

Somerset Rivers Authority 2023-24 Enhanced Programme: descriptions of schemes proposed for inclusion

Hills to Levels: Somerset Land Management and Natural Flood Management (NFM)

SRA reference: FWLM01-24. Workstream 2

Somerset Rivers Authority (SRA) funds a wide range of land management and natural flood management (NFM) activities, as part of the award-winning Hills to Levels initiative. Works across Somerset have two main aims. Firstly, to reduce local flood risks for people, properties, businesses and roads in upper and middle catchment areas. Secondly, to help protect vulnerable lower areas from flooding, by slowing the flow of water down through the catchments of the Tone, Parrett, West Somerset Streams, Brue, Axe and Somerset Frome.

Seven strands are proposed for 2023-24, which would all be delivered for the SRA by the Farming and Wildlife Advisory Group SouthWest (FWAG SW).

1. Design and implement up to 20 small-scale NFM schemes to hold back water in upper and middle catchments and reduce peak flows.
2. Increase uptake of better soil management techniques and cropping changes to improve the infiltration of water and reduce run-off on up to 25 farms. Initiatives in previous years have included split field trials, soil husbandry reports, and workshops.
3. Respond to up to 25 referrals of cases where better land management could help to fix problems such as roads flooding because of run-off from fields. Landslides and mudslides may also be investigated. In such cases it makes sense to address causes as well as symptoms. Extra SRA funding enables this to happen with partners working together to tackle issues beyond their usual limited remits.
4. Match-fund the Merriott Stream de-culverting and river restoration project, north of Crewkerne.
5. Model and monitor at sub-catchment scale to demonstrate the effectiveness of NFM measures installed in previous years. Merriott Stream will be one of the projects assessed for its value in reducing flood risks.
6. Deliver a floodplain re-connection scheme at Rodden near Frome.
7. Assess the condition of 20 NFM schemes delivered five or more years ago to assess their state of repair and the impact they have had on flows. Produce a report including feedback and evaluation from landowners. The significance of the five-year span is that when landowners get NFM grants from the SRA, they agree to maintain schemes for five years.

River Parrett maintenance dredging and silt monitoring***SRA reference: IDB10-24. Workstream 1***

Continued SRA funding for a successful programme of Water Injection Dredging and silt monitoring along the River Parrett between Burrowbridge and Northmoor. This work is part of a programme that is helping to protect around 1,300 homes and businesses, and around 7,500 hectares of land, including 5.3 miles (8.5 kilometres) of A-roads and 30 miles (48 kilometres) of minor roads.

The Parrett is a tidal river. Gigantic volumes of sediments flow in from the sea and from the river's big catchment (roughly 478 square miles in size, or 770 square kilometres). When sediments build up along the river channel, there is less space left for water, and this reduced capacity can have undesirable consequences for the area through which the Parrett flows. Since the devastating floods of 2013-14, a lot of dredging has been done to increase and then maintain the Parrett's capacity. SRA funding for dredging brings physical benefits and peace of mind to people.

Water Injection Dredging (WID) has been advanced as a technique for the SRA by the Parrett Internal Drainage Board since 2016. It is much cheaper, quicker and less disruptive than conventional dredging using excavators, partly because WID uses the Parrett's own tidal power. Moving along the river, a WID vessel pumps out high volumes of water targeted at sediment build-ups identified through silt monitoring and channel surveys. Sediments are forced off the river bed and then dispersed through natural processes, downstream as the tide goes out.

Regular silt monitoring and channel surveys also give the SRA and its partners greater understanding of how the Parrett system really works. Such knowledge has many uses, for example in helping to manage flows during times of flood.

Bridgwater Tidal Barrier***SRA reference: EA17-24. Workstream 1***

Bridgwater Tidal Barrier is a major £100 million project led by the Environment Agency and Sedgemoor District Council. Designed to help protect more than 11,300 homes and 1,500 businesses, it has three main elements: a tidal barrier on the River Parrett at Chilton Trinity, 2.67 miles (4.3km) of new flood defence banks and 1.74 miles (2.8km) of raised banks downstream at Chilton Trinity, Combwich and Pawlett, and fish and eel passage improvements at 12 sites upstream of the barrier, the furthest up being Bradford-on-Tone beyond Taunton, and Ham Weir between East Lambrook and Martock.

