DORSET & WILTSHIRE FIRE AND RESCUE AUTHORITY

Item 21/07

MEETING	Dorset & Wiltshire Fire and Rescue Authority
DATE OF MEETING	11 February 2021
SUBJECT OF THE REPORT	Technical rescue review
STATUS OF REPORT	For open publication
PURPOSE OF REPORT	For approval
EXECUTIVE SUMMARY	This paper provides an overview of the current technical rescue provision within the Service and outlines two options to improve the efficiency and effectiveness of these specialist functions. Currently five stations provide technical rescue capabilities that include large animal rescue, working at height, bariatric support to the Ambulance Service, water rescue, technical search and confined space rescues. As it currently stands these stations have different combinations of technical rescue capabilities, which means that the provision across the wider Service is not aligned. This can result in an over mobilisation of firefighters and appliances to incidents, at additional cost, and can result in problems with wider crewing. In some cases, it also means that station availability is sometimes adversely impacted, particularly in the north of the Service. Within the water rescue element of the technical rescue, all 50 stations provide a level of capability whereby all firefighters are trained to work safely near water and perform rescues where the casualty can be reached using flotation and throw line equipment. This is known as Level 1 capability. In addition to this, currently crews from Bradford on Avon, Bridport, Christchurch, Malmesbury, Salisbury and Sturminster Newton have the capability to perform

	rescues of a higher specialism, usually where people are trapped in vehicles and homes in flood water. This is known as Level 2 capability. Crews at Chippenham, Poole, Stratton, Trowbridge and Weymouth have Level 3 capability, where firefighters may affect rescues from fast flowing water, through either performing a swim type rescue or with inflatable non-powered boats off rope cableways. This capability also provides a safe system of work for all other crews operating at the lower levels. Members are asked to consider two options to improve the efficiency and effectiveness of the Service's technical rescue capabilities, including water safety. The first option comprises of three teams that will be crewed by wholetime firefighters at Poole, Stratton and Weymouth. These stations have the capability to provide all technical rescue specialisms, including water rescue, in a consistent and more resilient way. This option includes maintaining a Level 2 water rescue capability at Bradford on Avon, Bridport, Chippenham, Christchurch, Malmesbury, Salisbury, Sturminster Newton and Trowbridge to allow for rescues where people are trapped in vehicles and homes in flood water. Should spate flooding conditions occur then teams from across the Service would be mobilised and local or national mutual aid arrangements initiated, as necessary. This option requires a one-off expenditure of £33,841 for training courses and £36,278 for equipment alignment, however, it provides ongoing annual savings of £29,834. In addition, capital programme costs have been reduced by £257,805. The second option comprises of three teams that are crewed by wholetime firefighters at Poole, Stratton and Weymouth. These stations have the capability to provide all of the technical rescue specialisms, including water rescue, in a consistent and more resilient way. This option includes maintaining a Level 2 water rescue capability at Bradford on Avon, Bridport, Christchurch, Malmesbury, Salisbury and Sturminster Newton to allow for rescues where people are trapped in vehicles and homes in flood water. This option would see Chippenham and Trowbridge retain Level 3 water rescue capability. This option has the same one-off costs as Option 1, but additional ongoing annual costs of £33,517.

	The capital programme would need to be increased by £120,000 to allow for the replacement of the current vehicles at Chippenham and Trowbridge, which will increase future capital financing costs. Officers will present both options at the Fire and Rescue Authority meeting to build upon the Members' seminars which have already been held in November 2020, December 2020, and January 2021.
RISK ASSESSMENT	Known risks have been identified within the body of the report, with potential mitigations as required.
COMMUNITY IMPACT ASSESSMENT	An impact assessment has been completed which shows that the disposition of technical rescue stations in Option 1 allow at least one technical rescue resource to reach all 50 station areas within 60 minutes and meets the Service's risk profile, therefore improving the provision currently provided. Option 2 has additional positive community impacts, provided that an increase in revenue and capital financial provision can be allocated by Members within their Medium-Term Finance Plan.
BUDGET IMPLICATIONS	Option 1: This option would require one-off expenditure of £70,119 for training courses and equipment with ongoing annual costs of £139,550. This provides an ongoing annual saving of £29,834, compared to current costs. This option avoids the need to spend £257,805 to replace the technical rescue vehicles at the current stations. Option 2: This option would require the same one-off expenditure for training courses and equipment as Option 1 with ongoing annual costs of £173,067. This is an ongoing annual increase of £33,517 above the costs of Option 1. In addition, £120,000 would need to be added to the capital programme for vehicle replacements required in 2025-2026, reducing the capital saving from £257,805 to £137,805.

RECOMMENDATIONS	Members are asked to consider and approve one of the following options: ***Option 1*:** Establish three consistent technical rescue teams, aligned to the Service risk profile, that are crewed by wholetime firefighters at Poole, Stratton and Weymouth. *Note: This option includes maintaining Level 2 water rescue capability at Bradford on Avon, Bridport, Chippenham, Christchurch, Malmesbury, Salisbury, Sturminster Newton and Trowbridge, to allow for rescues where people are trapped in vehicles and homes in flood water.* or ***Option 2*:** a) Establish three consistent technical rescue teams, aligned to the Service risk profile, that are crewed by wholetime firefighters at Poole, Stratton and Weymouth; and, b) Retain a Level 3 water rescue capability at Chippenham and Trowbridge. *Note: This option includes maintaining Level 2 water rescue capability at Bradford on Avon, Bridport, Christchurch, Malmesbury, Salisbury and Sturminster Newton to allow for rescues where people are trapped in vehicles and homes in flood water.* Following a comprehensive review, the officer recommendation is Option 1.
BACKGROUND PAPERS	1. UK FRS National Operational Guidance- Water Rescue and Flooding (21 September 2020) 2. UK FRS National Operational Guidance- Operations: Hazard- Bodies of Water (8 May 2019) 3. Department for Environment Food and Rural Affairs (DEFRA): Flood rescue Concept of Operations (November 2019) 4. UK FRS National Operational Guidance- Incidents Involving Animals (29 March 2018) 5. National Fire Chiefs Council Operations Coordination Committee: Safe Working at Height- Team Typing (6 September 2017)

APPENDICES	Appendix A - Costings, Benefits and Risks of combinations of Technical Rescue Stations. Appendix B - Flood Maps for Water First Responder and Water Technician stations from the Environment Agency. Appendix C - Details the type of flood warning and the location for which it was issued, between 2006 and 2017. Appendix D - Summary of the communication and engagement carried out during this technical rescue review.
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1. Background

1.1 Technical rescue is an enhanced rescue capability undertaken by a limited number of stations. Technical rescue comprises of an enhanced capability in the following areas:

- Animal rescue
- Working at height
- Bariatric support to the Ambulance Service
- Water rescue
- Technical search
- Confined space rescue

1.2 Technical rescue is not a statutory requirement for the Fire and Rescue Authority, and several fire and rescue services no longer have or offer this capability but instead rely on mutual aid arrangements.

1.3 The Service has maintained a technical rescue capability to ensure provision is made for a safe system of work for activities that are statutory. Technical rescue also enhances the Service's ability to respond to other eventualities under section 11 of the Fire and Rescue Services Act 2004 and supports our requirements outlined in the Civil Contingencies Act 2004. When planning for response to water rescues and flooding the Service follows the guidance provided within UK FRS National Operational Guidance, which refers to best practice detailed within the Department for Environment Food and Rural Affairs' Flood Rescue Concept of Operations. Guidance related to working near water or unstable surfaces is not limited to water related incidents and is included in National Operational Guidance issued by the National Fire Chiefs Council.

2. Current position

2.1 Currently the Service has a technical rescue capability located at five stations, which are: Chippenham, Poole, Stratton, Trowbridge and Weymouth. These are illustrated in Figure 1.

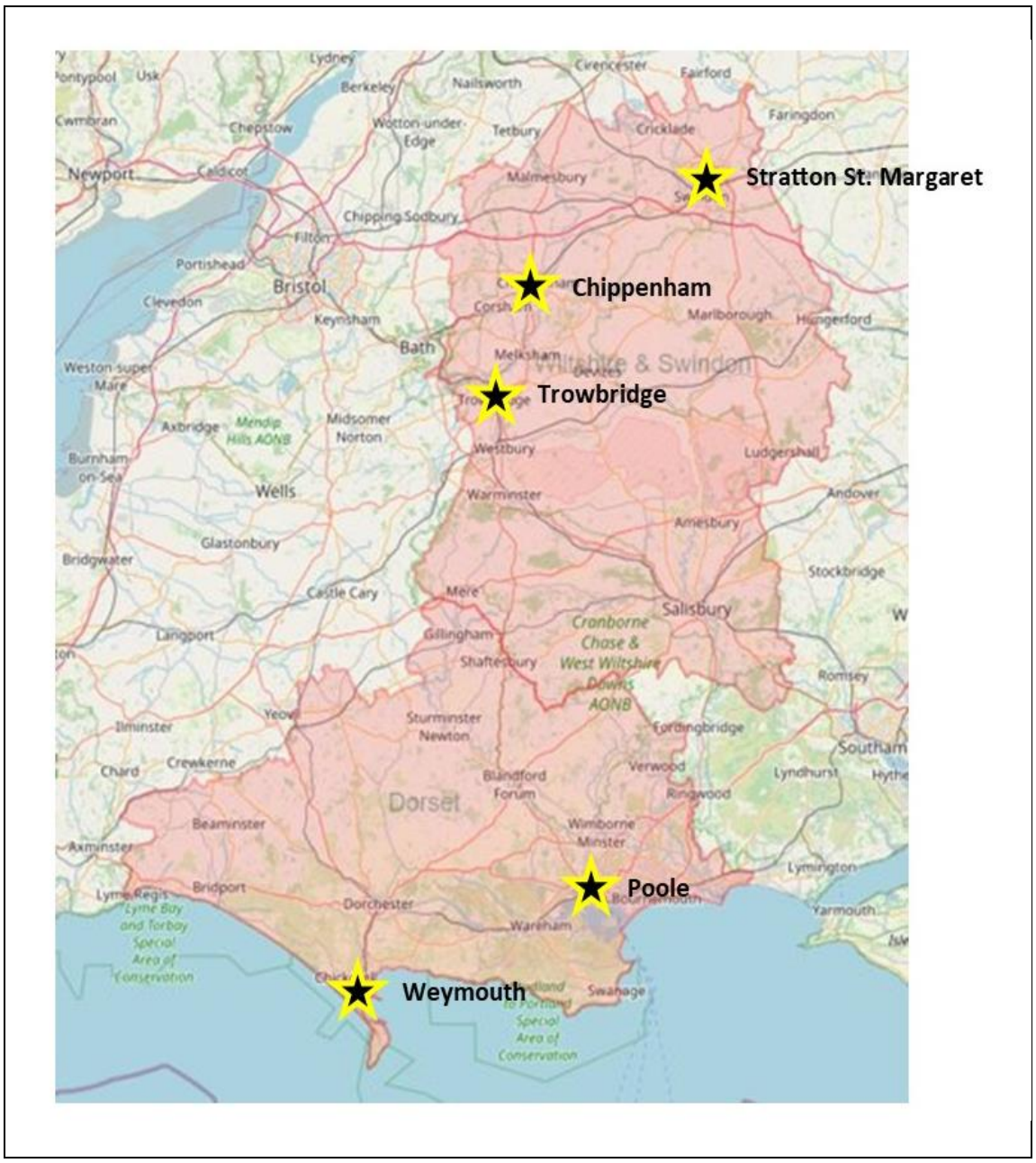


Figure 1 - Locations of current Service technical rescue capabilities.

2.2 The capabilities and locations of technical rescue derives from the two legacy fire and rescue services and as a result the stations deliver different levels of these capabilities. It should be noted that the rationale for the locations of these specialist services is against risk but also for practical purpose, such as, balancing the range of operational competencies for firefighters or the suitability of operational duty systems to help maintain availability.

2.3 The current technical rescue provision across the Service can be seen in Table 1.

Station	Current technical rescue Specialism	Crewing System	Number of trained staff
Chippenham	Rope, Water, Boat, Technical Confined Space	Day crewed	14
Poole	Animal, Rope, Water, Bariatric, Technical Confined Space	Two Wholetime Watches	48
Stratton	Animal, Water	Wholetime	28
Trowbridge	Rope, Water, Bariatric, Technical Confined Space, Technical Search	Day crewed	14
Weymouth	Rope, Water, Technical Search, Technical Confined Space	Wholetime	28

Table 1 - Current technical rescue provision and arrangements.

2.4 As previously stated, the current provision of technical rescue is not consistent across the Service with resultant levels of inefficiencies and potential cost avoidance. This is due to:

i. *Operational capabilities*: Not all technical rescue stations have the full range of capabilities, therefore, some incidents require the mobilisation of more than one technical rescue station to resolve the incident. For example, if the technical rescue team at Stratton fire station is mobilised to a large animal rescue incident that requires the use of ropes, an additional team will need to be mobilised to provide the capability. This means that two stations are now engaged in an incident which may have a consequential impact on appliance availability and attendance to other emergency incidents. In some cases, it may also incur additional costs due to operational backfill arrangements.

ii. *Equipment and vehicles*: The differences in the equipment carried by different technical rescue teams can lead to more than one technical rescue team being mobilised to an incident to provide all the equipment required to resolve the incident. Different technical rescue vehicle solutions across the Service result in inconsistencies from a fleet perspective, and this incurs additional maintenance costs. Some of the current technical rescue vehicles in the north of the Service area are already at their maximum weight capacity and unable to stow all the required equipment. This has resulted in equipment allocated to one station being kept at another. This occurs at Chippenham and Trowbridge fire stations.

iii. *Duty systems*: Two of the stations delivering a technical rescue capability operate on a day crew duty system. These are Trowbridge and Chippenham. Technical rescue requires a minimum of five crew members and the day crew

duty system means there are occasions when the technical rescue capability is unavailable due to insufficient crews being on duty. Whilst this may affect the availability of technical rescue deployment from these stations, it does not impact on the availability of a fire appliance that require a crew of four to be deployed. In these instances, it is necessary to mobilise both of the day crewed technical rescue stations to an incident to form a full team.

2.5 Under delegation, the Chief Fire Officer, through his senior officers, commissioned a comprehensive review of the Service's technical rescue provision with the aim of realigning existing assets to the most efficient and effective way, addressing community risk and operational demand. No prescribed options were given to the officers conducting this review, although a parameter was set that it should operate within the current cost envelope, due to the medium-term financial cost pressures facing the Authority.

2.6 A significant number of variations and combinations of stations were considered by specialist officers throughout this review (see appendix A). After a significant level of discussions and a high-level option appraisal, an initial scoping report proposed a three-station solution as the best way forward. Importantly, due to the increased complexities of the new aerial ladder platform appliances, it concluded that technical rescue capabilities could not be located at the same station due to the requirement for staff to maintain too many operational competencies within the rostered time they have available.

2.7 Senior officers subsequently requested a more detailed feasibility study to also consider the disposition of resources between Weymouth fire station and Salisbury fire station. They asked that staff and their representative bodies be fully engaged to avoid any preconceived perceptions and to secure frontline views to ensure they were fully considered. Numerous visits to affected stations were held and representative bodies were systematically engaged.

3. Technical rescue risk profile

3.1 To support the wider review of technical rescue, incident data, that has been gathered in a consistent way across the Service since 1 April 2016 has been used. For the water rescue element of this review, and to put some further contextual information with regards to the spate flooding conditions, the review has also analysed:

- fire and rescue water rescue activity experienced in 2013-14 when significant spate conditions last occurred
- strategic flood risk assessments for each unitary authority within the Service area
- flood warning information from the Environment Agency between 2006 and 2017.

3.2 Between 1 April 2016 and 31 March 2020, 630 technical rescue incidents which involved large animal rescue, working at height, bariatric support to South West Ambulance Service NHS Trust (SWAST), water rescue, technical search and confined space rescues occurred within Service.

