



Appeal Decision

Hearing held on 9 November 2011

Site visit made on 9 November 2011

by Elizabeth C Ord LLB(Hons) LLM MA DipTUS

an Inspector appointed by the Secretary of State for Environment, Food and Rural Affairs

Decision date: 2 December 2011

Appeal Ref: APP/WAT/11/304

Yatton Court, Aymestrey, Leominster, Herefordshire, HR6 9SU

- The appeal is made under section 43 of the Water Resources Act 1991 and the Water Resources (Abstraction and Impounding) Regulations 2006 against a decision to grant a transfer licence to abstract water subject to conditions.
 - The appeal is made by Mr. Matthew Hurcomb against the decision of The Environment Agency.
 - The Environment Agency approved application Ref NPS/WR/000629, dated 5 March 2010, and issued licence no. WA/055/0008/001 on 20 June 2011 subject to conditions.
 - The licence authorises the abstraction of water for the purpose of hydro-electric power generation from the River Lugg at Yatton Court above an upstream weir, with the water being returned to the river below a downstream weir.
 - The appellant seeks to have the licence varied with respect to conditions relating to: 1) fish pass location; 2) screen aperture and turbine option; and 3) the maximum abstraction rate.
 - The reasons given for the conditions are to protect the environment and the interests of existing lawful users.
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Decision

1. The appeal is dismissed.

Procedural Matters

2. The drawings for the proposed scheme have been amended since the Environment Agency (EA) granted the licence and these amendments have not been publicly consulted upon. The main difference relates to the type of turbine, which has changed from a Kaplan turbine system to an Archimedes Screw. There are no objections to the Archimedes Screw before me, and the EA has stated that it is content to accept this amendment. The Angling Trust, the only third party to object at appeal stage, has indicated that its preferred option would be the Archimedes Screw.
3. The EA is of the opinion that the Archimedes Screw is generally known to be more fish friendly and generally more benign than a Kaplan Turbine. Therefore, it takes the view that no third party interests should be prejudiced by this amendment. From the submitted evidence, I accept this position and, consequently, I am satisfied that the amendments do not give rise to issues of natural justice. On this basis I have determined the appeal on the amended drawings.

4. The appellant has not identified by number the conditions which he seeks to vary. However, from the "Grounds of Appeal" on his appeal form, he has identified three areas of dissatisfaction, namely, 1) fish pass location; 2) screen aperture and turbine option; and 3) maximum abstraction rate. From the issues raised, the EA has deduced that the relevant conditions are 4.1, the type of turbine; 6.1 the flow rate available for abstraction; 9.4, the size of fish screening; and 9.9, the positioning of the fish passes. At the hearing the parties agreed that these are the main conditions which the appellant seeks to vary.
5. However, from the appellant's appeal statement, it seems to me that there are other related matters, concerning other conditions, which might need varying. These are 9.1, rate of flow in the River Lugg immediately downstream of the abstraction point; 9.5, tail race screening; 9.6, the location of screens; 9.10, flow rate through fish pass; 9.12 design of turbine; and 9.18, the minimum value for the quantity of water authorised to be abstracted. The parties agreed with this at the hearing. Whilst these additional conditions broaden the extent of the appeal, given their inter-relationship with the conditions identified in paragraph 4 above, it is appropriate for me to consider all of these conditions when making my determination. This is how I have proceeded.
6. In the event of the appeal succeeding, the parties requested that an additional condition be imposed. This is known as the "rubber bumper" condition and is apparently often imposed with Archimedes Screws. Neither party had the details of this condition, which includes drawings, to hand at the hearing. However, they agreed that it was a standard condition that could be forwarded to me after the hearing. Under these circumstances, I agreed to this, and it was done.

Main Issue

7. The main issue is whether there is sufficient evidence to demonstrate what the proposal's likely impact would be on ecology, fisheries, and other lawful users, and whether any harm identified would be outweighed by the scheme's benefits.

