

Case No: HQ/14/X05369

Neutral Citation Number: [2018] EWHC 65 (QB)
IN THE HIGH COURT OF JUSTICE
QUEEN'S BENCH DIVISION

Royal Courts of Justice
Strand, London, WC2A 2LL

Date: 19/01/2018

Before :

SIR ROSS CRANSTON

Between :

CHRISTOPHER KING AND OTHERS

Claimants

- and -

ENVIRONMENT AGENCY

Defendant

Hugh Mercer QC and Jessica Wells (instructed by **Clarke Willmott LLP**) for the **Claimants**
Gwion Lewis and Heather Sargent (instructed by **Legal Services, Environment Agency**) for
the **Defendant**

Hearing dates: 24 November, 27 November – 1 December 2017

Judgment

Sir Ross Cranston:

I. Introduction

1. The claimants own or farm land adjacent to the River Severn at Minsterworth Ham, near Gloucester, which at various times has been flooded, despite the existence of a flood defence embankment around their land erected and maintained by the Environment Agency and its predecessors. The Environment Agency is an executive non-departmental public body which supervises the management of flood risk in England. In this action the claimants claim a declaration and compensation from the agency. In brief outline their case is that it has adopted a strategy or policy with respect to the embankment around their land and embankments elsewhere in the area so that the flood protection to Gloucester is increased at their expense. In adopting this strategy the agency has not assessed the burden which is thereby imposed on them.
2. The claim is brought pursuant to Article 1, Protocol 1 (“A1P1”) of the European Convention on Human Rights (“ECHR” or “the Convention”), which provides for the protection against control of or interference with a person’s property. A1P1 is also invoked in conjunction with Article 14 ECHR, which prohibits discrimination in the enjoyment of rights under the Convention. The claimants contend that the Environment Agency has discriminated against them on the grounds of property or other status by paying compensation to others in other parts of the country who are in a materially equivalent position.
3. At the trial I heard oral evidence from five claimants, all of whom farm land on Minsterworth Ham: Mr Christopher King, Mr Stephen King, Mrs Helen Few, Mr David Smart, and Mr Robert Ensor. The deceased father of Mr Christopher King and Mr Stephen King, Mr David King, farmed the land before them. Some of the relevant correspondence in the case was sent to him, but his sons were aware of it at the time and no issue arises as to its admissibility. Mr Paul Cottington, south-west environment officer for the National Farmers’ Union (“NFU”), also gave evidence for the claimants. For the Environment Agency evidence was given by Ms Alison Baptiste, its director of strategy and investment in flood and coastal risk management, and Mr Anthony Perry, until 2016 its flood risk manager for the area, and now its area operations manager.
4. There were two experts, Dr Chris Whitlow, engaged by the claimants, and Mr Jeremy Benn, engaged by the Environment Agency. Both produced detailed reports. They were able to reach a good deal of common ground in their joint report of 6 November 2017. Both gave oral evidence. Not unexpectedly there was criticism of the experts by the other side. For example, it was said that Dr Whitlow’s modelling was too focused on the 2014 flood as an exemplar for flood risks, and that Mr Benn should have gone further with his analysis rather than simply investigating Dr Whitlow results. In my view both experts provided valuable assistance to the court with their reports, the joint statement and their oral evidence. Both acted consistently with their obligations as experts.
5. During the trial, and at the urging of the parties, I visited the Minsterworth Ham embankment and some of the other embankments along the River Severn nearby and mentioned later in the judgment. I was accompanied by Ms Wells and Mr Lewis of

counsel and representatives from both sides. Mr Christopher King and Mr David Smart kindly provided transport during the visit. The view enabled me to appreciate better the nature and context of the claim.

II. Background

6. Minsterworth Ham is an area of some 500 hectares in Minsterworth parish, south-west of Gloucester. It is on the River Severn, on its right bank proceeding downstream, and is enclosed on three sides by a long meander bend of the river. Ground levels on Minsterworth Ham generally vary between 6.0 mAOD and 8.0 mAOD, with lower levels in the centre. The area is mainly agricultural land of varying quality (grades 1-4), currently used for grazing, arable crops and silage production. There are some eight properties in the area, mainly farm houses, built away from the river.
7. The first bend of the river around Minsterworth Ham is called Manor Ditch. The lower part of Minsterworth Ham is called Corn Ham. In this judgment the term Minsterworth Ham is generally used to include Corn Ham and is used in preference to “the Hams”. Highcross Farm is near the final bend of the river around Minsterworth Ham. Minsterworth Village, a settlement of some 180 houses, lies some 1.5 miles downstream of Minsterworth Ham. The Noards and Rodley are further downstream.
8. On the opposite side of the river to the east of Minsterworth Ham are Hempsted and Rea. At Hempsted there is a large landfill site. The suburbs of Gloucester are further to the east and to the south (an area called Quedgeley). Immediately on the opposite side of the river to the west is the small settlement of Weir Green. Elmore is further to the west where the river meanders again, and Longney is yet further down the river to the south-west.
9. For over 80 years Minsterworth Ham has been within an internal drainage district because of its drainage needs. There are a number of such areas in the vicinity, including at Elmore and Longney. Internal drainage boards have statutory powers to undertake work to provide land drainage and water level management within internal drainage districts. At present the relevant drainage board for Minsterworth Ham is the Lower Severn Internal Drainage Board.
10. The River Severn is the longest river in Britain and it is also the greatest in terms of water flow. Its tidal range of 15m is generally considered to be the second largest in the world. Minsterworth Ham lies at the uppermost extent of the Severn Estuary, at a point on the river where tidal movements upstream meet fluvial waters coming downstream. The Severn’s floodplain is extensive; Minsterworth Ham is part of it. The Environment Agency’s current Flood Map for Planning illustrates the extent of the floodplain in the Gloucester area, which includes large areas around Minsterworth Ham, for example at Elmore, Hempsted, Longney and Rodley.
11. Flooding is recorded in Minsterworth parish from the thirteenth century: see *Victoria County History, Gloucestershire*, vol. 13. It has resulted from fluvial flows, tidal flows or a combination of both. Fluvial flows were mainly responsible for the notable floods in 1947, 2000, 2007 and 2014. In 1999 there was a serious tidal flood. The fluvial floods of 2014 were exacerbated by high tides. The claimants’ land was inundated: (i) twice in 1999; (ii) twice in Autumn 2000; (iii) in July 2007; (iv) in

November 2012; and (v) in early 2014. The 1999 flood which affected the claimants' land also flooded homes in Elmore, Longney and Minsterworth village. The 2007 fluvial flood was extreme, affecting over 4000 homes and 500 businesses across the Gloucestershire area. In this flooding event, the water took some months to drain from Minsterworth Ham given that water levels remained high in the river's channel. The 2014 floods affected over 150 homes and businesses between Gloucester and Tewkesbury.

12. Along the Severn in Shropshire, Herefordshire, Worcestershire and Gloucestershire there are around 200 km of earth flood embankments. Some date back centuries. *The Victorian County History, Gloucestershire*, records that in Minsterworth parish, "sea walls beside the river were recorded in the Minsterworth parish in 1547, when profits from chantry lands helped to fund repairs, and in 1813 commoners in Minsterworth Ham took collective responsibility for the sea wall protecting that meadow".
13. At present along the Severn around Minsterworth Ham there is an 8km long earth flood embankment. When the river level is higher than the top of the embankment, the water flows over it into Minsterworth Ham. The embankment contains high-level and low-level outfall structures which allow flood water which has entered the area to drain back into the river when the river has fallen to their level. The outfall structures have flaps on them which act as one-way valves to stop river water entering the land behind the embankment. Older, wooden falling shutters on Minsterworth Ham were removed around 1989/1990.
14. The high level outfalls on Minsterworth Ham which eventually replaced them were built by the Environment Agency around 2006, with an invert level of 7.95 mAOD. They operate to drain floodwaters in excess of that from Minsterworth Ham. On Mr Benn's evidence, which the claimants were prepared to accept for the purpose of submissions, there is some 7,606,000m³ potential storage for flood water – some 3000 Olympic swimming pools - between the invert level of the high-level outfalls and the top of the Minsterworth Ham embankment, if this is taken as 9.75mAOD. The five smaller low level outfalls have an invert level of around 5mAOD and continue to drain floodwater, albeit more slowly, when water levels on Minsterworth Ham drop below 7.95mAOD.
15. There are embankments on the other side of the river from Minsterworth Ham, which protect Elmore, Rea and Hempsted. Details of these appear later in the judgment.

III. Procedural Issues

16. During the proceedings a number of procedural issues arose, but only two need specific mention. First, the claimants complained that the Environment Agency had not disclosed details of schemes around the country where it had paid compensation to those whose lands were flooded. In October 2015, for instance, the claimants served a Request for Further Information under Part 18 CPR seeking (i) specific further details in relation to schemes at Garstang, Leigh/Penshurst and Banbury, which they had identified and (ii) details of any other arrangements under which it had made payment to owners or occupiers of land which the Environment Agency permits or encourages to flood in order to protect other properties or assets. In 2016 the Environment Agency provided information on the schemes the claimants identified, but no details were given of other compensation schemes.

17. The claimants contended that it was only on cross-examination of the Environment Agency's Ms Baptiste that they learnt that there were some 150-200 schemes where compensation had been paid. Ms Baptiste stated that information about the schemes was publicly available, including on the Environment Agency's Flood Map for Planning. Towards the end of the hearing a list of schemes was provided.
18. The claimants referred to the high standard to which a public authority is held in assisting the court with a full and accurate picture of the facts relevant to a case. They also invoked the statement of principle by Laws LJ in *R (on the application of Quark Fishing Ltd) v Secretary of State for Foreign and Commonwealth Affairs (No.1)* [2002] EWCA Civ 1409, [50], that if the court has not been given a true and comprehensive account it may be appropriate for it to draw inferences against the public authority upon points which remain obscure. In this case, they submitted, any doubts arising from what they said was the Environment Agency's defective disclosure should be resolved in their favour. To the extent that it was not already clear on the available evidence that their position was materially identical to the other schemes, the court should draw this inference.
19. It seems to me that the Environment Agency should have disclosed more information on these other schemes than they did, if only by reference to what was publicly available. The criteria for categorising the named schemes did not emerge until Ms Baptiste gave oral evidence. However, as I find later in the judgment, these other schemes have such different features that further disclosure of information would have been beside the point.
20. The second procedural issue which arose was that, following the hearing, there was a flurry of correspondence relating to the Environment Agency's reference to flood defences further up the River Severn at Maisemore, Longford and Sandhurst. These were touched on, in passing, during the site visit and in oral submissions. There was no evidence before the court as to the defences at Sandhurst and Longford. In my view these matters have no relevance to this claim and I have had no regard to them.

IV. Legislative and Policy Framework

21. The claimants accepted that there is no legal right to be protected from flooding and its effects, and that at common law landowners are responsible for safeguarding their land and property when flooding occurs. At one point nuisance and negligence featured in their claim. During the course of the proceedings they had refined their legal claims to focus on A1P1 of the Convention. Before the principles governing claims under A1P1 are examined, some mention of the role of the Environment Agency is necessary as background.