Most funding for this major project will come from central government major project funding. However, some local match funding is required to secure the national funding. Somerset Rivers Authority is making a local contribution in recognition of the important role that Bridgwater Tidal Barrier will fulfil in protecting Somerset residents, homes and businesses.

See also the section below about ringfenced parts of the SRA 2023-24 Enhanced Programme, which were previously approved.

Adaptations and Associations on the Somerset Levels & Moors

SRA reference: FWCOAD3-24. Workstream 2

The SRA is keen to encourage more working together on the Somerset Levels & Moors, to strengthen flood resilience, and enable different kinds of adaptation to various threats and opportunities. As a low-lying landscape ringed by hills and sea, and criss-crossed by rivers and rhynes, the Levels are unusually vulnerable to climate change. As a wetland landscape, protected for their environmental value in many ways, the Levels are also very dependent on public payments, worth around £5 million a year. The Government's proposed phasing out of some of these payments will have big effects on the special characteristics of the Levels and Moors, and the people who make a living from that landscape.

The SRA is therefore proposing to fund a series of moves that will make it easier for people to co-operate and get things done, including:

- 1) Developing four new Moor Associations and continuing to support five already helped by the SRA. Land use on the Levels is very fragmented. For example, on Curry Moor (350 hectares, 173 fields) there are 32 landowners, so it is not easy to make arrangements for improvements involving everyone informally. Moor Associations are therefore being set up and run by local farmers and landowners to help them find new ways of working together for their mutual benefit. It is ultimately hoped to establish an encompassing body for all Moor Associations to give members more of a positive say in the Levels' future – and their own.
- 2) Exploring new economic possibilities that will also produce good environmental results – such as ways of earning payments for storing water to lessen flood risks, capturing carbon to combat climate change, improving water quality, helping nature to recover, and preserving peat. For example, the SRA will continue to support an active trial of mechanisms for preserving peat on Chilton Moor, Queen's Sedgemoor and Lang Moor, which is being run for Defra as part of its preparations for introducing Environmental Land Management Schemes (ELMS). ELMS are due to be Defra's main land management funding channel by 2024, focused on the delivery of "public goods for public money".
- 3) Working with communities to help people turn their own ideas about adaptation and resilience into plans for action, particularly as regards the water-related impacts of climate change (flooding and drought). Training sessions, for example, will cover Adaptation Pathways as a simple way of looking into complex issues, to see how different options interact in changing combinations of circumstance. Some of this work follows on directly from the Adapting the Levels initiative (2019-2023), jointly funded by the EU's Interreg 2 Seas programme and the SRA.

Tonedale flooding study***SRA reference: SC05. Workstream 1***

Tonedale in Wellington is a large and historically important textile mill site, a manufacturing complex which used to be fed with water by an intricate system of waterways and structures. As part of efforts by several organisations to preserve this complex, and find suitable modern uses for it, the SRA is proposing to fund a detailed and ambitious study of how it could be used to reduce flood risks around Tonedale, Wellington and the wider catchment, upstream and downstream towards Taunton.

The waterways that run through Tonedale are a combination of natural and diverted tributaries of the River Tone, interlaced with leats, mill-races, holding ponds, weirs and sluices. Some waterways sit within 63 acres of redundant farmland bought by Somerset West and Taunton Council (SWTC). The council has been leading efforts to secure Tonedale's future.

There is immense potential for Tonedale to advance the objectives of Somerset's 20 Year Flood Action Plan, which is overseen by the SRA. For example, combined with possible measures to reduce flood risks, there is great scope for environmental improvements.

Some investigations into other aspects of Tonedale's future are being carried out by other organisations. For example, a team from Historic England has spent two years researching the history of the site's waterways. Funding is being sought by SWTC for other complementary studies, covering, for example, water quality improvements and community access and involvement. Because of local government reorganisation in Somerset, responsibility for this project will be passed from SWTC to the new Somerset Council. The overall aim will still be to piece together an effective plan for a Grade II* Listed site, considered by Historic England to be the most important complex of its kind in the South West, and one of the most important in England.