Reasons

Background

8. Yatton Court is a substantial Grade II listed building fronting the River Lugg, a major tributary of the River Wye. There are two existing weirs owned by the EA within the reach of the river at this site, an upstream weir and a downstream weir. Upstream of the upstream weir, on the opposite side of the river from Yatton Court, is a historic leat offtake (the right bank leat), which flows through Aymestrey Court.
9. The River Lugg at this location is a moderately fast flowing stream with a diversity of riffles, gravel and rock habitats, interspersed with pools and areas of quiet flow with small amounts of accumulated sediment. The banks have a mixture of undisturbed lowland herb, shrub vegetation and trees.
10. The river and the right bank leat are designated as a Site of Special Scientific Interest (SSSI). Species identified within the citation, which are particularly relevant at this site, are the Atlantic Stream Crayfish, the Atlantic Salmon, and

the Bullhead. The Atlantic Stream Crayfish is protected by virtue of its listing within Schedule 5 of the Wildlife and Countryside Act 1981.

11. This reach of the River Lugg is within a water body that, in terms of the Water Framework Directive¹ (WFD), currently has a "good" overall status, and a "good" ecological and chemical status. The predicted future status is for this water body to remain "good" to 2015 and the longer term objective is "good" to 2027. In the meantime the EA must ensure that no deterioration occurs. The water body is a Drinking Water Protected Area, and has also been given Protected Area Designation under the Freshwater Fish Directive and the Nitrates Directive.
12. The River Lugg contains a large number of weirs that present a significant challenge to the free migration of fish. In order to meet WFD objectives and to improve the condition of the Lugg SSSI and the Wye Special Area of Conservation, work has been carried out to provide fish passes and fish passage improvements at many of the weirs, resulting in improved dispersion of salmon in the river.

Maximum Abstraction Rate

13. The licenced scheme involves the transfer of water from an abstraction point upstream of the upper weir, into a new leat (the left bank leat), through a turbine, and along the tail race back to the river downstream of the downstream weir. The left bank leat would be constructed as part of the project. Hydro-electric power (HEP) would be generated from the differential head between the abstraction point and the point of return.
14. The left bank leat has the potential to divert significant flows of water from the main river channel, leaving a fairly long depleted reach². Whilst this depleted reach has been assigned a number of different lengths by the appellant, it is now agreed that the EA's measurement of just over 200m, taken from its electronic mapping system, is correct. The appellant confirmed this at the hearing.
15. Significant reductions in flows could potentially harm the ecology of a watercourse. This would not accord with WFD requirements³ which, amongst other things, aim to achieve good ecological status of water bodies and to ensure that there is no deterioration in their ecological conditions⁴.
16. When issuing the existing abstraction licence, besides the WFD, the EA had regard to statutory requirements⁵ and its own Hydropower Good Practice Guidelines (GPG) of August 2009, the latter of which is based on work funded by the Department for Trade and Industry. The aim of the GPG is to provide a benchmark for the EA and hydropower developer to create hydropower potential whilst taking account of environmental concerns.

¹ Directive 2000/60/EC.

² The depleted reach is between the point where water is abstracted from the river and the point where it is returned.

³ Implemented in England and Wales by the Water Environment (Water Framework Directive) (England and Wales) Regulations 2003.

⁴ Article 4 Water Framework Directive.

⁵ Under the Water Resources Act s.40 (*obligation to take river flow etc into account*) and s.21(4)&(5) (*minimum acceptable flows*); the Environment Act 1995 s.6(1) (*general provisions with respect to water*) and s.6(6) (*maintenance and improvement of fisheries*); and the Natural Environment and Rural Communities Act 2006 s.40 (*duty to conserve biodiversity*).