Role of Environment Agency in flood control

22. As one of its functions, the Environment Agency has under Part 1 of the Flood and Water Management Act 2010 general supervision over all matters relating to flood risk management in England: see Environment Act 1995, section 6(4). Section 7 of the 2010 Act requires the Agency to "develop, maintain, apply and monitor a strategy for flood and coastal risk management in England". The strategy must specify *inter alia* the objectives for managing flood and coastal erosion risk, the measures proposed to achieve those objectives, and the costs and benefits of those measures and how they

are to be paid for: s. 7(2). The Environment Agency may also issue guidance about the application of the strategy: s. 7(5). The draft strategy, and any guidance, must be submitted to the Secretary of State for review, who must then lay any approved strategy or guidance before Parliament for its consideration: s. 7(7)-(9).

23. In addition to the national strategy, lead local flood authorities must develop local flood risk management strategies: Flood and Water Management Act 2010, s. 9(1). These must specify the objectives for managing local flood risk, the measures to achieve them, how and when these are expected to be implemented, their costs and benefits and how they are to be paid for: s. 9(4).
24. The current national strategy on flood risk management was published in 2011. Below in the hierarchy of strategic plans to implement government policy on flood risk management are catchment flood management plans, flood risk management plans, shoreline management plans, river basin management plans and local flood risk management strategies.
25. The Environment Agency has statutory powers to carry out works to manage flood risk. Where these works relate to watercourses designated as so-called main rivers on the main river map for England - the River Severn and the Severn Estuary are included – the relevant powers are in Part IV of the Water Resources Act 1991. For the purpose of carrying out its flood defence functions, the agency must from time to time carry out surveys of the areas in relation to which it carries out those functions: s.105(2) of the 1991 Act. Ministerial authorisation may be given to the purchase of or the acquisition of rights over a person's land: s. 154(1)-(2). Under section 165 of the 1991 Act the Environment Agency as the appropriate agency may carry out flood risk management work.

“(1) The appropriate agency may—

(a) carry out flood risk management work within subsection (1D)(a) to (f) if Conditions 1 and 2 are satisfied;

(b) carry out flood risk management work within subsection (1D)(g) or (h) if Condition 1 is satisfied.

(1A) Condition 1 is that the appropriate agency considers the work desirable having regard to the national flood and coastal erosion risk management strategies under sections 7 and 8 of the Flood and Water Management Act 2010.

(1B) Condition 2 is that the purpose of the work is to manage a flood risk (within the meaning of that Act) from—

(a) the sea, or

(b) a main river.

(1C) In subsection (1B)(b) the reference to a main river includes a reference to a lake, pond or other area of water which flows into a main river.

(1D) In this section “flood risk management work” means anything done—

(a) to maintain existing works (including buildings or structures) including cleansing, repairing or otherwise maintaining the efficiency of an existing watercourse or drainage work;

(b) to operate existing works (such as sluiceways or pumps);

(c) to improve existing works (including buildings or structures) including anything done to deepen, widen, straighten or otherwise improve an existing

watercourse, to remove or alter mill dams, weirs or other obstructions to watercourses, or to raise, widen or otherwise improve a drainage work;
 (d) to construct or repair new works (including buildings, structures, watercourses, drainage works and machinery);
 (e) for the purpose of maintaining or restoring natural processes;
 (f) to monitor, investigate or survey a location or a natural process;
 (g) to reduce or increase the level of water in a place;
 (h) to alter or remove works.
 (2) The appropriate agency shall also have power to maintain, improve or construct drainage works for the purpose of defence against sea water or tidal water; and that power shall be exercisable both above and below the low-water mark.
 (3) The appropriate agency may construct all such works and do all such things in the sea or in any estuary as may, in its opinion, be necessary to secure an adequate outfall for a main river...”

26. If a person sustains injury, including injury to land, as a result of the Environment Agency exercising its powers under section 165(1)-(3), it is liable to pay full compensation to the injured party pursuant to paragraph 5(1) of Schedule 21 to that Act. Injury in this context connotes a legal right of action which would exist in the absence of the Environment Agency’s statutory powers: *Marriage v East Norfolk Rivers Catchment Board* [1949] 2 KB 456; on appeal [1950] 1 KB 284. Conversely, if damage is caused by the exercise of the agency’s statutory power, no common law action for damages can be brought against it. The section 177 scheme does not seem to provide an exclusive remedy so as to prevent an action where the Environment Agency causes damage by negligence in undertaking flood defence works under its statutory powers: *Hall v Environment Agency* [2017] EWHC 1309 (TCC).
27. Disputes as to the amount of compensation payable are determined by the Upper (previously the Lands) Tribunal: para. 5(2). For compensation to be payable the flood risk management works need not have been carried out on land owned or occupied by the applicant: see *Brown v Natural Resources Body for Wales* [2016] UKUT 514 (LC); [2017] RVR 211.

Planning policy

28. National planning policy, which since 2012 is contained in the National Planning Policy Framework, provides that when determining planning applications, local planning authorities should ensure flood risk is not increased elsewhere: para. 103. Flood risk elsewhere was also a factor in previous national planning policy: see Planning Policy Statement 25: Development and Flood Risk Practice Guide, Updated December 2009.
29. The local planning authority in the area of Minsterworth Ham is Tewkesbury Borough Council. The Environment Agency, Lower Severn Area, has produced advice that it is likely to support planning consent for flood alleviation measures if they follow the guidelines it has produced. These require, inter alia, flood compensation measures to identify all gains and losses to flood storage volumes, backed by evidence.

Article 1, First Protocol to the ECHR

30. As is well known, A1P1 comprises three rules, first, the general principle of non-interference with the peaceful enjoyment of property; secondly, that the deprivation of possessions is subject to conditions such as the general requirement for payment of compensation; and thirdly, that states are entitled, amongst other things, to control the use of property in the general interest: *Sporrong and Lönnroth v Sweden* (1983) 5 EHRR 35, [61]; *AXA General Insurance Ltd v The Lord Advocate* [2011] UKSC 46; [2012] 1 AC 868, [107], per Lord Reed. A court must determine whether the second and third rules are applicable before inquiring whether the first rule applies. The second and third rules are to be construed in light of the general principle enunciated in the first rule.
31. In these proceedings it is common ground that the claimants' land and property are possessions and property for the purposes of A1P1, and that there has been no deprivation of the claimants' land or property under the second rule. In terms of A1P1 the issues are (1) whether the Environment Agency has interfered with the claimants' land and property by adoption of what they contend is the strategy whereby Minsterworth Ham is used as flood protection to Gloucester, and (2) if so, whether in the adoption of that strategy a fair balance has been struck between the general interest of the community and the requirements of the protection of the claimants' rights.
32. Whether there has been interference with a person's A1P1 rights is a question of substance: *Sporrong*, [60]. The Strasbourg Court has found interference under A1P1 where the failure of a public body to act caused flooding. But the flooding in *Kolyadenko v Russia* (2013) 56 EHRR 2 was attributable to the authorities' negligence, which endangered lives, having occurred after the urgent, large-scale evacuation of water from a reservoir,

“the likelihood and potential consequences of which the authorities should have foreseen. The Court has furthermore established that the main reason for the flood, as confirmed by the expert reports, was the poor state of repair of the Pionerskaya River channel because of the authorities' manifest failure to take measures to keep it clear and in particular to make sure its throughput capacity was adequate in the event of the release of water from the [r]eservoir”: [215]-[216].
33. That is not this case and in any event, as we will see, the claimants eschew any argument of a failure of the Environment Agency to act.
34. The issue of striking a fair balance between the general interest of the community and the requirements of the protection of the individual's A1P1 rights has arisen in a number of cases. A number of principles emerge. First, a fair balance requires “a reasonable relationship of proportionality between the means employed and the aim sought to be realised”: *James v UK* (1986) 8 EHRR 123, [50]. Secondly, at the domestic level the margin of appreciation which the Strasbourg court exercises becomes a recognition that, in certain circumstances, public authorities other than the courts are better placed to determine how the interests should be balanced: *AXA General Insurance Ltd*, [131]. Thirdly, there may need to be the possibility of re-

assessing the balance of the respective interests at reasonable intervals: *Sporrong*, [70]; *Papastavrou v Greece* (2005) 40 EHRR 14 (but both were deprivation cases where no compensation had been paid). Fourthly, the necessary balance will not be found if the property owner has had to bear “an individual and excessive burden”: *Sporrong*, [73]. Finally, control of property under rule 3 of A1P1 can occur without payment of compensation, unless compensation is necessary to avoid an individual and excessive burden: *Sporrong*, [73]; *R (Alconbury Developments Limited) v Secretary of State for the Environment, Transport and the Regions* [2001] UKHL 23; [2003] 2 AC 295, [72]; *R (Trailer & Marina (Leven) Ltd) v Secretary of State for the Environment, Food and Rural Affairs* [2004] EWCA Civ 1580; [2005] 1 WLR 1267, [57]-[58], [60]-[61], per Neuberger LJ.

35. Both parties placed considerable reliance on *Marcic v Thames Water Utilities Ltd* [2003] UKHL 66; [2004] 2 AC 42 as regards striking the fair balance. There the claimant suffered serious and repeated flooding from an overloaded sewer. The defendant was the statutory sewerage undertaker under the Water Industry Act 1991 responsible for the sewer. When deciding its priorities for expenditure to alleviate the flooding, the defendant balanced the seriousness of a flooding incident against the estimated cost of the necessary works. Under the Act there was an independent regulator of the defendant, with powers of enforcement, whose decisions were subject to judicial review. As well there was a procedure for making complaints to the regulator, which the claimant did not pursue. The claimant alleged amongst other things breach of his ECHR Article 8 rights (through direct and serious interference with his home) and his A1P1 rights.
36. The House of Lords rejected the claim. For the claimant to have an action under the Human Right Act 1998 would be inconsistent with the statutory scheme. The need for a system of priorities for building more sewers was self-evident. The system had to be fair. A balance had to be struck between those like the claimant subject to sewer flooding and the interests of the defendant’s other customers whose charges would finance the cost of alleviation. Parliament had devised a scheme. The balance was better struck by the regulator appointed under it. Lord Nicholls, with whom the others agreed, said:

“43. In principle this [statutory] scheme seems to me to strike a reasonable balance. Parliament acted well within its bounds as a policy maker. In Mr Marcic's case matters plainly went awry... But the malfunctioning of the statutory scheme on this occasion does not cast doubt on its overall fairness as a scheme. A complaint by an individual about his particular case can, and should, be pursued with the director [the regulator] pursuant to the statutory scheme, with the long stop availability of judicial review. That remedial avenue was not taken in this case.

44. I must add that one aspect of the statutory scheme as presently administered does cause concern. This is the uncertain position regarding payment of compensation to those who suffer flooding while waiting for flood alleviation works to be carried out. A modest statutory compensation scheme exists regarding internal flooding...There seems to be no statutory provision regarding external sewer flooding. Some

sewerage undertakers make payments, others do not. They all provide a free clean up and disinfecting service, including removal of residual effluent.