3.3 Of the 630 incidents where technical rescue assets were mobilised, only 335 (53%) required a technical rescue capability to resolve the incident. The number of which, split by capability type, can be seen below in Figure 2.

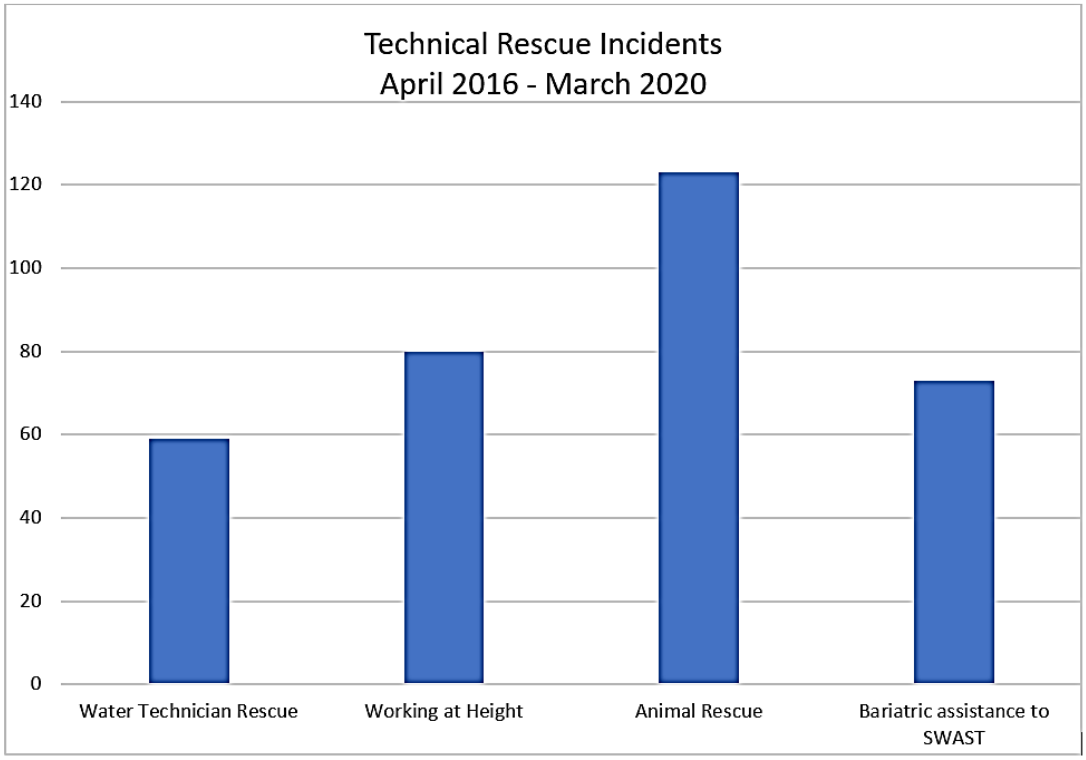


Figure 2 - Number of technical rescue incidents by capability type from April 2016 to March 2020.

3.4 The following sections provide an overview of the risk and demand profiles in order of greatest to least incident demand.

3.5 **Animal rescues**

3.5.1. As stated earlier in the report, fire and rescue authorities have no statutory duty to respond to animal rescues. However, the Authority has chosen within its policies to provide a response using powers under section 11 of the Fire and Rescue Services Act 2004 - Power to respond to other eventualities, (2) the event or situation is one that causes or is likely to cause (b) harm to the environment (including the life and health of plants and animals).

3.5.2. There are two levels of animal rescue response within the Service that are aligned to standards set in the National Operational Guidance - Incidents Involving Animals. All operational crews across the Service are trained in line with these standards and will often be mobilised following the request from the RSPCA to provide the assistance to rescue trapped *smaller* animals in distress. Technical rescue teams

at Poole and Stratton have enhanced training and equipment to carry out more specialist or complex rescues involving *larger* distressed animals (e.g. deer, horses, sheep) and provide a safe system of work to all other crews undertaking animal rescues.

3.5.3. Between 1 April 2016 and 31 March 2020, the Service attended 169 animal rescue incidents. Of these incidents 123 required a technical rescue team intervention from one of the Service's two technical rescue teams with a large animal rescue capability, located at Poole and Stratton fire stations (see Figure 3).

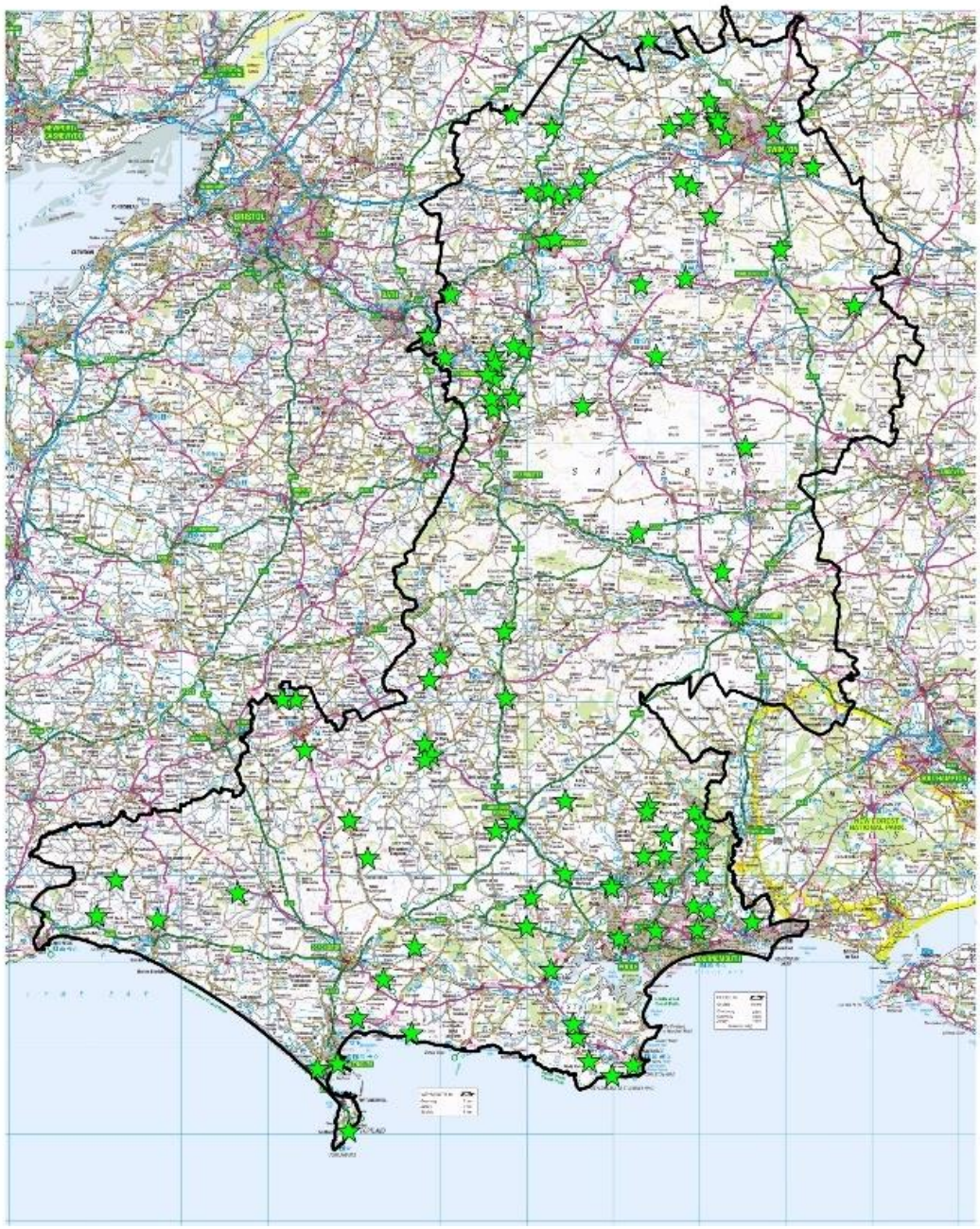


Figure 3 - Large Animal rescue incidents attended by the Service.

3.5.4. Large animal rescue incidents constitute the highest area of demand for the Service's technical rescue teams. As a predominantly rural Service animal rescue incidents occur throughout the Service area. The current disposition of technical rescue teams with an animal rescue capability enables a response to 46 of the Service's 50 fire stations within a 60-minute timeframe.

3.6 **Working at height**

3.6.1. There are three levels of working at height capabilities within the Service, aligned to the National Fire Chiefs Council 'Safe working at height/Rope Rescue' team guidance:

- *Level 1 (Safe Working at Height)*: This capability allows all operational crews to perform rescues using standard fire service ladders and aerial ladder platforms. Level 1 teams can also use a single rope to secure a casualty whilst awaiting rescue from a twin line rope team. This capability is available at all fire stations

- *Level 2 Rope Rescue*: This capability enables rescues to be performed using twin line ropes so a casualty can be lowered to a point of safety. All 12 fire stations with a wholetime firefighter complement are trained and equipped to work at this more complex level

- *Level 3 Rope Rescue*: This capability enables complex technical rope rescues to be undertaken. Casualties can be rescued from above or below ground or by lowering, or raising, to a point of safety. This capability provides a safe system of work for all other crews operating at the lower levels (for rescuing the rescuers). Technical rescue crews at Chippenham, Poole, Trowbridge and Weymouth are equipped and trained to work at Level 3 rope rescue.

3.6.1.1. Between 1 April 2016 and 31 March 2020 technical rescue crews attended 121 rope incidents in total, 80 of which required a Level 3 rope rescue intervention as shown in Figure 4.

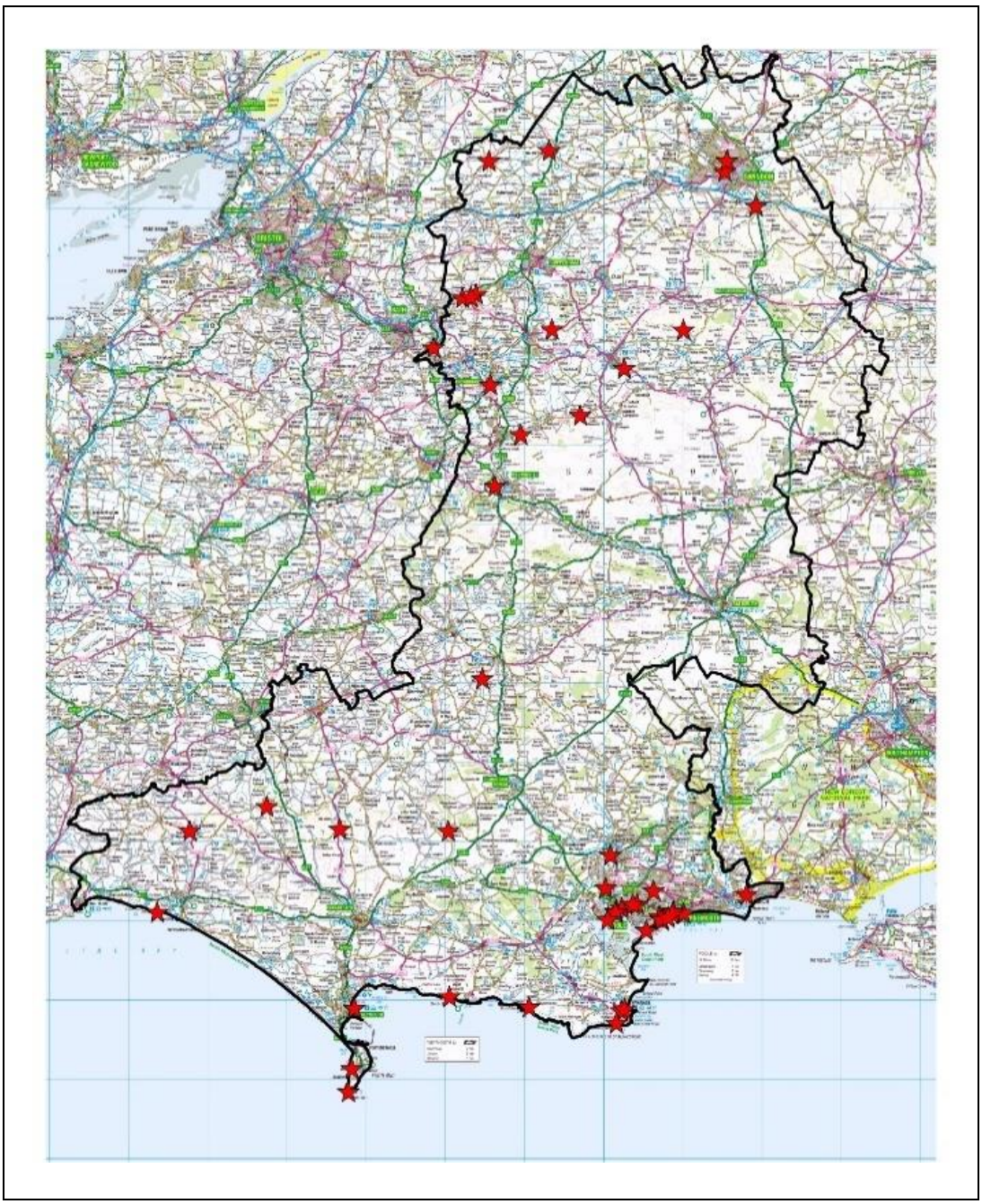


Figure 4 - Level 3 rope incidents attended by the Service.

3.6.2. It is clear that incidents occur across the Service area, but with a higher concentration of incidents in the conurbations of Swindon, Bournemouth, Christchurch and Poole and along the coast. The incidents in urbanised areas of the Service are predominantly due to higher buildings and structures and the increased populations in those areas.

3.6.3. In terms of coastal rescues, the two search and rescue co-ordinating authorities within the UK are the Police and HM Coastguard. To avoid duplication in effort between HM Coastguard and the Police it has been agreed that a coastal incident which develops on the seaward side of the coastline, below the mean high water spring tide mark, but including sea cliffs, shoreline, and other littoral areas, will be co-ordinated by HM Coastguard, and those above the mean high water spring tide by the Police.

3.6.4. The Service has discretionary powers to respond where there is risk of illness, death or injury to persons or harm to the environment. Between 1 April 2016 and 31 March 2020, the Service's technical rescue resources have assisted search and rescue efforts, by either the Police or HM Coastguard, on 62 occasions, predominantly with the provision of Level 3 rope rescue teams.

3.7 Bariatric support to the Ambulance Service

3.7.1. The Service's strategic assessment of risk, presented to Members last year, highlights that the number of morbidly obese patients has almost doubled in the last ten years. This indicates a likely increase in the number of incidents the Service will be required to attend, in the case of a life-threatening emergency, or requested to attend to assist the Ambulance Service in getting patients to hospital.

3.7.2. There are two levels of bariatric support response within the Service. Prior to mobilisation, all incidents of this type are assessed by the duty Tactical Advisor:

- *Non-complex response*: All 50 fire stations are equipped and trained to provide general assistance to ambulance crews at non-complex bariatric incidents

- *Complex support*: For more complex bariatric incidents often, involving complex ropes, shoring of ceilings and building structures, a specialist technical rescue response with enhanced training and equipment is needed. This capability is currently available from Poole and Trowbridge fire stations.

3.7.3. Although there is not a statutory duty within the Fire and Rescue Services Act 2004 to support the Ambulance Service with moving bariatric casualties, it should be acknowledged the Service may be called to incidents within their statutory duties involving bariatric casualties, such as, road traffic incident or fires within buildings.

3.7.4. Between 1 April 2016 and 31 March 2020 the Service provided a specialist technical rescue response to 73 bariatric incidents (shown in Figure 5). It should be noted that the number of bariatric incidents responded to by the Service has increased each year, with 47 bariatric incidents during 2019-20, supporting the findings of the strategic assessment of risk.

Figure 5 - Location of bariatric rescues or support by the Service.

