

NORTH WEST LEICESTERSHIRE LOCAL PLAN

Publication stage

BACKGROUND PAPER 11

Policy En2 – River Mease Special Area of Conservation

June 2016

1 INTRODUCTION

- 1.1 This is one of a number of background papers which have been published to support the draft Local Plan. The purpose of these papers is to provide more information in support of specific policies than can be included in the draft Local Plan document itself if it is to remain of a manageable size.
- 1.2 This paper provides more information in respect of Policy En2 (River Mease Special Area of Conservation).

2 THE POLICY

- 2.1 Policy En2 sets out how the Council, working with a range of partners, will ensure that future development does not adversely affect the River Mease.
- 2.2 The policy states:
- (1) The Council will work with Natural England, the Environment Agency, Severn Trent Water, other local authorities and the development industry to improve the water quality of the river Mease Special Area of Conservation.**
 - (2) In order to achieve this, new development within the River Mease catchment will be allowed where:**
 - (a) There is sufficient headroom capacity available at the Wastewater Treatment Works to which it is proposed that flows from the development will go; and**
 - (b) The proposed development is in accordance with the provisions of the Water Quality Management Plan including, where appropriate, the provision of infrastructure or water quality improvements proposed in the Developer Contributions Scheme.**
 - (3) In the event that there is no headroom capacity available at the appropriate wastewater treatment works, or exceptionally where as part of the development it is proposed to use a non-mains drainage solution for the disposal of foul water and this is supported by the Environment Agency, development will only be allowed where it can be demonstrated that the proposed development, on its own and cumulatively with other development, will not have an adverse impact, directly or indirectly, upon the integrity of the river Mease Special Area of Conservation.**
- 2.3 The following section provides more detail behind how we have determined these requirements. In addition, more detail is available in the following documents which have been prepared over the last few years:

- Outline Water Cycle Study
- Detailed water Cycle study
- Water Quality Management Plan

3 BACKGROUND

3.1 The river Mease, part of which flows through the district of North West Leicestershire, was designated as a Special Area of Conservation (SAC) on 1st April 2005. The SAC is protected through the provisions of the Conservation of Habitats and Species Regulations 2010 (SI No. 490), commonly referred to as the Habitats Regulations. SACs and Special Protection Areas (SPA) are part of a network of sites designated under the Directive referred to as Natura 2000 sites.

3.2 The SAC includes land within the administrative areas of North West Leicestershire, South Derbyshire and Lichfield District Councils.

3.3 That part of the SAC within North West Leicestershire incorporates the Gilwiskaw Brook downstream of Packington village and the River Mease from its confluence with the Gilwiskaw Brook to the south-east of Measham to its confluence with the River Trent.

3.4 The SAC was designated for its internationally important habitats and species, which are collectively referred to as its “interest features”, namely:

- floating formations of water crowfoot (*Ranunculus*) of plain and sub-mountainous rivers;
- populations of bullhead (*Cottus gobio*)
- populations of spined loach (*Cobitis taenia*)
- populations of white-clawed crayfish (*Austropotamobius pallipes*);
- and the river and adjoining land as habitat for:
populations of otter (*Lutra lutra*)

3.5 The Conservation Objectives for the River Mease SAC as identified by Natural England are to:

Avoid the deterioration of the qualifying natural habitats and the habitats of qualifying species, and the significant disturbance of those qualifying species, ensuring the integrity of the site is maintained and the site makes a full contribution to achieving Favourable Conservation Status of each of the qualifying features.

Subject to natural change, to maintain or restore:

- The extent and distribution of qualifying natural habitats and habitats of qualifying species;

- The structure and function (including typical species) of qualifying natural habitats and habitats of qualifying species;
 - The supporting processes on which qualifying natural habitats and habitats of qualifying species rely;
 - The populations of qualifying species;
 - The distribution of qualifying species within the site.
- 3.6 The SAC is also designated as a Site of Special Scientific Interest.
- 3.7 From 2009 it became apparent that there were significant issues affecting the river Mease which, in view of its SAC status and the commensurate requirements under the Habitats Regulations, could impact upon the ability to bring forward new development.
- 3.8 The Council has worked with other key stakeholders with an interest in the river Mease to develop a solution which enables development to take place within the Mease catchment without having an adverse impact upon the integrity of the SAC as required by the Habitats Regulations.

4 WHAT ARE THE IMPLICATIONS OF DESIGNATION?

- 4.1 Under the Habitats Directive the District Council as local planning authority is a 'competent authority' and must have regard to the requirements of the Habitats Directive in exercise of its planning duties.
- 4.2 In terms of policy making the Council as Local Planning Authority is required to undertake a Habitats Regulations Assessment (HRA) (sometimes referred to as an Appropriate Assessment) of the Local Plan to demonstrate that the policies and proposals will not have a significant adverse impact upon the integrity of the SAC.
- 4.3 In addition to the District Council, there are other key stakeholders who have an important role to play in protecting the integrity of the river Mease SAC. These include:
- The Environment Agency – a competent and relevant authority under the Directive they apply the Conservation of Habitats and Species Regulations 2010 when considering all applications for authorisations, permissions, permits, consents and environmental licences (referred to as permissions). They also have a duty to meet these obligations when carrying out their own projects and apply the general duty in Regulation 9 to all our relevant policy and operational activities.
 - Natural England – responsible for Natura 2000 sites. Those sites, save for some marine areas, are also notified as Sites of Special Scientific Interest (SSSI's). The condition of SSSIs, including those that coincide with Natura 2000 sites is assessed in view of the conservation objectives for that site and against the

various attributes set out in the favourable condition tables that accompany those objectives, in order to make a judgement on whether the component SSSIs are in favourable condition.

