



Working with the Medway Flood Partnership

# Medway Flood Action Plan

**Plan Together -  
Deliver in Partnership**

Year 3 report - December 2020



# The Medway Flood Partnership

The Medway Flood Partnership was established in January 2017 and brings together local partners, national agencies, non-governmental organisations and community representatives with the aim of reducing flood risk within the Medway catchment and create better places for people, properties and businesses.

The partnership brings together senior representatives from the following organisations:

<ul style="list-style-type: none"><li>• Country Land and Business Association</li><li>• Forestry Commission</li><li>• Kent Association of Local Councils</li><li>• Maidstone Borough Council</li><li>• Natural England</li><li>• South East Rivers Trust</li><li>• Tonbridge and Malling Borough Council</li></ul>	<ul style="list-style-type: none"><li>• Environment Agency</li><li>• Joint Parish Flood Group</li><li>• Kent County Council</li><li>• National Farmers Union</li><li>• Sevenoaks District Council</li><li>• Southern Water</li><li>• Tunbridge Wells Borough Council</li><li>• Upper Medway Internal Drainage Board</li></ul>
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Reducing the risk of flooding in the Medway catchment is a complex problem that is best solved by working in partnership. During the December 2013 flood event, approximately 965 homes were flooded across the Medway catchment, devastating people and livelihoods. Over 9,000 properties across the Medway catchment are at risk of river flooding with more at risk from other sources such as surface water or sewer flooding.

The flood action plan was first published at the end of 2017 and sets out what partner organisations will do to reduce flood risk in the short term. While this flood action plan is a significant milestone in addressing flood risk in the Medway catchment, it is part of a longer journey with the partnership, communities and with individuals to build awareness and preparedness for flooding, and identify and develop more actions which can help to reduce flood levels. Over the coming years, the partnership will continue to work with communities to develop this plan further and consider the 25 year vision and the pathway to getting there.

This action plan is a 'living document' that will be regularly monitored and reviewed by the Medway Flood Partnership to make sure that actions are delivered and new information and ideas are incorporated. All members are committed to its delivery and embedding an integrated approach to flood risk management into our organisations.

For more information about the Medway Flood Partnership or to view the Medway Flood Action Plan, please see our webpage on gov.uk: <https://www.gov.uk/government/publications/the-river-medway-partnership-objectives-members-and-action-plan>

# Capital investment and maintenance



Actions include traditional, engineered flood defence projects which help to reduce the risk of flooding to people, property and businesses.

It also includes maintenance of flood risk assets, such as sluices, to ensure they are in good operational condition and the maintenance of river channels which includes ditch and highway gully clearance, weed cutting, tree and debris removal and desilting of river beds.

## Action 1. Coult Stream flood storage area

Carry out works to enable the Coult Stream Flood Storage Area to be used more frequently to reduce the risk of flooding to homes in smaller events.

Where	River Medway at Leigh and Hildenborough	Owner	Environment Agency
When	March 2018	Supporting organisations	

### Action completed in Year 1

The Environment Agency has spent £7,500 on works to ensure the Coult Stream flood storage area protects 51 properties in Snoll Hatch and East Peckham from a 1 in 100 flood (a flood with a 1% probability of occurring in any year).

## Action 2. East Peckham scheme

Carry out feasibility and funding investigations to develop and deliver (if applicable) a scheme to reduce risk to homes and businesses in East Peckham.

Where	East Peckham	Owner	Environment Agency
When	2017-2022	Supporting organisations	Tonbridge and Malling Borough Council, Kent County Council, South East Local Enterprise Partnership

### Year 3 progress: action ongoing

In January 2020, after advertising the scheme in the parish magazine and carrying out a letter drop, the Environment Agency successfully carried out threshold surveys to 270 properties in East Peckham.

Through the threshold surveys we measured the lowest entry point for flood water to enter a property. In practice, this means visiting each house and measuring the height of doorsteps, air bricks and damp proof courses. We then compared these levels to the level of predicted flooding to understand whether water would enter the building in a particular flood event.

The information we gathered has helped us identify 115 properties that are eligible for Property Flood Resilience (PFR) measures.

PFR includes measures such as flood doors, flood barriers, and non-return valves on waste pipes to help reduce the impact of flooding to homes.



Surveying threshold heights in East Peckham, Jan 2020

We are pleased to confirm that we have secured 93% of the funding for the scheme through government Flood Defence Grant in Aid. We have put in a bid to the Southern Regional Flood and Coastal Committee for the remainder of the funding which has been agreed in principle and we expect this to be approved in spring 2021. Subject to this approval, the scheme will pay the cost of PFR measures for each property in the scheme up to a total cost of £7,500 per property.

The next step is to put the project out to tender and we expect to appoint a contractor in early spring 2021.

### Action 3. Leigh expansion and Hildenborough embankment scheme:

Reduce flood risk to 1,470 homes in Tonbridge and Hildenborough by carrying out construction works to enlarge the capacity of the Leigh Flood Storage Area (FSA) and build embankments in Hildenborough.

Where	River Medway at Leigh and Hildenborough	Owner	Environment Agency
When	2019-2022	Supporting organisations	Kent County Council, South East Local Enterprise Partnership, Tonbridge and Malling Borough Council

#### Year 3 progress update: action ongoing

In December 2019 the Leigh Flood Storage Area (FSA) was put into action for the first time since 2014. We saw prolonged steady rainfall in the week leading up to the impounding, with totals of approximately 80mm for the week.

As a result, the Environment Agency started to store water on 20 December and the FSA was used for a period of 62 hours in total before flows were low enough that we no longer needed to store water. The water level reached in the reservoir was 27.08m which accounted for 60% of its storage capacity.



Storing water in the Leigh Flood Storage Area, February 2020

Several weeks later on 16 February 2020, we needed to utilise the Leigh FSA again and over a period of 66 hours we stored water up to a level of 27.83m which this time accounted for 90% of the total storage capacity.

You can find out more about how the Leigh FSA works to reduce downstream flood risk by viewing our YouTube animation: <https://www.youtube.com/watch?v=9FVsi0WNa50> or search for “Leigh Flood Storage Area”.

The scheme to expand the FSA is continuing to progress as planned, despite some disruption from Covid-19. A key piece of work over the past 18 months has been our consultation with landowners and organisations about our proposal to increase the maximum stored water level within the Leigh FSA during times of flood.

Currently we are able to store water to a maximum level of 28.05m Above Ordnance Datum (AOD) as measured at the control structure. Our investigations have shown that storing water to 28.6m AOD will reduce flood risk to over 1,400 homes and businesses in Tonbridge and Hildenborough. Storing to this level will cover 16.4 hectares of extra footprint but will provide 7.3million m<sup>3</sup> of storage – a capacity increase of 24%.

Increasing this maximum stored water level requires permission from the Secretary of State for Environment, Food and Rural Affairs. Approval for this is essential to enable both the Leigh expansion and Hildenborough aspects of the scheme to progress. Over the last 18 months we have been talking to local organisations and landowners who are affected by the increase in stored water level to explain what it means for them and discuss any concerns they have. We submitted our request to the Secretary of State to increase the stored water level in the Leigh FSA in early June 2020. Unfortunately we have been unable to resolve objections to the proposal so Defra will hold an inquiry. This is due to take place in early 2021.

#### Action 4. Leigh flood storage area interim works

Carry out a 3-year programme of engineering works to keep the Leigh Flood Storage Area in good operational condition.

Where	Leigh	Owner	Environment Agency
When	Ongoing to 2019	Supporting organisations	

#### Year 3 progress update: action complete

The £1.2million, 3 year programme of improvement works on the Leigh Flood Storage Area (FSA) is now complete. These works keep the existing flood storage area fully operational and compliant with the statutory Reservoirs Act until the works to expand the FSA, which include further statutory works, are completed. These works were designed to complement the scheme to expand the Leigh Flood Storage Area and included:

- a 2-year project to refurbish the drains at the toe of the 1.3km main embankment.
- refurbishing the lifting mechanism on the north gate.
- replacing the original 1981 switchboard with a new one which will last for the next 50 years.
- replacing the original 1981 “back up” generator with a new generator which is designed to last for the next 30 years. This generator supplies back up power so the structure can continue to operate if there is a power cut.
- refurbishing the Powder Mill stream bridge. This provides access for maintenance, grass clearance and silt clearing.
- installing new security measures to ensure the structure is safe and secure.