3.8 **Water rescue**

3.8.1. There are three levels of water rescue response within the Service aligned to the Department for Environment Food and Rural Affairs concept of operations.

- *Level 1 (Water Awareness Teams)*: This capability allows all our frontline firefighters the ability to work safely near water and perform rescues where the casualty can be reached using flotation and throw line equipment

- *Level 2 (Water First Responder)*: This capability allows crews from Bradford on Avon, Bridport, Christchurch, Malmesbury, Salisbury and Sturminster Newton to enter water in a non-buoyant capacity, to perform rescues (usually where people are trapped in vehicles and homes in flood water)

- *Level 3 (Water Technician Teams)*: This capability allows crews from Chippenham, Poole, Stratton, Trowbridge and Weymouth to enter Class 2 water (fast flowing), through either performing a swim type rescue or with inflatable non-powered boats off rope cableways, which all Level 3 water technician teams are equipped with. The Service also have a rigid inflatable boat based at Chippenham fire station. Level 3 water technician teams provide a safe system of work for all other crews operating at the lower levels (for rescuing the rescuers).

3.8.2. Between 1 April 2016 and 31 March 2020 technical rescue teams attended 105 water incidents. 59 of these incidents required a Level 3 intervention (shown in Figure 6). In addition to this, there were four incidents which Chippenham's powered boat attended, none of which were life critical.[1]

[1] Two of these incidents were for body retrieval from water and two were related to animal rescues.

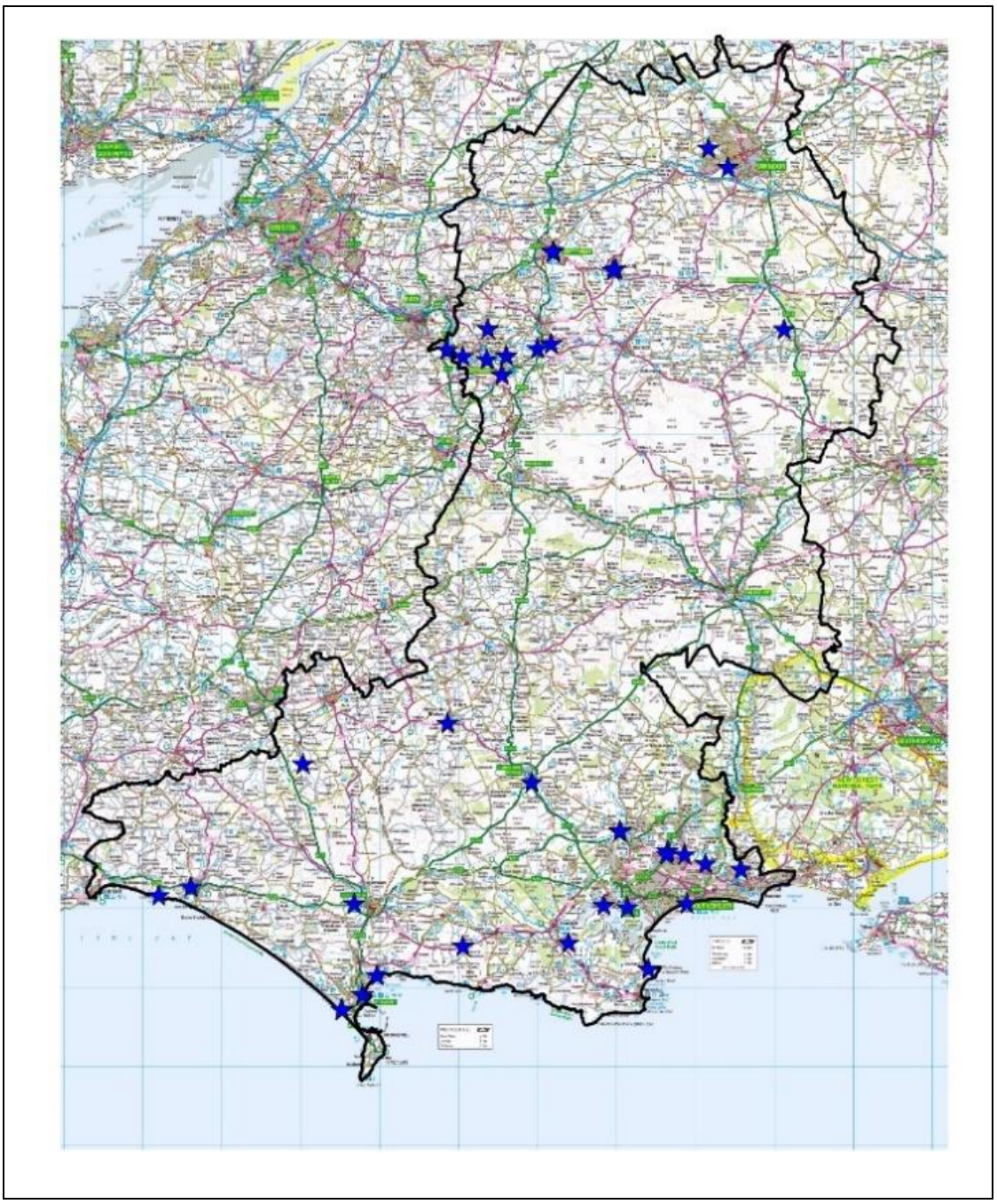


Figure 6 - Level 3 water incidents attended by the Service.

3.8.3. A breakdown of the 59 Level 3 water incidents, attended by the Service, can be seen in Table 2. Of the 59 incidents 14 were classified as life critical and these were located across the Service in Bradford on Avon, Bridport, Calne, Chippenham, Christchurch, Pewsey, Poole, Trowbridge, Weymouth and Wimborne.

	Chippenham	Poole	Stratton	Trowbridge	Weymouth	Total
Rescue- non-life critical	0	8	1	2	4	15
Life critical	4	5	1	2	2	14
Assist other agency missing person search	1	5	0	2	1	9
Assist other agency (general)	2	2	0	2	0	6
Assist other agency body retrieval	0	1	0	5	0	6
Animal rescue from water	2	0	1	0	0	3
False alarm	0	0	0	1	2	3
Stood by due to location	0	1	0	1	0	2
False alarm malicious	1	0	0	0	0	1
Total	10	22	3	15	9	59

Table 2 - Breakdown of the Level 3 Water incidents attended by technical rescue stations.

3.9 Water rescue risk

3.9.1. The main types of flooding risk within the Service are fluvial, pluvial and coastal:

- *Fluvial*: Where rivers become overwhelmed and expand from their riverbanks onto surrounding areas. This can be due to rainfall and run-off from higher ground
- *Pluvial*: Caused by extreme rainfall or run-off from higher ground. It can cause two types of event, surface water flooding where drainage systems become overwhelmed and flash flooding causing a large moving body of water to flow through particular areas. Flash flooding is becoming more prevalent as areas are becoming increasingly urbanised and due to the impacts of climate change
- *Coastal*: Flooding caused by changes to the tide level when impacted by a storm surge.

3.9.2. Fluvial and pluvial flooding is found in the north of the Service and fluvial, pluvial, and coastal being found in the south.

3.9.3. To further support an understanding of our future potential risk, appendix B shows the Environment Agency's flood risk mapping around the areas where (Level 2) water first responder and (Level 3) water technician stations are located.

3.9.4. Table 3 shows the number of postcodes at risk of flooding near to the current technical rescue stations with (Level 3) water technician teams that have been identified by the Environment Agency. This data shows that the areas with the greatest number of at-risk postcodes are Weymouth, Poole and Stratton, with a significantly lower number in Chippenham and Trowbridge.

	High[2]	Medium	Low	Very Low	Total	Total properties in postcode area
Weymouth	87	28	95	2	212	32,042
Poole	39	27	51	0	117	119,039
Stratton	27	41	80	9	157	100,722
Chippenham	15	39	26	0	80	25,263
Trowbridge	4	0	26	0	30	20,059
Total	174	172	377	11	734	319,134

Table 3 - Number of at-risk postcodes near to the current technical rescue stations with (Level 3) water technician teams.

3.9.5. Table 4 shows the number of postcodes at risk of flooding near to the current (Level 2) water first responder stations. Several of these areas have similar or higher risk than Chippenham or Trowbridge, which are currently technical rescue stations with (Level 3) water technician teams.

	High	Medium	Low	Very Low	Total	Total Properties in postcode area
Bridport	19	8	49	17	93	10,130
Christchurch	12	40	103	0	155	23,537
Bradford on Avon	9	1	9	0	19	5,867
Malmesbury	8	4	13	0	25	5,722
Salisbury	2	37	99	0	138	22,009
Sturminster Newton	1	1	1	0	3	5,179
Total	51	91	274	17	433	72,444

Table 4 - Number of at-risk postcodes near to the current (Level 2) Water First Responder stations.

3.9.6. In 2019, permanently situated lockable flood gates were installed at either end of the B3106 between Holt and Staverton (near Trowbridge). Unlike portable road closure signage these gates make it more difficult for drivers of vehicles to bypass the road closure signs, preventing their vehicles from becoming trapped in flood water. This should reduce the need for Service interventions in these types of incidents.

[2] (Per year the risk of flooding is: High- greater than 1 in 30 (3.3%), Medium- between 1 in 30 (3.3%) and 1 in 100 (1%), Low- between 1 in 100 (1%) and 1 in 1000 (0.12%), Very Low- less than 1 in 1000 (0.1%).

3.9.7. There is one main canal system within the Service area, the Kennet and Avon Canal, which runs across mid Wiltshire and consists of several locks along the length of the canal. Additionally, there is a section of the Wiltshire and Berkshire Canal in the north of the Service.

3.9.8. Water rescue incidents in canals can generally be categorised as either:

- *Immediate rescue:* This is carried out by the initial responding crew, primarily a Level 1 or Level 2 crew. A Level 3 crew is mobilised as part of the response plan to provide an additional safe system of work

- *Body retrieval:* Sadly, this is the most common way the Service gets deployed to incident in canals. Body retrieval is the responsibility of the Police. Firefighting crews support the Police, when requested, with the provision of a Level 3 water technician team. Due to the nature of these incidents an emergency response is not required.

3.9.9. Between 1 April 2016 and 31 March 2020 11 incidents occurred within the area of the Kennet and Avon Canal and one incident occurred in the canal in Swindon. The incidents were predominantly to assist the Police with body retrievals and were resolved by either a safe working near water (Level 1) or water first responder team (Level 2), prior to the arrival of the water technician (Level 3) team.

3.9.10. The Police have the responsibilities for body retrievals, however, given the Service's water rescue capabilities there are occasions when the Police request our assistance to support this function.

3.9.11. Sadly, the majority of incidents involving canals often result in a body retrieval, regardless of the proximity of the water rescue teams. On those occasions where it is possible to execute a rescue, working near water (Level 1) or water first responder (Level 2) teams are suitably trained and equipped to carry out the rescue. A water technician (Level 3) team is mobilised to provide a safe system of work in support of those teams, if required.

3.9.12. To mitigate the risk presented by canals the Service proactively promotes water safety and prevention activities in areas surrounding the canal networks together with published water safety advice on our website.

3.10 **Spate conditions**

3.10.1. During periods of severe weather the Service can experience higher than normal levels of activity. These periods are known as spate conditions.

3.10.2. Spate conditions are often described as 'rising tide' events due to the pre-warning given through both the Meteorological Office forecasting and the Environment Agency flood warning service. This enables the Service to work in

conjunction with Local Resilience Forums to strategically deploy (Level 2) water first responder and (Level 3) water technician teams to the areas of the Service deemed to be at the greatest risk.

3.10.3. When forecasting these events, the Meteorological Office will issue a flood warning or flood alert aligned to the severity of the risk.[3] To further support the Service's understanding of the historic flood risk appendix C details the type of flood warning and the location for which it was issued between 2006 and 2017. A summary of the number and type of flood warnings/alerts over this period can be seen in Table 5.

3.10.4. The last spate conditions within the Service area occurred between 21 December 2013 and 17 February 2014 where there were 107 water/flooding related incidents in Dorset. Three of which required (Level 3) water technician teams to resolve. Within the same period there were 193 incidents in Wiltshire, none of which required a (Level 3) water technician team to resolve.

County	Severe Flood Warning	Flood Warning	Flood Alert	Total
Dorset	20	514	1946	2480
Wiltshire	0	228	857	1085

Table 5 - Number and type of Environment Agency flood warning/alerts issued between 2006 and 2017.

3.11 Technical search

3.11.1. The main type of risk requiring the attendance of a technical search team in the Service is presented from people who are trapped.

3.11.2. Areas of the Jurassic Coast in Dorset are susceptible to cliff face collapse, this can lead to people becoming trapped underneath debris. People can also become trapped under collapsed structures or in subsurface collapses.

3.11.3. The Service currently provides an initial technical search capability at Trowbridge and Weymouth, utilising equipment such as a snake eye camera and sound monitoring apparatus, to undertake lower risk activities such as small animal rescues.

3.11.4. Technical search is a complex discipline and as such additional support is provided to all fire and rescue services through national resilience arrangements. This enables any service to access specialist urban search and rescue teams, hosted by strategically located fire and rescue services across England, including neighbouring services.

[3] (Met office flood warnings have four classifications; Severe Flood Warning – danger to life, Flood warning – flooding is expected immediate action required and Flood alert – flooding is possible be prepared).

3.11.5. During the period being reviewed the majority of technical search incidents in the Service have involved the use of a snake eye camera to locate animals trapped in building voids or in underground areas.

3.12 Technical confined space

3.12.1. All firefighting crews are equipped and trained to carry out rescues in confined spaces, with the use of breathing apparatus. Often access into these areas does not require the use of rope access equipment, however, on occasion this is required.

3.12.2. Level 3 rope rescue teams are equipped and trained to enable rescues to be carried out in confined spaces where rope access equipment is required. This capability enables those teams to work without the need for full breathing apparatus, instead using ventilation and gas monitoring techniques, which allows access that otherwise could not be achieved by a standard firefighting crew.

3.12.3. Any work activity, including fire and rescue service incidents, undertaken in confined spaces are bound by the Confined Space Regulations 1997. The Service's technical confined space teams ensure the Service has a means of providing a safe system of work required by these regulations.

3.12.4. Between 1 April 2016 and 31 March 2020 there were seven incidents where a technical confined space team was required as part of the response plan. If required, additional support is available through the national resilience arrangements.

3.12.5. The Service's technical confined space capability is currently provided by technical rescue crews at Chippenham, Poole, Trowbridge and Weymouth fire stations.

3.12.6. Each confined space team is currently made up of eight Level 3 rope trained personnel, including one team supervisor (i.e. two Level 3 rope rescue teams). The Service's current operational risk assessment requires that a team of eight qualified personnel make up one technical confined space rescue team.

3.12.7. In the event of a technical confined space rescue in the north of the Service area, three stations are mobilised to achieve the required safe system of work. This is due to the aggregate crewing arrangements at Chippenham and Trowbridge, as stated earlier in the report.

3.12.8. Following the alignment of Level 2 rope teams across the Service in 2018, the technical rescue steering group is currently reviewing the risk assessment to confirm if a safe system of work could be achieved utilising greater support from a Level 2 rope team.

4. Proposed technical rescue solution

4.1 The review team, along with senior officers, visited each of the current technical rescue stations to discuss the technical rescue review. During these visits, a presentation was given. During the meetings any questions, comments, ideas, and risks were captured by the review team. Following these meetings an electronic form was also sent out to capture any further feedback. This feedback was incorporated into the review.

4.2 Representative bodies were engaged through a structured meeting process and invited to feedback on the proposal. The Fire Brigades Union have engaged fully in the discussion and acknowledge the proposal is a viable option.

4.3 A summary of the communication and engagement carried out during this technical rescue review can be seen in appendix D.