17. The GPG was extensively consulted upon with angling and hydropower interests prior to publication and, I understand that the appellant's agent also contributed to it. Therefore, I give it significant weight. The appellant refers to it as being only guidance and not having the force of law. Therefore, he indicates that it should not be used inflexibly. Whilst I acknowledge this, any departures from the GPG must be sufficiently justified.
18. For both environmental and aesthetic reasons, the GPG seeks to ensure that sufficient water remains in a river when a hydropower scheme is operating. It refers to a depleted reach needing to retain a flow regime that mimics natural flow fluctuations, and to hydropower offtakes having a variable ecological impact depending on the river's ecological status, the length of the depleted reach, and the type of base flow⁶, amongst other things.
19. In order to maintain an appropriate residual flow in the river, the GPG advises that the default maximum abstraction flow should be the Q_{mean} , being the average daily flow in a watercourse over a year based on long term flow readings. Anything greater than this must be fully justified. Dependant on river conditions, the GPG also recommends various Hands Off Flows (HOF), being the flows in the river at or below which abstraction must stop. For rivers with a medium base flow such as the Lugg at Yatton Court, where the depleted reach is in excess of 200m, the GPG advises that the HOF should be set at Q_{90} , being the flow exceeded for 90% of the time in a year.
20. In accordance with this advice, license Condition 6.1 restricts the maximum abstraction flow rate to Q_{mean} which, in this case, equates to $4.2\text{m}^3/\text{s}$. Although the depleted reach is only just over 200m, Condition 9.1, nonetheless, requires a HOF immediately below the abstraction point of $0.755\text{m}^3/\text{s}$, which is the Q_{90} . This is to provide sufficient residual flow in the depleted reach and to protect the river's SSSI designation, ecological status, fish movements, recreational uses, and riparian fishery interests.
21. The appellant seeks a higher maximum abstraction flow rate of $5.5\text{m}^3/\text{s}$, equating to Q_{23} , in order to increase power output. This is the design flow for the proposed scheme. However, the GPG states that, from an environmental perspective, a high design flow reduces the flow variability in the deprived reach and a maximum design flow greater than Q_{mean} is unlikely to be acceptable.
22. Despite this increased rate of abstraction, the appellant indicates that his proposal is more environmentally friendly than the licensed scheme in terms of HOFs. He justifies his argument by suggesting that the licence only requires a HOF of $0.755\text{m}^3/\text{s}$ immediately below the point of abstraction, whilst the proposal would provide a HOF of $0.836\text{m}^3/\text{s}$ (Q_{87}) at this point. He explains this by reference to the split in the river just downstream of the abstraction point, where the right bank leat branches off from the main channel. He suggests that, although the total HOF required is $0.755\text{m}^3/\text{s}$ (Q_{90}), this is made up of a combination of the agreed minimum flow through the right bank leat of $0.10\text{m}^3/\text{s}$, and a HOF of $0.655\text{m}^3/\text{s}$ for the depleted reach.
23. Whilst I acknowledge that Condition 9.1 may be interpreted in this way, the EA has made it clear that its intention was to ensure a HOF of Q_{90} in the depleted

⁶ The baseflow relates to how river flows are affected by stored sources, such as permeable rock, which enable the base flow to be sustained in dry conditions and would provide a high baseflow. It is determined by the Base Flow Index (the ratio of $Q_{95}:Q_{\text{mean}}$).

reach, which includes the flows in the weir fish passes, but excludes the flow in the right bank leat. Condition 9.2 provides a separate minimum flow of $0.10\text{m}^3/\text{s}$ for the right bank leat, which is additional to the Q_{90} HOF. The proposed scheme would only leave a HOF of Q_{95} in the depleted reach, being the flow exceeded for 95% of the time in a year, taken as the characteristic value for the natural low flow in a river. In this case it equates to just $0.586\text{m}^3/\text{s}$.

24. In general terms, the EA recommends avoiding schemes that transfer large quantities of water due to their risk of damage to the environment. The more flow taken by hydropower, the greater the potential effect on river ecology and existing lawful interests.
25. The flow rate sought by the appellant could have a deleterious effect on the river ecology and, in particular fish. Where a hydropower proposal is likely to have an ecological impact on a designated site such as a SSSI, the GPG requires further work to be done to assess the effect of the scheme on designated species. This matter requires appropriate investigation.
26. Although the appellant has submitted an ecological survey, it deals largely with vegetation, macrofauna and channels, with little information on fish. The scope and detail given is inadequate for this ecologically sensitive river. A full ecological assessment should be submitted in order for the decision maker to properly consider the proposed scheme. Without such an assessment, the proposal cannot be justified.
27. In summary, for the reasons given, abstracting the proposed flow from the river, thereby generally leaving a lower flow in the depleted reach, is not acceptable without full justification. The appellant has not provided sufficient justification and, therefore, the maximum abstraction rate should not exceed the Q_{mean} , and the HOF of Q_{90} should remain.