#### New action 4b: Leigh gauging stations upgrade project

Where	Upstream of the Leigh Flood Storage Area	Owner	Environment Agency
When	Ongoing to 2023	Supporting organisations	

#### New action in Year 3

Over the next 3 years the Environment Agency will upgrade 8 gauging stations across the Medway catchment. The data from these sites is used to work out when and how to best to operate the Leigh Flood Storage Area control structure in order to maximise the storage capacity available. The works will include refurbishment of the equipment that collects and records information about river flows and levels, and the buildings which house them.

## Action 5. Middle Medway Flood Resilience Scheme – Phase 1

Carry out scoping surveys to understand which homes at greatest risk of flooding in the Middle Medway Flood Resilience Scheme area are suitable for property resistance measures. Where homeowners agree, install property resistance measures in suitable homes in the Middle Medway Flood Resilience Scheme area.

Where	Yalding, Collier Street, Hunton, Marden, West Farleigh, East Farleigh, Wateringbury and Nettlestead	Owner	Environment Agency
When	2017-2019	Supporting organisations	Kent County Council, Maidstone Borough Council, Joint Parish Flood Group, Southern Regional Flood and Coastal Committee

### Year 3 progress update: action complete

The MMFRS began in 2017 and started with an initial survey of over 460 properties across 8 parish council areas around the confluence of the Rivers Medway, Beult and Teise, including Yalding and Collier Street. These surveys assessed whether properties at significant risk of flooding were suitable for Property Flood Resilience (PFR) measures which include flood doors, flood gates and air brick covers.

The PFR delivery was then split into 2 phases:

- Phase 1a was a pilot scheme to install measures to 28 properties and was completed early in 2018. The purpose of the pilot was to showcase the variety of PFR measures available and to build understanding and confidence within the community around the scheme and the measures.
- Phase 1b incorporated the remaining eligible 255 properties whose owners had expressed an interest. This phase of the project went to competitive tender using the Environment Agency's new PFR Framework in November 2018. This was the first project to use this process and at the time, was the largest PFR project in the country.



*Flood barriers reducing risk to 3 properties*

In total, the scheme has installed PFR measures to 256 homes across the middle Medway villages and has cost £1.54million. The scheme received government funding up to £7,500 per property through Flood Defence Grant in Aid (FDGiA), and the Southern Regional Flood and Coastal Committee (RFCC) agreed to provide an additional £195,000 to the project through local levy.

The Winter 2019/20 flooding tested the measures at some properties, successfully in many cases but issues were identified at some. These have now been resolved and all properties have been visited and measures have been checked and signed off with the homeowner.

One challenge for the project has been ensuring that the power supply for sump pumps will be maintained during a flood. In Yalding in particular 2 substations are located within the floodplain and we have worked closely with UKPN who are improving the flood resilience of the substations to ensure that the power stays on. One substation in Burgess Bank has been raised and UKPN are considering options for another at Lyngs Close.



*Raised substation at Burgess Bank, Yalding*

PFR schemes rely on the take up of homeowners so community engagement has been critical to the success of the project. This scheme (Phase 1b) had 85% take up, compared to an average take up of 70% of other PFR schemes. We absolutely couldn't have achieved this without the help and support of the Parish Councils so the project team would like to say a massive thank you!

## Action 6. Middle Medway Flood Resilience Scheme – Phase 2

With funding from Kent County Council, Maidstone Borough Council and the Southern Regional Flood and Coastal Committee investigate and implement community level resilience measures to reduce the impact of flooding in the Middle Medway Flood Resilience Scheme area. This includes localised flood defences to reduce risk to homes at greatest risk of flooding

Where	Yalding, Collier Street, Hunton, Marden, West Farleigh, East Farleigh, Wateringbury and Nettlestead	Owner	Environment Agency, Kent County Council, Maidstone Borough Council
When	2018-2020	Supporting organisations	Joint Parish Flood Group, Southern Regional Flood and Coastal Committee

### Year 3 progress update: action complete

A study has shown that, in discrete locations, small community level resilience schemes could reduce flood risk to property. Unfortunately, none of these schemes meet the value for money criteria. This is mainly because the schemes proposed only assist a few properties. The details have been shared with the property owners involved so that they can take steps if they wish. If new community resilience measures become available they will be investigated and progressed, if appropriate.

## Action 7. Environment Agency annual maintenance programme

Continue to carry out the Environment Agency's annual programme of maintenance work on Main Rivers across the catchment to maintain the flow of water and ensure flood risk assets are in good condition.

Where	Catchment wide	Owner	Environment Agency
When	Ongoing	Supporting organisations	Kent County Council, Upper Medway Internal Drainage Board, Tonbridge and Malling Borough Council, Tunbridge Wells Borough Council, Sevenoaks District Council, Maidstone Borough Council

### Year 3 progress update: action ongoing

Each year the Environment Agency spend approximately £1million on maintenance works across the Medway catchment to ensure that water flows unobstructed down through the catchment, and that structures and defences are in good working order.

Despite Covid-19, the Environment Agency's 2020 maintenance programme largely continued as planned. Our operational teams have adapted their ways of working to incorporate social distancing and other measures to stay safe.

In October our staff spent three full days carrying out tree works and clearing vegetation on the Penn Stream near Higham Wood. They went all the way from up stream of Frog Bridge on Shipbourne Road to almost the confluence of the Tonbridge Mill Stream, downstream of Old Hadlow Road. We have now completed all planned maintenance on this stream for this year.

In addition to our planned maintenance work, our field teams also carry out a wide range of reactive work such as clearing obstacles to keep rivers flowing. If you see any obstructions in watercourses that may present a flood risk please report them through the Environment Agency's free incident hotline: 0800 80 70 60

The Environment Agency's annual maintenance programme can be found on gov.uk:

<https://environment.data.gov.uk/asset-management/index.html>

### Action 8. Collated maintenance map

Collate the flood maintenance activities of risk management authorities across the catchment. Make this information available to communities to raise awareness of the work that is being done to manage flood risk in the catchment and use it to encourage riparian landowners to carry out their own maintenance.

Where	Catchment wide	Owner	Environment Agency
When	2018/19 onwards	Supporting organisations	Kent County Council, Upper Medway Internal Drainage Board, Tonbridge and Malling Borough Council, Tunbridge Wells Borough Council, Sevenoaks District Council, Maidstone Borough Council

#### Year 3 progress update: action ongoing

The impact of Covid-19 has delayed the progress of this action though we hope to push this forward again over the coming year.

In the meantime, the Environment Agency's national live maintenance map can be found at: <https://www.gov.uk/government/publications/river-and-coastal-maintenance-programme>

### Action 9. Maintenance group

Set up a Medway Maintenance Group to discuss and review the planned maintenance work of the Environment Agency, Upper Medway Internal Drainage Board, local councils, Kent County Council Highways and Southern Water. Involve local community representatives to promote a joined up approach and increase community involvement.

Where	Catchment wide	Owner	Environment Agency
When	Ongoing	Supporting organisations	Kent County Council, Upper Medway Internal Drainage Board, Southern Water, Tonbridge and Malling Borough Council, Tunbridge Wells Borough Council, Sevenoaks District Council, Kent Association of Local Councils, Joint Parish Flood Group, Maidstone Borough Council

#### Year 3 progress update: action ongoing

The impact of Covid-19 has delayed the progress of this action though we hope to push this forward again over the coming year.

### Action 10: Culvert inspections

Carry out a rolling programme of work to inspect Environment Agency owned culverts across the catchment to ensure they continue to convey flows.