4.4 The review, conducted by specialist officers, proposed a three-team solution crewed by wholetime firefighters at Poole, Stratton and Weymouth. These stations will have the capability to provide all technical rescue specialisms, including water rescue, in a consistent and more resilient way. This option includes maintaining a water rescue capability at Bradford on Avon, Bridport, Chippenham, Christchurch, Malmesbury, Salisbury, Sturminster Newton and Trowbridge to allow for rescues where people are trapped in vehicles and homes in flood water. Should spate flooding conditions occur then teams across the Service would be mobilised and local or national mutual aid arrangements initiated, as necessary.

4.5 The provision of three strategically located technical rescue stations, with a full range of capabilities, will have the following operational advantages:

- ***Greater resilience*** as crews at each technical rescue station will be able to provide crewing resilience at all other stations, all on the same duty system
- ***Improved strategic cover*** ensuring all 50 station areas can be reached within 60 minutes and align to Service demand and community risk profile
- ***Interchangeability of vehicles and equipment*****.** Aligning vehicles to the same technical rescue vehicle solution will allow interchangeability between technical rescue stations and other Service vehicles (e.g. operational support unit), if required
- ***An increase in operational teams to meet the risk profile of the Service****.* A comparison of the number of trained staff/teams currently and with the recommended option for a three-station solution (Poole, Stratton, and Weymouth), can be seen in Table 6.

	Number of Trained Staff				Number of Teams*		
	Current	Proposed	Difference		Current	Proposed	Difference
Large Animal	76	104	+28		2	3	+1
Level 3 Rope	104	104	0		3	3	0
Water Technician	132	104	-28		4	3	-1
Water First Responder	66	122	+56		5	8	+3
Bariatric Technical	62	104	+42		2	3	+1
Confined Space Technical	104	104	0		3	3	0
Technical Search	42	62	+20		2	2	0
Rope L2	216	216	0		8	9	+1

Table 6 - Number of staff/teams trained in differing technical rescue specialisations.

***Number of teams assumes Chippenham and Trowbridge are co-mobilised as one team due to their current aggregate crewing arrangement.**

4.6 Chippenham and Trowbridge technical rescue crews operate on a day crew duty system. Technical rescue requires a minimum of five crew. The day crewed duty system means there are occasions when the technical rescue capability is unavailable due to insufficient crews being on duty. Whilst this impacts on the availability of technical rescue teams, this does not impact on the availability of a fire appliance which requires a crew of four.

4.7 In these instances, it is necessary to mobilise both stations to an incident to form a full technical rescue team. These additional mobilisations incur additional costs, increase the level of risk due to more vehicles responding on blue lights and deplete cover for other emergencies whilst backfill arrangements are coordinated.

4.8 Chippenham and Trowbridge should therefore be regarded as a single team and the current number of teams for Level 3 rope and (Level 3) water technician teams should be considered to be one lower.

4.9 As can be seen from Table 6, the proposal to have three technical rescue stations would increase:

- the overall number of large animal and bariatric rescue teams
- the number of crews trained and equipped to resolve these incident types, which represent the area of highest and fastest growing demand.

4.10 Under the proposal:

- the number of Level 3 rope teams will remain the same at three
- the number of trained and equipped staff across the Service will also remain the same, although the disposition of these teams will change
- there will be an additional Level 2 rope team.

4.11 The community risk profile and historic incident demand supports increasing the number of (Level 2) water first responder crews, who are equipped and trained to deal with the majority of foreseeable water rescue incidents.

4.12 To ensure the Service maintains a (Level 3) water technician capability to meet demand and provide a safe system of work for all other crews, the proposal will retain three strategically located teams at the three full technical rescue stations.

4.13 As previously outlined in the report the use of a powered boat is infrequent and largely to support body retrieval rather than rescues. The overwhelming majority of requirements are met by the non-powered boat capability used by Level 3 water technician teams. Additional support is available to the Service through national resilience arrangements and the voluntary sector. This enables any Service to access specialist boat rescue teams hosted by strategically located fire and rescue services across England, including neighbouring services. The Service has a memorandum of understanding with Wessex Flood Rescue Unit, who can provide a crewed powered boat trained to at least the same standard as the Service's Level 3 operatives. This is a 24-hour response, 365 days a year, and covers the whole Service area.

4.14 The proposed location of water rescue assets is shown in Figure 7.

Figure 7 - Proposed locations of water rescue assets.

4.15 Vehicle costs and potential cost avoidance arising from the proposal

4.15.1. The capital programme for 2021-22 had included £433,000 to purchase two replacement technical rescue vehicles and £82,610 for two 4x4 support vehicles, a total of £515,610. The current vehicles used in the north of the Service are no longer suitable for stations providing full technical rescue capabilities as they are unable to carry all the technical rescue equipment, due to insufficient load capacity.

4.15.2. The provision of three technical rescue stations requires the purchase of only one of each type of these vehicles. This represents a cost avoidance of £257,805 helping to further reduce borrowing and associated capital financing costs, helping to mitigate risks outlined in the Medium-Term Finance Plan.

4.16 Technical rescue training and equipment costs

4.16.1. The current cost of technical rescue training and equipment is £85,297 per year. The annual cost of having three technical rescue stations at Poole, Stratton and Weymouth, all carrying out aligned specialisms, is £72,696, providing an annual saving of £12,601.

4.16.2. To affect this change there are one-off alignment costs required. These are £33,841 for training and £36,278 for equipment, to enable the proposed three stations to deliver all technical rescue specialisms.

4.17 Special rescue allowance payments

4.17.1. Currently staff providing Level 3 rope capability and Level 3 water technician capability receive Special Responsibility Allowance (SRA) payments. The current payments are £801 for supervisors and £585 for operators and total costs are £84,087. By having three specialist teams these costs reduce to £66,354, leading to an annual revenue saving of £17,233. No pay protection costs arise from this proposal as these allowances are only payable whilst undertaking these specialisms.

4.18 Option 1 ongoing cost summary

4.18.1. The ongoing revenue costs of Option 1 compared to current costs are as follows:

	Current	Option 1	Difference
Training & equipment	£85,297	£72,696	£12,601
SRA payments	£84,087	£66,854	£17,233
	£169,384	**£139,550**	**£29,834**

4.19 Disposition of technical rescue stations

4.19.1. The provision of three strategically located technical rescue stations will provide greater resilience across the Service area, ensuring all 50 station areas can be reached within 60 minutes. It also aligns the operational capabilities to the demand and risk profile.

4.19.2. In addition, in the north of the Service area it will improve operational availability of fire appliances due to reducing the over mobilisation of stations required for the different capabilities, equipment and vehicles located at different stations.

4.19.3. Reductions in the over mobilisation of stations, due to different specialists being vested on different stations, will also see a reduction in costs to the Service. Currently every additional technical rescue resource mobilised incurs a cost of £368 per hour for the additional technical rescue asset and often a cost of £160 per hour for an on-call crew to provide cover for other emergencies whilst the technical rescue asset is attending the incident.

Option 1	Establish three consistent technical rescue teams, aligned to the Service risk profile, that are crewed by wholetime firefighters at Poole, Stratton and Weymouth. *Note: This option includes maintaining Level 2 water rescue capability at Bradford on Avon, Bridport, Chippenham, Christchurch, Malmesbury, Salisbury, Sturminster Newton and Trowbridge to allow for rescues where people are trapped in vehicles and homes in flood water.*
Benefits and opportunities	*Operational* • Consistent delivery model across the Service • Optimises the availability of technical rescue assets and capabilities • Aligns the most appropriate resources to risk • Improves operational resilience • Provides cover across the whole Service area within the 60-minute standard • Additional flood water rescue, large animal, technical search, and bariatric rescue teams • Reduces co-mobilisation of technical rescue teams as each team have all skills and equipment available • Retains a sufficient number of trained staff for resilience purposes (training and crewing shortfall) • Capacity created at stations that no longer provide a technical rescue provision enabling crews to undertake other activities (e.g. Prevention). *Financial* • Reduce one off alignment costs • Reduced training and salary training costs

	• Reduced equipment costs • Reduced fleet costs • Reduced borrowing and capital financing costs.
Risks and implementations issues	• Availability of external training providers for rope Level 3 courses, leading to extended timescales for full implementation • Time to consolidate skills requiring the need to potentially maintain the capability at Chippenham or Trowbridge to support Stratton • Lead time of new vehicles could lead to short term stowage issues for technical rescue equipment • Lead time of new equipment • Short term costs associated with implementation of changes • Short term cost maintaining existing provision until newly formed teams are trained • Increased demand on stations affecting prevention activities.

5. Alternative proposal

5.1 In addition to having Poole, Stratton and Weymouth carrying out all technical rescue capabilities, there is an alternative option of maintaining Chippenham and Trowbridge as Level 3 water technician teams only.

5.2 This option would be an enhanced water rescue capability for the Service but incur additional annual revenue costs for SRA payments, annual training, equipment, and vehicle maintenance of £33,517 compared to Option 1.

5.3 There would also be additional capital costs for vehicle replacements when the current two vehicles become end of life in 2025. To replace these vehicles with a like for like replacement in 2025 would cost approximately £120,000 for which no provision is currently made within the Medium-Term Finance Plan. This reduces the capital saving from £257,805 to £137,805.

5.4 **Option 2 ongoing cost summary**

5.4.1. The ongoing revenue costs of Option 2 compared to Option 1 are as follows:

	Option 1	Option 2	Difference
Training & equipment	£72,696	£95,812	£23,116
SRA payments	£66,854	£77,255	£10,401
	£139,550	**£173,067**	**£33,517**

5.4

Option 2	a) Establish three consistent technical rescue teams aligned to the Service risk profile that are crewed by wholetime firefighters at Poole, Stratton and Weymouth; and, b) Retain a Level 3 water rescue capability at Chippenham and Trowbridge. *This option includes maintaining Level 2 water rescue capability at Bradford on Avon, Bridport, Christchurch, Malmesbury, Salisbury and Sturminster Newton to allow for rescues where people are trapped in vehicles and homes in flood water*.
Benefits and opportunities	*Operational* • Consistent delivery model across the Service for technical rescue, with an enhanced capability at Chippenham and Trowbridge • Optimises the availability of technical rescue assets and capabilities, although Chippenham and Trowbridge will have a different vehicle and equipment solution to allow Level 3 water rescue capability • Provides cover across the whole Service area within the 60-minute standard • Additional flood water rescue, large animal rescue, technical search and bariatric rescue teams • Retains a sufficient number of trained staff for resilience purposes (training and crewing shortfall) • Capacity created at stations that no longer provide a technical rescue provision enabling crews to undertake other activities (e.g. prevention).
Risks and implementations issues	*Financial (when compared to option 1)* • Increased one off alignment costs • Increased training and salary training costs • Increased equipment costs • Increased fleet costs • Increased capital borrowing • Increased costs resulting from mobilising Chippenham and Trowbridge as a single water rescue team • Savings would potentially need to be found elsewhere given the Authority's forecasted budget deficits, dependent upon future financial settlements and council tax flexibilities.

6 Summary

6.1 This review of technical rescue capability has focused on developing a more consistent capability in the following areas: animal rescue, working at height, bariatric support to the Ambulance Service, water rescue, technical search and confined space rescue. There is no statutory requirement to provide these services and many fire and rescue authorities rely entirely on mutual aid. However, to provide safe systems of work for stations and to support community and partnership requests it is believed that these services should continue to be provided.

6.2 Under delegated arrangements and after considerable data analysis, engagement with staff and their representative bodies, the result has concluded from a professional perspective that a three-station enhanced technical rescue capability should be established at Poole, Stratton and Weymouth. At an increased cost, an alternative option is also proposed that retains a (Level 3) water technician capability at Chippenham and Trowbridge fire stations.

6.3 Members are asked to consider and decide the best way forward at the public meeting as outlined in the recommendations presented in this report. Following a comprehensive review, the officer recommendation is Option 1.

Appendices

Appendix A

Costings, benefits, and risks of combinations of technical rescue stations

Stations	Number of stations reached in 60 minutes	Alignment Costs (training)	Alignment Costs (vehicles)	Alignment Costs (equip-ment)	Annual Costs	Total Trained Staff	Number of Super-visors	Number of Operators
Current Provision	Animal: 46 Rope: 50 Water: 50 Bariatric: 48	£0	£1,002,740	£0	£169,383	Animal: 76 Rope: 104 Water: 132 Bariatric: 62	Animal: 20 Rope: 28 Water: 36	Animal: 56 Rope: 76 Water: 96
Poole, Salisbury, Stratton	48	£80,788	£246,305	£36,278	£139,549	104	28	76
Chippen-ham, Poole, Stratton	48	£29,309	£246,305	£36,278	£120,901	90	24	66
Chippen-ham, Stratton, Weymouth	45	£38,478	£246,305	£36,278	£93,242	70	20	50
Poole, Trowbridge Stratton	48	£28,203	£246,305	£36,278	£120,901	90	24	66
Trowbridge, Stratton, Weymouth	49	£37,478	£246,305	£36,278	£93,242	70	20	50
Salisbury, Stratton, Weymouth	50	£90,063	£246,305	£36,278	£110,158	84	24	60
Poole, Stratton, Weymouth	50	£33,841	£246,305	£36,278	£139,549	104	28	76

Stations	Number of stations reached in 60 minutes	Alignment Costs (training)	Alignment Costs (vehicles)	Alignment Costs (equip-ment)	Annual Costs	Total Trained Staff	Number of Super-visors	Number of Operators
Poole, Stratton, Weymouth (Chippenham and Trowbridge water rescue only)	50	£33,841	£366,305	£36,278	£173,067	Animal Large: 104 Rope L3: 104 Water Tech: 132 Bariatric: 104	Animal Large: 28 Rope L3: 28 Water Tech: 36	Animal Large: 76 Rope L3: 76 Water Tech: 96

	Benefits	Risks
Poole, Salisbury, Stratton	• Reduced training costs • Reduced equipment costs • Reduced fleet costs • Reduced additional responsibility allowance costs • Consistent delivery model across the Service • Reduced co-mobilisation of rescue teams from separate stations to form a single team • Sufficient number of trained staff for resilience purposes (training and crewing shortfall) • Creates capacity for prevention activities at stations that no longer provide a technical rescue provision.	• Short term costs associated with implementation of changes • Short term costs associated with maintaining the existing provision until newly formed teams are trained • Increased demand on stations affecting prevention activities • Disengagement of staff from station where provision is removed • Two station areas not within 60 minutes attendance time of a technical rescue station • Too many competencies with aerial ladder platform and technical rescue based at the same station.
Chippenham, Poole, Stratton	• Reduced training costs • Reduced equipment costs • Reduced fleet costs • Reduced additional responsibility allowance costs • Consistent delivery model across the Service • Reduced co-mobilisation of rescue teams from separate stations to form a single team • Sufficient number of trained staff for resilience purposes (training and crewing shortfall) • Creates capacity for prevention activities at stations that no longer provide a technical rescue provision.	• Increased likelihood of an unavailable crew. Chippenham's duty system makes it more difficult to maintain five trained technical rescue staff overnight, with an historic reliance on Trowbridge to support them • Reduced training for Level 2 stations. Chippenham's duty system impacts on the time available to provide training support to on-call water first responder stations and Level 2 rope teams • Two station areas not within 60 minutes attendance time of a technical rescue station • Increased demand on stations affecting prevention activities.

