

## Background and Context

The Met Office records indicate that both June and July had well above average rainfall, with southern England experiencing 207% of its June average, and 237% of its July average rainfall [1961-90 averages]. This led to saturated ground conditions.

The Met Office report for the month of July 2007 states:

“By far the most notable event occurred on Friday 20th, when some extremely heavy rain affected parts of the south and west. It was at its worst through the morning period when amounts exceeded 25 mm [1”] an hour in many places. This event soon became newsworthy with flooding reported in west and south London, Berkshire, central southern England and the south and west Midlands. Several sites from west Berkshire into Gloucestershire and Worcestershire recording in excess of 100 mm, much of this rain falling in a fairly short period. As the river systems responded, the next few days brought serious flooding to parts of the Severn Valley and upper Thames areas.”

A number of National Trust (NT) properties across 5 regions were affected by the intense rainfall or flooding events of June and July 2007; including Calke Abbey, Fountains Abbey, Hughenden, Charlecote Park, Coughton Court, The Vyne and Hidcote. The Buscot & Coleshill estate suffered the most serious flooding impacts, affecting around 50 cottages and houses. These included the following:

- 3 Properties at Coleshill
- 3 Properties at Kelmscott
- 27 Properties flooded in Buscot Village
- 6 Properties at Buscot Park
- 3 Properties at Eaton Hasting
- 1 Property at Kencot
- 1 Property at Steventon
- Ashdown House – Cellar
- Buscot House
- Buscot Old Parsonage – Cellar and Garages

The Buscot and Coleshill Estate lies on the Western border of Oxfordshire with one farm in Wiltshire. The Estates total some 7,500 acres comprising of 11 farms, 290 acres of in hand woodland, and 550 acres of woodland let to the Forestry Commission. The villages of Buscot, Coleshill and Eaton Hastings are almost entirely owned by the National Trust (only 4 houses are in private ownership), a total of 151 cottages.

Most properties affected were not in identified areas of high flood risk, nor below very steep slopes. The intensity of rainfall had a range of impacts, including water ingress through the roof into Buscot Park main house, road surface damage and scouring of paths within the gardens, but the most significant impacts were caused by flash flooding and subsequent fluvial flooding when the rivers Cole and Thames broke their banks.

As a result of a previous flooding event at Buscot in 1993, drainage infrastructure improvements (such as enlarged drainage capacity and new culverts) had been carried out which undoubtedly reduced the damage which would otherwise have occurred, and there was a ready supply on-site of sand for sandbags and of other equipment.

## **Buscot and Coleshill:**

### **20 July**

- The water table became dangerously high after 12 hours of sustained heavy rainfall. Flash flooding hit Buscot, with water flowing down the main street from Bury Hill Lane.
- By 1pm, flash flooding had hit Buscot with water flowing down the main street from Bury Hill Lane.
- The overflows at Buscot Park Lake soon became torrents which then in turn themselves overflowed and flooded Middles Lodge at Buscot Park, the force of the water also ripping up the road.
- The paths and properties within Buscot Park were also badly affected by the flash floods.
- Buscot was cut off by road and only passable in a 4 wheel drive vehicle. The River Cole had burst its banks, flooding the B4019 and also the A417.
- The recorded rainfall at RAF Brize Norton just up the road was 118mm (4¾ inches).
- Initially the estate was cut off in all directions.

### **21 July**

- The River Cole and Thames both burst their banks and, over the next 24 hours, the flood water continued to rise engulfing the Mill and Waterloo Lodge at Coleshill, Buscot Old Parsonage, Lock Cottage and the village of Kelmscott.
- The Environment Agency's (EA's) website gave a good indication of the projected flood pattern, and there was an opportunity to contact tenants and offer some advance warning. By the end of the day on 21 July, 57 properties had been affected by flooding.

### **22 July**

- From the early morning, it was clear that the properties affected by flash flooding in Buscot could get power back on and start the clear-up. By the end of the day, everyone's power was back on and the resident plumber had got all but a few boilers up and running again

## **How the Topic was Handled**

On the first day, the estate was cut off and it was impossible for regional help to reach the estate. The Property Manager maintained a detailed diary of events and impacts. The estate issued a pump to Buscot Old

Parsonage as their two sump pumps could not cope with the rising flood water. The regional and central office were in touch with a supplier of dehumidifiers and a general purchase order had been raised the day before at the centre to facilitate delivery of de-humidifiers and fans to NT properties affected by flooding. Due to the scale of the flooding in the Upper Thames Valley, and elsewhere, de-humidifiers quickly became scarce. The company the NT dealt with considered arranging to have additional equipment shipped over from the Netherlands. NT dehumidifiers were later brought from other parts of the region.

The EA's website gave a good indication of the projected flood pattern and tenants were contacted and given some advance warning.

Over the weekend, the building surveyors from across the region were contacted and went to Coleshill the following week. On Monday 23rd, the initial assessments began. The damage ranged from a couple of inches of flooding to 4 feet, and included damage to walls, paths, tracks. At Buscot Park, the paths in the walled gardens had been replaced by a series of deep gullies.

A spreadsheet was designed to log the level of damage to each property, recording an initial cost against the damage. Following an assessment of each property by the Surveyors, the Loss Adjuster visited properties to judge the scale of the claim.

The National Trust Direct Labour team provided the initial support assisting with the removal of damaged items.

As the properties dried out over the course of the proceeding weeks, it became clear that due to the use of traditional materials, such as lime plasters and mortars, the properties were recovering extremely well. The tenants were kept fully informed that the drying out process had to be completed before works could commence. Secondary inspections revealed the true extent of the damage.

## **Lessons Identified**

### **Lessons identified were:**

- Access to 4 wheel drive vehicles was essential, without which access could not have been gained to the estate.
- The Environment Agency's website proved invaluable. It gave a very accurate picture of projected flooding areas allowing the NT to give advance notice to tenants and opportunity for the NT to protect those properties.
- Regular maintenance of ditches and culverts is vital.
- The use of traditional materials in Trust properties speeds up any re-building work as the evidence at Buscot and Coleshill is that they will recover from flood damage and therefore not require removal.

### **Recommendations identified for future action were:**

#### **1) To reduce risk of flood damage:**

- Available data to be consulted to assess risk from climate change impacts in any given location, using UKCIP, Environment Agency data, etc.
- Ensure regular maintenance of ditches and culverts in areas with high flood risk.
- Review the specification of culverts/drains.
- Land management in high flood risk areas should reflect the need to help minimise flash flooding. Management which is conducive to water storage and slow release should be favoured, such as tree and hedge cover, in the headwaters of catchments, and avoiding soil compaction on slopes.
- Consider relocation of buildings or infrastructure out of floodplains where possible.

## **2) To ensure the response during flooding is effective:**

- All properties in flood risk zones must have ready access to a sandbag store.
- Emergency procedures and Emergency Plans must be reviewed to ensure relevance to flooding for all types of properties, not just pay to enter properties.

## **3) To aid recovery from flooding**

- Opportunities must be taken to make buildings in flood risk areas better adapted to flooding, for example by use of traditional materials, raising electrics, considering durable materials for fixtures/fittings, eg. in kitchens.

## **Contacts for Further Information**

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