.
- Watch Laura Lexx's (Comedian, actress and writer) [YouTube video about her experiences with eco-anxiety.](#)
- Check out the article ["How To Cope With Climate Change Anxiety"](#) by Sophie at SustainablyLazy.com





Support For Adults:

CBT therapy is available for free via [Somerset Talking Therapies](#). You can self-refer directly via their website.

Support For Under 18's:

support can be found through [Young Somerset](#). [You can self-refer online](#). Those under the age of 13 will need permission from a parent.

The service also offers [Virtual Hubs](#) held twice a week for young people and once a week for parents.

Farming Community Network:

The [Farming Community Network](#) (FCN) is a voluntary organisation and charity that supports farmers and families within the farming community through difficult times.

They have a network of over 400 volunteers across England and Wales, many of whom are involved in farming, or have close links with agriculture, and therefore have a great understanding of the issues farm workers and farming families regularly face.

Access the Helpline:

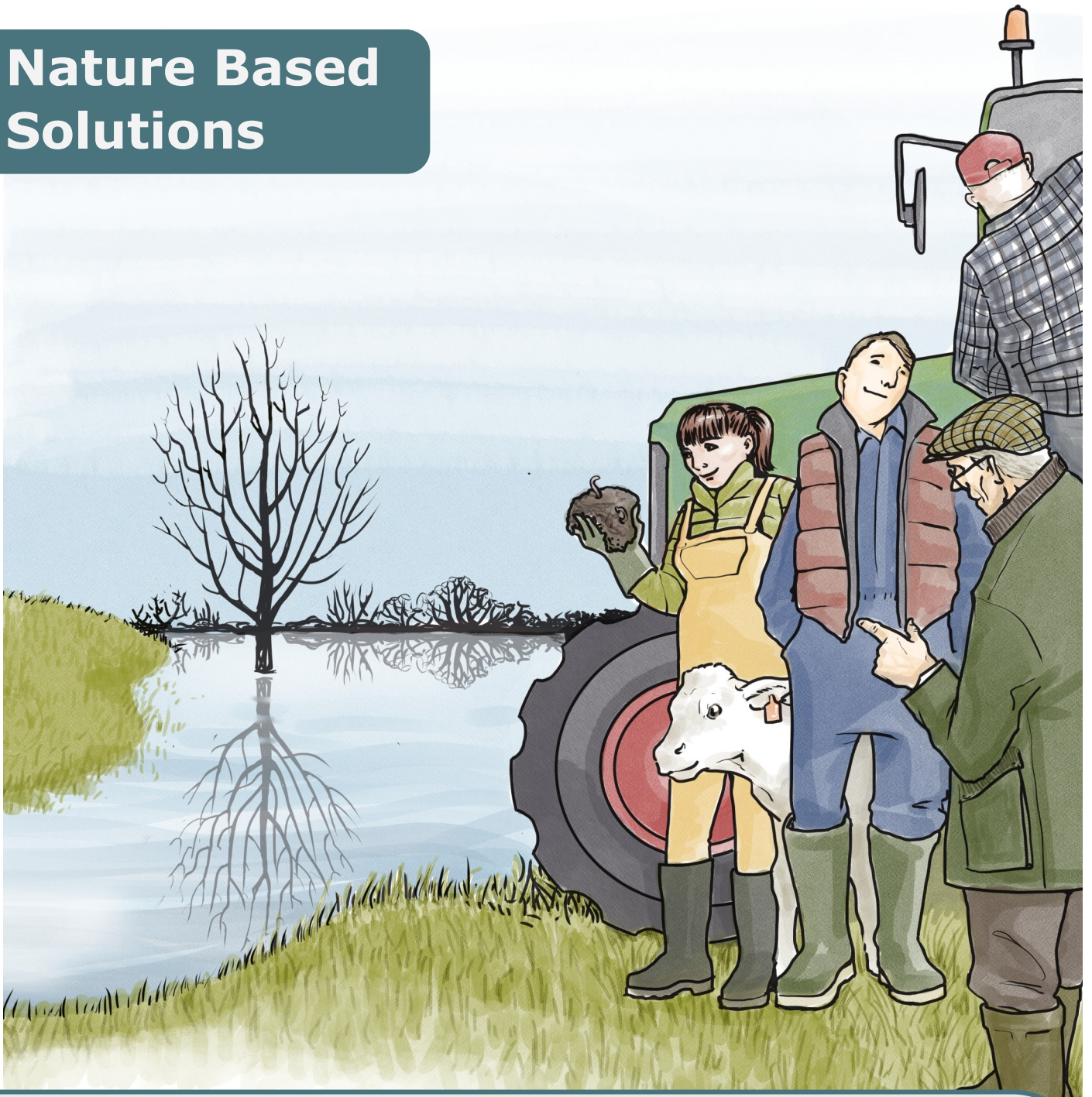
Email: help@fcn.org.uk

Call: 03000 111999

*"I alone cannot change the world,
but I can cast a stone across the water
to create many ripples."*

Mother Teresa

Nature Based Solutions



In order to understand public feeling and support for nature-based solutions to flooding and drought, we asked the following question:

To what extent do you agree or disagree with this statement:

"The management of water and flood defence on the Somerset Levels relies on infrastructure such as embankments, dredging and pumping. In future, Natural Process Solutions, which protect and restore the natural functions of the river catchments, floodplains and coastlines, also need to be a major part of the solution."