	Benefits	Risks
Chippenham, Stratton, Weymouth	• Reduced training costs • Reduced equipment costs • Reduced fleet costs • Reduced additional responsibility allowance costs • Consistent delivery model across the Service • Reduced co-mobilisation of rescue teams from separate stations to form a single team • Sufficient number of trained staff for resilience purposes (training and crewing shortfall) • Creates capacity for prevention activities at stations that no longer provide a technical rescue provision • Lower short-term costs associated with maintaining the existing provision as each station only needs to be trained in one additional skill set • Lower one-off alignments costs, • Capacity created at stations that no longer provide a technical rescue provision.	• Increased likelihood of an unavailable crew. Chippenham's duty system makes it more difficult to maintain five trained technical rescue staff overnight, with an historic reliance on Trowbridge to support them • Reduced training for Level 2 stations. Chippenham's duty system impacts on the time available to provide training support to on-call water first responder stations and Level 2 rope teams • Five station areas not within 60 minutes attendance time of a technical rescue station • Increased demand on stations affecting prevention activities.
Poole, Trowbridge, Stratton	• Reduced training costs • Reduced equipment costs • Reduced fleet costs • Reduced additional responsibility allowance costs • Consistent delivery model across the Service • Reduced co-mobilisation of rescue teams from separate stations to form a single team • Sufficient number of trained staff for resilience purposes (training and crewing shortfall) • Creates capacity for prevention activities at stations that no longer provide a technical rescue provision • Lower short-term costs associated with maintaining the existing provision as each station only needs to be trained in one additional skill set • Lower one-off alignments costs.	• Increased likelihood of an unavailable crew. Trowbridge's duty system makes it more difficult to maintain five trained technical rescue staff overnight, with an historic reliance on Chippenham to support them • Reduced training for Level 2 stations. Trowbridge's duty system impacts on the time available to provide training support to on-call water first responder stations and Level 2 rope teams • Two station areas not within 60 minutes attendance time of a technical rescue station • Increased demand on stations affecting prevention activities.

	Benefits	Risks
Trowbridge, Stratton, Weymouth	• Reduced training costs • Reduced equipment costs • Reduced fleet costs • Reduced additional responsibility allowance costs • Consistent delivery model across the Service • Reduced co-mobilisation of rescue teams from separate stations to form a single team • Sufficient number of trained staff for resilience purposes (training and crewing shortfall) • Creates capacity for prevention activities at stations that no longer provide a technical rescue provision • Lower short-term costs associated with maintaining the existing provision as each station only needs to be trained in one additional skill set • Lower one-off alignments costs.	• Increased likelihood of an unavailable crew. Trowbridge's duty system makes it more difficult to maintain five trained technical rescue staff overnight, with an historic reliance on Chippenham to support them • Reduced training for Level 2 stations. Trowbridge's duty system impacts on the time available to provide training support to on-call water first responder stations and Level 2 rope teams • One station area not within 60 minutes attendance time of a technical rescue station • Increased demand on stations affecting prevention activities.
Salisbury, Stratton, Weymouth	• Reduced training costs • Reduced equipment costs • Reduced fleet costs • Reduced additional responsibility allowance costs • Consistent delivery model across the Service • Reduced co-mobilisation of rescue teams from separate stations to form a single team • Sufficient number of trained staff for resilience purposes (training and crewing shortfall) • Creates capacity for prevention activities at stations that no longer provide a technical rescue provision • All station areas within 60 minutes response time for a technical rescue station.	• Short term costs associated with implementation of changes • Short term costs associated with maintaining the existing provision until newly formed teams are trained • Increased demand on stations affecting prevention activities • Disengagement of staff from station where provision is removed • Increased demand on stations affecting prevention activities • Too many competencies with aerial ladder platform and technical rescue based at the same station.

	Benefits	Risks
Poole, Salisbury, Stratton, Weymouth	• Consistent delivery model across the Service • Reduced co-mobilisation of rescue teams from separate stations to form a single team • Sufficient number of trained staff for resilience purposes (training and crewing shortfall) • Creates capacity for prevention activities at stations that no longer provide a technical rescue provision • All station areas within 60 minutes response time for a technical rescue station.	• Increased short term costs associated with implementation of changes • Short term costs associated with maintaining the existing provision until newly formed teams are trained • Increased demand on stations affecting prevention activities • Disengagement of staff from station where provision is removed • Increased demand on stations affecting prevention activities • Too many competencies with aerial ladder platform and technical rescue based at the same station.
Poole, Stratton, Weymouth	• Reduced training costs • Reduced equipment costs • Reduced fleet costs • Reduced additional responsibility allowance costs • Consistent delivery model across the Service • Reduced co-mobilisation of rescue teams from separate stations to form a single team • Sufficient number of trained staff for resilience purposes (training and crewing shortfall) • Creates capacity for prevention activities at stations that no longer provide a technical rescue provision.	• Short term costs associated with implementation of changes • Short term costs associated with maintaining the existing provision until newly formed teams are trained • Increased demand on stations affecting prevention activities • Disengagement of staff from station where provision is removed • Increased demand on stations affecting prevention activities • Too many competencies with aerial ladder platform and technical rescue based at the same station • Two station areas not within 60 minutes attendance time of a technical rescue station.

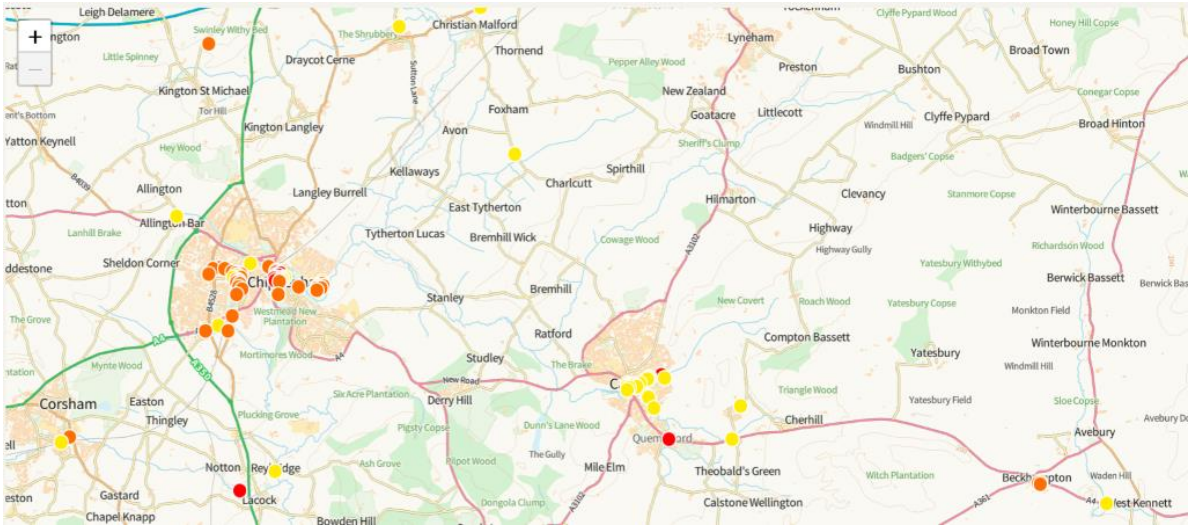
	Benefits	Risks
Poole, Stratton, Weymouth **Water rescue only at Chippenham and Trowbridge**	• Sufficient number of trained staff for resilience purposes (training and crewing shortfall) • All station areas within 60 minutes response time for a technical rescue station • Additional water technician teams at Chippenham and Trowbridge, additional flood water rescue, large animal, technical search and bariatric rescue teams.	• Increased short term costs associated with implementation of changes • Increased annual training cost • Increased equipment costs • Increased fleet costs to supply two additional vehicles to keep Chippenham and Trowbridge as Level 3 water technicians when current vehicles become end-of life • Additional vehicle and equipment maintenance costs, not within existing cost envelope • Inconsistent appliances, equipment and training as different vehicle solution would be used at Chippenham and Trowbridge • Increased costs associated with co-mobilisation of Chippenham and Trowbridge • Teams not matched to risk profile, • Increased demand on stations affecting prevention activities, • Disengagement of staff from station where provision is removed • Too many competencies with aerial ladder platform and technical rescue based at the same station.

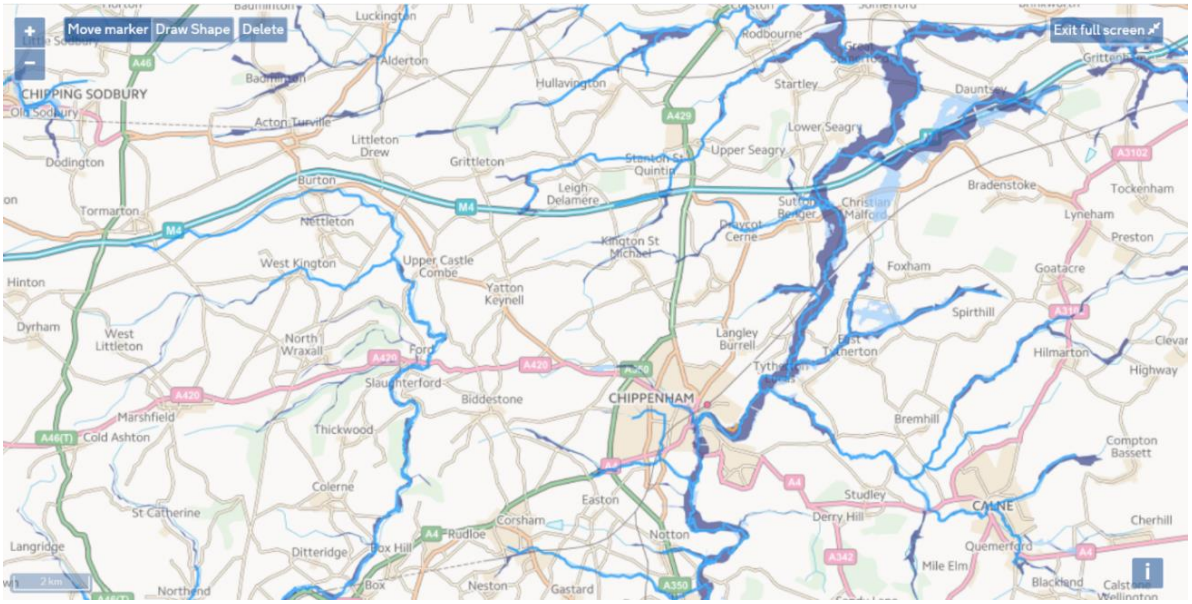
Appendix B

Flood maps for current water first responder and water technician stations from the Environment Agency

Current (Level 3) water technician stations

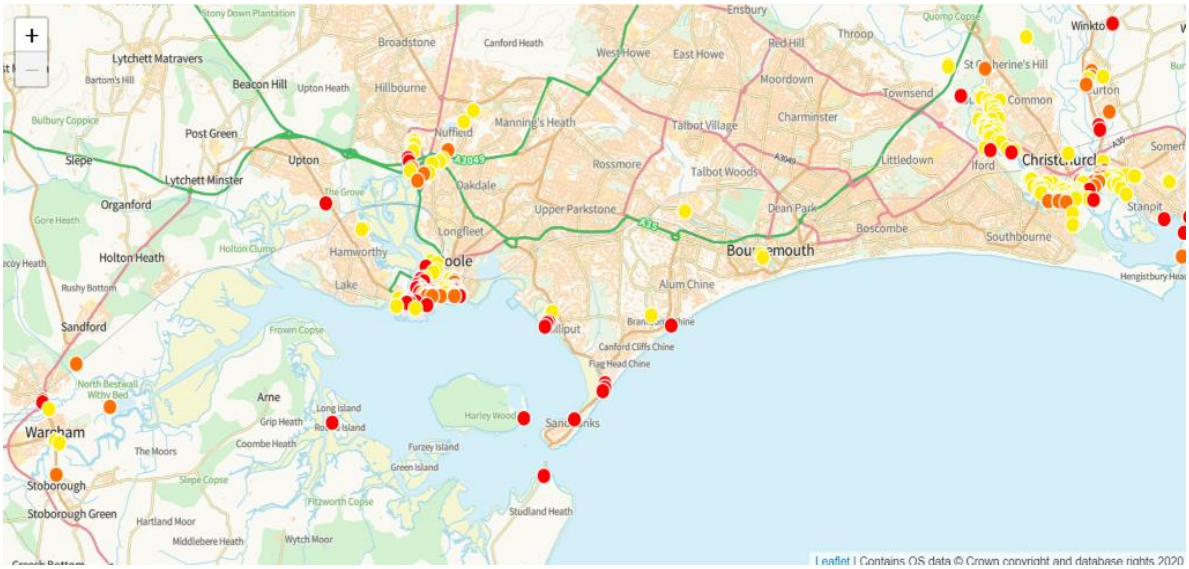
Chippenham - 25,263 properties in postcode area. 80 postcodes at risk

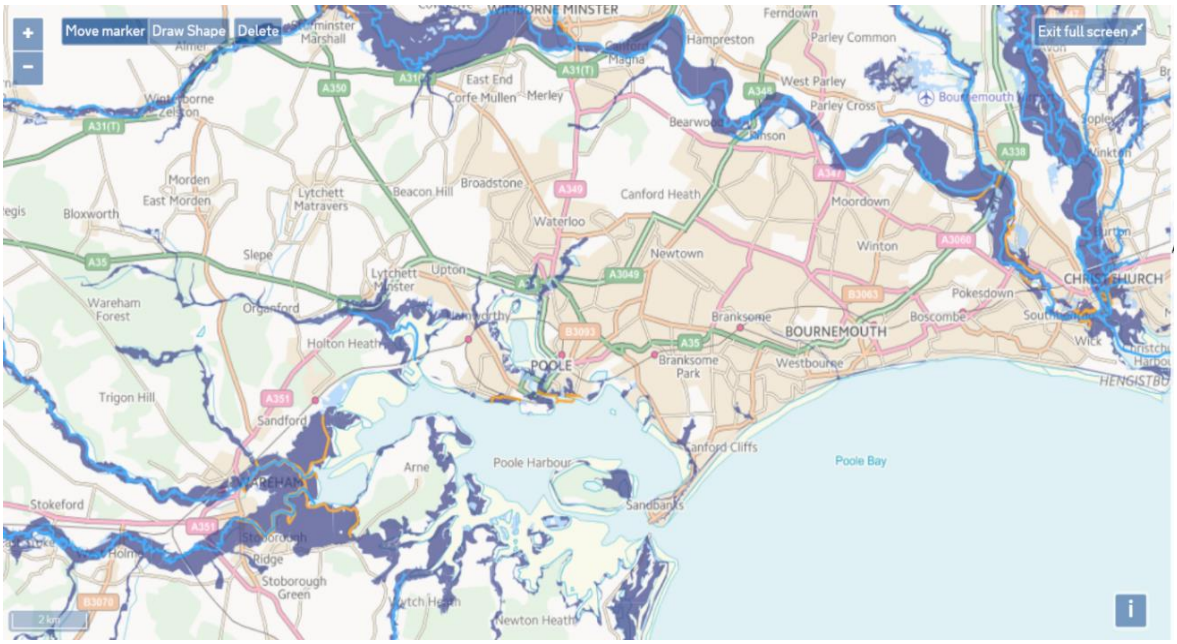




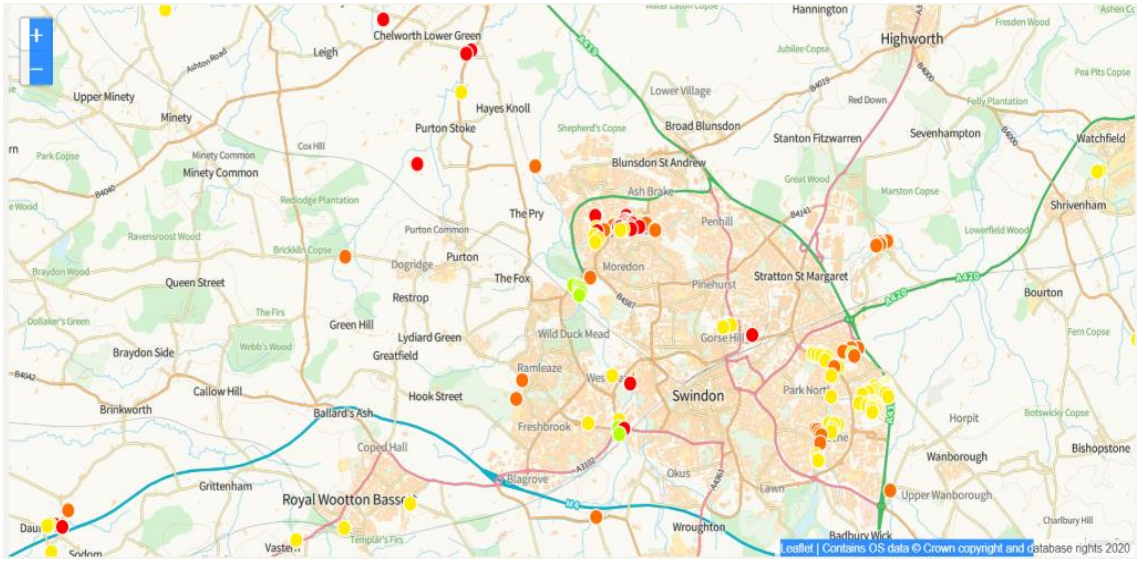
High	Each year, there is a chance of flooding of greater than 1 in 30 (3.3%).
Medium	Each year, there is a chance of flooding of between 1 in 30 (3.3%) and 1 in 100 (1%).
Low	Each year, there is a chance of flooding of between 1 in 100 (1%) and 1 in 1000 (0.1%).
Very Low	Each year, there is a chance of flooding of less than 1 in 1000 (0.1%).
None	This value is added by GetTheData to indicate a postcode which is not in a flood risk area.