45. It seems to me that, in principle, if it is not practicable for reasons of expense to carry out remedial works for the time being, those who enjoy the benefit of effective drainage should bear the cost of paying some compensation to those whose properties are situated lower down in the catchment area and who, in consequence, have to endure intolerable sewer flooding, whether internal or external. As the Court of Appeal noted, the flooding is the consequence of the benefit provided to those making use of the system: [2002] QB 929, 1001, para 113. The minority who suffer damage and disturbance as a consequence of the inadequacy of the sewerage system ought not to be required to bear an unreasonable burden. This is a matter the director and others should reconsider in the light of the facts in the present case.”

37. In a concurring judgment, Lord Hoffmann stated that in ordinary litigation the courts were not equipped to decide on capital expenditure of a statutory undertaking providing large scale public utilities, which was why Parliament had entrusted the responsibility to administrators rather than judges [64]. Parliament intended the decision to rest with the regulator, subject only to judicial review: [80]. Lord Hope added that, while consideration had to be given to victims, a balance has to be struck if the system was to be provided at reasonable cost [87].
38. In *Treharne v Secretary of State for Work and Pensions* [2008] EWHC 3222 (QB), [16], I held that the effect of *Marcic* was that once a scheme has been established under domestic legislation and adjudged to be compliant with ECHR rights, there was no scope to argue on an individual basis a breach of such rights: see also *Belfast City Council v Miss Behavin' Limited* [2007] UKHL 19; [2007] 1 W.L.R. 1420 [36], per Lady Hale.

Article 14, ECHR

39. Under Article 14 of the Convention, ECHR rights including those within A1P1 must be secured without discrimination “on any ground such as sex, race, colour, language, religion, political or other opinion, national or social origin, association with a national minority, property, birth or other status.” The article is confined to discrimination on the basis of a personal characteristic or status by which individuals or groups are distinguishable from one another: *Kjeldsen v Denmark* (1976) 1 EHRR 711; *Khamtokhu v Russia* (2017) 65 EHRR 6, [61]; *R (S) v Chief Constable of the South Yorkshire Police* [2004] UKHL 39; [2004] 1 WLR 2196, [48].
40. The claimants placed considerable reliance on *Chassagnou and Others v France* (2000) 29 EHRR 615 to argue that discrimination against them was on the basis of their status. *Chassagnou* was a case where the law imposed the compulsory transfer of hunting rights over a person’s land to approved municipal hunters' associations, so that land owners could no longer prevent hunting on their land. However, the owners of land exceeding a certain minimum area could escape the transfer. The Strasbourg

court held that the law was an infringement of A1P1, and that there was also an infringement of A1P1 taken in conjunction with Article 14.

“[120] Article L.222-13 of the Countryside Code does indeed create a difference in treatment between persons in comparable situations, namely the owners of land or hunting rights, since those who own 20 hectares or more of land in a single block may object to the inclusion of their land in the ACCA's hunting grounds, thus avoiding compulsory membership of the association, whereas those who, like the applicants, possess less than 20 or 60 hectares of land may not.”

41. In a renewed application for judicial review, *R (Takeley Parish Council) v Stansted Airport Ltd* [2005] EWHC 3312 (Admin); [2007] JPL 126, the claimants submitted that the Secretary of State had breached their rights under Article 14, in conjunction with A1P1, by endorsing a scheme set up to compensate property owners blighted by the development of a second runway at Stansted airport, which only paid out to those within a defined noise contour. Lloyd Jones J held that this point was unarguable:

“34. [...] I doubt that Article 14 is engaged in the circumstances of this case. This scheme does not discriminate between individuals and groups on the basis of personal characteristics. If it did, then that would be the case whenever a distinction is drawn between different categories of property owners. But, in any event, it seems to me that any discrimination will be justified [...]”

42. Whether there is Article 14 discrimination is determined in a non-formulaic manner. Lord Hoffmann said that the single question was: “is there enough of a relevant difference between X and Y to justify different treatment?”: *R (on the application of Carson) v Secretary of State for Work and Pensions* [2005] UKHL 37; [2006] 1 AC 173, [31]. With justification in *Carson*, the House of Lords held that discrimination which prima facie appeared to offend respect due to the individual, as in the case of sex or race, where severe scrutiny by the court was called for, was to be distinguished from discrimination on grounds such as residence or age, which merely required some rational justification: see also *Van Raalte v Netherlands* (1997) 24 EHRR 503; *Ghaidan v Godin-Mendoza* [2004] 2 AC 557, [19], per Lord Nicholls. Where the subject-matter is one of broad, or strategic, economic and/or social policy, discrimination only falls foul of Article 14 ECHR if it is manifestly without reasonable foundation: *Public Law Project v Lord Chancellor* [2015] EWCA Civ 1193, [38], per Laws LJ, on appeal on other grounds: [2016] UKSC 39; [2016] AC 1531.

V. The Evidence

Claimants' evidence

43. The claimants gave evidence covering five main areas. First, they described the impact of the flooding on their lives and their land. An aspect of this was the emotional toll for them and their families. For example, Mr Christopher King was

able to describe how he and others helping him had to work over long periods, through the night, and in high water, to evacuate his parents' home and to remove stock to higher ground in the 2007 flood. From the diary he kept he was also able to give details of other flooding. Mrs Few described in graphic detail how in 2007, when she and her late husband were on holiday, they were shocked to see on television that it was their land which was flooded and of the consequent need to arrange on the telephone from abroad the movement of their livestock to higher ground. She also described how the flooding that year caused the grass to rot in the fields, so that grazing could not occur. Mr Steve King described the impact on the soil. Mr Smart explained that following the 2013/14 flood he took away around 15 14-tonne trailer loads of wood and other debris.

44. In particular there was the economic impact of flooding, for example in having to move stock and to market it earlier than anticipated. There were also the destroyed silage and crops. Mr Christopher King and Mrs Few explained that they moved from dairy to beef production because of the greater problems of moving dairy cattle from flooded areas. Mr Steve King stopped buying calves for his calve-rearing business during December to March, when the flood risk is higher. Mr Christopher King calculated the cost of the 2013/2014 flood for him as being in the region of £50000-£100000, with funding from the government's flood relief fund and from charities such as the Addington Fund (a charity to support farmers in times of hardship) covering only £37000 of the loss. Mr Cottington of the NFU gave evidence about the financial impact of flooding.
45. Secondly, the evidence, in particular from Mr Christopher King, Mr Steven King, Mr Ensor and Mr Smart, was that in their experience the frequency, severity and speed of flooding had increased in recent decades. Major floods, involving the evacuation of livestock from Minsterworth Ham, occurred in 2000, 2007, 2012, 2013/2014. Mr Christopher King, for one, acknowledged that the flooding they experienced was complex and varied.
46. This second point related to the third aspect of the claimants' evidence, that in their view the works the Environment Agency had undertaken elsewhere in the vicinity such as Elmore had made flooding worse in Minsterworth Ham. Mr Christopher King put it this way:

Q: You say the consequence of works at Elmore is common sense, not based on technical and scientific evidence? A: Yes, based on common sense and experience but when I am stood looking [at the river] I can see [the water] going over on one side and not on both sides.
47. However, he accepted in cross-examination that the Minsterworth Ham embankment served an important function because it gives a degree of protection from flooding, and that if it were not there his land would flood more frequently. Similarly, Mr Ensor accepted in cross-examination that there was an ongoing benefit to his land from the Minsterworth Ham embankment, and that if it were not there his land would flood more frequently.
48. The claimants compared the work the Environment Agency had undertaken on Minsterworth Ham unfavourably with what it had done elsewhere. The Minsterworth Ham embankment was not kept to the standard of other embankments. Mr

Christopher King described how, in his view, if there was flooding elsewhere the agency raised the embankments there, but not on Minsterworth Ham. He acknowledged that the high outfalls worked well to evacuate flood water in the 2007 floods, although owing to the varying levels of the ground there was a period when neither the high nor the low outfalls operated. Mr Smart spoke of the dips and low spots in the Minsterworth Ham embankment on his land where the cattle had congregated in gateways.

49. Fourthly, the claimants conceded that they had invested in their farms despite the flood risk. Mr Christopher King confirmed that he was aware at the time that he purchased his property of its location in the natural floodplain and of the history of flooding. Mr Steve King had purchased two computerised milk feeders to allow him to take on an increased numbers of calves with his calf-rearing business. Mrs Few stated that when they had bought the farm in 1994 the risk of flooding was acceptable. She thought her husband had inquired at the time of the local authority and the National Rivers Authority, and that the plan had been to extend the embankment further up the river. When his company had purchased their farm on Minsterworth Ham, Mr Smart had acted on the basis of what they knew about the area, living as they did only two miles away, and knowing the vendor well. Mr Ensor explained that he had been aware since he was a school boy that the land flooded on occasion and that he recalled the flood of 1960.
50. Finally, the claimants in cross-examination conceded that they had never pursued applications either to raise the height of the Minsterworth Ham embankment on their land or for compensation under the Schedule 21 to that Water Resources Act 1991. Their evidence was that it was clear to them that the attitude of the Environment Agency over the years was that permission would never be granted for raising the height and that an application involved considerable time and expense.

Environment Agency's strategy/policy for Minsterworth Ham

51. The claimants alleged an interference with their rights under A1P1 as a result of what they claimed was the Environment Agency's strategy or policy of using Minsterworth Ham to increase flood protection to Gloucester. At one point heavy reliance was placed on there being an Environment Agency strategy to use the area for flood storage, although by the end of the trial the argument was couched as well in more general terms. The Environment Agency denied that there was a storage strategy, and asserted that its approach to Minsterworth Ham was based on what was dictated by the Flood and Water Management Act 2010 and government policy.
52. Whether there has been a flood strategy or policy for Minsterworth Ham, of the type the claimants alleged, turns in the main on a consideration of documentary evidence. The first relevant document would seem to be a Severn River Board *Engineer's Report*, produced in 1950, which stated that the Minsterworth Ham embankment was designed to improve the flow of river water through and away from the area to reduce river levels in Gloucester. This ties in with other documents indicating that the embankment at the upper end of Minsterworth Ham was designed so that floods coming down the river from upstream would overtop first in specific areas, be conveyed across Minsterworth Ham and then flow back into the river at the bottom when levels in the channel there would allow. In other words, and this is affirmed in documents from the 1960s, the Environment Agency's predecessors saw

Minsterworth Ham as providing a flood path, so that high flood waters could take a short cut across it. Indeed in 1937, and in the early 1950s, a flood relief channel was considered across Minsterworth Ham to carry flood flows more effectively.