Where	Catchment wide	Owner	Environment Agency
When	Annually	Supporting organisations	

#### Year 3 progress update: action ongoing

No further CCTV surveys were carried out in the Medway catchment this year, however desilting works have been carried out on 2 culverts in Hildenborough and Tonbridge. This year, the local Environment Agency team have been focussing on developing a longer term plan for CCTV culvert surveys and are reviewing the data on all 196 culverts across the Medway catchment in order to build a programme for future years.

### Action 11: Removal of old structures to reduce flood risk

Work with partners and communities to consider where removal of old structures, such as retention weirs and automatic sluices, may help to lower water levels and reduce flood risk. Where appropriate, work with partners and the community to carry out these works.

Where	Rivers Teise, Beult and Eden	Owner	Environment Agency
When	2018-2022	Supporting organisations	South East Rivers Trust

#### Year 3 progress update: action ongoing

As noted in the Year 2 report, the Darman's and Duddies auto sluices near Laddingford can't continue to operate in the present manner for the foreseeable future, but as they do not reduce flood risk they do not attract funding for maintenance.

At these sluices the Environment Agency is considering setting a permanent water level which works for all river users. These structures would then be welded in place to prevent them from failing. As noted in the Year 2 report, the next step is to carry out modelling to test the effect of different water levels. Covid-19 has delayed work on this but we are pleased to report that we have now got funding to progress the modelling of different water levels and what effect they would have.

Once this is complete we will carry out further consultation with the local community to agree any actions.

### Action 12: Watercourse maintenance

Carry out drainage works and maintenance works to Ordinary Watercourses on behalf of Maidstone Borough Council to maintain flow of water.

Where	Maidstone Borough	Owner	Kent County Council
When	2017-2020	Supporting organisations	Maidstone Borough Council

#### Year 3 progress update: action ongoing

Kent County Council is continuing to manage Maidstone Borough Council's ditch maintenance work. This work is programmed annually. KCC works with local Parish Councils and Highways to identify issues that need attention.

### Action 13. River Grom trash screen, Tunbridge Wells

Improve the trash screen on the River Grom culvert entrance to prevent flooding due to blockage.

Where	Tunbridge Wells	Owner	Kent County Council
When	2017/18	Supporting organisations	

#### Action completed in Year 1

Kent County Council invested £7,000 to install a new trash screen across a culvert on the River Grom in Tunbridge Wells.

### Action 14. Tunbridge Wells

Investigate ways to reduce risk of flooding at Neville Street and in the Warwick Park area of Tunbridge Wells. If feasible, develop funding plans and deliver flood risk management measures.

Where	Neville Street/Warwick Park, Tunbridge Wells	Owner	Kent County Council
When	2017/18	Supporting organisations	

#### Year 3 progress update: action ongoing

Kent County Council has explored opportunities to deliver Natural Flood Management on the Commons, but unfortunately the soil on the site does not lend itself to these measures. KCC is planning improvements to the highway drainage on the highways that cross the Commons, this will help to reduce the runoff. We will continue look for opportunities within this work to manage surface water flow.

### Action 15. Southern Water drainage maintenance

Continue to carry out Southern Water's proactive programme of maintenance work to maintain an effective system, include regular reviews to ensure appropriate maintenance is carried out.

Where	Catchment wide	Owner	Southern Water
When	Rolling programme	Supporting organisations	

**Year 3 progress update:**

Rolling programme under continual review

### Action 16. Southern Water asset surveys

Carry out a targeted programme of surveys of Southern Water assets to improve our understanding of their condition and inform our future Capital Maintenance plan.

Where	Catchment wide	Owner	Southern Water
When	Rolling programme	Supporting organisations	

**Year 3 progress update:**

Rolling programme under continual review

### Action 17. Drainage Area Plans

Update Drainage Area Plans for:

Headcorn, Horsmonden, Staplehurst, Ashford, Redgate Mill Crowborough, Aylesford, Ham Hill, Tonbridge, Bidborough, Biddenden, Coxheath, Edenbridge, Luxfords Lane East Grinstead, Eden Vale East Grinstead, Felbridge, Forest Row, Godstone, Hawkhurst South, Leeds, Lingfield, Paddock Wood, Tunbridge Wells North & South, Copthorne, Wateringbury.

Use these to understand the impact of weather/climate change and growth on waste water systems and identify how this impact can be managed to reduce flood risk from sewers to homes.

Where	Catchment wide	Owner	Southern Water
When	By March 2020	Supporting organisations	Kent County Council, Environment Agency, Borough and District Councils as required

#### Action completed in Year 2

The Drainage Area Plans for 25 sewerage catchments within the Medway River Basin District have been updated. The interventions identified in these plans to improve performance are being prioritised against other needs across the Southern Water region. The Drainage Area Plans will be used as level 3 tactical planning documents alongside the LLFA Surface Water Management Plans to determine strategic level plans for the River Basin District as part of the creation of the Drainage and Wastewater Management Plan (DWMP). The DWMP will identify potential partnership opportunities and will be completed by summer 2022. All parties responsible for drainage within the Medway river basin will be engaged as a part of this framework.

#### Year 3 update:

The Drainage & Wastewater Management Plan (DWMP) for the Medway catchment is progressing. A stakeholder engagement session was held on 10 September to discuss the results of the first stage of the risk based assessment and agree planning objectives for the catchment. Kent County Council, the Environment Agency and Medway Catchment Partnerships all joined this positive discussion. The next steps are to identify how performance changes over time due to population growth, climate change and urban creep and what options are available to address the predicted emerging risks. Future stakeholder workshops will be arranged to discuss options and the potential opportunities for a partnership approach to resolving issues.

### Action 18. IDB watercourse maintenance

Carry out annual maintenance work within Upper Medway Internal Drainage Board district to maintain flow of water.

Where	Catchment wide	Owner	Upper Medway Internal Drainage Board
When	Annually	Supporting organisations	

#### Year 3 progress update: action ongoing

In 2019, the IDB suffered with its maintenance programme as a result of plant malfunctions. We did however manage to complete the majority of our standard works to keep our watercourses clear.

Despite Covid-19, this year (2020) has seen an improvement in the number of watercourses mowed, weed cut and desilted. Contractor aid and improved weather has allowed for the season to go into November, with further hand operations being conducted throughout December. We also continue to be a visual presence throughout the district, with regular inspections and clearance of grates and culverts.

New plans for improving the maintenance plan of the IDB, along with closer works with contractors and landowners are set to make further efficiencies in the work carried out in the district. This will also see rotations put in place to aid our conservation efforts, while still offering a primarily drainage related service.

There are plans to remove and reinstate critical structures to both clear decaying assets and to improve existing ones where necessary. We have recently re-adopted the diversion sluice on Gravelly Ways to keep a better eye on its condition after consultation with local landowners and Kent County Council.

Moving forwards, we are working closely with the Environment Agency to push works on previously overlooked watercourses where possible, while continuing to hold care of biodiversity and conservation in high regard. Along with the Lower Board, we are progressing with negotiations towards a formal Public Sector Cooperation Agreement PCSA so that we can further improve coordination and efficiencies of works on assets in which we have a shared interest.

### Action 19. Community Infrastructure Levy

Support infrastructure projects which will reduce flood risk by considering valid bids for Community Infrastructure Levy (CIL) funding.

Where	Sevenoaks District	Owner	Sevenoaks District Council
When	Ongoing	Supporting organisations	

#### Year 3 progress update: action ongoing

There have now been 3 meetings of the Council's CIL Spending Board (May and December 2018 and December 2019). The Board has awarded CIL to 17 infrastructure projects, with one dealing with flood mitigation. The next CIL Spending Board will be held on Wednesday 10 March 2021. The deadline for bids towards this Board closed on 31 December 2020.

No further bids have been submitted to Sevenoaks's CIL Spending Board to bring forward flood mitigation proposals at present. However, future bids may include flood mitigation projects as this is an appropriate use of CIL. The Council's CIL Governance arrangements and assessment criteria were changed in June 2019 and again in July 2020. Any persons submitting their bids are advised to look at these governance reviews as they provide clear guidance as to what the Council assesses when looking at bids for CIL monies. A guide has also been produced for organisations wishing to submit bids. Anyone wishing to submit a bid can email [cil@sevenoaks.gov.uk](mailto:cil@sevenoaks.gov.uk) for copy.