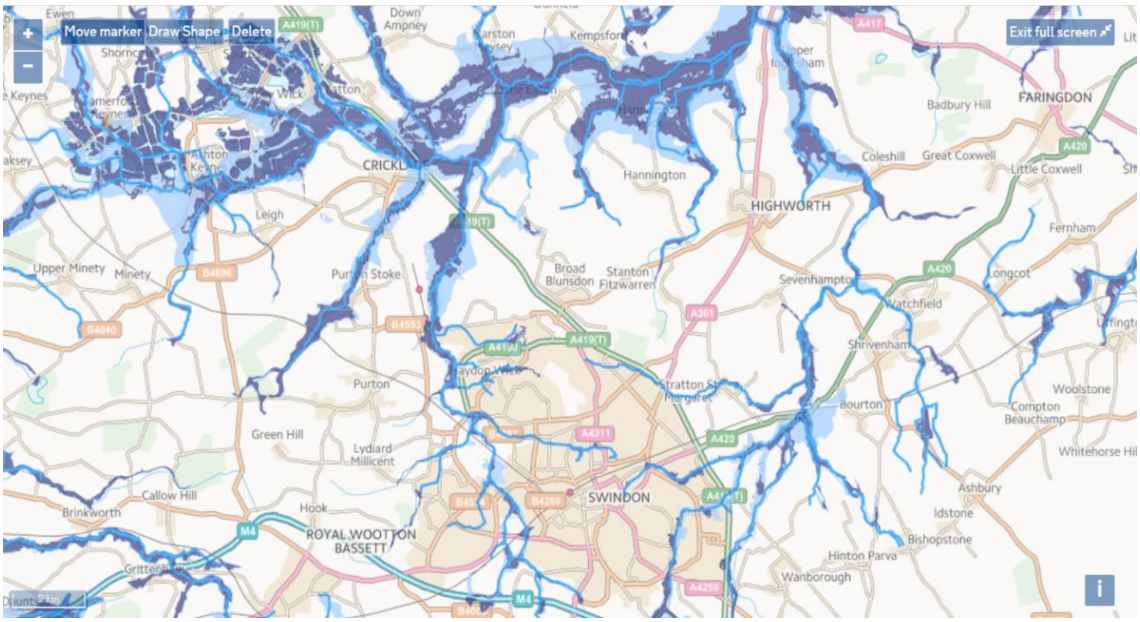
Poole - 119,039 properties in postcode area. 117 postcodes at risk



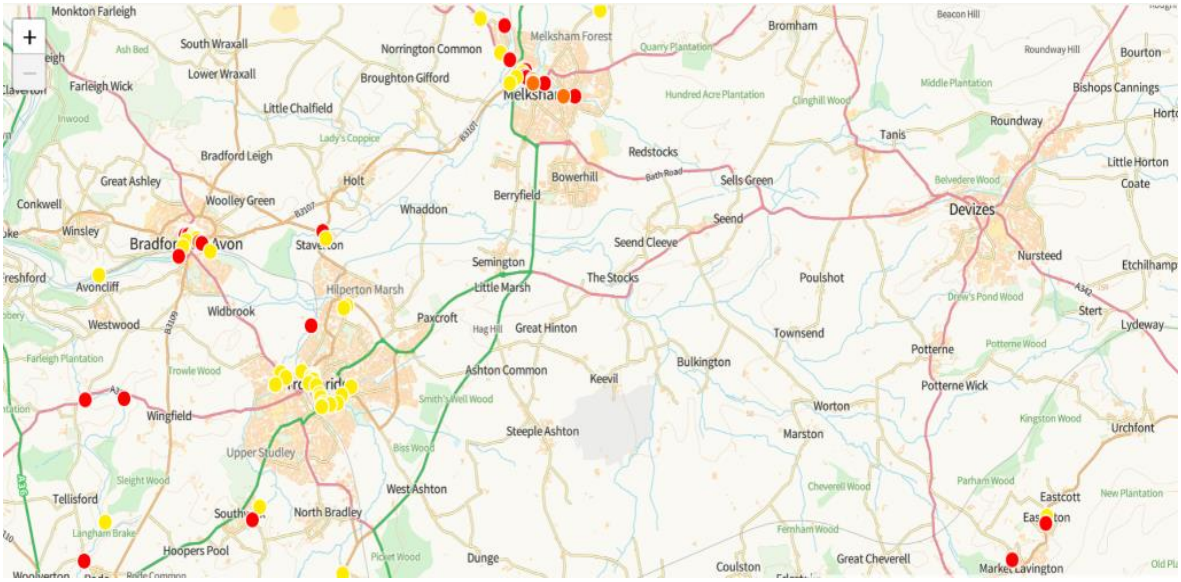


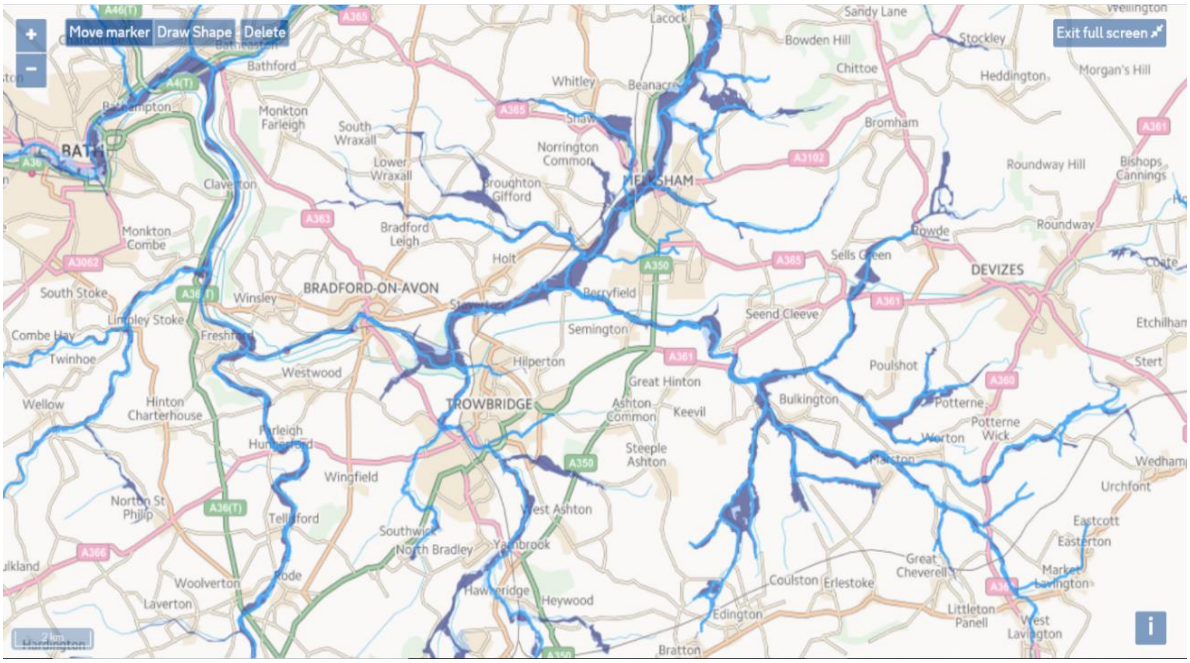
Stratton - 100,722 properties in postcode area. 157 postcodes at risk



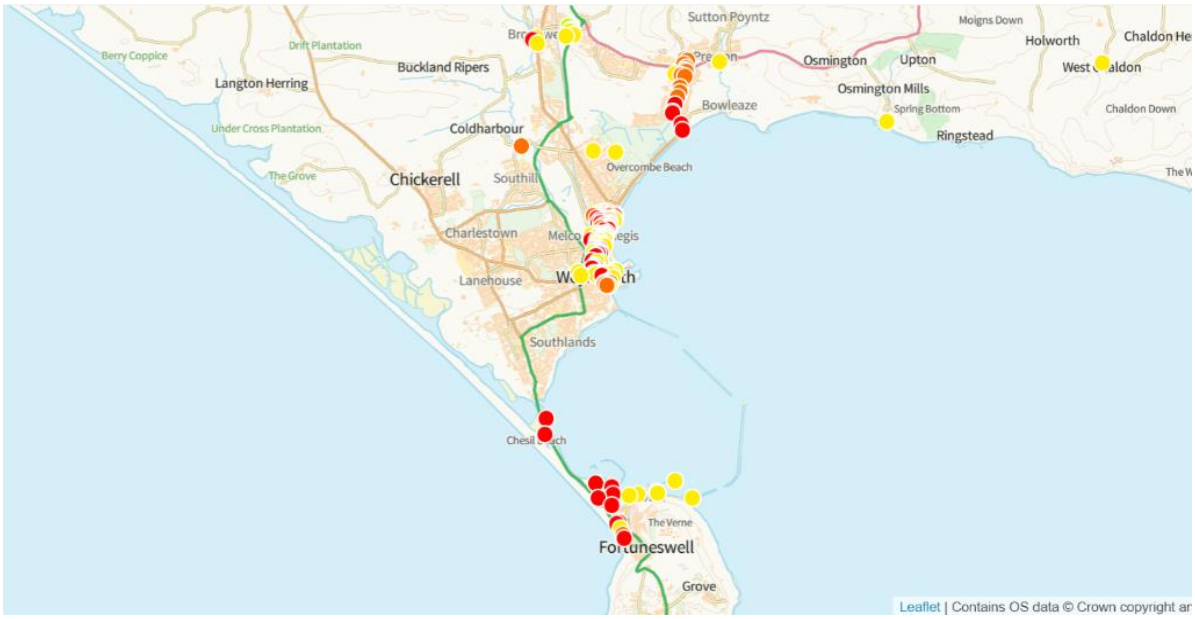


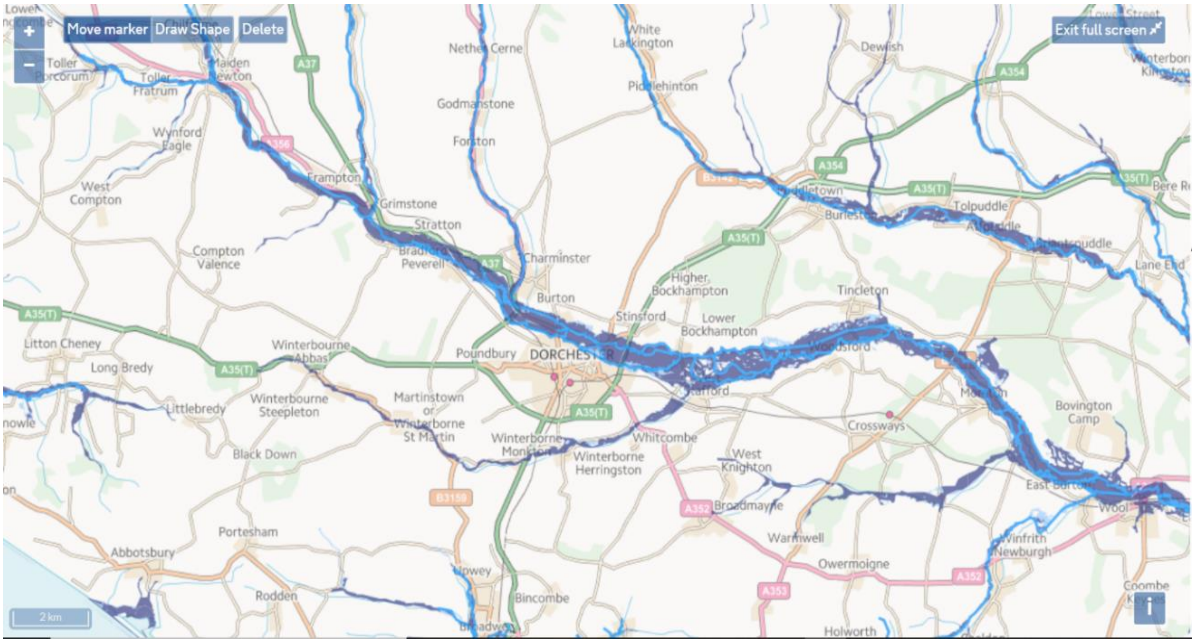
Trowbridge - 20,059 properties in postcode area. 30 postcodes at risk