- Severn Trent Water Limited – operate all the various wastewater treatment works throughout the river Mease SAC that lies within North West Leicestershire. They are required to comply with any conditions attached to permits and consents issues by the Environment Agency.

5 WHAT ARE THE ISSUES AFFECTING THE RIVER MEASE SAC?

- 5.1 The principal issue affecting the river Mease is that of water quality which has been found to be poor, mainly due to high phosphorus levels. The high levels of phosphorus were identified as representing a threat to the ability of the river to support its internationally important features in a sustainable way (referred to as the “integrity” of the SAC in the Regulations).
- 5.2 The phosphate targets in the Conservation Objectives for the SAC are expressed as annual average concentrations of total reactive phosphorus and throughout the River Mease SAC this target has been set at 0.06mg/l.
- 5.3 This threshold is based on a family of phosphate targets for different river typologies, developed by Natural England National Specialists, and endorsed by the Joint Nature Conservation Committee.
- 5.4 Where these values are exceeded, based on annual averages, the underpinning SSSI units are in Unfavourable Condition, in accordance with Natural England’s Common Standards Monitoring, and the integrity of the SAC is at risk.
- 5.5 Throughout the period 2005-2010 samples of water were analysed throughout the Mease catchment. The average annual concentration of orthophosphates across the Mease catchment was found to vary from about 2.3mg/l in 2005 to about 0.2mg/l in 2010¹.
- 5.6 Throughout the period 2005-2010 the Conservation Objective was not met at all, although the levels of phosphates do show a significant reduction in level at all sample points.
- 5.7 Under a natural environment, river phosphorus levels are low. Elevated levels of phosphorus are as a result of human activity and can be due to a number of sources, including from point sources such as wastewater treatment works and septic tank discharges and diffuse sources such as agricultural and urban runoff.

¹ More details regarding the results and location of this sampling can be found on page 11 of the Water Quality Management Plan

- 5.8 Virtually all new development, will contribute additional waste water to the waste water system, as a result of additional flows of water from baths, toilets, sinks, washing machines and other water facilities. Even small scale extensions to dwellings which include an additional toilet, sink or bath will increase the amount of water and hence phosphates that go to wastewater treatment works.
- 5.9 It is estimated by Natural England² that in the river Mease catchment about two thirds of phosphate comes from point sources with a third from agricultural diffuse sources.
- 5.10 The effect of these high levels of phosphates is to impact upon the ecology of the river, specifically fish and invertebrates

6 HOW HAS THE ISSUE EVOLVED?

- 6.1 This section sets out chronologically how the issue and solutions to it have evolved. A number of reports and strategies have been produced since 2009 and are referred to in this section and highlighted in **bold**. More details about each of these can be found in Appendix 1.
- 6.2 Having been designated as an SAC in 2005, just before preparation of the then Core Strategy commenced, the Council was aware its obligations under the directive to ensure that the policies and proposals of the Core Strategy would not adversely affect the integrity of the SAC.
- 6.3 The seriousness of the issue first became apparent in early 2009 following the completion by the Environment Agency of a **Review of Consents** in the SAC. The review made it clear that excessive levels of phosphate were preventing the achievement of favourable condition in the river Mease SAC and concluded that the SAC would not be able to achieve favourable condition, by making changes to the abstraction licences and discharge consents alone.
- 6.4 However, the Environment Agency concluded that there would be no adverse effect for the permits, provided that action to be taken by them or another competent authority removed the adverse effect from that permission.
- 6.5 Following the review of consents the Environment Agency issued a **position statement** in August 2009 in which they outlined how the agency would respond to planning applications, essentially by objecting to proposals for development unless it could be demonstrated that any additional discharge would not result in further deterioration of water quality, before outlining a range of measures which were (or would) be undertaken to help address the issues facing the river Mease SAC.