53. Minsterworth Ham's role reappeared when the Severn Trent Water Authority succeeded the Severn River Authority, as a result of the Water Act in 1973. It considered raising the embankment at Minsterworth Ham as part of a wider scheme to improve flood defences in the area from Avonmouth to Gloucester. Hydraulic modelling concluded that if floodwater could no longer spill over what would be the higher embankment at Minsterworth Ham into the floodplain behind, flood levels near Gloucester would "increase significantly with the effects persisting for several kilometres". Raising the embankment height would be unacceptable because of the increased flood levels which would result. It was essential to allow the embankment at Minsterworth Ham to be overtopped. "This controlled overtopping was regarded as necessary to prevent more serious flooding from occurring in Gloucester": *River Severn Avonmouth to Worcester Improvement Scheme, Main Report*, October 1981.
54. Similarly, a report by consultants in 1985, *Gloucester Flood Alleviation Scheme Preliminary Desk Study Hydraulic Aspects*, observed that any scheme for reducing flood levels in the Gloucester area had to consider both tidal and fluvial flooding. With tidal flooding the accepted way of reducing it was to provide adequate floodplain storage along the upper tidal reaches with carefully selected flood bank levels to ensure that a significant volume of water entered storage over the high water period to reduce peak water levels in the channel. "This is the primary function of Minsterworth Ham downstream of Gloucester."
55. Finally an internal authority memorandum dated 23 June 1989 suggests that it was explained to Mr David King that the embankment could not be raised to a higher level as "under maintenance works we can only rationalise the level of the bank to a consistent height based on the height the bank may have been prior to damage, settlement or erosion"; that the level of the embankment was "critical to the flood protection of Gloucester"; and that "the wholesale raising of even short sections of the Cornham defences could have serious consequences at Gloucester".
56. The Environment Agency then entered the scene after its formation by the Environment Act 1995. The agency was a member of the *Severn Estuary Coastal Group*. It had consultants examine options in December 2000, who reported that the preferred strategy for Minsterworth Ham in the shorter term was to "hold the line", i.e., to defend agricultural land and associated farms on low-lying land around Minsterworth Ham. Retreating the line was the alternative strategy, the provision of a new defence line inland, maintaining the existing embankment with minimum maintenance, but accepting the increased frequency of flooding to agricultural land. "This strategy would, in effect, be an extension of the current strategy of allowing the Ham to flood on high tides combined with high fluvial flows, whilst providing appropriate defence to currently existing residential development."
57. In January 2002 a scoping study, *River Severn Strategy A Flood Management Strategy for the River Severn Corridor*, was prepared. This noted that naturally functioning flood plains were rare in the UK, where most rivers were intensively engineered and regulated. Providing defences at one location could worsen flooding elsewhere, due to the loss of functional floodplain or areas of local storage within the

floodplain that used to flood, but were now no longer able to do so because of the defences. The report noted that where agricultural land was allowed to function as washlands it could be beneficial to downstream communities, by removing peaks from high flows (“peak lopping”) and also giving time for people to react. Timing of filling was critical for the successful operation of washlands behind flood banks:

“...fill the area...too soon and there is no storage capacity available for containing waters at the peak of the event....It is important to empty the flood banks as soon as possible after the peak has passed in order that storage can be available for subsequent events.”

58. In 2002 a draft report of the Environment Agency, Gloucester Flood Alleviation Study: Wetlands Potential, observed: “Minsterworth Ham is a flood storage cell on the right floodplain of the River Severn...”
59. There is a note from September/October 2002 of an Internal Drainage Board talk, where it was said that the strategy was to allow Minsterworth Ham to flood on high tides combined with high fluvial flows. The embankment there was limited to a height which would not worsen the flood risk to Gloucester. However, the Environment Agency’s evidence was that this was not its document, and in light of that Mr Mercer QC fairly put his submission no higher than that the document contained the substance of the agency’s policy.
60. The *Flood Risk Management Strategy for River Severn at Gloucester Scoping Report* was published in July 2003. This was a consultation document which gave information regarding the *Gloucester Study*, referred to later in the judgment. It contained reference to Minsterworth Ham being “an existing storage area”. Consultation responses were received from Mr David King, Mr Christopher King, Mr Stephen King, Mr Richard Few and the NFU. The claimants’ responses included the need to evacuate water at Minsterworth Ham, to keep the area dry “as much” and “as long” as possible “so that it is capable of taking large volumes of flood water occasionally”. This would “allow the water to move through the Hams at Minsterworth, whilst maintaining a safe water level for local properties and residents in Gloucester”, “make room for further downwater and the tide”, “take the tidal impact out of a flood situation” and “unless a means of evacuation is implemented this will have a negative effect on the Minsterworth Hams and the properties in and around them”.
61. In September 2004, the *Tidal Severn Flood Risk Management Strategy* produced, inter alia, by the Environmental Agency, noted:

“At Minsterworth there is an earth embankment...designed to be overtopped in order to flood Minsterworth Ham on the rare joint occurrence of extreme high tides with high fluvial flow...From Elmore Back to Bush Crib, a continuous earth embankment defends the low lying land.”
62. In 2005, the *National Flood and Coastal Erosion Risk Management Strategy* observed that the benefits achieved, when flood and coastal erosion risks were managed, was in many cases localised. This led to personal or private gain through the protection of

specific individuals, communities and businesses. The benefits could also be public, through the reduction of future costs to society arising from incident recovery. The private as well as public nature of the benefits suggested that costs should not fall to the general taxpayer alone.

63. After the 2007 flooding, in August 2007, the Environment Agency wrote to agents acting for Mr David King and his family. The letter is internally contradictory, on the one hand refusing Land Drainage by-law consent to any increase in the height of the Minsterworth Ham embankment, but on the other setting out the procedure for making an application to increase the height, including the possibility of compensation should the flood defence be moved inland. (The confusion in the letter was attributed in the evidence of the Environment Agency to the heavy burden of correspondence to be dealt with after the flood that year.) For present purposes, the key passage in the letter is the response of the Environment Agency to the King proposal about raising the embankment.

“Simply raising the crest of the defences to the height you suggest would result in a vast loss of flood storage volume which would conflict with the government policy set out in PPS25. In addition the government strategy, “Making Space for Water” guides toward managing river system and floodplain to mimic nature by allowing more water to spread onto natural floodplain areas like Minsterworth Ham.

64. In 2009, the Environment Agency published its *Achieving more: operational flood storage areas and biodiversity*. That stated that at times of high flows, some rivers overtopped their banks and flowed onto the surrounding land. This was a natural process and evidence included inundated fields adjacent to rivers, often referred to as washlands. These the report defined as

“an area or plot which can become immersed in water at times of higher water levels. Washlands fill and drain naturally.”

65. Flood storage areas could represent a formalisation of this natural arrangement ensuring that if a river overtopped it would occur in a predetermined location. Often, however, storage areas were constructed specifically to reduce high river flows, again with the purpose of ensuring that overtopping occurred in a pre-determined location (for example in a park or agricultural area) rather than somewhere where it was not wanted, such as in a housing estate. Flood storage areas

“were natural or man-made areas that temporarily fill with water during periods of high river level, retaining a volume of water which is released back into the watercourse after the peak river flows have passed..... the vast majority of FSAs attenuate fluvial events and are located either on or adjacent to rivers to provide flood protection to downstream communities. A much smaller number of FSAs are located on estuaries and operate by limiting the progression of the tide and thereby improving the standard of protection to properties at risk from tidal flooding.”

66. In 2011 the government and Environment Agency published The National Flood and Coastal Erosion Risk Management Strategy for England. In a section stating that beneficiaries should be encouraged to invest in risk management it said:
- “The benefits achieved when flood and coastal erosion risks are managed are in many cases localised and lead to personal or private gain through the protection of specific individuals, communities and businesses. They can also be public, through the reduction of future costs to society arising from incident recovery. The private as well as public nature of the benefits suggests that costs should not fall to the general taxpayer alone.”
67. In 2013 the Environment Agency considered creating a wetland scheme on Minsterworth Ham by realigning the Minsterworth Ham flood defences. Compensation would be payable to the landowners under this type of scheme.
68. At a meeting at Minsterworth village hall on the 29 August 2014, Mr David Smart and Mr Cottington of the NFU recalled in their evidence that an area manager of the Environment Agency referred to Minsterworth Ham as being a flood storage area when presenting a series of flood defence options that had been modelled.

The Minsterworth Ham embankment

69. The policy of the Environment Agency and its predecessor agencies towards the Minsterworth Ham embankment, and the work they have carried out on it, is evidenced in official documents although, at the hearing, the witnesses were able to throw further light on the matter.
- (a) 1935-1996
70. Between 1935 and 1946 the River Severn Catchment Board carried out the Lower Severn Improvement Scheme I, which consisted mainly of river channel widening below Gloucester, between Minsterworth Village and a point higher in the river, at Over Bridge. That included of course Minsterworth Ham. As part of this scheme, a new earth flood embankment was formed along the length of Minsterworth Ham, where the river was widened. A plan showing progress of the work at 31 March 1939 explained that from point “A” to point “B” on the plan, the embankment was to be lowered from 32.5 feet to 32 feet, i.e., 9.9mAOD and 9.75mAOD respectively. An estimate dating from January 1958 explained that the embankment “was designed with very flat slopes to act as a spillway when major floods exceed a level of 33.00 O.D. at Gloucester”. As part of the 1935-1946 scheme, falling shutters made of timber were built into the embankment at the bottom to help to evacuate water.
71. By 1950 the Minsterworth Ham embankment at Manor Ditch was at risk due to erosion of the river bank. That year the Severn River Board constructed a new embankment there to replace the existing one. Between 1950 and 1957, it built further lengths of new embankment around the Manor Ditch bend where the river was widened as part of the Lower Severn Improvement Scheme II. The approximately 1.8 km of new embankment was higher than the previous embankment. In the late 1960s the successor to the Severn River Board, the Severn River Authority, carried out work

at Corn Ham to protect the structural integrity of the earth flood embankment against erosion of the river bank.

72. The Severn Trent Water Authority carried out maintenance works at Minsterworth Ham in the 1980s. Its successor body, the National Rivers Authority, continued that work. In 1989 there was a strengthening of over 4 km of the embankment. In a letter to Mr David King, the Severn Trent Water Authority stated that the rationalised height was to be the level “the bank may have been prior to damage, settlement or erosion”. Other correspondence confirms that at least in the lower part of Minsterworth Ham the rationalised height was 9.75mAOD. A minute of the site meeting at Cornham on 25 July 1989 with Mr David King states that “[t]he flood embankment will be improved to a common standard with a crest level at 9.75m AOD.”
73. In 1993, Ministry of Agriculture Fisheries and Food published national project appraisal guidance notes, under which the case for future capital works had to be assessed individually in each location. As recorded in the *Severn Estuary Benefit-Cost Assessment Summary Report* the following year, 1994, the National Rivers Authority divided the Severn River into individual cells and future works would only be economically justified if it could be shown that the costs exceeded the benefits within the relevant area. Minsterworth Village was removed from the Minsterworth Ham flood cell. The result is that any cost-benefit analysis for the Minsterworth Ham cell comprised predominantly agricultural land, with few buildings.
74. The National Rivers Authority assessed the economic case for the abandonment, retention or construction of flood defences in the upper Severn Estuary in 1994. With respect to Minsterworth Ham, it concluded that the costs of raising the embankment, including in places to 10.09mAOD, could not be justified by the resultant benefits.
75. In 1995-1996 the National Rivers Authority assessed the capacity of the low-level outfalls in the Minsterworth Ham embankment to discharge water and whether water could be evacuated more quickly by carrying out works to the outfall structures.