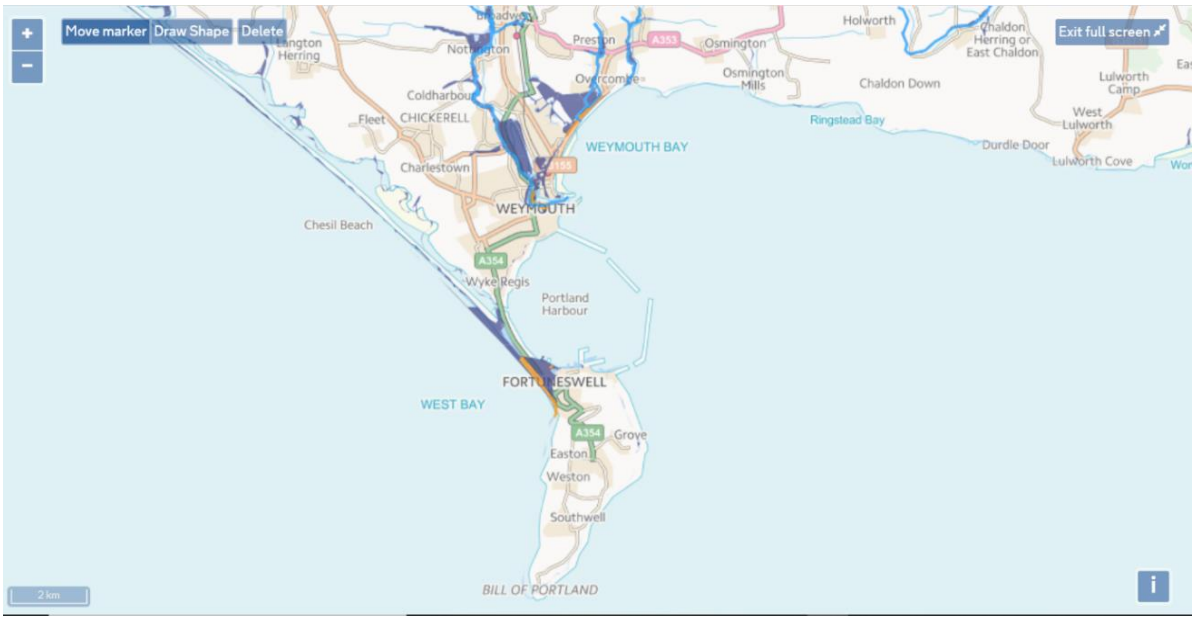




Weymouth - 32,042 properties in postcode area. 212 postcodes at risk

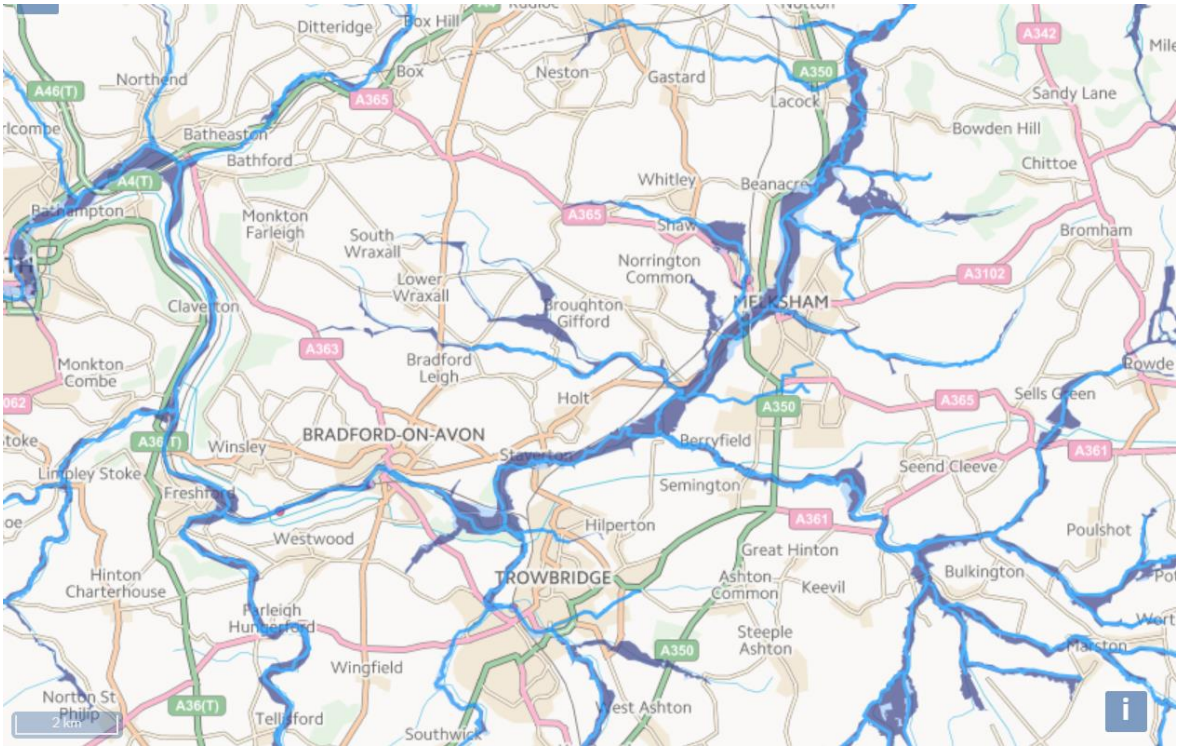




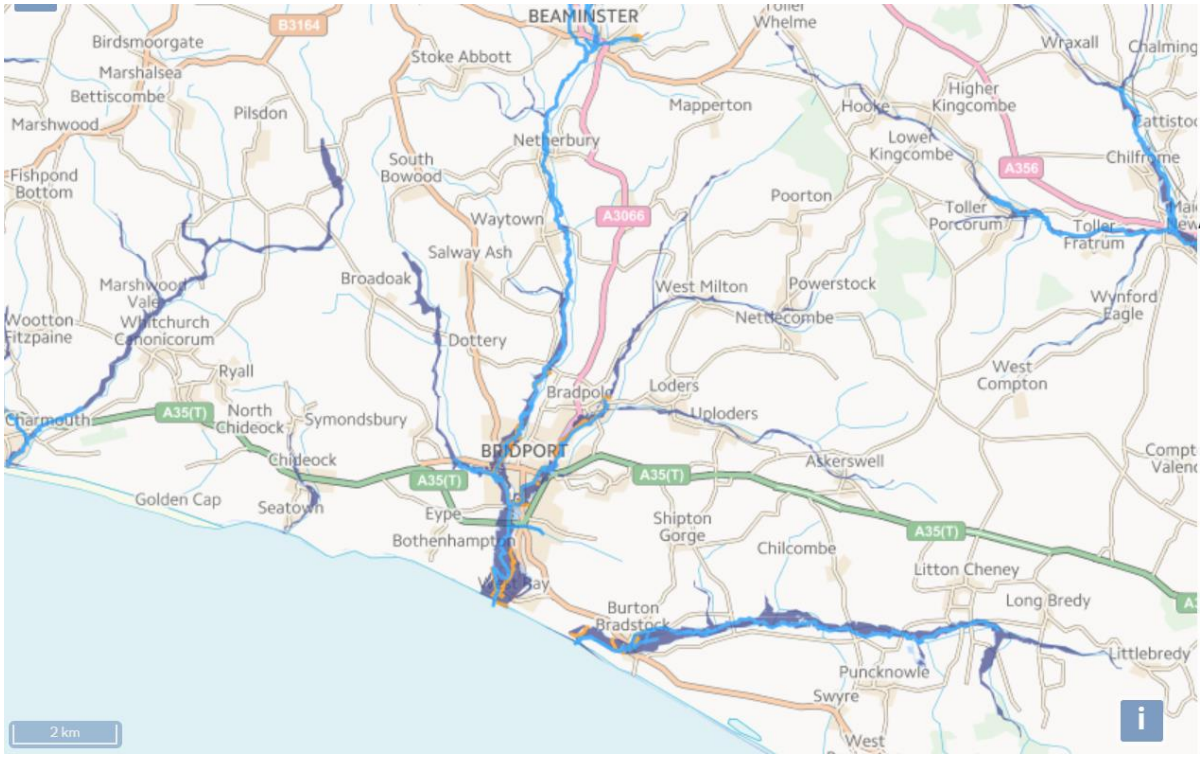

Move marker
Draw Shape
Delete
Exit full screen
Holworth
Chaldon Herring or East Chaldon
Osmington
Osmington Mills
Chaldon Down
Lulworth Camp
West Lulworth
Durdle Door
Lulworth Cove
Ringstead Bay
Preston
A353
Overcombe
Coldharbour
Fleet
CHICKERELL
WEYMOUTH BAY
Charlestown
A35
WEYMOUTH
Chesil Beach
A354
Wyke Regis
Portland Harbour
WEST BAY
A354
Grove
Easton
Weston
Southwell
BILL OF PORTLAND
2 km

Water first responder (Level 2) teams

Bradford on Avon

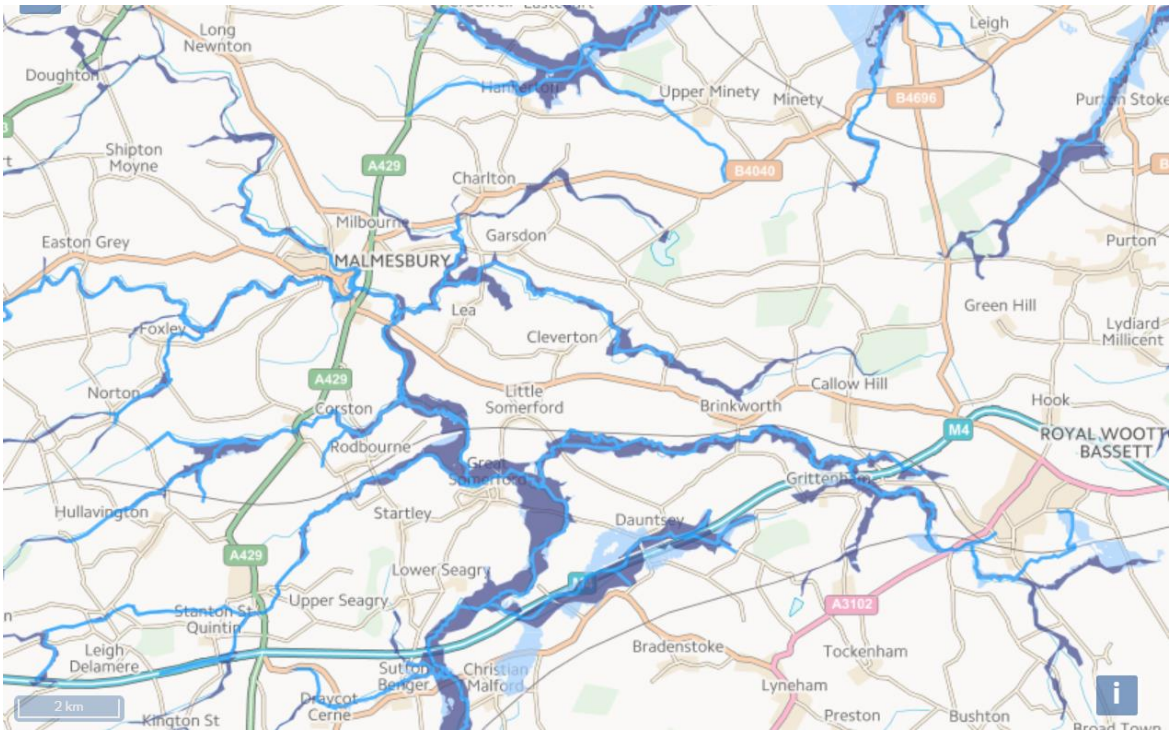


Bridport

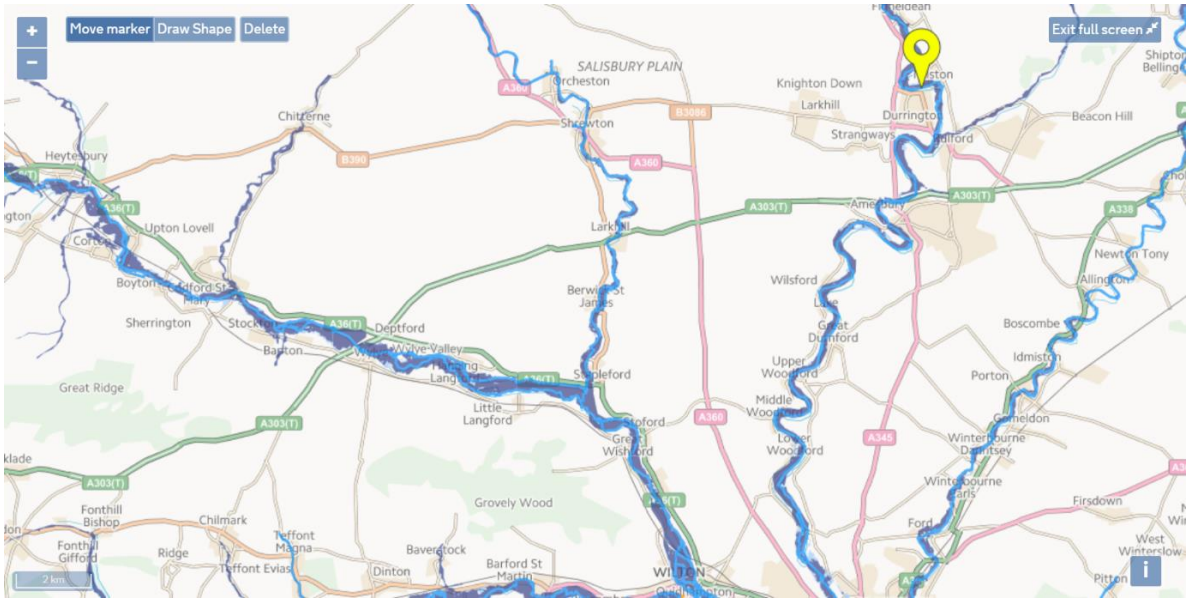


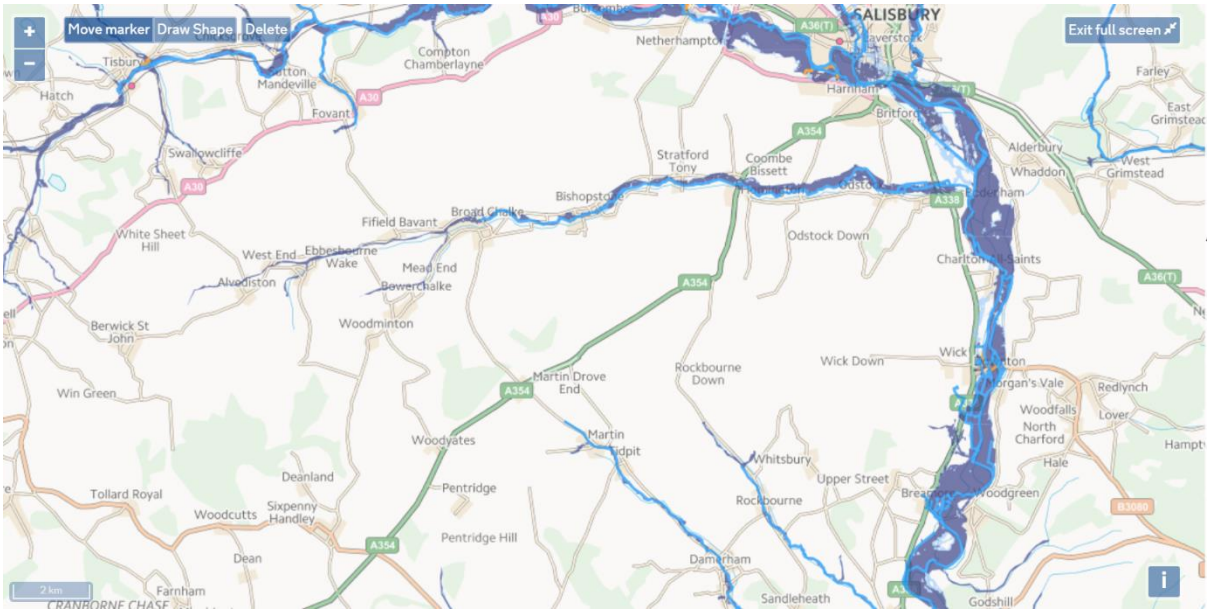
Christchurch

Malmesbury

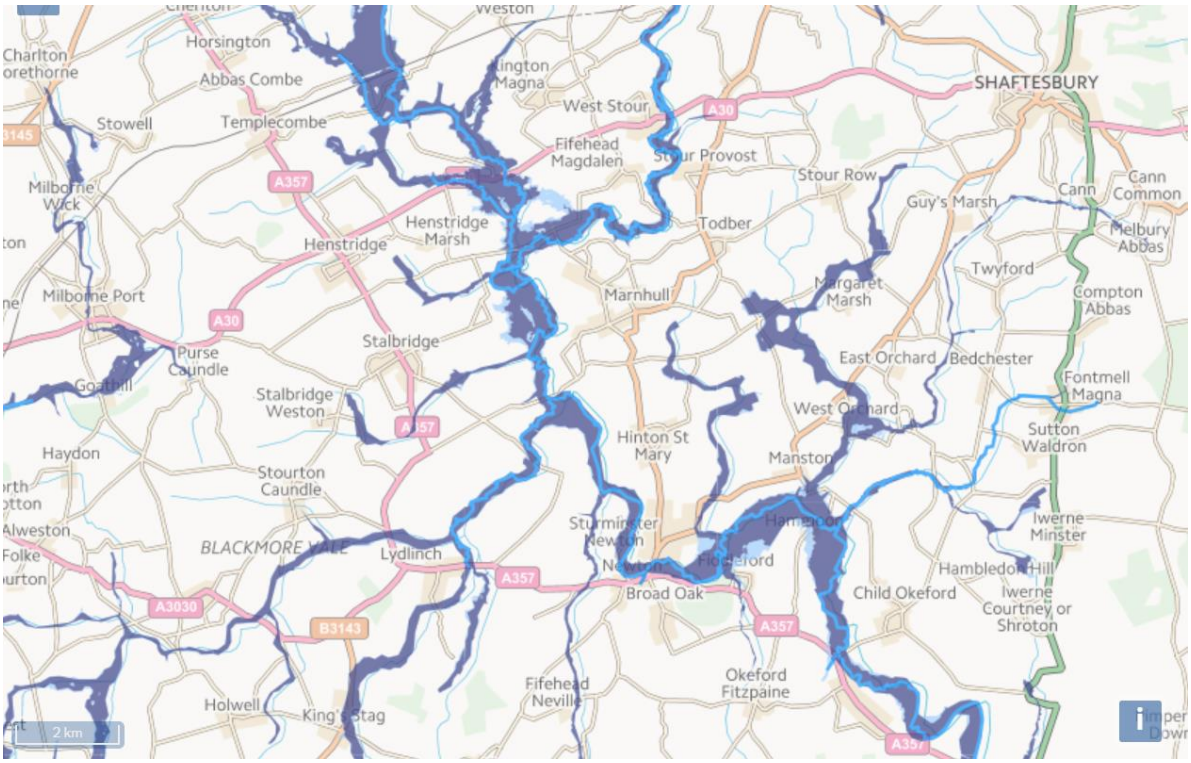


Salisbury


Move marker
Draw Shape
Delete
Exit full screen
SALISBURY PLAIN
Orcheston
Knighton Down
Larkhill
Durrington
Beacon Hill
Strangways
Chitterne
Shrewton
Heytesbury
Upton Lovell
Amesbury
Wilsford
Newton Tony
Boscombe
Idmiston
Porton
Sherrington
Deptford
Great Ridge
Little Langford
Middle Woodford
Lower Woodford
Winterbourne Dauntsey
Winterbourne Earls
Firsdown
Grovely Wood
Fonthill Bishop
Chilmark
Fonthill Gifford
Ridge
Teffont Magna
Teffont Evias
Dinton
Barford St Martin
Baverstock
West Winterslow
Pitton
2 km