Fish Pass location

28. The WFD indicates that freedom of movement of fish, upstream or downstream, is an important component of achieving or maintaining good status or potential. In this light, the GPG advises that HEP schemes should avoid disruption of fish migration in both upstream and downstream directions, and that fish passes are normally required on migratory salmonid rivers.
29. A range of fish species are present at this site including salmon, trout, grayling, eel, lamprey, bullhead, minnow and stickleback. Throughout the year at various times these fish migrate both upstream and downstream, some to spawn. There are also downstream dispersals of various species after hatching. Therefore, Condition 9.9 of the license requires the installation of fish passes in both weirs.
30. Whilst the appellant acknowledges the need for a fish pass, he seeks to have the weir fish passes replaced with a single fish pass co-located alongside the turbine with angled screening directing fish to the fish pass. This, he suggests, would have ecological benefits, as the single all species Larinier fish pass and channel would provide supporting depths and velocities for migration, and the left bank leat and tailrace channel would be designed to enhance the localised habitat and support fish spawning. He also indicates that co-location is supported by the dominant flows being in the left bank leat, which are the attractant flows for fish.

31. However, the dominant flows would not always be in the left bank leat. At low river flows the turbine would be shut down and all flow would be in the main channel and the right bank leat. Then, as river flows increased, water would progressively be abstracted into the left bank leat until the maximum turbine flow rate was achieved, at which point abstraction would become stable. Consequently, there would be times when the dominant flow would be through the left bank leat, and other times when it would be through the depleted reach.
32. From the appellant's Flow Duration Curves⁷ (FDC), it would appear that for much of the time the dominant flow would be in the left bank leat as opposed to the depleted reach. This would be the case for the maximum licensed abstraction flow of 4.2m³/s and would be even more so for the proposed maximum abstraction flow rate of 5.5m³/s. However, this depends on the flow of water in the river over time.
33. Analysing the situation further, water could not be abstracted below the HOF of Q₉₀ under the licence conditions. Therefore, up to Q₉₀ all flows would pass down the river. Once river flows achieved Q₉₀ (plus potentially a turbine start up flow) water would begin to be abstracted into the left bank leat. As river flows increased, the additional flows above Q₉₀ could all be abstracted into the leat, leaving only the Q₉₀ residual flow in the depleted reach, up to a river flow of about Q₃₇. At flows higher than about Q₃₇ the depleted reach would receive progressively more flow.
34. In terms of which flows would dominate, it appears that, up to a river flow of about Q₇₀ the flow in the depleted reach would dominate over the left bank leat. At flows above about Q₇₀ the flows through the left bank leat would dominate, until some point between Q₂₀ and Q₁₀ when the flows in the depleted reach would dominate again. Therefore, where the dominant flows lie will generally depend on climatic conditions and how much water is received into the river.
35. I understand from the EA's evidence that flow is just one type of trigger for migrating fish, and that for some species migration is triggered by other factors such as metabolism and hormones. Therefore, in this case, some species may be attracted by the flow of the HEP discharge when it predominates over the flow in the depleted reach. At other times these species would be attracted by the flow in the river. Other species, which migrate according to other factors, might use any available route. The appellant does not appear to have given much consideration to species other than salmon, when considering migration.
36. Consequently, it seems to me that, given the variable location of the dominant flows between the main channel and the left bank leat, and taking account of other factors that affect fish migration, a significant proportion of migrating fish might still use the main channel, even with the co-located fish pass in place.
37. The deprived reach at this site supports the passage of migratory salmonids, primarily Atlantic Salmon and brown trout to spawning grounds, some of which are only about 30m upstream of the left bank leat offtake. It is the EA's view that the natural route for these migratory fish is within the river corridor and that this should be maintained and enhanced by the provision of fish passes

⁷ The Flow Duration Curve presents the statistical availability of any given flow, based on best available data. The vertical axis gives the flow rate; the horizontal axis gives the percentage of time that the flow is exceeded.

within the existing weirs. In the absence of an ecological assessment to the contrary, I accept the EA's evidence on this.