Chard Urban Run-off Butts (CURB)***SRA reference: LLFA27. Workstream 3***

Part-funding for a community project that will begin to address the causes of the bad flash flooding that twice hit Chard in 2021. Around 1,000 properties were affected.

An investigation by Somerset County Council as the Lead Local Flood Authority (LLFA) showed that one big reason for the flooding was that too much surface water was running over land and overwhelming Chard's combined sewers. Combined sewers take rainwater running off from gutters, drains and roads, as well as wastewater from homes and businesses.

As an initial step, the LLFA and Wessex Water want to team up with residents to help reduce the amount of water that runs off from the gutters of their homes into

Chard's drainage networks. Extra SRA funding will enable more people to take part, so together they can make a bigger impact.

The aim is to provide up to 1,000 water butts to hold back roof water from drainage networks in parts of north and west Chard, including Glynswood and Crimchard. The equivalent of up to 2,500 bathtubs of water could be stored, if people use their butts effectively. Part of this project will involve working with the Chard Area Resilience Group, and others, to find good ways of getting people to lower the amount of water stored in butts before periods of heavy rain. If space is freed up, more water can be taken from downpours at times when this will make a noticeable difference to local neighbourhoods.

Through such communal efforts, it is hoped that people will learn more about urban water management and climate change, which will help as further projects for Chard are developed. It is also hoped that people will start to see rainwater as a possible resource that can be useful in various ways. For example, if plants can be watered with stored rainwater not tap water, that saves money. Lessons learned should be useful elsewhere in Somerset.

Enhanced maintenance and restoration works in Mendip

SRA reference: SC04-24. Workstream 3

An ongoing project designed to reduce flood risks in the Mendip area. In earlier phases funded by the SRA, Mendip District Council flood risk consultants analysed sub-catchments in Mendip. Their focus was particularly on drainage infrastructure (such as culverts) and watercourses (excluding main rivers) which would benefit from improvements that no other person or body, on their own, would be in a position to carry out. The aim was to devise a programme of extra works that would fulfill the SRA partnership's chief purpose of getting more done to reduce flood risks than would otherwise be possible.

The SRA is now proposing to top up the budget for this project so that a series of high-priority works in flood risk areas can be delivered in towns and rural areas across Mendip, benefitting people, properties, businesses, roads and the environment.

This project is being passed to the new Somerset Council. Work will be done with other SRA partners – especially the council's highways department and the Farming & Wildlife Advisory Group SouthWest – to ensure that improvements are made as effectively as possible and that other contributory factors are addressed. For example, if a culvert is silted up, efforts will be made – through better land management or suitable techniques of natural flood management – to reduce the amount of silt getting there in the first place.

Somerset Enhanced Maintenance: Gully emptying***SRA reference: LHA03-24. Workstream 4***

Gullies in places most at risk of flooding across Somerset are currently cleansed once a year by Somerset County Council's Highways Department. Extra SRA funding would mean that around 25,000 gullies could be emptied twice a year.

In common with the other proposal for Somerset Enhanced Maintenance detailed below (*Drain jetting*), the aim would be to help keep roads open in places highly susceptible to flooding, make them safer, preserve access for communities, and safeguard properties from flooding, all in line with the objectives of Somerset's 20 Year Flood Action Plan. These works would benefit residents, businesses and visitors. Where possible, they would be dovetailed with the Hills to Levels system of highway referrals to reduce run-off from land onto roads.

SUDS inspections, mapping and monitoring***SRA reference: SC03. Workstream 3***

The SRA is proposing to fund long-term monitoring of selected Sustainable Urban Drainage Systems (SuDS) across Somerset. At chosen sites, the aim would be to identify and map all SuDS elements either privately owned or adopted (by, for example, a water company or local authority), then assess them regularly.

Special attention would be paid to whether maintenance was being carried out exactly as pledged during the process of getting planning permission. SuDS review and inspection activities funded previously by the SRA have shown that ongoing maintenance arrangements can be fallible. Without proper maintenance, assets can deteriorate and become less effective.