(b) 1996- present

76. The Environment Agency assumed the functions of the National Rivers Authority in 1996.
77. In 1997 its *Corn Ham/Minsterworth Ham Drainage Assessment* concluded that the existing outfalls should be repaired and maintained to provide drainage under gravity flow conditions.
78. In the following years it carried out maintenance work on the embankment. Thus in 1996 it repaired badger damage to the embankment at Minsterworth Ham on land now occupied by H W Smart & Son Ltd. Following the flooding on Christmas Eve 1999, when overtopping resulted in the flooding of land behind the Minsterworth Ham embankment, it repaired localised low spots.

79. After extensive flooding in Gloucester in 2000, the Environment Agency commissioned a technical study to investigate various scenarios: *The Gloucester Technical Study*, July 2002, part of the so-called Gloucester Study 2001-2005. One scenario was the lowering of the embankment on Minsterworth Ham to 9.5mAOD, with the construction of new, higher, defences further inland to protect the properties on Minsterworth Ham. The modelling indicated that this would improve the conveyance of high river fluvial flows through the area. The result would be the lowering of water levels, providing benefits chiefly to properties in Gloucester and upstream, with up to 100 homes having a decreased risk of flooding. Compensation would have been payable for landowners whose land was flooded.
80. Consultants also considered the effects on Minsterworth Ham and the wider Gloucester area if the Minsterworth Ham embankment was raised to: (i) a consistent level of 9.85mAOD; (ii) a level graduating between 9.85mAOD at the top of Minsterworth Ham and 10.2m AOD at the bottom; and (iii) a consistent level of 10.2mAOD, as had been suggested by some of the landowners. The modelling showed that, based on the 2000 flood event, raising the embankment to a consistent level of 10.2m AOD would exacerbate flooding at Gloucester, and that raising the embankment in the two other scenarios would not reduce the depth or duration of flooding at Minsterworth Ham.
81. The findings were presented at a meeting on 6 August 2002 with the landowners and occupiers of Minsterworth Ham. The Environment Agency envisaged the meeting as an opportunity to present the modelling results in advance of a Minsterworth Parish Council meeting on 9 September 2002. Those attending included Mr Christopher King, Mr Stephen King, Mr David King, Mr Richard Few and the landowner/occupier of land on Minsterworth Ham now occupied by H W Smart & Son Ltd. Concerns were voiced about the retreat the line scenario, including that land behind the embankment would become more difficult to farm and that livestock would be put at increased risk.
82. As a result of the meeting, the Environment Agency agreed to investigate the effect of building an additional outfall embankment to improve the evacuation of water from Minsterworth Ham. On 23 August 2002 consultants reported that an evacuation structure, with and without a scheme to lower the embankment, would improve evacuation of the benefit of Minsterworth Ham, but that this would not significantly change water levels elsewhere in the Gloucester area. There was consideration as well of the benefit of a number of outfalls.
83. For the Parish Council meeting on 9 September 2002, there was a briefing note for Mr Jim Haywood, the Environment Agency's lower Severn area manager, who attended the meeting. It stated:

“The message we will be giving to the landowners is that whilst it can be shown evacuation of the Hams using such a control structure as that requested in the previous meeting would reduce levels and time of flooding in some parts, it will not be economically viable to provide such a structure even with the economic benefits available in connection with a scheme to provide flood alleviation to properties in

Gloucester...Providing such a control structure outside a capital scheme to protect Gloucester would not be viable...”

84. Following the meeting, Mr Haywood sent letters with an appendix, inter alia, to Mr David King, about the issues raised. It stated that the only economically viable option to date, and the benefit was marginal, was to lower the embankments around Minsterworth Ham to 9.5mAOD. Due to detriment to Gloucester, the Environment Agency would not give permission to a third party to raise the embankment, but advice was available. The appendix also stated:

“[W]e have previously looked at providing higher defences for Cornham and Minsterworth Ham alone, but there were insufficient benefits to justify the works. Furthermore the current studies show that raising of the existing defences would cause significant detriment to many commercial and residential properties at Gloucester...The Defences downstream of the Hams...have been shown by recent models to have affected flood risk in the upper estuary... The effect of these defences is similar to how the existing defences at the Hams can be shown to have increased flood risk at Gloucester.”

85. There was a *Tidal Severn Flood Management Strategy Scoping Report* published on the Environment Agency’s website and provided to consultees in November 2002. The consultants considered 17 potential flood risk management measures, for each location in the strategy area, against technical, economic and environmental criteria, including maintaining, raising or retreating the line of the existing embankment. Mr David King, Mr Stephen King and Mr Richard Few provided comments. They were in favour of maintaining and improving the existing Minsterworth Ham embankment but against retreating or lowering it. They were also in favour of evacuating flood water from Minsterworth Ham.
86. As part of work for the *Tidal Severn Strategy*, the Environment Agency also instructed consultants to determine whether the existing standard of flood protection provided by the Minsterworth Ham embankment was less than the indicative standard identified in project appraisal guidance published by the Department for Environment Food & Rural Affairs. The consultants concluded that the protection offered was within the indicative standards such that matter was not investigated further for the purposes of the strategy.
87. When in 2003 the Department for Environment Food & Rural Affairs changed the way in which economic benefits could be calculated, the consultants reviewed the evacuation of water from Minsterworth Ham as part of the *Gloucester study*. They concluded that an evacuation structure in the embankment would reduce water levels there to the benefit of its landowners and occupiers, but that it would have to be substantial to be of significant benefit to Gloucester, something that would not be practical or economically viable with public funding. Modelling also found that without the embankments at Minsterworth Ham and Elmore, flood levels would be lower in Gloucester by between 0.3 metres and 0.4 metres.
88. In December 2004 the Environment Agency published the *Tidal Severn Flood Risk Management Strategy draft report*. Consultation responses included the view from a

local authority in the area that the embankment at Minsterworth Ham should be lowered or breached to provide flood risk management benefit for Gloucester, as well as environmental benefit. In addition, as part of the Gloucester Study consideration was given to creating gaps in the Minsterworth Ham embankment to enable floodwater to access the floodplain and flow across it or otherwise to spread into it. However, that would have involved the construction of new, higher defences further inland to protect the properties there, which was not economically viable.

89. The final *Tidal Severn Flood Risk Management Strategy Report* was published in March 2006. The preferred action for the Minsterworth Ham embankment was to “continue with current maintenance practices and provide flood warning subject to funding and environmental constraints”.
90. In 2006-2007, with local levy funding from the Severn Trent Regional Flood Defence Committee, the Environment Agency constructed four high-level outfalls in the embankment on Minsterworth Ham, three on Corn Ham and the fourth near Highcross Farm, at a cost of approximately £300,000. It also re-aligned the section of the existing Minsterworth village embankment where it returns inland to high ground at Highcross Farm. That was to facilitate the evacuation of water on Minsterworth Ham back into the river. If undertaken, the cost-benefit analysis for this work is unavailable although, as mentioned, there had been earlier, relevant studies.
91. Maintenance work on the embankment was carried out during this period. Examples include the repair of a potential weak spot in the embankment and erosion protection (stoning) works in 2002; the raising of low spots on the embankment in 2005; and the maintenance of an outfall structure in the embankment in 2008.
92. The Severn Estuary Coastal Group, of which the Environment Agency is a member, conducted a review of the earlier *Severn Estuary Shoreline Management Plan*, covering a 100-year period, to assess tidal risk and climate change. A draft in December 2010 proposed for Minsterworth Ham, including Minsterworth village, an approach of managed realignment of the embankment between 2015-2025, in which it would be moved landward to form a more sustainable defence line in the future, followed by a hold the line approach between 2025-2105.
93. The *Severn Estuary Flood Risk Management Strategy* was developed between 2008 and 2013. Consultants considered the standard of protection provided by the flood defences in the Severn Estuary, taking account of the effects of climate change. In particular, they considered whether embankments, including at Minsterworth Ham, should be maintained at their current height, increased in height, or relocated inland. The consultants concluded that increasing the height of the bank would not provide the best return for public funding.
94. The draft strategy in 2011 was managed realignment during the first 20 years, and then to maintain, or if needed because of climate change to sustain, the re-aligned defence in the medium and long term. The Minsterworth village embankment and wall would be generally retained on its current line, but the Minsterworth Ham embankment would be relocated inland. This shorter overall length of embankment would provide a level of defence for properties, rail and road infrastructure, historic assets and some land in the Minsterworth parish at a more sustainable cost to public

funds than maintaining/improving the approximately 8 kilometres of Minsterworth Ham embankment.

95. An internal Environment Agency document in January 2013 set out a number of options for Minsterworth Ham, restating that consent to raising the embankment was unlikely to be granted because of the flood risk to a large number of properties in Gloucester.
96. Following public consultation on the draft *Severn Estuary Flood Risk Management Strategy* in 2013, an updated assessment concluded that the preferred action was to continue to carry out maintenance work on the existing Minsterworth Ham embankment as long as the economic benefits outweighed the costs, and to consider any non-routine repair or refurbishment on a case-by-case basis.
97. Between 2014 and 2016, consultants instructed by the Environment Agency produced *Reducing Flood Risk from the River Severn at Gloucester and the surrounding area: Initial Assessment*. Drawing on hydraulic modelling, and taking account of updated values for assessing economic benefits, the consultants considered (i) raising the embankment to take Minsterworth Ham out of the floodplain completely; and (ii) raising the embankment to the same approximate level as the adjacent flood defences at Minsterworth village and Elmore (10.2m AOD). For both scenarios, it was concluded that the economic benefits of raising the embankment would not outweigh the costs and disbenefits of doing so. There was a presentation to those including some of the claimants in August 2014.
98. Maintenance of the Minsterworth Ham embankment during 2014-2015 included some 30m being rerouted after the existing embankment was damaged by badgers. The new section is approximately 150m in length and its height increased from 9.68mAOD to 9.75mAOD, with 100mm allowance for settlement.
99. In March 2016 JBA Consultants produced *Reducing Flood Risk for the River Severn in Gloucester and the surrounding area by hydraulic modelling*. One scenario tested was raising the Cornham embankment to 10.2mAOD for 25, 75 and 200 year fluvial flood events, each combined with a tidal event. Although the risk of flooding of the farmland was reduced, it would increase flood risk to numerous residential and commercial buildings on the opposite bank, including in Gloucester.

Flood defence works in vicinity of Minsterworth Ham

100. The Environment Agency and its predecessors have carried out both capital and other work to the flood defences in the immediate environs of Minsterworth Ham.
101. As with Minsterworth Ham, new earth embankments were constructed at Elmore, Minsterworth village and Hempsted (including the Rea) where the river bank was excavated and the river widened 1935-1946. Drawings for the Lower Severn Improvement Scheme indicate that the embankment formed during these works at Elmore, including the length opposite Minsterworth Ham, had a design height of 10.2mAOD. Falling shutters were constructed in the Hempsted (Rea) defence during these works.