38. The EA's Position Statement on Hydropower seeks to avoid delay or obstruction to fish passage such as might be caused by attracting fish away from their migration route. It was explained at the hearing that this Position Statement is derived from the EA's corporate strategy and that it has been in both internal and external use for several years. On this basis, I give it weight.
39. Furthermore, whilst the EA states that some species, such as salmon, trout and eel, are able to use appropriately designed and located fish passes, it suggests that others, notably smaller species such as bullhead, minnow and stone loach, cannot. There is little evidence before me to the contrary.
40. Under the WFD, there should be no deterioration in the "good" ecological status of the River Lugg. For this reason also it is essential that migratory fish are maintained within the river and not diverted into the left bank leat, which is not an integral part of the river system.
41. Moreover, the EA must assess whether the licence is likely to damage the special interest features for which the site is designated as a SSSI⁸, which in this case includes Atlantic Salmon. By removing Atlantic Salmon from its natural upstream migratory route to a newly constructed leat outside the SSSI, the integrity of the SSSI would be damaged.
42. Natural England, the Government's advisory body for nature conservation, has made it clear that it supports the EA with respect to keeping fish in the River Lugg SSSI rather than directing them into the new leat, outside the SSSI. It, therefore, seeks to keep flows at a sufficient level to do this, and indicates that fish passes would need to be in place on the weirs to enable fish to move up and down the SSSI.
43. Therefore, it would seem that the passage of fish over the weirs and along the depleted reach should be protected. However, at present, apart from a timber baulk pass across the upper weir, which concentrates flows, there is currently no fish pass across the Yatton Court site. I understand from the appellant that the weirs cause pooling and moderate silting, and present an obstacle to migration. He also indicates that upstream migration is currently limited to certain fish species, predominantly large migratory salmonids that can leap the weirs. Therefore, he refers to the location of fish passes on the weirs as being sub-optimal, resulting in possible negative publicity for the HEP system.
44. Whilst the EA acknowledges that delivery of the optimum migration potential for all species would require removal of the weirs, this is not currently possible mainly for reasons of heritage preservation. Therefore, the EA says that the best option is fish passes on the weirs.
45. The appellant indicates that if the proposed co-located fish pass is not approved, then the HEP scheme will not proceed and there will be no fish passes at all, to the detriment of fish migration. However, as work has already been carried out on weirs along the Lugg to improve salmon dispersion, and given that the subject weirs are owned by the EA, there is a possibility of improvements being carried out to them in the future, especially as the EA

⁸ S.281 of the Wildlife and Countryside Act 1981.

owns the weirs and has obligations towards them. In any event, non implementation of the scheme is insufficient justification to allow the proposal.

46. Furthermore, if the scheme proceeded, the depleted flow in the reach would represent an increased obstruction and therefore, for the purposes of salmon migration, the EA could serve a notice requiring fish passes on the weirs⁹. Similarly, the EA could require the construction of eel passes if it deemed the passage of eels to be impeded¹⁰.
47. Whilst the appellant indicates that co-location accords with all good advice, the GPG is silent on fish pass location, simply stating that fish pass designs must be approved by the EA. However, given the wide range of behavioural patterns for various species and ages of fish, I accept the EA's submission that the location of a fish pass is very much a site specific decision.
48. Overall at this site, although the weirs present an obstacle to migrating fish, the problem could be mitigated by installing fish passes on them. Although this is not ideal, on the evidence before me, and without a supporting ecological assessment of migrating fish, I am not persuaded that a single co-located fish pass would be ecologically acceptable as opposed to fish passes on the weirs.