The interactive tool (on the SDC website) provides up to date information on how much CIL has been received by the Council. It also shows how much CIL income there has been from qualifying development in each Parish and how much CIL will be given to the relevant Town Parish/ Council. In line with legislation there is nothing to prevent Town/Parish Councils from spending their CIL income on flood mitigation projects. Parish and Town Councils can be contacted separately in regard to their own CIL monies.

### New action: Ightham Property Flood Resilience measures

Carry out scoping surveys to understand which homes at greatest risk of flooding in Ightham are suitable for property resistance measures. Where homeowners agree, install property resistance measures in suitable homes.

Where	Ightham	Owner	Kent County Council
When	2018/19	Supporting organisations	

### Action completed in Year 2

Kent County Council (KCC) has delivered property flood resilience (PFR) measures to 12 properties in Ightham following the flooding in 2016. KCC worked with the Flood Action Group in Ightham to determine the best course of action to manage the flood risk in the village and resolved to provide PFR for those properties that were eligible. The PFR measures installed are primarily passive, that is they are always in place (for instance flood resistant doors) and do not have to be specially deployed, this is because Ightham does not benefit from flood warnings and the flood risk is very flashy in nature.

### New action: Highway drainage pilot

Use innovative technology to manage highway drainage.

Where	Maidstone Borough	Owner	Kent County Council
When	2020-2021	Supporting organisations	

### Year 3 progress update: action ongoing

Kent County Council is running a pilot project in Maidstone to proactively target maintenance works to the locations at highest risk of blockage.

Kent County Council have employed KaarbonTech to use GIS mapping to assess the condition of drains and gullies in Maidstone so that those most at risk of blocking up can be targeted with proactive cleaning before they get blocked – saving money and reducing flood risk.

All 36,000 gullies in Maidstone have been inspected and their condition plotted. The system then analyses multiple sources of data including:

- Cleansing history over the past 9 years
- Complaints over the past 5 years
- Remedial maintenance over the past 5 years
- Historic CCTV surveys

This data was then analysed to identify patterns and continued use of the system will improve the accuracy of these models over time. By striking a better balance between proactive and reactive maintenance the overall cost per gully will be reduced.

17,000 odd gullies will be cleansed proactively during the next 2 months. It's hoped this new way of working will be more efficient and reduce the cost of maintenance and flood risk

# Natural Flood Management



Actions in this theme of work look at how natural flood management techniques could work in combination with engineered solutions to help to slow the flow of water and reduce the impacts of flooding.

There are a wide range of techniques including measures to help slow and/or reduce flows including re-meandering rivers, targeted woodland planting, and techniques to hold water temporarily on the land. As well as

helping to reduce flood risk, natural flood management techniques can also provide wider social and environmental benefits by improving our environment for people and wildlife to enjoy.

## Action 20. Supporting NFM through annual maintenance programmes

Work with partners to consider how our annual maintenance work can support natural flood management measures where they help to reduce flood risk.

Where	Catchment wide	Owner	Environment Agency
When	Annually	Supporting organisations	South East Rivers Trust, Natural England, Upper Medway Internal Drainage Board, Kent County Council, Southern Water, Tonbridge and Malling Borough Council, Tunbridge Wells Borough Council, Sevenoaks District Council, Joint Parish Flood Group, Kent Association of Local Councils, Maidstone Borough Council

### Year 3 progress update: action ongoing

The Environment Agency considers natural flood management plans through its internal consultation on the annual flood risk management maintenance programme. In the future, we plan to take the collated maintenance programme to the NFM steering group with the aim of identifying opportunities to 'slow the flow'.

## Action 21. Improving the River Beult SSSI for people and wildlife

Identify, investigate and agree options to improve the River Beult SSSI for people and wildlife by working with landowners, local partners and groups. This will include options to slow flood flows and use unoccupied areas of the floodplain to temporarily accept flood water.

Where	River Beult between Hadmans Bridge near Smarden and its confluence with the River Medway at Yalding	Owner	Environment Agency
When	2017/18	Supporting organisations	Natural England

### Action completed in Year 1

The Environment Agency published the *Improving the River Beult SSSI for people and wildlife* report on the gov.uk website in August 2018: <https://www.gov.uk/government/publications/the-river-medway-partnership-objectives-members-and-action-plan>

The next step is to put the plan into action and this very much depends on the cooperation and support of local landowners. The Environment Agency and Natural England will use the plan to continue working with partners and local people to design and build the improvement measures. Further surveys and actions will be needed to inform the design stages. Partnership funding will also be needed and a wide variety of sources will be considered, many of which are detailed in the improvement plan.

## Action 22. Mill Farm

Provide 12,500m<sup>3</sup> of flood storage at Mill Farm, Marden and use this site to demonstrate the technique to build support for natural flood management measures.

Where	Mill Farm, Marden	Owner	Kent County Council
When	2017	Supporting organisations	Environment Agency, Mill Farm

### Action completed in Year 1

Kent County Council worked in partnership with a local landowner, to complete a 12,500m<sup>3</sup> flood storage area in Marden which will store peak flows from the drainage ditch network and River Teise which contribute to the flooding within the catchment.

Construction of the £40,000 project took place between November 2016 and December 2017. In addition to storing water, the site provides additional habitat across this higher level stewardship farm, which supports a wide diversity of bird life. The site will be managed for wildlife and has no public access so will be an undisturbed haven for wildlife within the local area.

An opening event was held on 18 May 2018 to showcase the flood storage area to other local landowners. A number of follow up meetings took place with other landowners interested in natural flood management measures.

## Action 23. Paddock Wood

Investigate opportunities to use natural flood management techniques to reduce flood risk in Paddock Wood.

Where	Paddock Wood	Owner	Kent County Council
When	2017/18	Supporting organisations	Upper Medway Internal Drainage Board

### Year 3 progress update: action ongoing

Kent County Council has restored 433 metres of overgrown and neglected ditch at Whetsted Woods, Paddock Wood. The ditch takes flow from the Tudeley Brook when the water level rises, this increases the capacity of the Tudeley Brook, which has an overflow from the nearby Graveley Ways Stream that poses a flood risk to the town.

Native moisture tolerant trees will be planted in the vicinity of the works to increase the biodiversity value of the project and to mitigate against the vegetation removed as part of the process of restoring the ditch system.

## Action 24. Ightham

Investigate opportunities to use natural flood management techniques to reduce flood risk around Ightham.

Where	Ightham	Owner	Kent County Council
When	2017/18	Supporting organisations	Environment Agency

### Year 3 progress update: action ongoing

As noted in the Year 2 report, opportunities for Natural Flood Management in this catchment are limited though the South East Rivers Trust and Countryside Management Partnership are continuing to look for opportunities. However, now that the property resilience measures have been delivered to properties in Ightham this project is a lower priority (see supplementary Ightham action in the Capital Investment and Maintenance theme).

### Action 25. Catchment Sensitive Farming

Explore how we can use the Catchment Sensitive Farming approach to provide advice to farmers about managing water on-farm that promotes natural flood management measures.

Where	River Teise and River Beult catchments	Owner	Natural England
When	2016-2020	Supporting organisations	Southern Water (Beult) & South East Water (Teise)

#### Year 3 progress update: action complete

Natural England's Catchment Sensitive Farming (CSF) team has continued to advise farmers in the Medway catchment on measures to reduce diffuse water pollution, improve soils and the natural flood management capacity of their land. Advice and approval has been provided to Countryside Stewardship Mid Tier and Higher Tier applications on water-related options and capital items to protect and reduce farm-yard runoff. Southern Water are funding the Upper Beult Farm Cluster in partnership with Kent Wildlife Trust. CSF advisors are also continuing to work closely with both water company partners in the Teise and Upper Beult catchments to strengthen the advice-offer to farmers.

### New action 25b: Catchment Sensitive Farming

Continue to use the Catchment Sensitive Farming approach to provide advice to farmers about managing water on-farm that promotes natural flood management measures.