² Detailed Water Cycle Study – page 7

- 6.6 As a result of this the District Council was now in a position where it was either not determining planning applications whilst a potential way forward could be established, or where an applicant was requiring a decision then applications were being refused.
- 6.7 At this stage there was no consensus about how to reconcile the need to make provision for development with the duty arising from the Habitats Directive. This was clearly a major issue for the then Core Strategy which the Council was preparing. It was agreed amongst the key agencies that the commissioning of a Water Cycle Study by the Council would help to address the issues affecting the river Mease SAC and provide evidence for the then Core Strategy. Consultants (Entec Ltd) were commissioned in the summer of 2009 to prepare a **Scoping and Outline Water Cycle Study** in accordance with guidance issues by the Environment Agency. The final report was published in March 2010 and recommended (amongst other matters) that a Detailed water Cycle Study be undertaken to look in more detail at the issues affecting the river Mease and how improvements could be made.
- 6.8 A major planning inquiry considered an appeal in respect of land south of Ashby for approximately 1,000 dwellings (referred to as Packington Nook) in the autumn of 2009³. The issue of the River Mease SAC and potential solutions was debated at length as part of the inquiry, including the work being undertaken on the Scoping and outline Water Cycle Study. In dismissing the appeal the Inspector concluded that in respect of the river Mease SAC *“On this issue [The River Mease SAC], therefore, I must conclude that permission for the scheme should not be granted on the basis of Regulation 48 and the unacceptable risk of harm to the River Mease SAC”*.
- 6.9 By now the issue was such that the Council was unable to make significant progress on its Core Strategy and so in early 2010 the District Council established a working party (River Mease Working Party) under the auspices of the then Environment Scrutiny Committee in order that members could get a better understanding of the issue and consider how these might be resolved. The remit of the Working party was to;
- *Investigate the current situation,*
 - *Explore possible action to alleviate the issues.*
 - *Establish the likely impact on future development in the area.*
 - *Make recommendations for steps to improve the situation and appropriate longer-term approach to development in the area.*
 - *Report to the Environment Scrutiny Committee.*
- 6.10 On 24 March 2010 the Working Party held a hearing session to which a wide range of stakeholders were invited. The various parties presented evidence and information regarding the issue. The Working Party reported to the Environment Scrutiny

³ 08/01588/OUTM

committee on 8th December 2010 when it was agreed that officers should continue to liaise with the various agencies to seek a long term solution.

- 6.11 In February 2011 the District Council commissioned consultants (Entec which subsequently became part of AMEC) to undertake a **Detailed Water Cycle Study** as previously recommend in the Scoping and Outline Water Cycle Study.
- 6.12 Initially it was envisaged that the Detailed Water Cycle Study would look to identify solutions which could be implemented immediately. However, as a result of other work taking place (as outlined later) it became more concerned with longer term solutions for when the 'headroom' had been taken up.
- 6.13 The study considered a range of potential wastewater treatment options which might be appropriate, whilst having regard to the potential scale of housing development which might take place in the catchment (four options were considered with different levels of growth in Ashby de la Zouch, Measham and the catchment as set out in table 3.2 of the study). The assessment involved two stages – an assessment of the likely impact on phosphorous levels in the river using the Environment Agency's SIMCAT model of the river Mease (a quantitative assessment) and a sustainability assessment of the options (qualitative assessment).
- 6.14 In terms of the modelling (figures 4.3 to 4.9 inclusive), this showed (para 4.4.4) that the most improvements were likely to be achieved by additional treatment at both the Packington and Measham works (Option 4a). It was noted that the various scales of new development had little impact on the overall result as it only represented a small increase over existing levels.
- 6.15 From a sustainability perspective (tables 4.11/4.12) it concluded that Option 4a (Reedbeds at Packington & Measham treatment works) would be the most favourable if reducing phosphorous levels was the most important objective, although it noted that the reductions might not be as great as suggested by the modelling. However, because of uncertainty in respect of reed bed or other phosphorous technology removal Option 2 (i.e. maintain load) would be more beneficial provided it was used in conjunction with additional treatment at wastewater treatment works in the medium/longer term (i.e. 5 to 15 years).
- 6.16 The final study was published in July 2012. As noted above, to some extent the Detailed Water Cycle Study had been overtaken by events and developments, most notably the publication of the River Mease SAC Water Quality (Phosphate) Management Plan in June 2011.
- 6.17 A key action from the Review of Consents undertaken by the Environment Agency in 2009 was the production of a **Water Quality Management Plan (WQMP)**. This was developed jointly by the Environment Agency with Natural England and agreed in July/August 2011.