Participants at the public events were able to 'vote' using a token, expressing to what extent they agreed or disagreed with the statement. Workshop attendees were asked the same question on feedback forms.

From 62 responses, 58 people, or 93.5%, agreed with the statement - with 74.2% of respondents selecting 'strongly agree'. 4 people, or 6.5%, chose 'strongly disagree'.

Answer	No. of Responses	Percentage
Strongly Agree	46	74.2%
Agree	12	19.3%
Neutral/Need more info	0	0%
Disagree	0	0%
Strongly Disagree	4	6.5%
Total:	62	

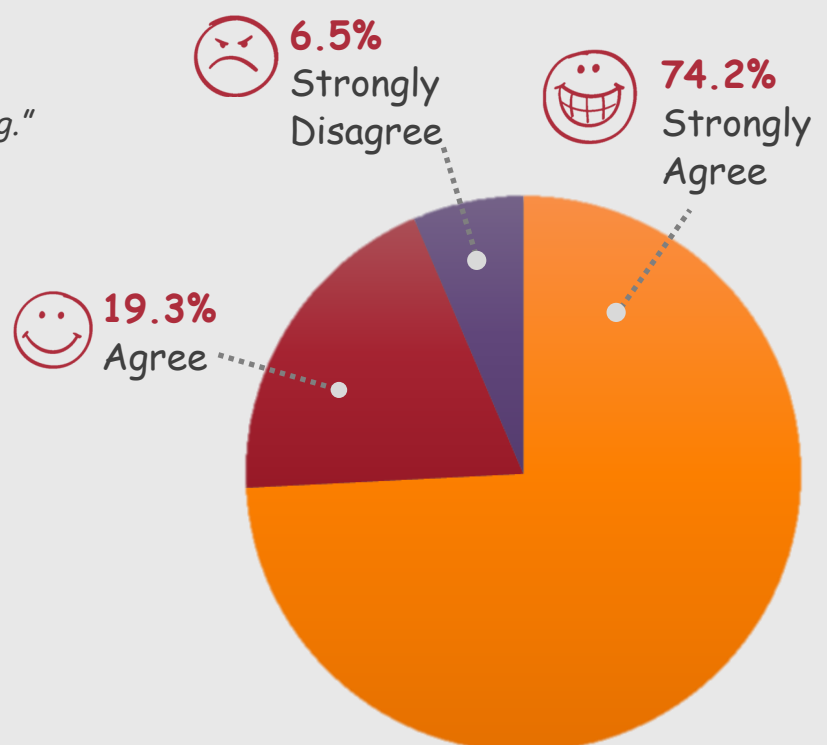
Community Comments:

"Agree, but it needs to be explained and quantified; how effective 'natural' methods would be at managing current and future flood risks. If money is spent on natural methods, what about the maintenance of all existing infrastructure."

"Strongly agree! PLUS effective measures to restore soils above floodplains to reduce soil & water runoff. Needs government funding."

"I agree, but want more monitoring to be done to build the evidence base."

"Rather than a 'reaction' lots of serious planning and spending needs to be done! Don't build on floodplains."



Comments & Feedback

All the events aimed to gather knowledge and ideas from the participants. At the public drop-ins, people wrote down their responses and ideas on feedback forms or paper with and without prompt questions. During the Councillor workshops, participants took part in group discussions.

The following is drawn from the comments by participants of all events and represents the common themes which emerged. The quoted comments are representative of the full dataset, which is available from our website: www.adaptingthelevels.co.uk

Drop-in Day Prompt Questions:

- "What is going to help our community adapt?"
- "Adapting the Levels has £10,000 for community adaptation. How would you like to see this spent? What are your ideas?"
- "What local opportunities are there for nature-based solutions to flooding and drought?"

Councillor Workshop Discussion Questions:

- "What issues could get worse?"
- "What new issues might arise?"
- "How could this impact your community?"
- "What decisions do you make, or have influence over, that are 'climate-sensitive' (will last for 20 years+)?"
- "What powers and/or influence do you have to take action?"
- "What policy, social or other blocks are you aware of?"

Themes

- 1) **Education & Community Inclusion**
"Education for everyone old and young."
- 2) **Leadership & Partnership**
*"Working together has to be the way forward.
This is the biggest challenge we all face."*
- 3) **Taking Action**
"What simple actions can my family take NOW?!"
- 4) **Farming & Subsidies**
*"Stop blaming farmers for problems we all created
and need to solve together."*
- 5) **Sustainable Development**
"Stop building on the flood plains."
- 6) **The Future of our Communities**
"...time is running out and adaptation is a 'must'."
- 7) **Natural Flood Management**
"More trees of course, but not the only solution."
- 8) **Sustainable Retrofits**
"Make all our public buildings SuDS friendly."
- 9) **Engineering Solutions**
"Keep investing in dredging the levels."