102. Drawings and documents indicate that repair and improvement work was carried out by the Severn River Board along a length of the Elmore defence in 1959 to a level of 10.2mAOD, and by the Severn River Authority further downstream, along the length of the Longney defence in the 1970s to a level at or above 10.2mAOD.
103. After the Severn Trent Water Authority succeeded the Severn River Authority, as part of its consideration of a wider scheme of works between Avonmouth and Gloucester it addressed proposals to raise the flood defences at Hempsted, Elmore, Longney and Minsterworth Village. Hydraulic modelling was undertaken to investigate the effects on water levels in Gloucester if the river water could no longer spill over the defence into the floodplain at Hempsted. The results confirmed that the Hempsted area could be released for improvement. For Elmore, Longney and Minsterworth village, the proposals were approved because the “raising and strengthening of the tidal embankments require priority consideration” considering the risk to properties and land from flooding, and the defences being “generally in need of extensive repair”, particularly at Minsterworth and at Elmore Back: *The River Severn-Avonmouth to Worcester Improvement Scheme*, 1982.
104. In 1990, the programme was frozen when the Ministry of Agriculture, Fisheries and Food required a reassessment of the overall benefits before approving any further works. Some sixty percent of the proposed works had been carried out, but none of the proposed new works on the programme for Minsterworth Ham, Hempsted, Elmore, Longney and Minsterworth village had been carried out at this point. They were to be appraised individually.
105. The November 1994 *Severn Estuary Benefit-Cost Assessments Summary Report* concluded that Minsterworth Ham and 6 other cells should not be included in future capital programmes, but that Weir Green and Hempsted Schemes should be top priorities for full feasibility studies. Reasons for the latter included political and development pressure.
106. In 1996 a new earth flood embankment and flood wall was constructed at Weir Green, opposite Minsterworth Ham. It was built to a level of 10.25 mAOD and approximately 150 metres of the defence abuts the River. An environment assessment by the National Rivers Authority showed there to be a case for this work to provide a level of protection against river floods for the five properties at Weir Green.
107. In 1999 works were undertaken to strengthen and restore the level of the Hempsted/Sud Meadow flood defence to a consistent height of 10.2mAOD including an allowance for settlement. That was due to its poor condition and performance during high water levels.
108. In the late 1990s capital works were also undertaken to raise the flood defences at Rodley, downstream to Longney. In the evidence, there is a letter dated 18 August 2000 from the Environment Agency to Mr David Drew MP that explained that these and other works were justifiable for capital improvements, applying a viability test, whereas seven other sets of works did not meet the appraisal standard.
109. From 2000, a section of the Elmore flood defence opposite Minsterworth Ham was built to a level of 10.2 mAOD, with no allowance for settlement. The background was that as part of the scheme for new works between Avonmouth and Gloucester in the

1980s, a Feasibility Study around 1980 had reported that the Elmore embankment had suffered from settlement over the years. It was in need of extensive repair and required raising and strengthening. Then on Christmas Eve 1999 there was bad flooding. Approximately 30 properties were flooded at Elmore, and the community of Elmore Back was cut off for several days. In a letter in 2000 the Elmore Parish Council pointed out that the embankment was in poor condition.

110. As already mentioned, after the Department for Environment Food & Rural Affairs changed the way of calculating economic benefits, modelling for the *Gloucester Study* was revisited. It showed that the impact of the embankment at Elmore, as with that at Minsterworth Ham, meant flood levels were greater in Gloucester. The *Gloucester Study* recommended the same approach at Elmore as already mentioned for Minsterworth Ham, to use public funding to provide flood warnings and advice.
111. That Christmas Eve 1999 flood also provided the background to work on the Minsterworth Village and Longney flood defences. The Environment Agency explained to landowners and occupiers in these locations (as well as at Elmore) that it could not carry out works with public funding to raise their defences to a higher level. However, there was a case to carry out maintenance work and that was done to the Minsterworth village flood defence in various phases between 2000 and 2006, and the Longney (and Elmore) flood defences between 2000 and 2005. The work was to a consistent design level of 10.2mAOD, with 100mm being added as an allowance for settlement. It was during these works that the agency re-aligned a section of the existing Minsterworth Village defence where it returns inland to high ground at Highcross Farm, to ease the flow of water on Minsterworth Ham back into the river, so to improve the evacuation of floodwater from the area.
112. In 2001 the Environment Agency constructed a new flood wall, approximately 150 m in length, behind the Severnside Trading Estate at Sud Meadow, upstream of and on the other side of the river from Minsterworth Ham. The design height of this wall is 10.7m AOD. It replaced an earth flood embankment which was in poor condition. Extensive flooding in December 2000 provided the background for the work, when residential and industrial premises along Sudmeadow Road, including the Severnside Trading Estate, were affected. The Hempsted (Sud Meadow) defence was overtopped, floodwater then flowing across the Hempsted floodplain and affecting a dozen properties along Rea Lane.
113. There is a note of a meeting from March 2001 between representatives of the Environment Agency, the NFU and farmers on Minsterworth Ham where an agency official acknowledged that work elsewhere had increased the flood risk to Minsterworth Ham in some large flood events.
114. The briefing note for Mr Haywood, the Environment Agency's lower Severn area manager, for the meeting already mentioned with those at Minsterworth Ham in September 2002 said:

“The work carried out elsewhere has increased flood risk to the Hams in some large flood events. Compensation is not payable and the agency is not liable. The detriment caused cannot be taken into account in assessing the benefits of carrying out a local scheme.”

115. The Environment Agency's *Tidal Severn Flood Risk Management Strategy Report*, published in March 2006, contained a preferred action for Elmore, Longney and Minsterworth village – the same as for Minsterworth Ham - which was to continue with current maintenance practices and provide flood warning subject to funding and environmental constraints, with a retreat of the line of the defences at Elmore and Longney (as with Minsterworth Ham) being a possible alternative action for the future.
116. In 2006 the Environment Agency, together with Gloucester City Council and Gloucestershire County Council, constructed a new flood defence at Alney Island, upstream of Minsterworth Ham. That consisted of a 290m wall and embankment at a level of 10.7 mAOD. There were also works to road culverts to prevent water entering the floodplain in the area. The rationale was to provide a level of protection for over 55 properties, which were at high risk of flooding, the area having been affected by flooding on at least 8 previous occasions, including in 1947, 1990, 1999 and 2000. The scheme was granted planning permission, based on a flood risk assessment. In fact the defence was overtopped by river water in the severe flood of 2007, and high river levels in 2014 came within 100mm of the top of the defence.
117. Work was undertaken in 2014-2015 on the Rea/Hempstead flood defence costing £800,000. It had a narrow crest and generally steep side slopes. Its design height was 10mAOD. The Environment Agency's asset information management system recorded the poor condition of the earth embankment in 2014. The conclusion in the case for the work was that cutting off the flow of flood water across Hempstead/Rea would have negligible impact on flooding elsewhere. (At the hearing before me the experts disagreed about this.) It also referred to the damage to the bank being highly visible, and that the flooding of Rea Lane receiving significant attention in the local media, so that doing nothing was not considered an option. The work was to a construction height of 10.1mAOD, including an allowance for settlement, to strengthen the embankment and to adjust the crest profile.
118. Prior to the work there had been internal Environment Agency consideration in May/July 2013 as to how to explain to Minsterworth Ham residents the work on the bank opposite them. The view of a senior official in an internal communication was that, given the existing situation, where the lower embankment at Minsterworth Ham was overtopped before the higher embankments on the other side of the river, work on the latter would not affect the order of overtopping.
119. Over the period 2014-2015, further works were undertaken on the Minsterworth Village flood defence and on 100m of the Noards flood defence (downstream of Minsterworth Ham). During the high tides in early 2014, there had been flooding to homes. The work was to repair damage, including that caused during the 2014 flood.
120. A *Flood Impact Assessment* carried out by Black and Veatch/Galliford Try in August 2014 considered the impact of restoring the flood defence at Hempsted/Rea to 10.1mAOD. It calculated that 32,000 m³ of floodwater would no longer flow over Hempsted in a tidal event of 10 mAOD. However, the impact on flood risk elsewhere would be negligible.

Compensatable flood storage/alleviation schemes elsewhere

121. The Environment Agency produced information about the compensation payments made in respect of 4 schemes: (i) the River Wyre flood defence system; (ii) the Penshurst Estate flood defence system; (iii) the Leigh Flood Storage Area; and (iv) the Banbury flood alleviation scheme.
122. The River Wyre flood defence scheme in Lancashire was constructed by the North West Water Authority, the Environment Agency's predecessor, in the early 1980s. It involves two flood storage basins, the first, at Garstang, operated by raising a gate across the River Wyre (described as "on-line"), the second, at Catterall, operated by opening a gate in the embankment, so that water stored away from the river is released gradually to prevent damage to river banks and flood embankments (described as "off-line"). The North West Water Authority acquired the right to flood the land under 999 year leases. There is a schedule for calculating compensation to be paid when the land is flooded, the level of compensation being calculated on a field-by-field basis by reference to the additional area of land inundated by so-called controlled flooding, as opposed to areas flooded naturally.
123. The Penshurst Estate/Leigh barrier flood storage area was constructed by the Southern Water Authority, the predecessor of the Environment Agency, in 1982. An easement gave the water authority the right to flood. One landowner received £192,500 in 1976 as consideration for granting a right to flood.
124. The Banbury flood alleviation scheme provides an area of flood storage between the M40, the River Cherwell and the Oxford Canal. The scheme became operational in 2012. There were payments under Schedule 21 of the Water Resources Act 1991. As well rights were acquired by the Environment Agency by compulsory purchase of freehold and/or by deeds of grant. The purchase price was the open market value of the land. Deeds of easement were entered into in relation to the scheme under which the grantors granted to the Environment Agency the right to flood their property in return for payment.
125. A flood alleviation scheme was undertaken at Horsbere Brook, to the north of Gloucester, in May 2010. A flood storage area has been created on agricultural land to protect some 270 residential properties. Land for this scheme was purchased from the relevant farmer.
126. The evidence of the Environment Agency given for the first time at the trial by Ms Baptiste was that whether it recognised a scheme as a flood alleviation scheme was a matter of fact and degree but that they tended to accommodate to the natural floodplain. There were four key components: a scheme must be designed specifically to protect downstream settlement; it must involve a control structure, controlling the water entering an area; it must include a control structure to limit water flowing downstream; and it must be classed as a reservoir.
127. The claimants submitted that the first point is doubtful, given the Environment Agency's document, *Achieving more: operational flood storage areas and biodiversity*, quoted earlier, which accepted that a small number of flood alleviation schemes are located on estuaries and improve protection to properties at risk from tidal flooding. They highlighted that Mr Benn's evidence was that the storage

capacity on Minsterworth Ham between 7.95 mAOD and 9.75 mAOD, was 7,600,000 cubic metres, and that this was 50 percent larger than the flood storage capacity of 5,000,000 cubic metres in the the Leigh/Penshurst scheme.

128. In the claimant's submission, Ms Baptiste's fourth factor did not appear to be supported by the list of flood alleviation schemes which was disclosed during the trial, since many of these appeared not to be reservoirs but were, for instance, washlands. Once it is accepted that there is not a bright line between those flood alleviation schemes where compensation is payable and those where it is not, the claimants submitted, it was plain that Minsterworth Ham fell at the more significant end of the spectrum.
129. In my view Minsterworth Ham is not washland as defined in the Environment Agency's 2009 *Achieving More* report. In his expert report, Mr Benn considers in further detail the nature of washlands. It is not uncommon for them to flood 2-3 times a year. Further, washland development schemes normally include as features the subdivision of the floodplain into 'cells', separated from each other by dividing embankments, and barrier banks to prevent stored flood water flowing inland. Neither is present at Minsterworth Ham. Were the retreating the line approach to be adopted for Minsterworth Ham, this might change. At present it does not meet the definition: it is farmland, not washland.
130. Nor are the embankment and the outfalls at Minsterworth Ham anything like the four flood storage area/flood alleviation schemes in the evidence before the court. At Minsterworth Ham there is no control over the water entering, or over its leaving; it occurs when it drains once the outflow flaps open as the river's height goes down. To express it in lay terms, these other schemes are more engineered than the defence works at Minsterworth Ham. This is quite apart from the Minsterworth Ham works not being a reservoir.

