River Lambourn SSSI Diffuse Water Pollution Plan

1. Plan coverage and contacts

Where diffuse pollution is preventing SSSIs from achieving favourable condition this plan will:

- identify the causes, evidence of impacts and knowledge gaps;
- identify remedies and plan when and how action will be taken;
- identify the monitoring required to validate remedies.

This plan will be a live document under continual review. A regional annual review will take place to check progress against the actions.

Version Control

Date and Version	Author and brief description of changes
Version 3.3 October 2020	June Jones(EA), Des Sussex(NE), Graham Scholey(EA), Karen Davies(NE), Sophie Temple(NE), Alyson Barnes(EA) Complete review from previously published plan in 2010

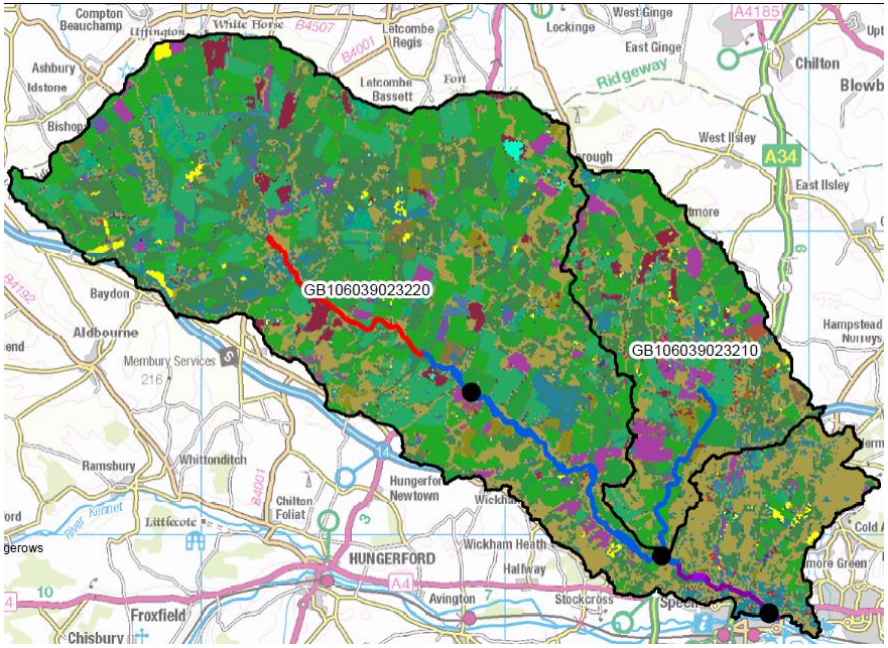
<table>
<tr><th></th><th>Details</th></tr>
<tr><td>Protected sites, designations and interest features</td><td>
This DWP Plan covers:
River Lambourn SAC, SSSI – all 3 units.
Maps to show the SSSI locations are available on MAGIC
http://www.natureonthemap.naturalengland.org.uk/MagicMap.aspx