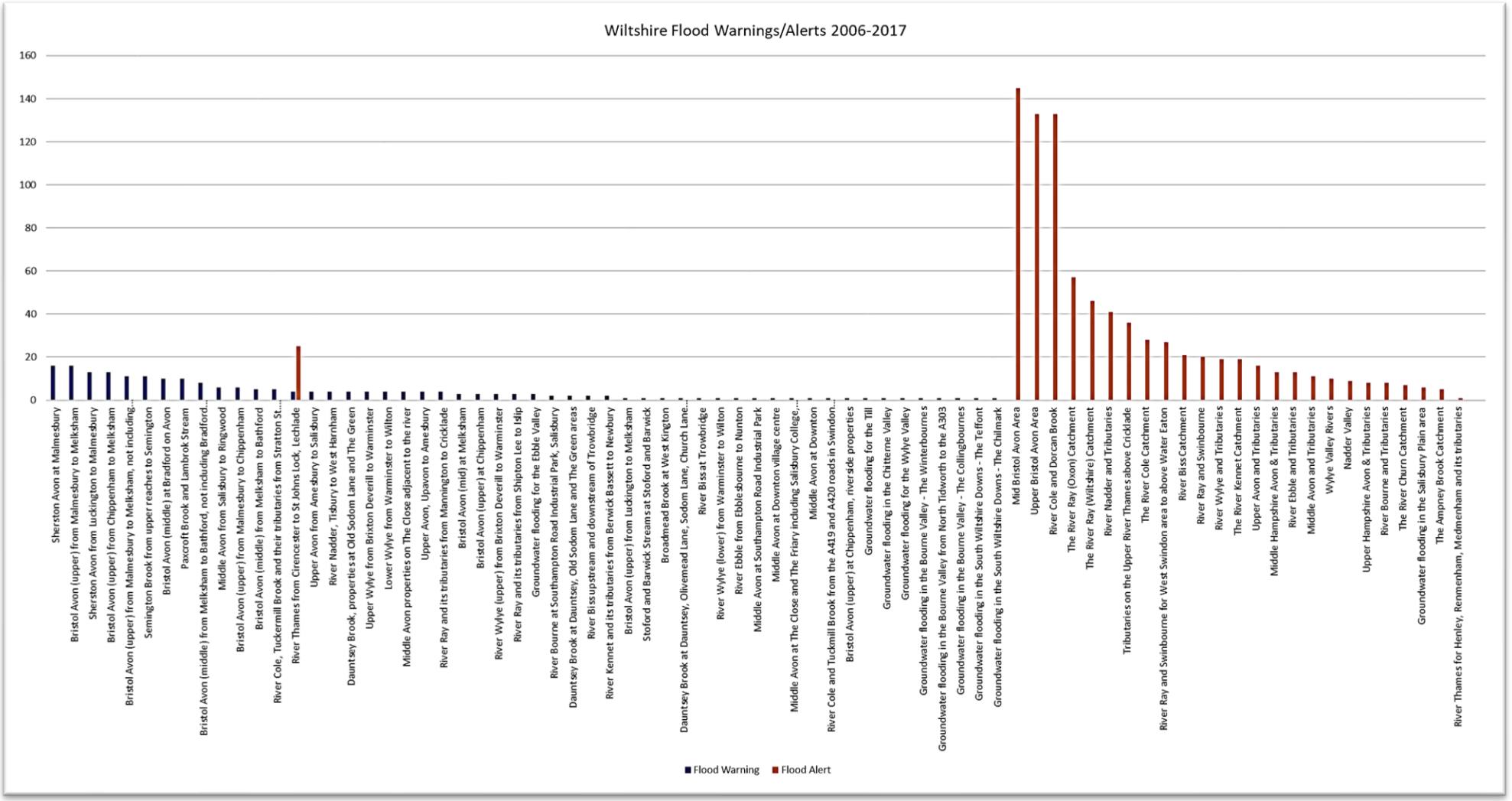

Move marker
Draw Shape
Delete
Exit full screen
SALISBURY
Netherhampton
Harnham
Britford
Farley
East Grimstead
West Grimstead
Alderbury
Whaddon
Compton Chamberlayne
Tisbury
Hatch
Sutton Mandeville
Fovant
Swallowcliffe
Stratford Tony
Coombe Bissett
Bishopstone
Broad Chalke
Fifield Bavant
White Sheet Hill
West End
Ebbesbourne Wake
Mead End
Bowerchalke
Alvediston
Odstock Down
Charlton All Saints
Berwick St John
Woodminton
Win Green
Martin Drove End
Rockbourne Down
Wick Down
Redlynch
Woodfalls
Lover
North Charford
Hale
Woodyates
Martin
Tidpit
Whitsbury
Upper Street
Deanland
Tollard Royal
Pentridge
Rockbourne
Woodcutts
Sixpenny Handley
Pentridge Hill
Dean
Damerham
Sandleheath
Godshill
Farnham
CRANBORNE CHASE
2 km

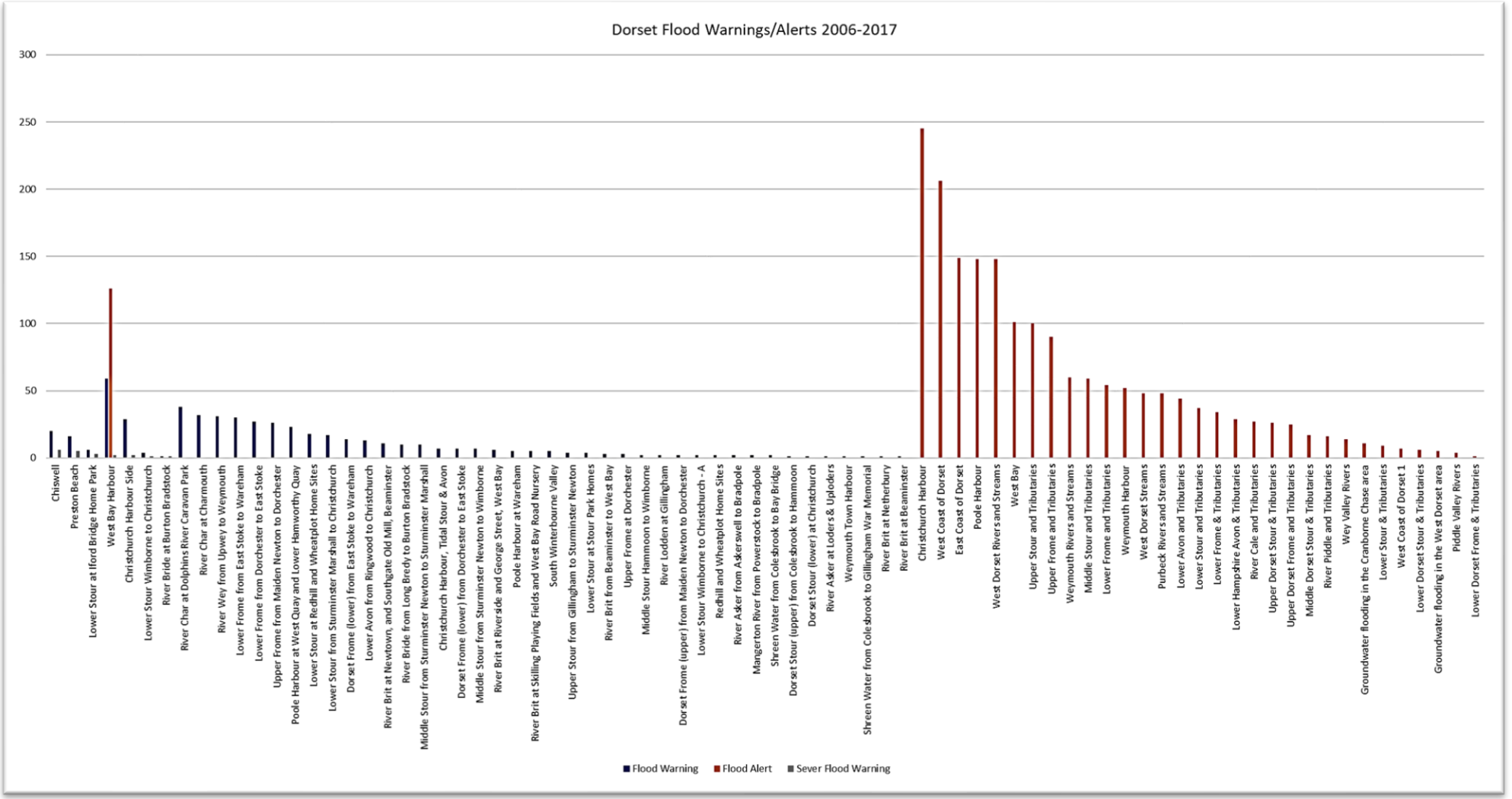
Sturminster Newton



Appendix C

Details of the type of flood warning and the location for which it was issued between 2006 and 2017




Dorset Flood Warnings/Alerts 2006-2017
300
250
200
150
100
50
0
Chiswell
Preston Beach
Lower Stour at Iford Bridge Home Park
West Bay Harbour
Christchurch Harbour Side
Lower Stour Wimborne to Christchurch
River Bride at Burton Bradstock
River Char at Dolphins River Caravan Park
River Char at Charmouth
River Wey from Upwey to Weymouth
Lower Frome from East Stoke to Wareham
Lower Frome from Dorchester to East Stoke
Upper Frome from Maiden Newton to Dorchester
Poole Harbour at West Quay and Lower Hamworthy Quay
Lower Stour at Redhill and Wheatplot Home Sites
Lower Stour from Sturminster Marshall to Christchurch
Dorset Frome (lower) from East Stoke to Wareham
Lower Avon from Ringwood to Christchurch
River Brit at Newtown, and Southgate Old Mill, Beaminster
River Bride from Long Bredy to Burton Bradstock
Middle Stour from Sturminster Newton to Sturminster Marshall
Christchurch Harbour, Tidal Stour & Avon
Dorset Frome (lower) from Dorchester to East Stoke
Middle Stour from Sturminster Newton to Wimborne
River Brit at Riverside and George Street, West Bay
Poole Harbour at Wareham
River Brit at Skilling Fields and West Bay Road Nursery
South Winterbourne Valley
Upper Stour from Gillingham to Sturminster Newton
Lower Stour at Stour Park Homes
River Brit from Beaminster to West Bay
Upper Frome at Dorchester
Middle Stour Hammoon to Wimborne
River Lodden at Gillingham
Dorset Frome (upper) from Maiden Newton to Dorchester
Lower Stour Wimborne to Christchurch - A
Redhill and Wheatplot Home Sites
River Asker from Askerswell to Bradpole
Mangerton River from Powerstock to Bradpole
Shreen Water from Colesbrook to Bay Bridge
Dorset Stour (upper) from Colesbrook to Hammoon
Dorset Stour (lower) at Christchurch
River Asker at Loders & Uploders
Weymouth Town Harbour
Shreen Water from Colesbrook to Gillingham War Memorial
River Brit at Netherbury
River Brit at Beaminster
Christchurch Harbour
West Coast of Dorset
East Coast of Dorset
Poole Harbour
West Dorset Rivers and Streams
West Bay
Upper Stour and Tributaries
Upper Frome and Tributaries
Weymouth Rivers and Streams
Middle Stour and Tributaries
Lower Frome and Tributaries
Weymouth Harbour
West Dorset Streams
Purbeck Rivers and Streams
Lower Avon and Tributaries
Lower Stour and Tributaries
Lower Frome & Tributaries
Lower Hampshire Avon & Tributaries
River Cale and Tributaries
Upper Dorset Stour & Tributaries
Upper Dorset Frome and Tributaries
Middle Dorset Stour & Tributaries
River Piddle and Tributaries
Wey Valley Rivers
Groundwater flooding in the Cranborne Chase area
Lower Stour & Tributaries
West Coast of Dorset 1
Lower Dorset Stour & Tributaries
Groundwater flooding in the West Dorset area
Piddle Valley Rivers
Lower Dorset Frome & Tributaries
Flood Warning
Flood Alert
Sever Flood Warning

Appendix D

Summary of the communication and engagement carried out during this technical rescue review

Stakeholders	Date	Communication or engagement
Fire and Rescue Services Association (FRSA) liaison meeting	10/09/2019	Review update
Joint Working Group involving Fire Brigades Union (FBU) representatives	16/09/2019	Review update
Station Manager and Group Manager review update	20/09/2019 04/10/2019 07/10/2019	Review update
Station Manager, Group Managers and Area Managers for technical rescue stations	04/11/2019	Briefing
FRSA liaison meeting	18/12/2019	Review update
Technical rescue stations (Chippenham, Poole, Salisbury, Stratton, Trowbridge and Weymouth)	12/2019 - 01/2020	Station based meetings with all watches/groups. Feedback forms left with watches for individual feedback/comments
Joint Working Group involving FBU representatives	11/12/2019	Review update
Managers Consultation Days	07/01/2020 09/01/2020 16/01/2020 17/01/2020 23/01/2020	Briefings
All staff	13/01/2020	Weekly update
FRSA liaison meeting	03/03/2020	Review update
All staff	09/03/2020	Weekly update
FRSA liaison meeting	10/06/2020	Review update
All staff	15/06/2020	Detailed information available on dedicated SharePoint site
Joint Working Group involving FBU representatives	20/08/2020	Review update

Joint Working Group involving FBU representatives	03/09/2020	Review update
Station Managers, Group Managers and Area Managers for technical rescue stations	09/09/2020	Briefing
FRSA liaison meeting	30/09/2020	Review update
Technical Rescue Steering Group	29/10/2020	Review update
FRSA liaison meeting	11/12/2020	Review update
Member seminar for Chairs of Local Performance & Scrutiny Committees and Chair/Vice Chair of Fire and Rescue Authority and Finance & Audit committee	12/11/2020	Members seminar
Joint Working Group involving FBU representatives	13/11/2020	Review update
Fire and Rescue Authority seminar	10/12/2020	Review update
Joint Working Group involving FBU representatives	08/12/2020	Review update
Fire and Rescue Authority seminar	13/01/2021	Review update
Joint Working Group involving FBU representatives	20/01/2021	Review update
FRSA liaison meeting	28/01/2021	Review update
All staff	2019/2020/2021	Question time sessions