Expert evidence

131. Central to the experts' evidence was their modelling of flood events. For his report Dr Whitlow built a model ("the 2016 CW model"), based on an earlier model ("the original model"), which had been developed by Mr Benn's consultancy for the Environment Agency prior to the claim. In his report Mr Benn analysed the results Dr Whitlow produced using the original model, but taking into account some factors which he thought Dr Whitlow should have incorporated in the 2016 CW model. Dr Whitlow further developed the 2016 CW model, but Mr Benn did not examine the resultant scenarios (called 4 and 5). The joint statement states that neither expert saw any advantage in Mr Benn doing so or in the court examining Dr Whitlow's results for these scenarios. Consequently, I do not propose to refer to scenarios 4 and 5, despite reference to them at the hearing.
132. The original model was designed to investigate potential flood mitigation scenarios for Gloucester. The experts disagreed on whether it was fit for the purpose for considering the matters arising in this claim about flooding on Minsterworth Ham. Importantly, the joint statement explains that the accuracy of the models used is dependent on many factors such as ground level data, river cross section data, defence height data and the model calibration itself, which relies on hydrometric data such as river and tide levels, as well as flows calculated from this information. While models

could investigate the impact of flood defence works on flood frequency, that required information on flow rates for each return period of flooding i.e., the estimated time interval between floods of a similar size or intensity. For places such as Minsterworth Ham, the joint statement adds, there is not a single fluvial upstream or tidal downstream condition giving rise to a particular return period flood there,

“So many combinations would have to be simulated in order to assess the impact of a particular activity on the frequency of flooding at Minsterworth. This investigation was beyond the scope of both experts’ reports.”

133. In his report Dr Whitlow modelled a baseline scenario representing the situation as it existed at the time of the 2014 floods and three further scenarios. (He very fairly accepted that there had been some errors in the data he had used, when Mr Benn pointed this out.) The first scenario was to investigate the impact of the works undertaken by the Environment Agency at Elmore in 2002, by lowering its embankment in the model to the 2001 level. The second scenario was to investigate the impact of the works undertaken in 2014/15 by the Environment Agency to raise/restore the Rea/Hempsted flood defence to a consistent height of 10.1m AOD. The third scenario was if the Minsterworth Ham embankment was built to a consistent height of 10.1 mAOD.
134. As explained in Table 4.4 of the joint statement, Mr Benn ran an adapted version of Dr Whitlow’s model which, inter alia, used the design height of 9.75mAOD to represent the current height of the Minsterworth Ham embankment, rather than the actual heights recorded in the State of the Nation and 3D Survey, which is what Dr Whitlow had used. There was disagreement as to which was the better approach, and whether the scenarios modelled were what was labelled “physically realistic”. There is no need for me to express an opinion on the different approaches.
135. That is because both the experts agreed that the models indicate the works undertaken with the flood defences considered in scenarios 1 and 2 have had a relatively small adverse impact on peak level, volume and extent of flooded area on Minsterworth Ham. As to scenario 3, they both came to the conclusion that if the flood embankment at Minsterworth Ham was raised to the equivalent level to those in the immediate vicinity, the area of land flooded in a similar flood event would be reduced by between 116 to 141 hectares, and the mean peak level of water on Minsterworth Ham would be reduced by between 0.74 m and 1.4m.
136. In their joint statement, both experts agreed that the purpose of the Minsterworth Ham embankment was to reduce flooding to Minsterworth Ham itself and to increase agricultural productivity. Both agreed that the outfalls were relatively effective in reducing flood levels until the water level fell to near their invert level. They also agreed that it was not possible to say that flooding on Minsterworth Ham was getting worse. Mr Benn’s opinion was based on data he analysed in his report dating back to the 1930s. Because of what he regarded as the absence of data, Dr Whitlow was of the view that it was not possible to say that things were getting worse, although he thought that the experience of the claimants was of value in this regard.
137. There was considerable cross-examination of the experts about the design height of the Minsterworth Ham embankment. Dr Whitlow’s argument was that the current data

indicated that there are more defence heights in excess of 9.75mAOD than there are at or below that level, so the original design height of the bank must have been higher than 9.75mAOD. In his report Mr Benn disagreed. He stated that

“[t]he actual level of a flood defence, especially of earth floodbanks, is variable due to the freeboard allowance, construction tolerances possible, and the amount of settlement. The aim is to provide sufficient freeboard to give confidence that during the design life of the defence the target design defence level (or higher) is always achieved”.

138. Figure VI in the Joint Statement indicates that substantial parts of the Minsterworth Ham embankment are below the 9.75mAOD height, with substantial parts above it. There was additional evidence at the hearing about this issue than the experts had when preparing their reports.
139. There was disagreement as to whether during restoration of the embankments elsewhere in the area, at Elmore, Hempsted/Rea and Sud Meadow, they had been raised or kept at the same height: Dr Whitlow opined that they had been raised, Mr Benn taking the contrary view. Again there was more evidence at the trial than the experts had. There was disagreement as to whether the situation where the embankments at Minsterworth Ham were lower than on the other side of the river was common. Dr Whitlow had never met that situation before; however, Mr Benn gave a number of examples.
140. The experts also disagreed whether it was possible to identify a natural situation for Minsterworth Ham and the claimants made written, closing submissions about it. Given that the River Severn has been embanked for centuries in this area, and has been over the years widened, I cannot see the relevance of the point to the issues before me.
141. Dr Whitlow’s opinion was that the Environment Agency had failed adequately to consider the impact on Minsterworth Ham of the works which it has undertaken. The only flood impact assessment seen by the experts relating to works carried out to flood defences in the vicinity of Minsterworth Ham was the one carried out by Black and Veatch/Galliford Try. There were other examples than that in the evidence at the trial.

Findings on the evidence

142. My conclusions on the basis of the evidence are as follows:
 - i) Like most of the area on both sides of the River Severn in the immediate vicinity, Minsterworth Ham is in a flood plain and there are records of it being flooded going back centuries.
 - ii) Flooding is complex and there are various reasons it can occur. In the vicinity of Minsterworth Ham, floods can be fluvial, tidal or a combination of both.

- iii) The Minsterworth Ham embankment reduces the frequency and volume of flooding there and, in facilitating agricultural productivity, is to the claimants' benefit (as they have acknowledged).
- iv) In recent times, major floods at Minsterworth Ham, involving the movement of livestock and the destruction of crops, have occurred in 2000, 2007, 2012, 2013/2014, with the claimants (or at least those then there) suffering economically and emotionally.
- v) The experts have not been able to find data to support the claimants' experience that flooding is getting worse at Minsterworth Ham.
- vi) The design level of Minsterworth Ham embankment is 9.75mAOD, although it was not designed to one consistent level and in fact the height varies along its length.
- vii) Over the years the Environment Agency and its predecessors have maintained the Minsterworth Ham embankment and have improved it, as with the installation of the large outfalls in 2006, although presently there seem to be some defects where maintenance work has not been undertaken, or at least undertaken adequately.
- viii) The Environment Agency has accepted that on rare occasions, with high tides and high fluvial flows, the Minsterworth Ham embankment will overtop and that water will be stored there until it drains back into the river through the outfalls.
- ix) The Environment Agency and its predecessors have had a policy that the Minsterworth Ham embankment should not be raised because of the detriment to Gloucester. This is the conclusion on the evidence considered earlier in the judgment, mainly assembled under the heading "The Minsterworth Ham embankment". It is not to the point for the Environment Agency to contend that it could not have such a policy because the final decision about changes to the embankment lies outside the agency with the planning authority, or that the claimants have never pursued an application to raise its height. If they did I am in no doubt that the agency would raise objections. Nor is its refutation of having a policy advanced by its assertion that it will consider any application to raise the embankment's height on its merits: if it is to act lawfully, it must do that as a matter of public law.
- x) The Environment Agency and its predecessors are more likely than not to have had a policy, at least implicitly, that the claimants' land acts to reduce the risk of flooding to Gloucester. Minuted statements by agency officials, internal documents, consultants' reports and reports of the agencies themselves, or to which they have contributed, and which were referred to earlier in the judgment, collected mainly under the heading "Environment Agency's strategy/policy for Minsterworth Ham", lead me to this conclusion. This is more than a recognition, as expressed in the Environment Agency's evidence, that there is an element of storage on Minsterworth Ham during some high water periods. The reality for the agency is that in such cases Minsterworth

Ham conveys floodwater which it would not do if the height of the embankment was increased.

- xi) These policies are based on expert assessments, supported by the reports of independent consultants. In particular, cost-benefit assessments have concluded that the economic case for raising the Minsterworth Ham embankment is not strong enough. In particular there have been four cost-benefit assessments to this effect in recent times, which were described earlier in the judgment: as part of the *Gloucester Study* in 2002, in the course of producing the *Tidal Severn Strategy 2002-2006*, during the development of the *Severn Estuary Flood Risk Management Strategy 2008-2013*, and in the course of producing the document *Reducing Flood Risk from the River Severn at Gloucester and the surrounding area – Initial Assessment 2014-2016*.
- xii) Modelling by the experts shows that if the Minsterworth Ham embankment was raised to an equivalent level to embankments in the immediate vicinity, 10.1mAOD, the area of land flooded would be reduced by between 116 to 141 hectares, and the mean peak level of water on Minsterworth Ham would be reduced by between 0.74 m and 1.4m.
- xiii) When the Environment Agency has carried out work on existing flood defences, or constructed new defences, in the vicinity of Minsterworth Ham, it has concluded that the benefits outweighed the costs, albeit that following flooding other factors such as public pressure have also (unsurprisingly) entered the equation.
- xiv) Consequently, the Environment Agency has been even-handed as between its approach to works on the Minsterworth Ham embankment and on other embankments in the vicinity.
- xv) Modelling by the experts shows that these works on embankments elsewhere in the vicinity of Minsterworth Ham have had a small effect, at most, on the extent of flooding at Minsterworth Ham itself. That conclusion is subject to the limitations of modelling, which both experts accepted. Consequently, notwithstanding the belief of some at least of the claimants, and the statements of Environment Agency officials recorded in 2002-2003, it is not possible for me to conclude that the actions of the agency on these other flood defence works have had any impact on the extent of flooding at Minsterworth Ham.
- xvi) Notwithstanding the claimants' evidence as to what common sense and their experience suggest, it is not possible for me to conclude that as a matter of course Minsterworth Ham will always be flooded prior to other areas in the vicinity where the flood defences are higher. The evidence is that, with flooding, numerous factors interact, not least at Minsterworth Ham, where tidal and fluvial events may operate in combination.
- xvii) For reasons given earlier in the judgment, what can be characterised as the Environment Agency's use of Minsterworth Ham for flood defence purposes is materially different from the flood storage and flood alleviation schemes elsewhere in England and described earlier. Nor can Minsterworth Ham be regarded as a washland.