Attention would also be focused on national SuDS Manual recommendations and the four pillars of SuDS (water quantity, water quality, amenity, and biodiversity). The SRA and its partners particularly want SuDS to be effective in managing surface water and reducing flood risks.

Data gathered through SuDS mapping and monitoring would be used for a range of purposes, including:

- identifying problems with SuDS early on – and determining the best mechanisms for resolving them
- gaining better understanding of the long-term maintenance requirements of SuDS systems
- providing better public information about SuDS
- enhancing SRA-funded Somerset-specific SuDS Developer Guidance
- supporting better planning decisions
- encouraging better management and maintenance of privately owned SuDS

Building Local Resilience across Somerset***SRA reference: FAPW501-24. Workstream 5***

Funding for the recruitment for two years of an SRA Community Engagement Officer and an SRA Community Engagement Support Officer. The two previous holders of these posts left in 2022 to work for the Environment Agency in Wessex and RSPB in Scotland, respectively. Their successors would pick up the important role of advancing the SRA's ambitions for Building Local Resilience across Somerset. One of this workstream's priorities is to encourage practical moves that help people to better protect themselves against flooding and recover more quickly afterwards. Another is to foster greater understanding of local flood risks, of the implications of climate change and of possible adaptations to that, and of the responsibilities that come with owning watercourses and structures such as drains and culverts.

The new officers would work – among others – with individual residents, urban and rural communities, flood groups and networks, new bodies such as the Somerset Water Action Network (SWAN), Chard Area Resilience Group (CARG), Moor Associations on the Somerset Levels & Moors, and Somerset's forthcoming Local Community Networks, the Somerset Prepared partnership, SRA partners and the Farming & Wildlife Advisory Group SouthWest (FWAG SW).

The new officers' jobs would include:

- raising awareness
- providing advice, information and support
- organising events
- developing new projects
- training people and helping to set up training
- assisting with the administration of small grants for training and equipment
- encouraging links between groups
- helping to develop Moor Associations and fresh community approaches to adaptation
- working on the development of very localised flood-gauge information and warning projects with communities in the Chard area, Croscombe, Monksilver, Porlock, Roadwater and Sampford Brett

Somerset Enhanced Maintenance: Drain jetting***SRA reference: LHA04-24. Workstream 4***

Extra SRA-funded drain jetting targets places across Somerset at high risk of flooding. Drains are usually only jetted by Somerset's Highways Department on a reactive basis: that is, once they have become blocked. Pro-active jetting is designed to stop drains from getting blocked in the first place, by removing silt and debris. Around 125 places are expected to benefit, depending on various unpredictable factors such as the weather.

De-silting structures***SRA reference: LHA01-24. Workstream 1***

For several years the SRA has given grants for de-silting structures. The idea has been that de-silting bridges and culverts, and re-aligning channels close to highways structures, improves the flow of watercourses, and increases the volumes of water they can carry. This reduces the risks of flooding for roads, nearby homes and land. Whole systems can work more efficiently when watercourse “bottle necks” are removed.

For 2023-24, Somerset County Council has proposed that the SRA should fund works at two places. Firstly, Hockholler Bridge, beneath the Blackbird Bends section of the A38 about half a mile north-east of Chelston, between Wellington and Taunton. The aim here is to de-silt the bridge as an interim measure while a study is carried out that was recommended in a previous SRA-funded A38 Blackbirds Bends investigation. At the 20 January SRA Board meeting, members approved funding for this previously recommended follow-up study.

Secondly, Hendford Hill in Yeovil. Hendford Hill and the busy Hendford roundabout at the bottom of the hill have long been known to be a Yeovil “wet spot”. In the Yeovil Urban Sustainable Drainage and Surface Water Management Study that was completed for the SRA in 2020 by Yeovil Rivers Community Trust, regular highway flooding was observed. De-silting will help to reduce this.

DEFERRED SCHEMES FROM 2022-23

During the 2022-23 financial year, the SRA Board agreed that some previously allocated funding could temporarily be re-allocated and spent on projects that needed to be able to go ahead soon.