Education & Community Inclusion

"Education for everyone old and young."

At the public drop-ins, there were numerous comments welcoming the event and requesting more of the same, with feedback being universally positive. Many comments highlighted the value of including interactive ways of learning to help explain difficult concepts, and of providing ideas for practical, achievable changes.

"Exhibitions like this one. Very informative. Keep it up."

"More events like this - Annual."

"This is the BEST 'exhibit' I have seen to help me understand the concepts. I love the interactivity."

"More information events like this; practical tips, achievable tips."



There were also a number of general comments about education, with a feeling that there is a need to increase understanding about these issues. The focus was on empowerment, accessibility regardless of demographic or age group, and practical ways that the learning can be implemented.

"Education for everyone old and young."

"Education support for small local projects enabling individuals to implement small, beneficial changes (And request for funding)."

Other comments recognised the importance of social inclusion and seeking a wide range of views, suggesting a desire for better communication between members of the community.

"Local events that attract locals and neighbours to attend and interact with landowners & farmers."

"To ask minority communities to participate in local issues and to ask their point of view."

Attendees to the parish councillor events also highlighted the issue of education:

"Educate local communities- Flood Aware!"



Leadership & Partnership

"Working together has to be the way forward. This is the biggest challenge we all face."

With a large number of responses, this appears to be high on many people's agendas and is seen as key to making progress in climate change adaptation.

The comments reflected a great desire for leadership from national, regional and local government, supported by local actions. Some of these comments were general and high level, such as the call for:

"Leadership from central Government coupled with local action."

There was also a sense of frustration about how the issue has been tackled before now:

"At last! Someone is doing something to bring this climate change issue outside of politicians."



At the councillor workshops, participants were invited to explore potential blocks to action. Issues included the difficulty of joining up the local with higher levels of Government, problems with complex legislation and a lack of faith in Government action:

"Government don't recognise local issues."

"General red tape: Exhausting and long-winded to do simple things."

"Parish & Town Councils have little influence and can only provide opinions to District Council."

"Inconsistency between policy & action - distrust."

Ideas from these workshops included lobbying for change:

"Lobby MPs to make them look at flooding issues in Somerset as a whole."

"Call on IDBs to help make Government more aware of the issues - they only pay attention during the crisis."

And at the public events, there was a sense of wanting the issue to be tackled collaboratively, with good partnership working:

"Committed and strong leadership - local, regional & national. Lots of partnership working."

"Can we join up our thinking better? EA/NE/IDB/SCC...?"
[Environment Agency, Natural England, Internal Drainage Boards, Somerset County Council]

join-up-thinking
Working-together
central-Government local-action
outside-of-politicians
last EA/NE/IDB/SCC
climate-change regional
way-forward all
leadership
challenge Committed national
strong biggest face
doing-something
partnership-working

Taking Action

"What simple actions can my family take NOW?!"

These comments expressed the desire and importance of acting together in local groups.

This included requests for training/help on how to tackle problems, and practical ideas such as a toolkit for fighting planning applications, as well as a desire for more tips on actions individual families can take.

"Parish/town tool kits Environmental advice for defending planning applications."

"More direct instruction on reducing carbon footprint - how to. More public transport! - affordable."



There were also comments that appealed for stronger collective action, such as joining activist groups:

"We have all got to stand up for our world and help to heal it for future generations."

"Join local green groups - become active."

"All must try to help, no good thinking you won't be around for much longer, we have to think of future generations."

At the Councillor workshop attendees highlighted a

"lack of community spirit."

as a block to change, but also discussed other actions that they could take, with one comment including a call to action

"through civil disobedience."

One of the councillor comments expressed the urgency of the situation through the statement:

"HURRY UP!!!"



Continued...

Local Groups:

One Home: Good source of climate information and advice on taking action. Nationally recognised, but created in Somerset!

Green Wedmore: Working together as a community to reduce our environmental impact.

Transition Langport: Part of the Transition Towns network; a community based initiative built to address today's major issues of climate change, peak oil and the depletion of the earth's natural resources.

Somerset CAN: Somerset Climate Action Network is dedicated to enabling the changes needed to drive down emissions, whilst adapting to existing climate change. This group is active across the county.

Reimagining the Levels: is a group of people all based on the Somerset Levels. They are a source of local information and have volunteering opportunities.



Write to your MP:

Name	Constituency	Phone	Email
Ian Liddell-Grainger	Bridgwater & West Somerset	0207 219 8149 01278 458383	ianlg@parliament.uk
David Warburton	Somerton & Frome	020 7219 5229 01373 580500	david.warburton.mp@parliament.uk
Rebecca Pow	Taunton Deane	020 7219 4831 01823 443062	rebecca.pow.mp@parliament.uk
James Heappey	Wells	01749 343255 020 7219 4289	james.heappey.mp@parliament.uk
Marcus Fysh	Yeovil	020 7219 4527 01935 314321	marcus.fysh.mp@parliament.uk

Rebecca Pow was appointed Parliamentary Under Secretary of State to DEFRA (Department for Environment, Food and Rural Affairs) on 10 September 2019.