Fish pass flows

49. A related issue is the flow required for the fish passes. Condition 9.10 imposes a minimum flow rate through the weir fish passes of 0.210m³/s, being 5% of the maximum abstraction flow of 4.2m³/s. When imposing this condition, the EA had regard to the GPG, which states that the flow requirement through a fish pass should be 5-10% of the competing flow.
50. The appellant suggests that this GPG requirement is arbitrary and that the proposal's design flow rate of 0.150m³/s through the co-located fish pass would operate satisfactorily. This would leave more available flow for the turbine, thereby generating more power. He indicates that the lower flow is acceptable because the angled screening and noise (created by the fish pass flow velocity being twice that of the turbine discharge velocity), would make it easy for fish to locate. However, to be acceptable, full justification for this departure from the GPG should be provided within an ecological assessment.

Screening

51. Fish passing into the left bank leat would encounter the turbine, which could present an obstacle to some fish. However, with the change from a Kaplan turbine to the relatively fish friendly Archimedes Screw, the EA agrees with the appellant that it is no longer necessary to have 6mm and 10mm aperture screening above the turbine intake as imposed by Condition 9.4.
52. However, whilst I understand that downstream migrating fish could safely pass through the Screw, upstream migrating fish could not. Both upstream and downstream fish passage must be provided for. Apparently the Larinier co-located fish pass would allow up and downstream migration for all fish species, although it is not clear whether it would support all relevant sizes of fish.
53. In the absence of an appropriate all species co-located fish pass, the EA seeks to protect fish by requesting fish screens both across the leat entrance and

⁹ S.9(1)(a) of the Salmon and Freshwater Fisheries Act 1975.

¹⁰ The Eel (England and Wales) Regulations 2009.

across the tail race. The appellant objects to this, indicating that it would be damaging to some fish.

54. The EA requires a 100mm screen to be placed at the leat entrance to deter larger fish entering the leat, and becoming trapped. The appellant suggests that this is unnecessary as fish would be protected either by passing through the proposed co-located fish pass, encouraged by a 100mm trash screen at the turbine, angled towards the fish pass intake, or by passing through the Archimedes Screw. However, there is no proper ecological assessment of potential risks to larger fish attempting to negotiate the leat.
55. Fish are also likely to enter the tail race during upstream migration. Therefore, Condition 9.5 requires a 30mm screen across the tail race at the river channel confluence to reduce the numbers of fish getting through. However, this would not prevent smaller fish from entering the tail race. Consequently, in the absence of a co-located fish pass, it seems that such screening could cause smaller upstream migrating fish to become trapped in the deep pool of the tail race, as they could not successfully pass through the Screw, and possibly because of the limited water depth upstream of this point.
56. Furthermore, some downstream migrating fish would be able to pass through the 100mm screen at the leat entrance, but would not be able to pass through the 30mm screen across the tail race. The EA accepted at the hearing that such fish are likely to become trapped in the tail race.
57. Given these risks to both upstream and downstream fish, it would appear that screening could present a problem. However, screening or the absence of it needs to be included in a full ecological assessment by the appellant as part of the overall scheme. At present, there is insufficient evidence to determine this matter.

Lawful users

58. When determining flow, the EA must have regard to fisheries requirements and other lawful users of the watercourse, in accordance with legislation¹¹ and as reflected in the GPG. In this respect account must be taken of the amenity and recreational value of this reach, particularly in terms of navigation and fishing rights exercised by canoeists and anglers. Account should also be taken of the ability of an owner of fishing rights to apply for a revocation or variation of a licence in the event of loss or damage being sustained to those rights by water abstraction¹².
59. Objections to the scheme have been made by fisheries and angling interests, and by the occupiers of Aymestry Court. The latter, I understand, have riparian rights relating to approximately half a mile (800m) of river opposite Yatton Court, including the depleted reach, and have stocked the river themselves with brown trout. Whilst the EA is satisfied that the licensed system would maintain the majority of fish within the river corridor, and hence satisfy fishing interests, the proposal's impact on these users cannot be properly assessed due to the lack of information provided.

¹¹ S.21(5)(a)&(b) of the Water Resources Act 1991.

¹² S.55 of the Water Resources Act 1991.