- 6.18 The primary purpose of the WQMP was;
- to reduce the levels of phosphate within the River Mease SA;
 - to enable the Conservation Objectives for the SAC to be met, and;
 - an adverse effect upon the SAC avoided.
- 6.19 The WQMP sets out a range of actions including (amongst other matters) the establishment of a Developer Contributions Framework so as *“all new development with a net increase in wastewater to mains drainage will mitigate and compensate for nutrients entering the river, equivalent to the relative contribution of phosphate as a result of development and which will benefit the river as a whole”*.
- 6.20 This action, coupled with the identification by Severn Trent Water Limited of habitats directive compliant headroom capacity at the wastewater treatment works within the SAC and within the consents issued by the Environment Agency, meant that development was once again able to commence. Development of less than 10 dwellings would no longer be objected to by the Environment Agency and Natural England subject to there being capacity at the receiving wastewater treatment works. In addition, for developments of 10 or more dwellings a strategy for seeking developer contributions would be prepared so as to provide appropriate mitigation. It also provided a direction for future policy for the Core Strategy.
- 6.21 The WQMP is, from the point of view of the Habitats Directive, the key document as it ties back to the review of consents undertaken by the Environment Agency in 2009 (i.e. it was as a direct consequent of the review of consents) and establishes a range of actions to be taken so as to ensure that the integrity of the SAC is maintained – in effect it provides an overarching strategy for a range actions aimed at improving the water quality of the SAC, including those actions to be taken forward through the planning system.
- 6.22 The Environment Agency and Natural England subsequently produced **The River Mease Restoration Plan** in March 2012, to provide a framework for improvement of the river Mease SAC/SSSI for the next 20 to 30 years and to identify enhancement actions which can address physical modifications to the river and its catchment which contribute towards the unfavourable condition of the river. Section 5 considers potential sources of funding for the various actions including funding via a Developer Contributions Scheme.
- 6.23 A draft **Developer Contribution Scheme** (DCS1) was developed in conjunction with the Programme Board established as part of the WQMP and subject to consultation between 20 July and 31 August 2012. Following consideration of representations to the consultation the District Council’s Cabinet agreed the final scheme at its meeting on 22 November 2012.

- 6.24 The DCS1 noted (section E1) that in order to accord with the requirements of the Community Infrastructure Levy regulations “*Action funded through developer contributions however must be linked to the negative effects associated with development; the primary objective of the DCS being to mitigate them*” – that is “*they must lead to phosphorous reductions*”.
- 6.25 The DCS1 identified (Appendix 1 of the DCS) short and long term measures designed to mitigate the negative effects arising from development by reducing the levels of phosphorous in the river. The short term measure involved the installation of silt traps throughout the catchment whilst the long term measures relate to implementation proposals contained in the River Mease Restoration Plan, subject to the measures resulting in a reduction in phosphorous.
- 6.26 These measures represented an initial development window based on the phosphorous load from new development. The initial window had a load of 700g/day. However, subsequent windows would be likely to be required and would have different loads depending upon the circumstances at that point in time, subject to sufficient viable measures being available.
- 6.27 A DCS2 has subsequently been developed (see section 8 below for more details).

7 HOW DO WE MANAGE THE RIVER MEASE SAC ISSUES?

- 7.1 Formal partnership working to address this issue is now well established through the River Mease Programme Board which is supported by a Technical Group.
- 7.2 The Programme Board comprises senior representatives of the Environment Agency, Natural England, Severn Trent Water and the local planning authorities through whose area the river Mease passes (North West Leicestershire District Council, South Derbyshire District Council and Lichfield District Council).
- 7.3 The Water Quality Management Plan (WQMP) is the ‘umbrella’ document within which other plans and strategies, for example the River Restoration Plan and the Developer Contributions Scheme, operate. The Programme Board is responsible for ensuring ongoing monitoring of the river Mease in terms of water quality and that projects are contributing towards the reduction in phosphorous in the river as required by the WQMP.

8 HOW HAVE WE ASSESSED THE LIKELY AFFECT OF THE LOCAL PLAN ON THE RIVER MEASE SAC?

- 8.1 As part of the evidence base to support the draft Local Plan a Habitats Regulations Assessment (HRA) has been undertaken. This involved assessing initial draft policies which had been drafted by officers to ascertain as to whether it was likely that they would have any impact upon the river Mease SAC. Where an impact was considered to

be likely then recommendations were made as to how the proposed policy could be amended so as to ensure that there was no impact upon the SAC. These recommendations were taken on board in determining the proposed wording of policies included in the draft Local Plan.

- 8.2 A key issue that was identified as part of the HRA was that there would be a need to identify a second development window so as to enable the development proposed in the draft Local Plan to be delivered so as not to affect the integrity of the SAC.
- 8.3 This matter was considered at the Programme Board at its meeting on 25 June 2015 where it was agreed to commence the preparation of revisions to the DCS so as to create a second development window.
- 8.4 A DCS2 was agreed by the Programme Board and a consultation commenced on 24 June 2016. It is the intention that subject to any amendments resulting from the consultation that the DCS2 will be adopted by the District Council (and other local planning authorities in the partnership).
- 8.5 As with DCS1, DCS2 identifies a development window which for DCS2 is set at 329g/day of phosphorous. In addition, DCS2 identifies that following discussions between the Environment Agency, Natural England and Severn Trent Water that the preferred long term solution to ensure that the Conservation Objectives will be met will be to pump sewage effluent out of the catchment. This will need to be done as part of Severn Trent Water's Asset Management Review process in 2019. This is reflected in the Local Plan whereby the amount of development on land north of Ashby (Money Hill) is restricted to no more than 600 dwellings until such time as pumping out can be implemented.

9 WHAT IS MEANT BY HEADROOM?

- 9.1 Proposed Policy En2 refers at part 2(a) to there being sufficient headroom capacity available at the Wastewater Treatment Works to which it is proposed discharges from the development will go.
- 9.2 The headroom relates to the fact that all Wastewater Treatment Works are the subject of discharge consents issued by the Environment Agency. These discharge consents permit discharge from the Wastewater Treatments Works to a watercourse.
- 9.3 The discharge consents specify both a volumetric limit (termed 'Dry Weather Flow' (DWF) – a measure of the incoming flow to the works derived from human activity (both domestic and trade), but excluding any storm-induced flows) and limits on specific pollutants. The maximum flow permitted as DWF is designed to protect the receiving watercourse from high flow rates.