Where	River Teise and River Beult catchments	Owner	Natural England
When	April 2021 to 2025	Supporting organisations	

#### New action in Year 3

Catchment Sensitive Farming work in the Medway catchment will continue into the future with funding from Defra.

The focus for 2020/21 will be on farms in high priority water quality areas. From 2021/22 onwards, the programme will be expanded to both high and medium priority water quality areas. It will also address emerging themes such as air quality, flood risk and related sustainable farming practices.

### Action 26. Ashdown Forest

Investigate the potential to hold floodwater in the upper catchment by restoring areas of wet heathland in Ashdown Forest through the Countryside Stewardship Higher Tier Scheme.

Where	Ashdown Forest / River Medway headwaters	Owner	Natural England
When	2016-2021	Supporting organisations	Ashdown Forest Conservators

#### Action completed in Year 2

Natural England has worked with landowners at Ashdown Forest to agree a Countryside Stewardship agreement which will fund the 7,500m<sup>3</sup> pond restoration work. The agreement was signed in January 2019 and the landowner has planned work to take place in autumn/winter 2019.

### Action 27. West Kent Woods

Explore the potential for natural flood management techniques in the West Kent Woods ecological network around Sevenoaks-Hildenborough-Hadlow-Kings Hill including the use of attenuation methods to slow the flow.

Where	River Bourne	Owner	Natural England
When	2017-2020	Supporting organisations	Kent County Council

#### Year 3 progress update: action ongoing

Assessment of the condition of the SSSI woodlands in West Kent is being done. Follow-up advice is being given to woodland owners which includes advice on flood reduction measures that enhance the woodlands for nature and people.

### Action 28. Countryside Stewardship

Invest in Countryside Stewardship agreements in the catchment, including creation/ restoration/ maintenance of diverse habitats to improve water quality and reduce run-off / erosion.

Where	Catchment wide	Owner	Natural England / Forestry Commission
When	Extended until 2029 when the last agreements may end	Supporting organisations	Southern Water, Landowners and farmers

#### Year 3 progress update: action ongoing

In 2020, the focus has been on creating landscape-scale delivery with landowners in 3 specific project areas. This has been particularly successful in Marden where 5 new Countryside Stewardship agreements are proceeding. All 5 agreements have put measures in place to protect the Lesser Teise/Teise from agricultural run-off. These measure have also created grassland and scrub areas to improve water storage and biodiversity gains. A total of 164 hectares will be sown with deep-rooted crops that will improve soil structure, and reduce compaction and run-off from the land.

A project in Shadoxhurst at the top of the River Beult is also bringing many landowners into agreements to help deliver natural flood management.

Defra have confirmed that agreements will continue to be set up until 2024 when the Environmental Land Management (ELM) scheme is introduced.

### Action 29. Priority NFM sub-catchments

Through the FRAMES project, identify priority sub-catchments where natural flood management techniques will achieve greatest benefit in reducing flood risk in the catchment. Carry out modelling and identify the techniques to achieve this.

Where	Catchment wide	Owner	South East Rivers Trust
When	2017/18	Supporting organisations	Environment Agency, Natural England, Forestry Commission, Kent County Council

#### Action completed in Year 2

Following consultation with partners supported by a wide variety of evidence, SERT have identified 2 flood-affected communities most likely to benefit from natural flood management in the short term. These are Headcorn, where around 20 properties are regularly at risk from flooding from the 'School Stream' (also known as the Hogg Stream); and Five Oak Green, where in the region of 100 properties are at risk from flooding from the Alder Stream.

The small area of these sub-catchments means that natural flood management interventions are likely to have a greater effect. In addition, the nature of the headwaters and surrounding landscape make these catchments particularly suitable for this approach. Much has been learnt through the process of identifying these catchments which can be applied elsewhere.

In the longer term it is hoped that interventions in an increasing number of sub-catchments will have a cumulative effect, and help contribute to reducing flood risk further downstream.

## Action 30. Delivering NFM

Through the FRAMES project, work with local communities and landowners in priority sub catchments to design and deliver natural flood management schemes which will test land-management techniques.

Where	Catchment wide	Owner	South East Rivers Trust
When	2018-2021	Supporting organisations	Environment Agency, Natural England, Forestry Commission, Kent County Council, Maidstone Borough Council

### Year 3 progress update: action ongoing

Thanks to significant progress in reaching agreements with landowners in the sub-catchments affecting Headcorn and Five Oak Green, this year the South East Rivers Trust has been able to fully focus on delivery. We have substantially completed work on 4 sites, with work underway at another 4 and on track to be completed by March 2021. Further work has been identified for 2021-22 should funding become available. Sites on the Alder Stream protecting Five Oak Green and Capel include:

- Pembury Woods (2 locations) – Leaky Woody Dam construction
- Reeds Farm – Leaky Woody Dam construction and fencing of 9ha of ancient riparian woodland
- Amhurst Hill Farm – Leaky Woody Dam construction and ditch restoration/pond creation
- Sites on the School Stream protecting Headcorn
- Kingnoad Pond – flood storage area holding >600m<sup>3</sup>
- Stonehall Farm – creation of Leaky Woody Dams and wetland creation
- Birch Wood – Leaky Woody Dams and woodland management



*Leaky Woody Dam in operation during Storm Dennis, Feb 2020*

The storms of February 2020 affected all of our project areas with properties affected at Five Oak Green and in particular a dozen cottages in the hamlet of Capel. We have worked closely with the residents and the local flood warden to identify the source of the problem there, and have restored an ancient flood relief ditch as an interim measure. The rainfall events were remarkable, and have caused us to re-evaluate the size of the structures we install. These are built even more robustly now, and having seen them put to the test, they perform very well and hold back large volumes of water.



*Leaky Woody Dam construction*

The projects not only contribute to flood mitigation but also deliver multiple benefits for biodiversity, landowners and the public, these include:

- Creation of a biodiversity rich ponds and water meadows
- Protection and restoration of 9ha of ancient woodland under threat from sheep grazing
- Improved fencing and access routes for farmers
- Establishment of new NFM delivery sector amongst local woodland and drainage contractors
- Public education in NFM through a specially constructed display area at Bedgebury Pinetum visitor centre

A full report, and short videos of the project will be available via the SERT website in spring 2021.

The EU FRAMES element of the project was fully delivered in June 2020. We learned much from this and are very grateful to our European partners for their support and encouragement.

### Action 31. NFM funding strategy

Develop a funding strategy to identify and secure additional resources for natural flood management measures across the catchment. This will be a live document and reviewed regularly.

Where	Catchment wide	Owner	South East Rivers Trust
When	2017/18 and reviewed regularly	Supporting organisations	Environment Agency, Natural England, Forestry Commission, Kent County Council, Southern Water, Maidstone Borough Council, Tonbridge and Malling Borough Council

#### Year 3 progress update: action ongoing

£560,000 has been secured to deliver NFM measures in the Medway catchment. In 2020 the Environment Agency increased their Defra funded contribution by £70,000 to £370,000. The match funding from the EU FRAMES project increased by £35,000 to £165,000. Maidstone Borough Council contributed £25,000 of further funding towards delivering NFM within their borough. This has enabled increased delivery of NFM in the catchment.

Further grant applications have been made to the Government's Green Recovery Fund and Maidstone Borough Council. Tunbridge Wells Borough Council and Kent County Council have also indicated a willingness to fund aspects of NFM delivery by the project.

The current economic uncertainty has delayed a definitive funding strategy however SERT is continuing to gather information on potential funding sources in order to compile a guide to potential funding avenues. The incoming 'Environmental Land Management Scheme' for farmers and landowners should offer good potential for NFM delivery on the basis of "public money for public goods". This will include payments to manage land in order to reduce flood risk.

### Action 32. Building NFM awareness and take-up

Through the FRAMES project, coordinate the use of existing mechanisms and networks across the partnership to build understanding of the wider benefits of natural flood management techniques and encourage landowners and tenants to consider implementing them within their current practices.