This role includes responsibilities for floods, water and emergencies and climate change adaptation. As well as the 25 Year Environment Plan, the Environment Bill and Lead for Environment Agency and Natural England. As a Somerset MP, Rebecca is aware of the local issues and sharing your thoughts with her could help to boost awareness at a national level.

**Although MPs are only required to respond to letters/emails from their own constituents, once an MP holds a Ministerial or Secretary of State role, they take on responsibility for certain areas of governance. This means they will respond to enquires surrounding relevant topics from anyone in the UK.*

Farming & Subsidies

"Stop blaming farmers for problems we all created and need to solve together."

Comments around farming showed support for the farming community and recognised that they hold many of the solutions.

The comments also reflected the requirement for agriculture to adapt in the face of climate change and the role the local community could play in supporting this shift.

This theme represents a large number of comments, so it has been broken down into sections:

Subsidies

Land Management

Farmer Comments

Community Relationships



Subsidies:

There were comments on using new subsidy schemes to enable land on floodplains to be used to alleviate flooding, with farmers being paid to provide that service.

"More use of flooded fields and compensation for farmers."

"Floodwater storage on agriculture land/payment for landowners."

"'Farming water' - Funding farming practice to store water."

However, some comments highlighted the issues with subsidies:

"Land owners often taking subsidies rather than farmers."

"Payments should go to those that actually farm it."

"SL&M farmers often unproductive and just getting by."

"Farmers often working second jobs."

"Year by year planning - small farms unlikely to have a business plan due to uncertainties."

Land Management:

Other comments showed a desire for changes to land management - the planting of maize was a key issue in both the public and councillor events, and there were calls for more trees and increased biodiversity.

"Land management, tree planting, agricultural changes."

"Better land management. Use some for holding water/trees etc to better manage."

"Sensitive land management to retain water for longer."

There was also a desire for the restoration of historic landscape features, such as dew ponds and hedgerows:

"Assist/persuade farmers to reintroduce hedgerows and bring back smaller fields."

"Bring back dew ponds."

"...work with nature to restore the moorland."

"Peat - drying has caused subsidence / carbon loss."

Continued....

Farmer Comments:

While at the Councillor meetings some local farmers shared some of the challenges they face and ideas they have:

"Neighbouring farms want different water levels - not sustainable at present."

"Land swaps for easier water level management?"

"Keep farmyards out of the water."

"Govt should encourage farmers with better land to increase productivity, to let go of poor ground."

"Payments required to keep farmers on the land - abandonment would potentially negatively affect wildlife."

"Low stocking rate - beef + finished elsewhere."

"Diversification - examples such as guiding for birdwatching."

"Farming community feel they have little influence."



Community Relationships:

Some called for practical ways to support local farms by increasing access to local foods:

"Local food production. Support local initiatives for improving biodiversity."

"More local food outlets & publicity."

"Subsidies: 60% of Somerset Levels & Moors farmers dependent."

"Environmental Land Management Scheme - payment for water storage."

Other comments called for better relationships between the farming community and wider rural community.

"Reduce the 'us and them' with the local farmers."

"Stop blaming farmers for problems we all created and need to solve together."

There was also a questions about the sustainability of current practices:

"How do we change farming, so that it suits the new climate and is part of the solution not the problem?"

"Are current farming practices sustainable?"



Sustainable Development

"Stop building on the flood plains."

This theme recognises the need for regulation and legislation to prevent future building on flood plains, and to improve the environmental credentials of new developments, the local transport system and the health of the county's peat resource.

This theme represents one of the largest group of comments from both the local community and councillors, so it has been broken down into sections:

Planning

Peat Extraction

Transport

Areas of Influence



Planning:

Some ideas around building practice were very specific, such as:

"Dig up some tarmac in the new developments and plant some vegetation."

"All new builds should have water butts fitted."

"All new houses built with bigger gardens, less tarmac, more drainable driveways and more planting."

Where comments focussed on legislation and planning, there was sometimes a sense of frustration that the current system may not be robust enough:

"ALL new housing built to the highest environmental standards- Renewable energy, insulation, rainwater capture. MAKE the developers change and Regulate, Regulate, Regulate."

"Restrict housing estates that take no account of all the issues talked about here. Legislate for more sustainable building designs."

"Make flood alleviation schemes a condition for granting planning to developments."

When exploring blocks to action, the councillor workshops highlighted frustration at current planning legislation:

"National planning rules need changing - too many houses in inappropriate places."

"If local Councillors don't build enough homes, they are forced to by central Government."

"Parishes have little faith in the District's local plans: Developer lobbying not environmental awareness."

***Note: Flooding & New Homes**

Since 2014, flood alleviation schemes called Sustainable Drainage Systems (SuDS) have been a legal requirement in new developments of 10+ houses.