- 9.4 Whilst there may be headroom capacity available at a Wastewater Treatment Works , as noted in the DCS *'the availability of such headroom is subject to any provisions or restrictions set out in the WQMP itself'*. The DCS places such a 'restriction' upon the availability of existing capacity (or headroom) and only allows available capacity to be allocated to new development through the development window approach.
- 9.5 Essentially the allocation of remaining capacity at the works leads to an increase in P levels which would not be consistent with the Regulations. The Regulations therefore render the use of existing capacity without associated mitigation as non-compliant.
- 9.6 In order for such capacity to be allocated, the DCS firstly identifies mitigation measures within the catchment which will reduce phosphorous levels. The phosphorous which will be removed through these measures is estimated and a development window is created to deliver new development equivalent to that amount of phosphorous. The financial contributions from developments then deliver these mitigation measures resulting in such development having 'no net effect' on phosphorous levels in spite of there being more flow through the Wastewater Treatment Works, as phosphorous is removed from elsewhere in the catchment by these mitigation measure.

APPENDIX 1

This appendix provides more details in respect of the various studies and strategies which have been produced. The dates given relate to when they were published and so does not necessarily follow the order in which they are referred to in Section 6 of this paper.

More details about each of these can be found on the Evidence Base page of the website.

Environment Agency review of consents in the River Mease SAC (April 2009)

Regulation 63 of the Habitats Regulations requires competent authorities to review all decisions to grant consents and permits and to act to remove adverse impacts or the risk of adverse impacts on Natura 2000 sites. The Environment Agency, therefore, undertook a review of consents for the River Mease SAC. This was completed in April 2009.

The Review of Consents (RoC) made it clear that excessive levels of phosphate were preventing the achievement of favourable condition in the river Mease SAC and concluded that the SAC would not be able to achieve favourable condition, by making changes to the abstraction licences and discharge consents alone.

In accordance with regulation 64(3) (previously regulation 51(3)) of the Habitats Regulations, the Environment Agency concluded that there would be no adverse effect for the permits, provided that action to be taken by them or another competent authority would remove the adverse effect from that permission.

Amongst the further actions required was the production of a Water Quality (Phosphate) Management Plan.

Environment Agency position statement (August 2009)

In view of concerns regarding the river Mease that had become apparent during 2009, the Environment Agency published a position statement in August 2009. This can be viewed in full at Appendix E of the Scoping and Outline Water Cycle study.

The statement outlined the role of the Environment Agency and that the river Mease was at *“at saturation point in terms of the amount of treated effluent it already receives and the River is currently failing its water quality targets for phosphate”*. As a result it was unlikely that *“the River Mease would be able to deal with any increase in the amount of effluent it receives without a serious drop in the quality of its water, which would in turn threaten the wildlife that is dependent on the river for its habitat”*.

It went on to outline how the agency would respond to planning applications, essentially by objecting to proposals for development unless it could be demonstrated that any additional discharge would not result in further deterioration of water quality, before outlining a range of measures which were (or would) be undertaken to help address the issues facing the river Mease SAC.

Outline and Scoping Water Cycle Study (March 2010)

Following discussions with the Environment Agency, Natural England and Severn Trent in early 2009, it was agreed to commission a Scoping and Outline Water Cycle Study to help inform the development of the Core Strategy. The study was commissioned in summer 2009 and its objectives were to:

- Take an integrated approach to management of the water environment;
- Meet EU framework targets on water quality, determining whether environmental resources can cope with providing water and receiving wastewater to/from further development;
- Determine whether the existing water and wastewater services infrastructure has sufficient capacity to support the planned development;
- Determine whether environmental resources can cope with providing water and receiving wastewater to/from further development;
- Ensure sustainable flood risk management over the long term are delivered through policies to protect future development from flooding;
- Aspire to water neutrality in all developments, by identifying mechanisms for achieving high standards of water efficiency, with the aim of reaching water neutrality through a stepped programme of measures and planning policy;
- Provide the evidence base for the Local Development Framework.

A key aspect of the study was to assess the potential implications for the water environment of the options for the distribution of development which were the subject of consultation as part of the 'A Strategy for Growth and Change' consultation in 2008/09.

In respect of issues pertaining to the river Mease the study concluded that:

- Issues regarding water quality in the river Mease catchment were a significant constraint on new development as levels of phosphates were already high. Some of this was attributable to discharges from wastewater treatment works, although other sources, including agriculture were also apparent.
- Of the options for new development put forward in the 'A strategy for growth' consultation (2008) those which had minimal growth in Ashby and Mesasham were favoured having regard to issues associated with the river Mease SAC.
- That a detailed WCS be undertaken to look in more detail at the issue affecting the river Mease and how improvements could be made.