Where	Catchment wide	Owner	South East Rivers Trust
When	2018-2021	Supporting organisations	Natural England, National Farmers Union, Country Land and Business Association, Environment Agency, Kent County Council

#### Year 3 progress update: action ongoing

Unfortunately Covid restrictions required the cancellation of most public events for landowners and community groups in 2020. Immediately following Storm Ciara in February 2020 with South East Water we did organise a meeting for flood affected residents of Five Oak Green and Capel villages. This was attended by Greg Clark MP and helped promote a better understanding of the causes of such flood events, and potential solutions such as NFM. Follow up meetings hosted by Five Oak Green Parish Council have continued via Zoom. We continue to successfully recruit new landowners to the programme through direct approaches and site meetings.

SERT has promoted wider public understanding of NFM through articles on its website, webinars and social media: [southeastriverstrust.org/category/natural-flood-management/](https://southeastriverstrust.org/category/natural-flood-management/)

The final report of the EU FRAMES project is available on its website at [northsearegion.eu/frames/](https://northsearegion.eu/frames/). This includes sections on SERT's NFM pilot as well as contributions from KCC and other partners on community resilience and the innovative 'Multi-level' approach to flooding across the North Sea region.

In 2021 we plan to create publically viewable NFM structures at Bedgebury Pinetum, and recommence events as conditions allow.

### Action 33. Develop and share NFM case studies

Identify and develop natural flood management case studies from across the country. Build a database of more local demonstration projects and sites suitable for potential walkovers / visits.

Use these to build landowner support for the techniques to slow the flow of flood water and other natural flood management techniques, through targeted discussions with landowners in priority sub-catchments.

Where	Catchment wide	Owner	South East Rivers Trust
When	2018-2021	Supporting organisations	Environment Agency, Natural England, Forestry Commission, Kent County Council

#### Year 3 progress update: action ongoing

We are continuing to gather examples of emerging NFM best practice from around the country and share them with our partners.

We now have 8 project locations in the Medway catchment which are particularly suitable for walkovers and site visits, each of which demonstrate different aspects of NFM. These have been particularly helpful in persuading new landowners to come on board. The sites at Sissinghurst Castle (National Trust) and Bedgebury Forest (Forestry Commission) have been designated as demonstration sites as these are easily accessible to the public. Display panels are planned for Bedgebury, and are already in place at Sissinghurst.

A monitoring programme is in place to help develop a greater understanding of the effectiveness of NFM in mitigating flood risk. The NFM structures created are being logged on a national database. In spring 2021 case studies and a final report will be produced and published on the SERT website.



*Above: Kingsnoad pond (flood storage area) in normal conditions*



*Above: Kingsnoad pond during flood conditions*

# Community resilience



Actions in this theme consider a broad range of activities to improve community resilience, which not only aims to reduce the impact of flooding on communities, but also helps them to continue to function during a flood. This might be by ensuring that the power supply is uninterrupted or by managing traffic to prevent properties flooding from road wash.

The Medway Flood Partnership brings together a wide variety of organisations to work on raising awareness of flood risk, building individual preparedness, emergency planning activities to ensure local communities are ready to respond, and identifying community measures to reduce the impact of flooding.

## Action 34. Raising awareness of the Medway Flood Action Plan and developing it into the future

Run community drop in sessions and workshops to raise awareness of the Medway Flood Action Plan and develop it further to build flood resilience across the catchment and identify next steps for the action plan.

Where	Catchment wide	Owner	Environment Agency and Kent County Council
When	2018/19	Supporting organisations	Medway Flood Partnership

### Year 3 progress update: action ongoing

As reported in Year 2, the Environment Agency consulted on an updated National Flood and Coastal Erosion Risk Management (FCERM) Strategy for England in 2019. The new National FCERM Strategy for England was laid before Parliament in July 2020 and has now been formally adopted and published. All documents associated with the Strategy can be found on the gov.uk website: <https://www.gov.uk/government/publications/national-flood-and-coastal-erosion-risk-management-strategy-for-england--2>

The Strategy sets out a vision of “a nation ready for, and resilient to, flooding and coastal change – today, tomorrow and to the year 2100”. In particular, it describes how we as a nation can move from the concept of protection to resilience and how we embed that across our society. The Medway Flood Partnership is already working to some extent on a number of the themes and objectives discussed in the Strategy and as such will be well-placed to coordinate the delivery of the ambitions it describes.

To turn the measures within the Strategy into practical action, the Environment Agency plans to work with partners to create an action plan which will capture national actions that will start to deliver the measures over the next 5 years. This national action plan is being developed so that it is web based and accessible to national organisations, the public and local partners to inspire practical delivery locally. This will enable both the Environment Agency and our partners to keep actions up to date and ‘live’, so we can all track our progress.

The action plan is expected to be published by April 2021 and the Medway Flood Partnership will use it to consider how we can support its delivery through the Medway Flood Action Plan.

### Action 35. Raising awareness of flood risk to residents

Support local communities to help build residents' awareness of their individual flood risk and what they can do to prepare and respond

Where	Catchment wide	Owner	Kent Association of Local Councils
When	Ongoing	Supporting organisations	Kent County Council, Tonbridge and Malling Borough Council, Tunbridge Wells Borough Council, Sevenoaks District Council, Environment Agency, Kent Resilience Team, Maidstone Borough Council

#### Year 3 progress update: action ongoing

Despite Covid-19 limiting face-to-face engagement, a lot of work has still gone on this year to build awareness of flood risk amongst communities within the Medway catchment. 2 virtual meetings have taken place with the Tonbridge Flood Wardens group, including a presentation about the progress of the Leigh expansion and Hildenborough embankment scheme.

Work has been ongoing to empower Flood Wardens and communities across the catchment to use the materials available on the Kent Resilience Forum web pages to run local flood awareness campaigns.

The Environment Agency's National Flood Action Campaign ran again this year in the week of 9 November and included social media advertising targeting Maidstone, Tonbridge and East Peckham.

Maidstone Borough Council included an article in their November magazine to encourage sign up to flood warnings and highlight new online Flood Warden training which has been developed this year.

More broadly, at a national level, the Environment Agency is working to develop new school resources for local Environment Agency engagement staff and teachers to use to increase awareness of flooding and how to prepare. We hope to roll this out once this become available.



Image from the Environment Agency's forthcoming video demonstrating how to complete a flood plan

### Action 36. Extended Floodline Service

Raise awareness of the Extended Floodline Service and work with local councils to encourage them to register for this free service.

Where	Catchment wide	Owner	Environment Agency
When	Ongoing	Supporting organisations	Kent Resilience Team

#### Action completed in Year 1

Maidstone Borough Council, Tunbridge Wells Borough Council, Tonbridge and Malling Borough Council and Sevenoaks District Council have now all signed up to the Extended Floodline Service.

Through this service, Environment Agency Floodline call handlers will be able to provide up-to-date and locally relevant flooding information direct to residents 24 hours a day, 365 days a year on behalf of the Council.

**Action 37. Build awareness of how structures work to reduce flood risk to homes and businesses**  
 Working with communities and partners, build community understanding about how flood risk management assets are operated to reduce flood risk to homes and businesses without increasing risk to others.

Where	Catchment wide	Owner	Environment Agency
When	Ongoing	Supporting organisations	Kent County Council, Tonbridge and Malling Borough Council, Tunbridge Wells Borough Council, Sevenoaks District Council, Kent Association of Local Councils, Joint Parish Flood Group, Kent Resilience Team, Maidstone Borough Council

**Year 3 progress update: action ongoing**

The Environment Agency has continued to raise awareness of how our assets and structures work to reduce flood risk to homes and businesses across the Medway catchment. The Leigh FSA was part of Queen Mary University’s ‘virtual field trip’ to Tonbridge, and we also delivered a presentation about the Leigh FSA expansion works to the Tonbridge Flood Wardens at their virtual meeting in October.

The Leigh FSA animation continues to be a very useful tool to help people understand how the online flood storage area works to reduce flood risk to Tonbridge. We continued to promote the animation during the flooding experienced between December 2019 and March 2020. Since it went up on YouTube in December 2019 it has received over 6,000 views.