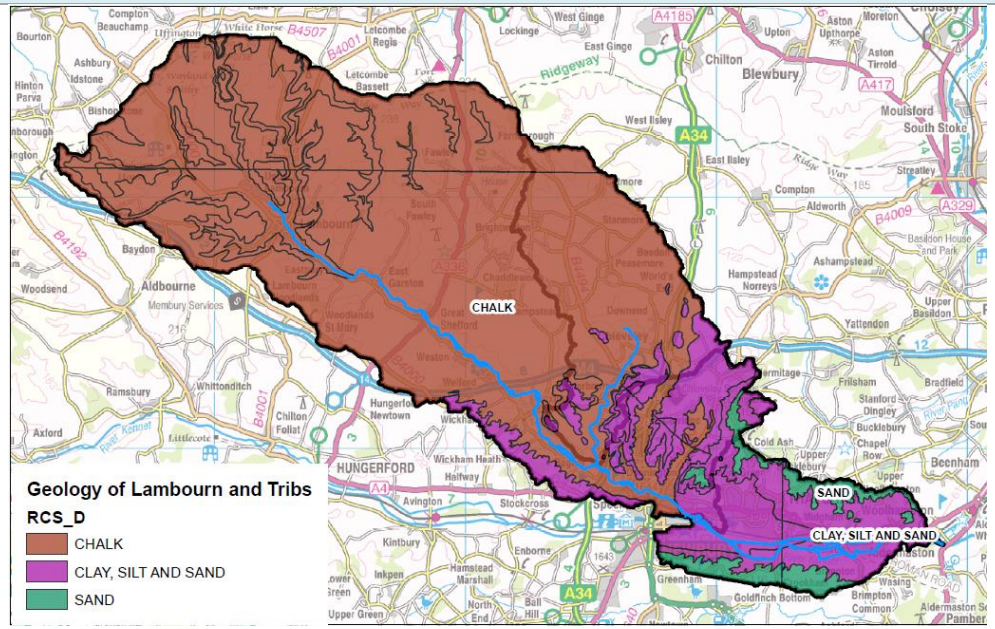
The feature for which the Lambourn SSSI is of special interest is:
Flowing Waters - Type III: Base-Rich, Low-Energy Lowland Rivers And Streams, Generally With A Stable Flow Regime.
The additional interest features for which the River Lambourn is designated a Special Area of Conservation (SAC) are:
H3260 Water courses of plain to montane levels with the Ranunculion fluitantis and Callitricho-Batrachion vegetation.
Bullhead (Cottus gobio) the primary reason for SAC selection
Brook lamprey (Lampetra planeri) the qualifying feature for SAC selection.
http://jncc.defra.gov.uk/ProtectedSites/SACselection/habitat.asp?FeatureIntCode=H3260
</td></tr>
<tr><td>WFD water bodies</td><td>
The following WFD water body comprises all three units of the River Lambourn SAC/SSSI :
<table>
<tr><th>Waterbody ID</th><th>Waterbody name</th><th>SSSI units</th></tr>
<tr><td>GB106039023220</td><td>Lambourn (Source to Newbury)</td><td>River Lambourn SSSI units 1-3</td></tr>
</table>
In order to reduce diffuse pollution in the SSSI Rivers, action will need to be taken across the whole catchment. Therefore this DWP Plan also covers the tributary:
<table>
<tr><th>Waterbody ID</th><th>Waterbody name</th><th>Relationship to SSSI</th></tr>
<tr><td>GB106039023210</td><td>Winterbourne</td><td>Tributary of River Lambourn unit 2</td></tr>
</table>
Location maps of the waterbodies can be viewed at http://environment.data.gov.uk/catchment-planning/
</td></tr>
</table>

Members of the DWP plan project/steering group and their responsibilities in relation to this plan.	NE Thames Solent Team Leader (Thames Team) – Des Sussex NE Water Lead Adviser (Thames Solent Team) – Sophie Temple NE Thames Team Area Manager – Andrew Smith EA Biodiversity Technical Specialist – Graham Scholey EA Biodiversity Officer – Debbie Cousins EA Integrated Environmental Planning Team – June Jones EA Catchment Co-ordinator – Alison Love Catchment Sensitive Farming Officer – Karen Davies Other – Kennet Catchment Partnership Chair – Charlotte Hitchmough - ARK

2. Characteristics of the catchment

Characteristics	Brief Description
Catchment	The Lambourn catchment covers an area of approximately 234 km^2. It is situated to the west of the River Thames basin and is defined by the Berkshire and Marlborough Downs to the north and west, and by the Hampshire Downs to the south. Much of the catchment is captured within the North Wessex Downs AONB. The catchment is principally rural in character, but includes, from the west, the urban centres of Marlborough, Hungerford, Newbury and Reading. The whole of the River Lambourn, from its source in Lynch Wood, north of Lambourn, to its confluence with the River Kennet east of Newbury, is designated a SSSI and SAC.
Hydrology	The River Lambourn catchment is almost entirely chalk which results in a predominantly gravelly river bed. A key feature is the intermittent nature of the upper section (unit 1) which generally flows from February through to autumn.

Land use/ soils/geology	The land use of the catchment is predominately rural. On the well-drained slopes arable agriculture dominates, with large areas under cereal production. Within the floodplain, land use includes pasture with extensive grazing by sheep and cattle. There is also some broad-leaved woodland. The upper part of the Lambourn catchment is home to a significant number of racing stables, with associated horse grazing and gallops.  Figure 1: River Lambourn SAC land use and sampling points Land use for the River Lambourn has been broken down into field use based on data from the Rural Protection Agency census survey 2017. Key available in Appendix 10.1. There is a major urban population at Newbury where the River Lambourn joins the River Kennet. There are a number of smaller villages along the course of the river.

Characteristics	Brief Description
	 Figure 2: Geology of the River Lambourn Catchment

3. What is the problem?

Summarise the relevant water quality failures of the site compared to favourable condition tables and WFD targets, highlighting failures, evidence used and still needed and the supporting ecological evidence of impact.