VI. Claimants' Case

143. The claimants made clear that they were not contending that the Environment Agency should have raised the embankment height at Minsterworth Ham; that it should not have undertaken works to flood defences elsewhere on the River Severn; that it should give them permission to take their own measures to improve the flood defences around their land; or that the Environment Agency was liable for injury caused to their land within the meaning of the statutory compensation scheme.
144. Rather the claimants' case was that the Environment Agency had acted in breach of their property rights with its policy towards their land, express or implied, that Minsterworth Ham is and should remain an area which can be used to receive, hold or convey floodwater in order to reduce the risk of flooding elsewhere, in particular to Gloucester. That is coupled with the policy of the Environment Agency as regards flood defences elsewhere in the area. Large areas of floodplain at Elmore, Hempsted, Longney and Rodley have now been lost. For many years the River Severn has been a heavily managed river so that it cannot be said that any flooding occurs naturally.
145. The claimants submitted that Minsterworth Ham does, by reason of the difference in height of the embankment, constitute a control structure to attenuate the peak flow in a major flood, whether tidal or fluvial. Similarly, the outfalls are, as the Environment Agency has expressly recognised, control structures to enable the floodwater to be evacuated when (but not until) water levels in the river drop sufficiently. Whether or not the works on flood defences in the vicinity have resulted in a raising of their heights above the original design height, the effect is that the claimants' land at Minsterworth Ham is flooded in preference to these other areas.
146. In practice, the claimants submitted, all this has had a demonstrable adverse impact on the claimants' property as evidenced in their own account, the agency's own internal documents and the experts' modelling. It constitutes either control or interference under A1P1 ECHR. In this regard the claimants referred in particular to *Chassagnou and Others v France* (2000) 29 EHRR 615, where the Strasbourg court accepted that the law depriving the landowners of their hunting rights constituted A1P1 interference, and that it was immaterial that it had not deprived of them their right to use, lease or sell their property, or that they themselves did not wish to hunt on their land.
147. Further, in controlling or interfering with the claimants' property rights in this way, the Environment Agency has failed to conduct a proper assessment of the costs to them compared with the benefit of others, notably those in Gloucester. The combined effect of the actions, omissions and decisions of the agency have ensured that the claimants' land will flood in preference to other areas of floodplain in the Gloucester area, so conferring a public benefit in terms of protecting homes and businesses there. There has been no assessment of whether the correlative burden falls disproportionately on the claimants, given the absence of compensation for them. The costs to them, both direct and indirect, were contained in their evidence, and apart from relatively small amounts of compensation they received from government grants and charitable organisations, they were left to bear those costs themselves.
148. Despite this, the Environment Agency has neither carried out an assessment of whether the claimants bear a disproportionate burden of protecting Gloucester, nor

paid any compensation to them. In the claimants' submission it appeared to have taken the line that unless it carried out specific work to the Minsterworth Ham embankment which caused injury in the sense of an actionable private law claim, it was not required to pay any sort of compensation. By comparison, it had compensated landowners in other areas where it had undertaken flood alleviation schemes. Compensation was relevant, the claimants submitted, to the fair balance assessment, citing *Budayeva v Russia* (2014) 59 EHRR 2, [181]. Particularly highlighted in support of the claimants' case on balancing was the passage in paragraph [45] of Lord Nicholls speech in *Marcic v Thames Water Utilities Ltd* [2004] 2 AC 42, with its reference to the minority, who suffered damage and disturbance as a consequence of the inadequacy of the sewerage system not being required to bear an unreasonable burden.

149. The claimants submitted that the fair balance requirement inherent in A1P1 could only be satisfied in the circumstances by carrying out an assessment of whether they bore an excessive burden of protecting Gloucester from flooding, and requiring the payment of some compensation to reflect any additional burden which had thus been imposed upon them by the Environment Agency.
150. Citing again *Chassagnou and Others v France* (2000) 29 EHRR 615, the claimants also invoked Article 14 discrimination, in that the Environment Agency had treated them differently on the ground of property or other status. In materially similar situations in which it or its predecessors had determined to use farmland to reduce the risk of flooding to other properties, landowners had received compensation, for instance in the form of compensation for losses caused or by the purchase of a right such as an easement. The situation with the River Wye scheme was underlined, since compensation was paid on a field-by-field basis depending on whether landowners suffered from natural and or so-called controlled flooding.
151. In the claimants' submission there was no material distinction between on the one hand a situation where the Environment Agency carried out positive works to create a new area of flood storage, or to formalise or extend a so-called natural floodplain with positive works to other defences, and on the other hand purposefully not improving the defences around one designated area, in order to take advantage of the natural characteristics and historic flood defences, thus preserving and increasing the flood storage function of that land. The fact was that the agency had not put forward any objective and reasonable justification for this distinction in treatment, and the payment of compensation to some landowners but not to the claimants. Indeed, in their submission, there was no justification for such a distinction.

VII. Discussion

152. The first issue is whether the Environment Agency has controlled or interfered with the claimants' land. As I have held, the Environment Agency has had a specific policy against allowing the embankment on Minsterworth Ham to be raised because of the adverse consequences for flooding in Gloucester. Modelling by the experts found that if the embankment on Minsterworth Ham were higher, it would reduce there both the area of land flooded and the mean peak level of water. However, the claimants deliberately did not advance their case on the basis that the Environment Agency should have raised the embankment height at Minsterworth Ham. Further, the modelling evidence does not establish that anything done by the Environment

Agency, such as the works on flood embankments elsewhere in the area, has increased, let alone significantly, the impact of flooding on their land. So in neither respect is there any basis for an argument that there has been control or interference with the claimants' property under A1P1 of the Convention.

153. That leaves the Environment Agency's overall policy, which is at least implicit, of using the claimants' land for the purpose of flood mitigation in Gloucester. In a sense the specific policy against raising the level of the Minsterworth Ham embankment is a corollary of this overall policy. In my view, this overall policy does not constitute control or interference by the Environment Agency with the claimants' property under A1P1. It cannot be control, if that word is used in its ordinary sense, since control connotes restraint or regulation which this is not. In deciding whether there is interference for the purposes of A1P1, in my judgment the benefits the claimants gain in flood prevention from the existence of the embankment must be taken into account, along with the detriments. A1P1 is directed to protecting against adverse measures as regards a person's property rights, and that requires a global assessment of the measures taken. Here the embankment is of overall benefit to the claimants, reducing the frequency and volume of flooding, and enabling them to farm the land productively, albeit that on the occasions of severe flooding when it overtops the water will remain on the claimants' land for some time until it drains back into the river through the outfalls.
154. For the sake of completeness I observe in this context that the circumstance of *Chassagnou and Others v France* (2000) 29 EHRR 615, relied on by the claimants in this regard, are far removed from this case, since as a result of the hunting law considered in that case the claimants were unable to use their property as they saw fit. They did not wish to hunt on their land and objected to the fact that others might come onto their land to do so. As the court noted at [74]:

“However, although opposed to hunting on ethical grounds, they are obliged to tolerate the presence of armed men and gun dogs on their land every year. This restriction on the free exercise of the right of use undoubtedly constitutes an interference with the applicants' enjoyment of their rights as the owners of property.”

Here, by contrast, in overall terms the claimants' use of the land at Minsterworth Ham is enhanced by the embankment.

155. But assuming that the policy of the Environment Agency has meant its interference with or even control over the claimants' land, it is evident that there has been a fair balancing of their rights with those of the general interest as required by A1P1 if these are to occur lawfully. A steady stream of consultants' reports and agency strategies, examined at length above, set out the public interest, while recognising the costs which some members of the community will bear from flooding events which cannot be mitigated. In particular, there have been the specific studies of the costs and benefits of the various options for managing flood risk at Minsterworth Ham, including various scenarios for carrying out further works on the claimants' land. One scenario considered has been to retreat the line, but until now that has been rejected in favour of maintaining the present embankment. All this is against the background of the limited amount of public funds being available to manage flood risk.

156. Where a delicate balancing of interests is required, where Parliament has charged the Environment Agency with supervising flood risk management in England, and where the agency has considerable expertise, the court is in no position to second guess its expert judgment and cost/benefit analyses. The need for judicial deference in this type of case runs through the speeches of the Law Lords in *Marcic v Thames Water Utilities Ltd* [2003] UKHL 66; [2004] 2 AC 42. Indeed, paragraph [45] of Lord Nicholls' speech, on which the claimants placed so much reliance, with its reference to the minority who suffer damage and disturbance, and who are required to bear an unreasonable burden, concludes that it was a matter for the officials to reconsider the matter in light of the facts in the case. In other words, it was not for the court to conduct some rebalancing itself. Similarly, in this case, the Environment Agency is in a better position than the court to make the necessary judgements and cost-benefit assessments about flooding at Minsterworth Ham.
157. As to the contention that there has been no consideration of the burden the claimants have had to bear, there is the point already made that the claimants' land is in a floodplain and the embankment at Minsterworth Ham overall provides protection from flooding. The Environment Agency and its predecessors built the embankment to protect Minsterworth Ham and have maintained it over the years. I note that, by contrast, some landowners in the area do not benefit from any publicly funded flood defence. I have noted that the claimants have acknowledged the advantage they do have because of the embankment. There is also the point that, at the hearing, the claimants in cross-examination confirmed their awareness, or that of their families, that at the time of acquiring the land they knew of the history of flooding in the area and of the continuing flood risk. In summary, there is no basis for me to conclude that the claimants are shouldering an individual and excessive burden relative to others as a result of the Environment Agency's policy and that this has been ignored.
158. Neither in my view is there a basis to the additional claim of unlawful discrimination against the claimants, contrary to Article 14 in conjunction with A1P1, because others elsewhere in England have been paid compensation for the use of their land to mitigate flooding. For the reasons given by Lloyd Jones J in *R (Takeley Parish Council) v Stansted Airport Ltd* [2005] EWHC 3312 (Admin); [2007] JPL 126, Article 14 is not engaged in this type of property case because the claimed discrimination is not on the basis of a personal characteristic. In any event, even if personal characteristics are engaged, for the reasons given earlier in the judgment there is a clear difference between the claimants' position and the schemes where the Environment Agency has paid landowners compensation. In other words, there is enough of a relevant difference to justify the different treatment: *R (on the application of Carson) v Secretary of State for Work and Pensions* House of Lords [2005] UKHL 37; [2006] 1 AC 173, [31].

Conclusion

159. One can only have sympathy with the claimants, as with other flood victims. There is always the risk of injury, possibly death, with flooding, quite apart from the economic losses which are incurred. In the judgment I have also referred to the emotional toll which flooding can cause for flood victims and which emerged in the evidence in this case. As a matter of legal analysis, however, I cannot find a basis for a claim against the Environment Agency under A1P1 ECHR as regards its flood risk management as regards the claimants' land or in the vicinity. Consequently, I dismiss the claim.