This is an important piece of the puzzle in managing water in urban settings, and SuDS are a very effective solution with multiple benefits including greening our towns and cities. However, SuDS require maintenance and designs can be misunderstood, meaning some examples do not function as intended because they have not been built correctly or have fallen into disrepair. As well as the initial investment in SuDS and proper construction, it is critical that maintenance is also funded.

Continued....

Transport:

Transport was another issue raised in the councillor workshops, with ideas for action in this area:

"Lobby highways for reduced speed limits."

"Create low emissions zones."

"Re-instate train station."

"Put in electric charging points."



Peat Extraction:

There were comments on other areas of legislation too, with a call to:

"Terminate all ongoing peat extraction now and licences."

Councillor workshop attendees also flagged the erosion of peat as an issue likely to get worse under climate change:

"Peat - drying has caused subsidence / carbon loss."

Areas of Influence:

Councillors highlighted where they might be able to have influence:

"Lobby government to change planning policy to make new homes environmentally friendly and tougher regulations on location of developments."

"Try to ensure 'fit for purpose' buildings - Flood resilient and eco."



The Future of our Communities

"...time is running out and adaptation is a 'must'."

Numerous comments recognised the socioeconomic benefits of adapting now, as well as the need to accept that change is coming.

Some suggested that we need to become accustomed to changes in order to maintain mental health, and that we should be working with nature in order to adapt:

"Realise socioeconomic benefits of adapting now & grow accustomed before it's too late."

"...Adaptation is about what we can do in advance, and so, so much better (and cheaper) than trying to clear up after the event."

"Accept that change is coming, work with nature to adapt."



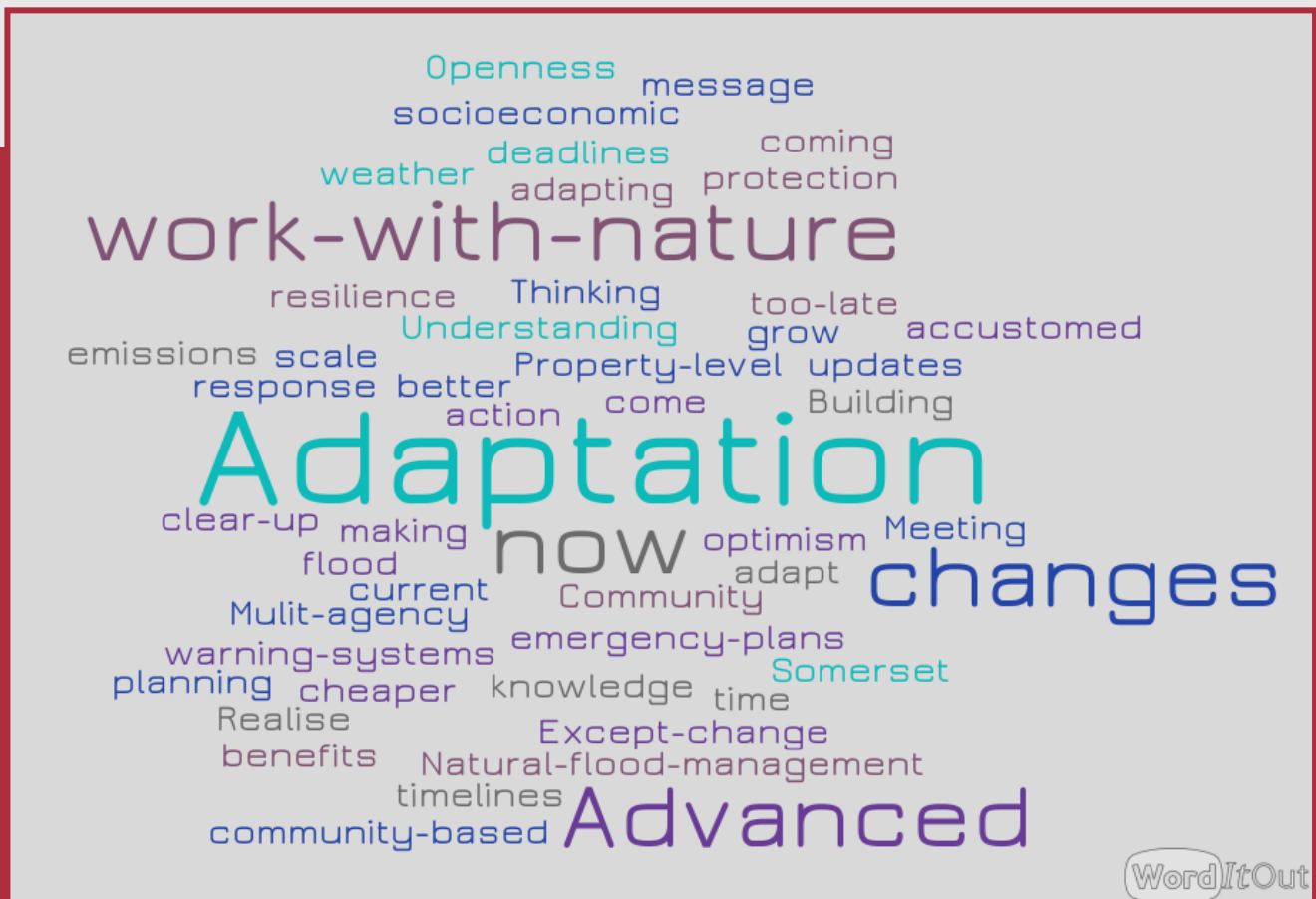
There were also comments about community adaptation that were specific and practical. They acknowledged the layered response needed to respond to climate change, from local measures to the adoption of wider, more general principles.