The study noted (para 4.2.1) that the Humber River Basin Management Plan (December 2009) prepared under the Water Framework Directive (WFD) had identified that to ensure that a 'Good Ecological Status' could be achieved throughout the plan area, as required by the WFD, that a number of actions were required to be undertaken including "*Improve sewage treatment works at a number of locations in the River Mease catchment to reduce the levels of phosphate in the SAC site*".

Table 4.3 of the study identified that the five wastewater treatment works which were within the river Mease SAC catchment were generally performing poorly against the WFD targets. A particular issue, for wastewater treatment works across the whole district not just the river Mease catchment, was the poor performance in respect of phosphorous levels.

It noted (para 4.2.2) that *“Phosphorous is potentially attributable to both agricultural sources and wastewater treatment works, and to improve the water quality a combination of rural land management and wastewater treatment will be required”*.

Section 4.2.4 considered the issue of the river Mease SAC in more detail. It noted that the current condition was *“unfavourable”* primarily *“related to elevated nutrients, in particular ortho phosphate. Phosphorous in rivers can be sourced from agricultural sources and from sewerage”*.

Based on evidence which had been submitted by the Environment Agency to a Public Inquiry in respect of land south of Ashby de la Zouch (referred to as Packington Nook), it noted (para 4.2.4) the high levels of ortho phosphates between February 2005 and July 2009 when compared to the target of 0.06mg/l.

It noted (para 4.2.4) that a Habitats Directive review was under way which would assess the effect of abstraction and other regulated activities including discharges from wastewater treatment works and determine management options by 2010 for the river Mease.

Based on information supplied by Severn Trent Water (table 4.6) it noted that the capacity to accommodate additional flows (and hence development) based on quality performance was minimal at the Packington wastewater treatment works and limited at Measham.

Section 5 undertook an assessment of the potential constraints to development as a result of environmental and water infrastructure issues. It noted that (paragraph 5.1.1):

The River Mease SAC presents a big constraint in the study area, which is considered to be at saturation point for receiving effluent flows and failing to meet its WFD status, with particular regard to ortho phosphates. The EA's position statement on River Mease is to object to all discharges to the River Mease 'unless it can be demonstrated by the applicant when submitting a planning application that the additional effluent from the proposed development will not cause deterioration of the quality of the receiving water course and/or a breach of the sewage works discharge consent.' Furthermore, Natural England has adopted a position that ensures no increase in discharge occurs to the River Mease driven by the SAC designation, and the 0.06mg/l Phosphate target. If a new development does not meet this discharge then they will advise the relevant local authority that the development is not Habitats Regulation compliant, and object to the development. This position leads to Natural England objecting to single dwellings, change of use, discharge of drainage conditions and large development.

As a result *“These position statements will impact growth or new developments in the southern area of North West Leicestershire District”*.

It noted that discussions between the Environment Agency, Natural England and the District Council to resolve how new growth could be accommodated in the river Mease catchment were ongoing. It concluded that *“This study recommends that a Detailed WCS is undertaken to assist and provide the evidence for future decisions on protecting the water quality”*.

The study also addressed whether it was feasible to aspire to water neutrality as part of new development (i.e. where the net demand for water in an area of significant development being the same after development is completed as it was before). It noted (para 6.1.1) that the

Mease catchment was a net importer of water and that reduced water released from development could further increase the concentration of effluence to be treated.

It was noted (para 6.2.1) that the Environment Agency had proposed to tighten the consent limits at the various wastewater treatment works in the catchment, in order to reduce the level of ortho phosphates in the River Mease. The phosphorous limit at Packington works was to be set at 1 mg/l by 2014.

The diversion of the existing wastewater discharges out of the catchment was not considered to be a solution to the water quality issue in the River Mease (para 6.2.1). This was because the wastewater discharges were not the sole source of phosphorous within the catchment. Modelling of the water quality by the Environment Agency had shown that even without the wastewater discharges, the ortho phosphates in the river were still too high (as advised during the steering group meeting, September, 2009). This indicated that agricultural sources were also contributing to the elevated nutrients.

When looking at the various housing options which had been put forward as part of the 'A strategy for growth consultation' (2008), the report (para 6.2.2) concluded that in respect of the wastewater treatment works at Packington that capacity would be reached under Option 2 in 2014, Option 3 in 2017, Option 2 in 2024 and Option 4 in 2026. The works at Measham would be able to accommodate all four options put forward.

Consideration was given (para 6.2.3) as to whether wastewater treatment works outside the catchment would be able to accommodate additional effluent from the Ashby and Measham areas. Two wastewater treatment works near Swadlincote (Milton and Stanton) were assessed taking account of potential growth at Ashby and Measham and Swadlincote. It was concluded that "*the works at Milton and Stanton do not have capacity in their flow consent to accommodate additional flow from new development from 2010 to 2015 in Ashby and / or Measham*".