The animation can be viewed on YouTube here: <https://www.youtube.com/watch?v=9FVsi0WNa50> or by searching Leigh Flood Storage Area.

**Action 38. Promoting flood awareness**  
 Continue to promote flood awareness and preparedness and encourage Parish Councils and community groups to complete and test their own flood plans.

Where	Catchment wide	Owner	Kent Resilience Team and Environment Agency
When	Ongoing	Supporting organisations	Kent Association of Local Councils

**Year 3 progress update: action ongoing**

Work on this action has continued this year and the Environment Agency met virtually with the Tonbridge Flood Wardens in November to do a table top test of their Community Flood Plan, support them with updating it and integrating their newly trained wardens.

Over this year, the Environment Agency has refreshed the gap analysis of community risk and preparedness. This describes the number of properties at risk across the partnership area, the number of properties signed up to receive Flood Warnings in the area, the number of Flood Wardens trained and where community flood plans are in place. This information was presented to a wide audience of partners at the Kent Resilience Forum’s Winter Preparedness Briefing in October. The analysis showed that currently there are 155 communities at risk of flooding across the county. There are 360 trained Flood Wardens across Kent, but over 1,000 are needed and the majority of communities don’t have Flood Wardens or flood plans in place.

The gap analysis has been shared with district and borough councils to encourage communities to recognise the risk and create community flood plans. This gap analysis will also be sent to parish councils with a list of the Flood Wardens that the Environment Agency have registered for them, including new wardens that have been recently trained.

### Action 39. Local flood forums

Support communities to establish local flood forums in Headcorn, Ightham and Hildenborough and develop local resilience plans

Where	Headcorn, Ightham, Hildenborough. Further communities may be added as the project progresses	Owner	Kent County Council
When	2017-2019	Supporting organisations	National Flood Forum, Environment Agency

#### Year 3 progress update: action ongoing

Through the National Flood Forum (NFF), Kent County Council is continuing to support Flood Action Groups in Ightham, Headcorn, Hildenborough, East Peckham, Tunbridge Wells and Collier Street. Support has also been offered to the flood committee run by the Parish Council in Five Oak Green. The NFF has supported groups during the pandemic through virtual meetings.

These groups help to raise questions and concerns in the communities to the appropriate risk management authorities and improve communication between these authorities and flood-vulnerable communities.

The groups are discussing forming a countywide group of flood action groups, to offer mutual support and information sharing.

### Action 40. Operational plan for Yalding and Collier Street

Work with partners to develop a jointly owned flood incident plan, to include road closures, to support communities during flood events in Yalding and Collier Street.

If this pilot is successful, develop similar plans for other key communities in the catchment

Where	Yalding and Collier Street	Owner	Environment Agency
When	2017 onwards	Supporting organisations	Kent County Council, Kent Resilience Team, Maidstone Borough Council, Yalding and Collier Street Parish Council

#### Year 3 progress update: action ongoing

As noted in the Year 2 report, the draft plan was successfully used in the December 2019 flooding, and again during the flood events in February and March 2020. A multi-agency debrief of the response was carried out in January 2020 and the learning has been used to refine the plan for future use. A key action identified in the debrief was to widen the membership of the plan to include Kent Police, Kent Fire and Rescue Service, and Little Venice Country Park and Marina, to better join up our emergency response in the area.

### Action 41. Flood training

Run training for Parish Councillors and Clerks in at risk communities to build understanding of all aspects of flooding.

Where	County wide	Owner	Kent Association of Local Councils
When	Ongoing	Supporting organisations	Environment Agency, Kent Resilience Team

#### Year 3 progress update: action ongoing

In 2019 the Environment Agency ran a pilot with Folkestone and Hythe to train council staff as Flood Wardens and help build understanding of the role of Flood Wardens to support the Council's planning for the wider response. This was very successful with 45 staff trained. As a result, Sevenoaks District Council subsequently asked for training for their staff and over 30 staff attended.

The Environment Agency presented a paper on the pilot to the local emergency planning group to raise awareness of the approach. There was positive interest so another session was held on 8 December 2020 to train a further 30 staff from across 6 different borough and district councils.

## Action 42. Flood Wardens

Recruit, train and maintain engagement with new and existing volunteer flood wardens.

Where	Ongoing - Tonbridge, Hildenborough, Edenbridge, Yalding, Little Venice Country Park and Marina, Paddock Wood, East Peckham, East Farleigh, Collier Street. New communities on demand	Owner	Environment Agency
When	Ongoing, as required	Supporting organisations	Kent Resilience Team, Tonbridge and Malling BC, Tunbridge Wells BC, Sevenoaks DC, Kent Association of Local Councils, Joint Parish Flood Group, Maidstone BC

### Year 3 progress update: action ongoing

With Covid-19 and physical restrictions in place this year, much of the community engagement work has gone online and the Environment Agency and Kent Resilience Forum have re-designed the previously face-to-face Flood Warden training into an e-training package which has been delivered with tremendous success.

Virtual Flood Warden training sessions were run on 13 October and 24 November to a total of 152 attendees. Online polls run through the session helped to check the audience's understanding and ensure the training was effective and at the right pace for everyone. 4 speakers joined the event covering:

- the role of a Flood Warden before, during and after a flood
- flood and weather warnings from the EA and Met Office
- types of flooding
- flood safety awareness including operating safely during the COVID-19 pandemic.

The training has received excellent feedback from attendees:

- *"A clear presentation with a great deal of ground covered in detail, with all questions answered quickly and well"*
- *"Everyone present was made to feel welcome and involved"*
- *"The role of the Volunteer Flood Warden was recognised as a vital and valued part of the response to flooding"*
- *"I look forward to playing my part as a Volunteer Flood Warden"*

We are using all the feedback to continue to develop the programme.

Existing Flood Wardens also received a refresher session which included Covid-19 guidance. The session enabled Wardens to share how they have helped their communities prepare since receiving their training. Interestingly, feedback showed that communities with Flood Wardens in place often found they were able to enact their emergency plan for the Covid-19 response more quickly. This was because they already had networks and channels in place.

In some areas, the Covid-19 response has actually increased the number of Flood Wardens. This is because people who have assisted in the response want to continue supporting their communities. You can find out more about becoming a Flood Warden here: [www.kentprepared.org.uk/flood-warden](http://www.kentprepared.org.uk/flood-warden)



### Action 43. Emergency flood plans for rural businesses

Develop an emergency flood plan template for rural businesses to ensure they know what action to take in the event of a flood.

Use existing mechanisms to work with businesses and landowners to promote flood awareness and preparedness and encourage them to complete their own the plans.

Where	Catchment wide	Owner	National Farmers Union
When	Ongoing	Supporting organisations	Environment Agency, Kent Resilience Team, Country Land and Business Association

#### Year 3 progress update: action ongoing

### Action 44. Kent Prepared

Use Kent Prepared website to raise awareness of flood risk to the business community

Where	Catchment wide	Owner	Kent Resilience Team
When	Ongoing	Supporting organisations	Environment Agency, Tonbridge and Malling Borough Council, Tunbridge Wells Borough Council, Sevenoaks District Council, Maidstone Borough Council

#### Year 3 progress update: action ongoing

The impact of Covid-19 along with planning for EU Exit has delayed the progress of the redevelopment of the Kent Prepared website though we hope to push this forward again over the coming year.

The Kent Prepared website continues to house flood awareness advice, resources and information for businesses, to aid with preparedness and business continuity in the event of flooding: <https://www.kentprepared.org.uk/>

### Actions 45: Traffic management measures to reduce flood risk

Investigate and install traffic management measures as part of the Middle Medway Flood Resilience Scheme to reduce the risk of flooding to homes from road wash.

Where	Yalding, Collier Street and Hunton	Owner	Kent County Council
When	2017-2022	Supporting organisations	Yalding, Collier Street and Hunton Parish Councils, Maidstone Borough Council, Kent Resilience Team, other councils as necessary

#### Year 3 progress update: action complete

Kent County Council Highways have worked closely with the Parish Councils of Yalding, Collier Street and Hunton to plan temporary traffic management measures which can be deployed when needed to reduce the risk of flooding from road wash. The kit was delivered in Year 1 and the protocol for use was finalised in Year 2.