"Property level protection & resilience measures. Natural flood management."

"Building knowledge and community-based emergency plans. Advanced flood/weather warning systems where possible. Multi-agency planning & response."

Some comments raised the prospect of difficult future decisions, demonstrating the full scale of adaptation measures that could be required to address the impacts of climate change:

"Relocating communities - investing in buying out most vulnerable properties."



Continued....

In the workshops for councillors, participants were invited to explore the effect of climate change on the community. Comments on potential impacts included:

"Communities need to re-think normalcy of flooding."

"Find areas to make space for flooding."

"Displacement of communities - will we be here?"

*"Fairness - how can we adapt?
What community support is there?"*

"How do we collect excess water and store for droughts?"

"Sewage issues."

"Loss of rural businesses."



Natural Flood Management

"More trees of course, but not the only solution."

Unsurprisingly, with questions to prompt responses in this area, this theme received the largest number of comments, with general support for the principles of Natural Flood Management (NFM):

"Slow the flow in upland areas of catchments."

"Salt marsh - once sea inundation."

"Land should be allowed to flood in the winter."

There were also very specific ideas:

"Water force heat pumps? Using the power of water?"

*"Planting of hazel plantations on slopes above floodplains.
Willow in food areas."*

"Deep-rooted grasses on moors. Rotation crops."

"Dewponds in the higher catchment in large numbers."



There was openness to new ideas around natural flood management, such as using amenity land like playing fields for water storage, or making space for the rivers to use their floodplains.

"Build school playing fields as with temporary dams."

"Make space for water so the rivers can flood onto the floodplains."

"Making space for water - engineering solutions to reconnect floodplains."

The idea was also raised within the councillor workshops:

"Find areas to make space for flooding."

As set out in the farming section, there was a desire to pay farmers for the services they could provide in storing water during flood events.



An aerial photograph of a rural landscape. In the foreground, there's a river with a reed bed. Beyond it, a green field is divided into sections by wooden posts. In the background, there are more fields, some with trees, and a small pond or stream. The overall scene is a mix of green and brown tones, suggesting a natural, somewhat wild environment.

Continued....

Tree Planting:

There were many comments about the benefits of tree planting, and also evidence of awareness of the need for the right tree in the right place. This was tempered with concern to protect other habitats from tree planting, for example wildflower meadows.

"Tree planting on community/parish council-owned land."

"Plant more trees - even a small tree in a small garden will help."

"Plant trees in the right places; where to plant and which varieties."

"Don't plant trees on old pasture which is still home to the wildflowers, these are carbon sinks in themselves."

There was also an understanding of the role of plant diversity on the floodplains and the potential for re-wilding:

"More diverse wild plants on floodplain fields."

"Lots of rewilding."



More Information:

- View the [Triple C YouTube video](#) to see how these techniques are being used in Somerset.
- Learn about different forms of NFM in [FWAG SouthWests NFM Videos library](#).
- Find out how tree planting is being used to manage water on the Somerset Levels and get involved with the [Trees for Water Project](#).

Sustainable Retrofits

“Make all our public buildings SuDs friendly.”

The comments in this theme gave practical ideas about how the principles of nature-based solutions to flooding and drought could be applied to existing properties at a household or community scale. There was a focus on Sustainable Drainage Systems (SuDS), stressing the importance of using these measures on both public buildings and residential properties.

Numerous comments focused on the benefits of practical measures such as tree planting and using rainwater butts for attenuation in urban areas. One of the exhibits at the public drop-ins was a model house that demonstrated household SuDS measures; this inspired people to look at easy things individuals could do at home, such as removing tarmac and installing water butts.

Rain garden planter



Tree pit



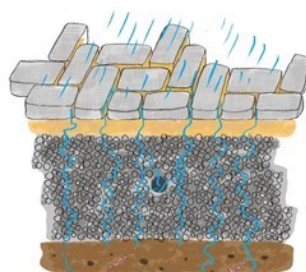
Water butt



Swale



Permeable paving



Green roof



"Stop covering driveways with impermeable surfaces."

"Tree planting, Rainwater gardens - sumps, tanks, ponds, reduce impenetrable surfaces."

"Sharing good practices- informal open gardens, tree planting, composting how to."

"Start local scheme and supply water butts."