SRA money was therefore temporarily re-allocated from Bridgwater Tidal Barrier to the Sowey-KSD Enhancements Scheme (Phase 1); from Mendip Natural Flood Management schemes to Rode and Beckington; from East Brent Asset Improvements to water injection dredging in January 2023; and from Taunton Flood Action Plan to the SRA’s contingency fund.

In every case it was agreed that money which had been diverted should be replaced with an equivalent amount from the SRA’s budget for 2023-24. This is why the SRA Enhanced Programme for 2023-24 includes the following four items from previous years’ Enhanced Programmes. The descriptions below largely follow the originals, with just a few necessary changes. For example, Taunton Flood Action Plan work was being taken forward by Somerset County Council. However, in April 2023 the county council will no longer exist, so a new Somerset Council will inherit this project.

Bridgwater Tidal Barrier - £490,000

Bridgwater Tidal Barrier is a major £100 million project led by the Environment Agency and Sedgemoor District Council. Designed to help protect more than 11,300

homes and 1,500 businesses, it has three main elements: a tidal barrier on the River Parrett at Chilton Trinity, 2.67 miles (4.3km) of new flood defence banks and 1.74 miles (2.8km) of raised banks downstream at Chilton Trinity, Combwich and Pawlett, and fish and eel passage improvements at 12 sites upstream of the barrier, the furthest up being Bradford-on-Tone beyond Taunton, and Ham Weir between East Lambrook and Martock.

Most funding for this major project will come from central government major project funding. However, some local match funding is required to secure the national funding. Somerset Rivers Authority is making a local contribution in recognition of the important role that Bridgwater Tidal Barrier will fulfil in protecting Somerset residents, homes and businesses.

Mendip Natural Flood Management schemes - £140,000

Funding for four nature-based schemes in sub-catchments with flooding problems that were analysed for the SRA in two earlier Mendip-wide investigations. Because of local government reorganisation in Somerset, responsibility for this project is now being passed from Mendip District Council to the new Somerset Council. The aim will still be to deliver a range of NFM measures including (where appropriate) 'Stage Zero' techniques of river restoration. Elements of existing infrastructure will be inspected to see if they need repairs or improvements in capacity, or if they could be re-naturalised (for example, could a stream be de-culverted?).

East Brent asset improvements - £144,000

A scheme to help protect homes, businesses and farmland in and around East Brent. Funding from Somerset Rivers Authority will enable the Axe Brue Internal Drainage Board (IDB) to replace and upgrade unstable stone-filled cage defences along Brocks Pill rhyne, East Brent's main watercourse for drainage. Beneficiaries will include 12 homes and a holiday cottage business, Brent Area Medical Centre, the B3140, and around 20 hectares of agricultural land.

Taunton Flood Action Plan - £100,000

A 25 Year Taunton Flood Action Plan will be produced to better co-ordinate the management of flood risks from all sources and boost investment. One major ambition is to join up the work done as part of the Taunton Strategic Flood Alleviation Improvements Scheme into risks from the River Tone and its many tributaries (fluvial flooding) with other efforts focused more on surface water and rainfall (pluvial flooding).

Elements brought together will include Somerset County Council's surface water management plan, the county council and Wessex Water's integrated catchment modelling, Wessex Water's drainage and wastewater management plans, the Environment Agency and Westcountry Rivers Trust's Tone catchment strategy, Somerset West and Taunton Council's Strategic Flood Risk Assessment and Taunton Garden Town plans, and the county council's partnership work on highways flooding hotspots, Sustainable Drainage Systems and the EU's Project Sponge2020.

This work will be led for the SRA by Somerset Council, working closely with Wessex Water and numerous other partners. The council is contributing to the costs of developing a Taunton Flood Action Plan. In line with the SRA's remit, the Plan is intended to open up new collaborative ways of getting funding and spending it efficiently. It should also help to provide environmental benefits such as better water quality and better habitats for wildlife.

The overarching aim is to make Taunton a safer, healthier and more attractive place to live.