The measures were put into action during the flood events of December 2019 and February/March 2020 as part of the Medway Confluence Operational Framework (see Action 40). The measures had some limited success and learning was identified during the multi-agency debrief after the December flood event.

### Actions 46: Traffic management measures to reduce flood risk

Use learning from Middle Medway Flood Resilience Scheme to consider other areas in the catchment where traffic management may help to increase resilience to flooding. Work with local businesses to raise their awareness of how they can help to reduce flood risk.

Where	Yalding, Collier Street and Hunton	Owner	Kent County Council
When	2017-2022	Supporting organisations	Yalding, Collier Street and Hunton Parish Councils, Maidstone Borough Council, Kent Resilience Team, other councils as necessary

#### Year 3 progress update: action ongoing

Now that Action 45 is complete, KCC will work with other areas to identify where there are opportunities to manage traffic in this way. Conversations are currently ongoing with Marden Parish Council, however, Covid-19 restrictions are likely to delay this work.

### Action 47. Asset resilience

Understand which Southern Water assets are key to community resilience during flood events. Work with partners to consider how to make these sites more resilient so that they can continue to support communities during flooding.

Where	Catchment wide	Owner	Southern Water
When	Ongoing	Supporting organisations	Kent County Council, Environment Agency

**Year 3 progress update: action ongoing**

### Action 48. Testing community flood plans in the Middle Medway

Develop and deliver a rolling exercise programme to test community flood plans within the Middle Medway Flood Resilience Scheme area, including any action needed for homes with property level resilience measures.

Where	Yalding, Collier Street, Hunton, Marden, West Farleigh, East Farleigh, Wateringbury and Nettlestead	Owner	Environment Agency
When	Rolling programme from 2018	Supporting organisations	Maidstone Borough Council, Kent County Council, Kent Resilience Team, Joint Parish Flood Group

**Year 3 progress update: action ongoing**

Property Flood Resilience measures have now been installed to 228 properties in Phase 1b. A few of these properties were affected by flooding in December 2019. An investigation found that some measures needed minor remedial works, some brickwork needed sealing, and some measures had been deployed incorrectly by the residents. Our contractor revisited these properties to complete corrective works and we received positive reports that they performed well during the flood event in March 2020.

Over 2020, our contractor has visited all participating residents to explain and demonstrate the measures so that they are able to deploy their measures themselves when required. Instruction on storage and maintenance has also been provided.

An exercise also took place over several days during February 2020 during which residents had the opportunity to practise the installation of their measures under the supervision of the contractor and for the measures to be tested.

Correct deployment of the measures is essential so the Environment Agency will continue to work with the parish councils to incorporate a PFR exercise into tests of community flood plans. This will give residents the opportunity to check they are able to deploy them and check their measures are in good working condition.

### Action 49. Testing community flood plans

Develop and deliver a rolling exercise programme to test community flood plans.

Where	Catchment wide	Owner	Environment Agency
When	Ongoing	Supporting organisations	Kent Resilience Team, relevant Borough and District Councils

**Year 3 progress update: action ongoing**

Communities can download scenarios to test their community plans from the Kent Prepared website: <https://www.kentprepared.org.uk/>. The Environment Agency are still offering to support communities to hold exercises virtually. This has been advertised at the Kent Resilience Forum's Winter Preparedness briefing in October, at the training sessions for new Flood Wardens and at the refresher session for existing Flood Wardens.

### Action 50. Flood asset register

Compile a register of flood risk assets in Kent, including high risk culverts, watercourses and other drainage assets, structures and locations.

Share this flood risk management asset information so that local communities understand where local assets are and who is responsible for them.

Where	County of Kent	Owner	Kent County Council
When	2017	Supporting organisations	All Risk Management Authorities

#### Year 3 progress update: action ongoing

At the end of Year 1, Kent County Council had prepared a beta version of a website which collates flood risk assets, watercourses etc, which was being tested. The website has been revised after beta-testing however, Covid-19 has delayed progress this year. The updated website will now be launched in 2021.

### Action 51. Flood Risk to Communities documents

Develop and publish *Flood Risk to Communities* documents for all Kent districts and boroughs to explain all sources of flood risk in an area, who is responsible for managing different flood risks, who will do what in an emergency and what is currently planned to manage flood risk in the area

Where	In each borough and district of Kent, including: Maidstone, Tonbridge and Malling, Tunbridge Wells, Sevenoaks	Owner	Kent County Council
When	2017	Supporting organisations	All Risk Management Authorities

#### Year 3 progress update: action ongoing

Kent County Council has prepared draft Flood Risk to Communities documents for all Kent districts and boroughs. These can be found on the KCC website here: <https://www.kent.gov.uk/about-the-council/strategies-and-policies/environment-waste-and-planning-policies/flooding-and-drainage-policies/flood-risk-to-communities>

Unfortunately, Covid-19 has delayed progress in finalising these documents this year so Kent County Council now expect to complete them in Summer 2021.

### Action 52. Using national planning policy to manage flood risk

Continue to apply national planning policy and local approaches to the practical design of development and sustainable drainage systems to ensure that planning for new development reduces the risk of flooding

Where	Catchment wide	Owner	Maidstone Borough Council, Tonbridge and Malling Borough Council, Tunbridge Wells Borough Council, Sevenoaks District Council
When	Ongoing	Supporting organisations	Kent County Council, Environment Agency

#### Year 3 progress update: action ongoing

In March 2019, Sevenoaks District Council's Draft Local Plan was submitted for public examination. The Planning Inspector's Examination of the Local Plan concluded that the Plan was not legally compliant in respect to duty to co-operate. Sevenoaks District Council's subsequent judicial review against the decision to reject the draft Local Plan, was unsuccessful. In December 2020 Sevenoaks District Council submitted an application to the Court of Appeal to challenge the decision of the Judge. They are awaiting the outcome of the application. Any documents or news can be found on the Council's website: [www.sevenoaks.gov.uk/info/20069131/emerging\\_local\\_plan](http://www.sevenoaks.gov.uk/info/20069131/emerging_local_plan)

Tonbridge and Malling Borough Council has prepared a new borough-wide Local Plan focused on the period up to 2031. This new Local Plan has been consulted upon and now is at the examination stage. Documents and news can be found on the Council's webpage: <https://www.tmbc.gov.uk/services/planning-and-development/planning/planning-local-plans>

### Action 53. Managing flood risk in new developments

Continue to encourage developers to have pre-application discussions to ensure new development incorporates flood risk management best practice.

Where	Catchment wide	Owner	Kent County Council and Environment Agency
When	Ongoing	Supporting organisations	

#### Year 3 progress update: action ongoing

The Environment Agency has continued to provide a pre-planning application advice service this year, where developers can discuss their proposals and gain flood risk mitigation advice, before submitting a planning application to the planning authority.

The Environment Agency has talked to developers about 10 sites within the Medway Flood Action Plan area this year and encouraged them to include best practice measures in their developments. Of the 5 pre-planning applications we advised last year, 2 have submitted amended plans implementing our advice in regards to flood risk mitigation.

Kent County Council also offer pre-planning application advice where developers can discuss their drainage proposals prior to submitting an application.

### Action 54. Neighbourhood plans

Encourage Town and Parish Councils who are preparing Neighbourhood Plans to consider sustainable drainage and flooding mitigation measures in their Plans where appropriate

Where	Catchment wide	Owner	Kent Association of Local Councils
When	Ongoing	Supporting organisations	Tonbridge and Malling Borough Council, Tunbridge Wells Borough Council, Sevenoaks District Council, Maidstone Borough Council, Kent County Council, Environment Agency

#### Year 3 progress update: action ongoing

The Kent Association of Local Councils has continued to encourage town and parish councils to consider incorporating flood policies specific to their local area into their Neighbourhood Plans. These policies could include sustainable drainage systems and flood mitigation measures as appropriate.

Through 2020, articles were published in the Kent Association of Local Councils' Parish News.