Councillor Workshops:

Councillors at workshops also came up with ideas around the theme of making buildings and how we use them more sustainable:

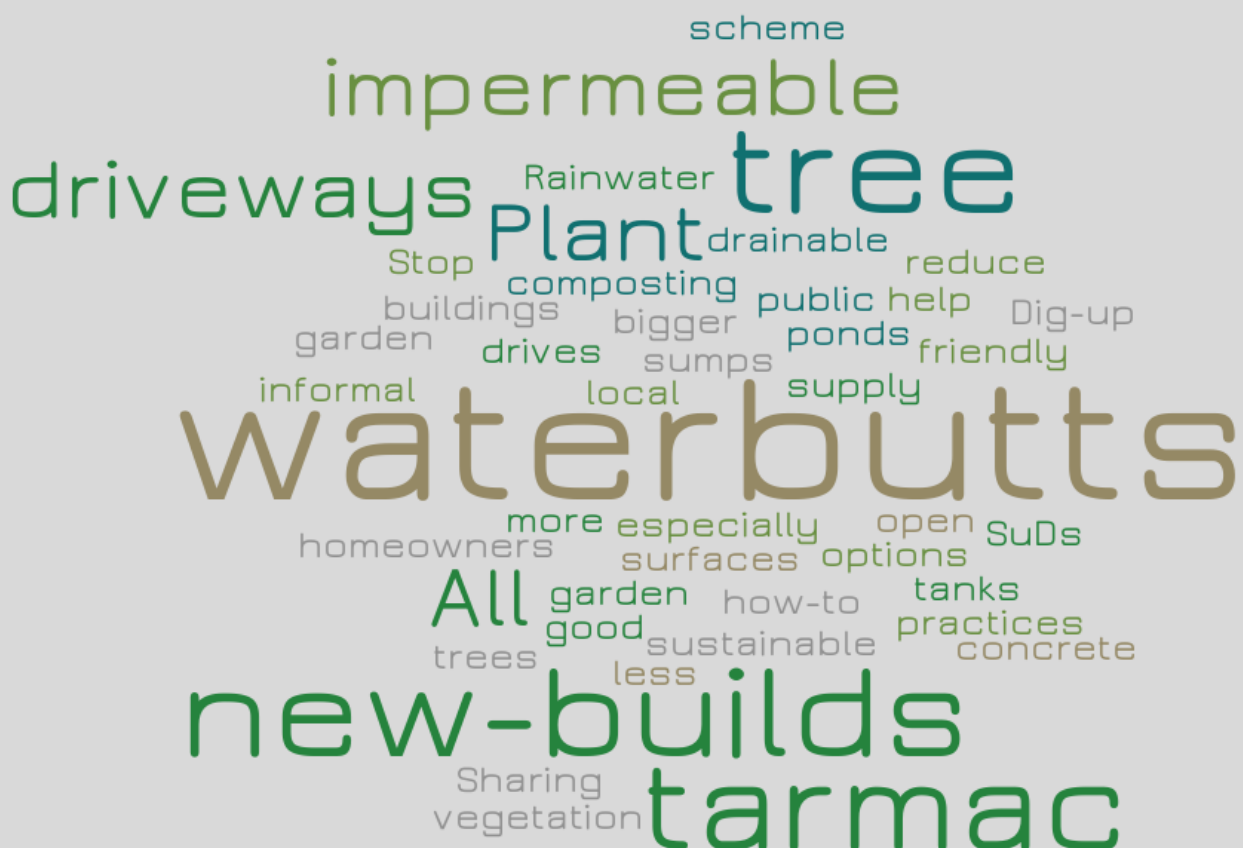
"Stop tarmac gardens - use gravel so water can soak away."

"Energy: Move parish buildings to green suppliers."

"Move services we commission to green companies."

"Push for water to be better managed- held during floods to be used in drought."

"Share the cost between all districts by bringing council tax into line."