Overall the study recommended that:

- A detailed Water Cycle Study be undertaken to " Drive solutions to be investigated and implemented for sewage treatment at the Packington works".
- options with the minimum growth in the Ashby and Measham area are favoured as a result of the water quality constraint in the River Mease,

River Mease SAC Water Quality (Phosphate) Management Plan (June 2011)

As set out in the Review of Consents undertaken by the Environment Agency in 2009, a Water Quality Management Plan (WQMP) was developed jointly with Natural England. This was agreed by the Environment Agency and Natural England in July/August 2011.

The primary purpose of the WQMP was;

- to reduce the levels of phosphate within the River Mease SA;
- to enable the Conservation Objectives for the SAC to be met, and;
- an adverse effect upon the SAC avoided.

The primary objective was that the combined actions would result in a reduction in phosphate in the River Mease to no more than 0.06mg/l, and this would be achieved by 2027 (expected to be derogated from 2015).

The WQMP incorporated and built on the Diffuse Water Pollution Plan (DWPP) produced by Natural England and the Environment Agency in December 2010. The WQMP differed from the DWPP in that it is focused specifically on phosphate, and includes consideration of consented (and unconsented) point sources.

The plan noted that the 0.06 mg/l target would be reviewed and that the three main pressures upon the SAC were:

- Development and Housing - what level of growth within the catchment would be acceptable with the requirement to meet and maintain the Conservation Objectives for the SAC;
- Wastewater Capacity / Quality - The capacity and quality of effluent from the sewage treatment works throughout the catchment (often known as point sources), needed to be improved and consistently maintained in order to both allow growth within the catchment and achieve the Conservation Objectives and enable an appropriate level of growth;
- Diffuse Sources - The quality of diffuse sources, for example urban (highway and sewer discharges) and agricultural/land run-off needed to be identified and improved alongside improvements to point sources in order to allow the SAC to achieve Favourable Condition.

The WQMP sets out a range of actions including:

- Establishment of a Programme Board comprising of representatives from the Environment Agency, Natural England, Severn Trent Water Limited and North West Leicestershire District Council to co-ordinate, review and implement the WQMP. This was established in July 2011. This meets on a xxx basis;
- Establishment of a technical group to comprise representatives as per the Programme Board and to lead on implementation of actions and to report on progress to the Programme Board. This meets on a xxx basis;
- Production of Core Strategies which take account of the SAC;
- Active involvement by the Environment Agency and Natural England with the preparation of a detailed Water Cycle Study;
- Establishment of a Developer Contributions Framework so as all new development with a net increase in wastewater to mains drainage will mitigate and compensate for nutrients entering the river, equivalent to the relative contribution of phosphate as a result of development and which will benefit the river as a whole;
- A need to continually update information regarding available headroom capacity at wastewater treatment works; and
- Address actions identified in the DWPP so as to reduce phosphates from diffuse sources.

As a result of agreement on the WQMP, development of less than 10 dwellings would no longer be objected to by the Environment Agency and Natural England subject to there being capacity at the receiving wastewater treatment works. In addition, for developments of 10 or more dwellings a strategy for seeking developer contributions would be prepared so as to provide appropriate mitigation.

The River Mease Restoration Plan (March 2012)

Produced by the Environment Agency and Natural England, this provides a framework for improvement of the river Mease SAC/SSSI for the next 20 to 30 years and identifies enhancement actions which can address physical modifications which contribute towards the unfavourable condition of the river.

The Plan explains the current condition of the river and identifies the various pressures resulting from human activity which affect the river (Section 2).

Section 3 identifies a range of potential solutions and their potential benefits and constraints, including riparian zone management, bank re-profiling, removing weirs and the creation of wetlands and woodlands.

Section 4 looks at the different reaches by which the river has been divided and the actions proposed for each reach., whilst Section 5 identifies the potential costs and who will lead on implementing the various actions broken down in to short term (by 2015) medium term (by 2027) and long term (by 2050). Section 5 also considers potential sources of funding for the various actions including funding via a Developer Contributions Scheme.

Detailed Water Cycle Study (July 2012)

Although not finalised and published until July 2012, various iterations of a draft final report were being discussed by the Council and key partners from early 2012, and the contents were used as an input to the pre-submission Core Strategy approved in April 2012.

As had already been shown by, amongst other reports, the Scoping and Outline WCS development in the river Mease SAC had the potential to adversely affect the SAC. A detailed WCS had been recommended as an outcome from the Scoping and Outline WCS and was commissioned in February 2011. The Detailed WCS was required to (amongst other matters):

- Identify and assess potential solutions (including piping waste water out of the catchment area, using package treatment plants on development sites or the use of reed beds as a natural means to control phosphate levels) for resolving water quality issues associated with new development in the river Mease catchment, particularly in relation to the wastewater treatment works at Packington, whilst balancing these with water resource issues.
- Assess the various options in terms of:
 - the feasibility of each option, from both a technical and financial point of view;
 - the physical infrastructure required;
 - the cost of implementation and maintenance including how costs could be met/shared between individual developments and other interested parties;
 - an indication as to timescales for implementation;
 - the sustainability implications of each option and
 - how the different proposals will impact upon the efficient use of the water resource
- Consider how the cost on implementing water infrastructure requirements would impact upon viability.