Energy generation

60. The appellant states that the Archimedes Screw has a well defined operating flow range and because the site has a specific flow characteristic, there is an optimum maximum abstraction rate and corresponding operating flow range which maximises the energy production from the HEP system. Within this range, the flow through the hydro system is directly proportional to the energy produced.
61. The $4.2\text{m}^3/\text{s}$ (Q_{mean}) maximum abstraction flow is about 24% less than the optimum turbine rated flow of $5.5\text{m}^3/\text{s}$, and would reduce energy production by 8.6%. Whereas the proposed scheme would provide a rated electrical power output of 65.9kW, the licensed scheme would only provide 52.6kW. I understand that the HEP capital cost would be in the order of £600 thousand and that returns would be relatively low, albeit acceptable with a rated flow of $5.5\text{m}^3/\text{s}$, taking account of the scheme's long design life in excess of 40 years. However, the tariff of 19.7pence per kWh is currently under review.
62. By changing from a Kaplan turbine to a three blade Archimedes Screw, the scheme would generate less energy for any particular operating flow velocity. Therefore, given that energy production has already been reduced, the appellant indicates that, in order for the scheme to remain viable, the rated flow of $5.5\text{m}^3/\text{s}$ must be available. His view is that the licensed scheme is simply economically unviable.
63. The appellant goes on to state that, as the licensed scheme is unviable, it will not be built. Therefore, if the proposed scheme is not authorised, an opportunity will be missed for generating sustainable, renewable energy, and for reducing greenhouse gas emissions, which would contribute towards meeting Government targets.
64. Furthermore, he refers to the extremely high energy costs of running Yatton Court, and to the need for the HEP system to reduce this outlay. He explains that, if the building is not adequately heated then it will become damp, and the fabric of this historical building would be damaged and the heritage value compromised.
65. The EA's Position Statement on Hydropower reflects its support for HEP schemes in principle, subject to their impact. It accepts that, whilst hydropower currently produces only about 1.2% of the electricity consumed in the UK, small scale, "low head" schemes, such as the proposal, could add to this small, but useful contribution to the energy mix. Moreover, in granting a licence, the EA must take account of an applicant's requirements in so far as they appear reasonable¹³.
66. I accept that, like the licensed scheme, the proposed scheme would provide a small, but worthwhile contribution to green energy and emission targets, and in this respect, it would have environmental advantages. If the scheme were not built, these benefits would be lost. I also acknowledge that any damage that might occur to the fabric of Yatton Court as a result of inadequate heating would be a heritage loss.

¹³ S.38(3)(b) of the Water Resources Act 1991.

Other matters

67. Whilst I note the appellant's comments on the way in which the EA has dealt with his application, this is beyond my remit of determining the merits of this appeal. With respect to bureaucracy, this is a wider issue that is not before me for consideration.

Conclusion

68. A balance must be drawn between competing interests. On the one hand, the proposed scheme would provide a small, but worthwhile contribution to green energy and emission targets, and in this respect, it would have environmental advantages. It would also assist in the cost of heating the historical Yatton Court. On the other hand, it may run the risk of damage to the ecology and lawful interests.
69. However, until the appellant provides sufficient evidence covering the expected impact on ecology, fisheries, riparian and recreational interests, such as might be expected in an environmental statement, the balance cannot be determined, and the appeal must fail.
70. For the reasons given, and taking account of all other relevant matters raised, I conclude that the appeal should be dismissed.

Elizabeth C. Ord

INSPECTOR

APPEARANCES

FOR THE APPELLANT:

Marc Sheikh	From Renewables First
Phil Davis	From Renewables First
Matthew Hurcomb	Appellant

FOR THE ENVIRONMENT AGENCY:

Terry Folland	Senior Permitting Officer at the EA's National Permitting Service
John Adams	Permitting Centre Manager at the EA's National Permitting Service
Peter Gough	Senior Technical Specialist with the EA Wales

DOCUMENTS

- 1 Natural England communication dated 7/11/11
- 2 Amended drawings
- 3 Extract from EA's Fish Pass Manual
- 4 Rubber bumper condition for Archimedes Screw