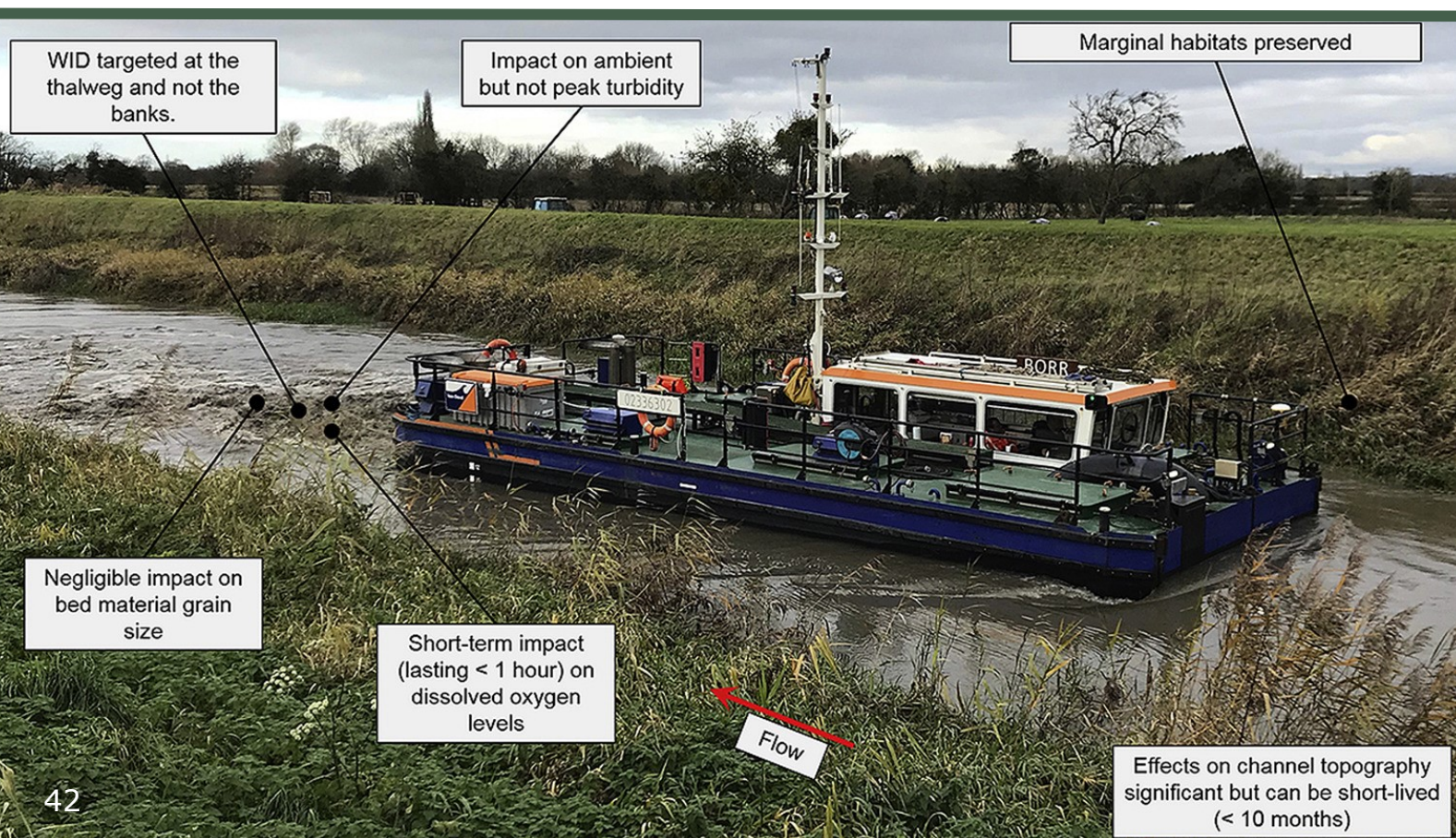
Engineering Solutions

"Keep investing in dredging the levels."

There were only a few comments related to engineering solutions, but these represented some very in-depth conversations:

"Maintaining watercourses, but expensive - can we bring in ££s? Costing 0.5 million annually to maintain Parrett dredge."

"Keep investing in dredging the levels."





Since the 2013/14 floods, in excess of 100km of main river has been dredged or desilted in Somerset, through a combination of Government funding and money raised locally through the Council Tax for Somerset Rivers Authority (SRA).

The SRA has also funded 'Water Injection Dredging', a less invasive and less costly form of watercourse maintenance, where a special boat uses powerful jets of water to desilt the bed in times of high water, although this is only suitable for certain types of channel. Find out more about the SRA's work [here](#).

Where watercourses are open to the sea, significant amounts of silt are deposited on each high tide, so the benefits of dredging are relatively short-lived unless the process is repeated regularly.

"Let farmers dredge the rivers."

Landowners are responsible for the maintenance of river banks and beds to ensure the passage of water. For some work permits are required, because dredging and other alterations to watercourses can make flood risk worse downstream. There are also environmental considerations and protections to take account of. The Environment Agency trialled a scheme removing requirements for permits but it had no uptake from landowners, suggesting that this may not be the primary obstacle in the maintenance of watercourses.

The UK Government website page, '[Owning a Watercourse](#)' sets out the responsibilities of riparian owners.

Climate Change in Somerset

Since the industrial revolution, human activities have caused CO² levels to spike, increasing the global temperature by 0.9°C since 1880. Two-thirds of this warming has happened since 1975, meaning the world is warming



ten times faster than it would at the end of an ice age.

The warming of our world is already altering our weather and rainfall patterns locally. On the current trend, by 2070 we expect to see:

47% less rain in Summer



35% more rain in Winter



Winters are becoming wetter. Storms are becoming more frequent, bringing heavy downpours which leads to higher peak flows in the rivers and increased winter flood risks.

According to the Environment Agency's probable climate projections, by 2080 Somerset is facing:

Summers are becoming hotter and dryer.

More summer storms will bring heavier downpours, with rain falling on dry ground. These conditions increase runoff and the risk of summer flooding.

Winter increases in peak river flows of 35% - 85%

Summer decreases in river flows of 85%



People's emotional health can be affected by climate change.

Working together with your community to find solutions and talking with friends or family can help. If you are struggling, contact your GP or self-refer to Somerset Talking Therapies at www.somersetft.nhs.uk/somerset-talking-therapies, or 0300 323 00 33.

RAINFALL INTENSITY



We're used to rain being light and spread out.

Climate change will increase its intensity.