Initially it was envisaged that the study would look to identify solutions which could be implemented immediately. However, as a result of other work in respect of the availability of 'headroom' at the various wastewater treatment works following the WQMP, the Detailed WCS became more concerned with longer term solutions for when the 'headroom' had been taken up (Para 1.2).

Section 4 considered a range of potential wastewater treatment options which might be appropriate, whilst having regard to the potential scale of housing development which might take place in the catchment (four options were considered with different levels of growth in Ashby de la Zouch, Measham and the catchment table 3.2) .

Initially the following options were considered (table 4.2):

- *No change from current approach (i.e. send flows to wastewater treatment works with no additional treatment above existing approach);*
- *Maintain load (i.e. send flows to wastewater treatment works but with improved treatment and maintain the load of phosphorous at current levels);*
- *Use of private package treatment plants for each new development with discharge straight to river;*
- *Addition of a polishing plant at Packgton works funded by new development;*
- *Partial transfer of flows to Stanton works in South Derbyshire so as to release capacity at Packington works;*
- Transfer all treated effluence from Packington works to river Trent;
- Transfer to other works downstream of Packington;
- Use of private package treatment plants or reeds beds for each new development with discharge straight to sewer;
- Diver river;
- Sealed cess pits used in new developments;
- Combination of private treatment works and continued use of Packington works.

Having regard to the potential environmental benefits and other factors those options listed above in italics were taken forward for more detailed assessment. This assessment involved two stages – an assessment of the likely impact on phosphorous levels in the river using the Environment Agency's SIMCAT model of the river Mease (a quantitative assessment) and a sustainability assessment of the options (qualitative assessment).

In terms of the modelling (figures 4.3 to 4.9 inclusive), this showed (para 4.4.4) that the most improvements were likely to be achieved by additional treatment at both the Packington and Measham works (Option 4a). It was noted that the various scales of new development had little impact on the overall result as it only represented a small increase over existing levels.

From a sustainability perspective (tables 4.11/4.12) concluded that Option 4a would be the most favourable if reducing phosphorous levels was the most important objective, although it noted that the reductions might not be as great as suggested by the modelling. However, because of uncertainty in respect of reed bed or other phosphorous technology removal Option 2 (i.e. maintain load) would be more beneficial provided it was used in conjunction with additional treatment at wastewater treatment works in the medium/longer term (i.e. 5 to 15 years).

Developer Contribution Scheme (2012)

As noted previously, the WQMP included as an action that a Developer Contributions framework be developed to ensure that new development contributed towards mitigation measures designed to reduce the level of phosphorous in the river Mease catchment.

A draft Developer Contribution Scheme (DCS) was developed in conjunction with the Programme Board and subject to consultation between 20 July and 31 August 2012. Following consideration of representations to the consultation the District Council's Cabinet agreed the final scheme at its meeting on 22 November 2012.

The DCS notes (section E1) that in order to accord with the requirements of the Community Infrastructure Levy regulations "*Action funded through developer contributions however must be linked to the negative effects associated with development; the primary objective of the DCS being to mitigate them*" – that is "*they must lead to phosphorous reductions*".

Section E3 notes that whilst direct improvements to the wastewater treatment works would provide an efficient means of mitigating the negative effects of development, Severn Trent Water had advised that "*whilst this would appear to be a logical use of developer contributions it would not be a lawful use of such contributions*".

The DCS uses (section F2) the approach of a development 'window' based on the phosphorous load from new development. The initial window has a load of 700g/day. This is derived from a range of measures, short and long term, which are designed to mitigate the negative effects arising from development by reducing the levels of phosphorous in the river (Appendix 1 of the DCS). For each proposed measure an estimate is made of the phosphorous that is expected to be removed upon implementation. These measures are:

- Short term – installation of silt traps, with an estimate that 907g of phosphorous could be removed by each trap every day;
- Long term – implementation of river Mease River Restoration Plan, subject to the measures resulting in a reduction in phosphorous. It is estimated that overall 700g of phosphorous per day could be removed along seven reaches of the river where projects can proceed imminently.

To implement these measures a Project Officer will be employed and in addition to the above measures, would also undertake promotional and educational campaigns designed to result in reductions in phosphorous.

These projects are estimated to cost £640,000 to deliver.

To calculate the level of any contribution from a development there are three stages:

- Stage 1 – calculation of the amount of phosphorous that is estimated to be produced by new development. Table (page 14 of DCS) estimates the volume of flow to mains using requirements from Building Regulations and Table 2 (Page 15) converts this in to levels of phosphorous that are estimated to be produced having regard to these flows.
- Stage 2 – calculation of costs of identified measures (£640,000) is divided by the anticipated reduction in phosphorous (700g) to arrive at figures of £914/gP/day or £0.91/mgP/day.

- Stage 3 – the cost from stage 2 is then multiplied by the levels of phosphorus from Table 2 to produce a cost per dwelling depending upon anticipated occupancy levels.

Section G1 sets out that any subsequent windows will have different loads depending upon the circumstances at that point in time, subject to sufficient viable measures being available.