3a: SSSI water quality objective compliance

<table>
<tr><th>Water quality pollutant</th><th>SSSI objective/target</th><th>Compliance</th><th>Evidence used to support assessment</th></tr>
<tr><td>Phosphate</td><td>
The long term (near natural state) favourable condition attributes for soluble reactive phosphorus (SRP) (as updated in line with 2014 CSM guidance) are shown with interim targets below. These targets were subject to public consultation through the RBMP consultation (Sept 2014 – March 2015).
<table>
<tr><th></th><th></th><th colspan="2">ug/l SRP (annual mean & growing season mean*)</th></tr>
<tr><th>SSSI</th><th>Unit</th><th>RBMP2 interim goal</th><th>Long-term CSM target**</th></tr>
<tr><td rowspan="3">River Lambourn</td><td>1</td><td>30 (0.03mg/l)</td><td>20 (0.02mg/l)</td></tr>
<tr><td>2</td><td>45 (0.045mg/l)</td><td>30 (0.03mg/l)</td></tr>
<tr><td>3</td><td>40 (0.04mg/l)</td><td>30 (0.03mg/l)</td></tr>
</table>
* Growing season mean = March-September, period of peak algal and macrophyte growth.
</td><td>
Table 1 - Average ortho phosphorus concentrations on selected locations on the River Lambourn taken from Environment Agency sampling.
<table>
<tr><th>R. Lambourn</th><th>SSSI Unit</th><th>Year(s)</th><th>Ortho P mg/l
1) annual mean &
2) growing season mean</th><th>Compliance with RBMP 2 interim target - annual average & growing season mean</th><th>Compliance with Long-term CSM target - annual average & growing season mean</th></tr>
<tr><td>East Shefford (PKER0063)</td><td>1</td><td>2016-18

2017-19</td><td>1)0.0332
2)0.0317
1)0.03
2)0.0296</td><td>Fail
Fail
Pass
Pass</td><td>Fail
Fail
Fail
Fail</td></tr>
<tr><td>Bagnor (PKER0059)</td><td>2</td><td>2016-18</td><td>1) 0.0355
2) 0.0312</td><td>Pass
Pass</td><td>Fail
Fail</td></tr>
</table>
</td><td>EA monitoring data (2016-2019)</td></tr>
</table>

Compliance will be measured where sufficient data exist.

** Feasibility of long-term target will need to be reviewed in the light of the results of P stripping trials which were completed in 2017. These have informed the technically achievable limits for P limits in STW discharges and have a bearing on the residual impacts of diffuse sources.

		2017-19	1) 0.0327 2) 0.0327	Pass Pass	Fail Fail
A4 Newbury (PKER0058)	3	2016-18 2017-19	1) 0.0348 2) 0.0301 1) 0.0344 2) 0.0277	Pass Pass Pass Pass	Fail Fail Fail Pass

There is no monitoring data for Unit 1 on the Lambourn. Compliance at this location will be determined using data from the Lambourn at East Shefford, this sits at the top of Unit 2 and is above the discharge points from East Shefford WwTW so is representative of the upstream waterbody.
A new monitoring point at Maidencourt Farm will be monitored for WFD physio-chemical parameters to help assess the water quality of unit 1.

All sites achieved the interim target for both the annual and growing season mean during the period 2017-19.
All sites failed to achieve the long term target for annual mean during 2017-19. The growing season mean was only met at the Lambourn at A4 Newbury during 2017-19.

From 2016 to 2019 the WFD classification for orthophosphate has improved from Good to High status on the River Lambourn.
Orthophosphate for each site has been plotted and is available in Appendix 10.2.

<table>
<tr>
<td>Siltation</td>
<td>The favourable condition attributes for Lambourn siltation are:

No unnaturally high levels of siltation as indicated by:
a) ‘silting’ highlighted in section P of the RHS form , or
b) One-third or more of the total number of RHS spot checks in the assessment unit have silt (SI) as the predominant channel substrate.</td>
<td>A series of 9 RHS surveys were carried out by the NE Field Unit along the River Lambourn in 2015. The results showed some localised areas with moderate siltation both in unit 1 and 3. Where the channel is less modified (including where it has been physically restored) silt was noted as being present in more natural quantities and locations as a part of the natural habitat. The 2015 RHS results were reviewed by NE and the EA in 2018. Large discrepancies were noted between a previous survey and that carried out in 2015 in terms of modification of the channel and the number and size of bridges. Due to the discrepancies a rapid visual assessment was done in Sept 2018 visiting numerous sites along the entire course of the river from the A4 in Newbury to Lambourn Village. This survey did not access the entire river, but achieved much more coverage than the RHS survey was able to. The 2018 survey confirmed that most of the river is compliant with SSSI targets, with clean gravels and macrophytes which are not impacted by damaging or un-natural levels of siltation. There were very few locations where damaging levels of siltation were noted. Appendix 10.3 is a graphical representation of sources of sediment in the catchment from the Pollution Risk Assessment (WCRT 2017) on the River Lambourn.</td>
<td>RHS surveys 2015 and filenote Lambourn (V. Howden)

NE report (D.Sussex Sept 2018)

Pollution Risk Assessment on the River Lambourn (WCRT 2017)</td>
</tr>
<tr>
<td>Ammonia</td>
<td>90%ile total ammonia (NH3-N) < 0.25 mg/l

95%ile unionised ammonia (NH3-N) < 0.021 mg/l</td>
<td>Table 2 - Annual ammonia concentrations on selected locations on the River Lambourn taken from Environment Agency sampling.
<table>
<tr><th>R. Lambourn</th><th>SSSI Unit</th><th>Year(s)</th><th>1) Total ammonia mg/l as 90%ile &

2) unionised ammonia mg/l as 95%ile</th><th>Compliance

1) Total ammonia

2) Unionised ammonia</th></tr>
<tr><td>East Shefford (PKER0063)</td><td>1</td><td>2016-2018</td><td>1) 0.0205

2) 0.00031</td><td>Pass

Pass</td></tr>
</table>
</td>
<td>EA monitoring 2016-2019</td>
</tr>
</table>

		2017-2019	1) 0.0243 2)0.00050	Pass Pass
Bagnor (PKER0059)	2	2016-2018 2017-2019	1) 0.0242 2)0.00041 1)0.0234 2)*	Pass Pass Pass
A4 Newbury (PKER0058)	3	2016-2018 2017-2019	1)0.0277 2)0.00037 1)0.0387 2)0.00086	Pass Pass Pass Pass

All units were compliant for Ammonia targets on the Lambourn.
* Not enough data points to calculate

<table>
<tr>
<td>Dissolved oxygen (DO)</td>
<td>10%ile DO % saturation >85%</td>
<td>Table 3 - Dissolved oxygen concentrations on selected locations on the River Lambourn taken from Environment Agency sampling.
<table>
<tr><th>R. Lambourn</th><th>SSSI Unit</th><th>Year(s)</th><th>DO % saturation as 10%ile</th><th>Compliance</th></tr>
<tr><td>East Shefford (PKER0063)</td><td>1</td><td>2016-2018
2017-2019</td><td>78.21
82.01</td><td>Fail
Fail</td></tr>
<tr><td>Bagnor (PKER0059)</td><td>2</td><td>2016-2018
2017-2019</td><td>85.80
88.56</td><td>Pass
Pass</td></tr>
<tr><td>A4 Newbury (PKER0058)</td><td>3</td><td>2016-2018
2017-2019</td><td>84.30
81.84</td><td>Fail
Fail</td></tr>
</table>
Sites at East Shefford and A4 Newbury fail the CSM target for dissolved oxygen.
The site at Bagnor passes the CSM target for dissolved oxygen.
The reasons for failure at the top site (East Shefford) may be due to flow conditions/sampling frequency. The new sampling sites will help to understand the oxygen dynamics in the upper section of the waterbody.
The site at Bagnor passes the standard, this site is downstream of East Shefford STW, this site is sampled 12 times a year.
The Lambourn at A4 Newbury is a slower flowing section of the river and is sampled 4 times a year and due to this any one small decline in results has a disproportionately large impact on the overall results for the year.
From 2016 to 2019 the WFD classification for dissolved oxygen has improved from Good to High status.</td>
<td>EA monitoring 2014-2017</td>
</tr>
</table>

<table>
<tr>
<td>Biochemical oxygen demand (BOD)</td>
<td>Mean BOD <1.5 mg/l</td>
<td>Table 4 - Annual BOD concentrations on the River Lambourn at Bagnor taken from Environment Agency sampling.
<table>
<tr><th>R. Lambourn</th><th>SSSI Unit</th><th>Year(s)</th><th>Mean BOD <1.5mg/l</th><th>Compliance</th></tr>
<tr><td>Bagnor (PKER0059)</td><td>2</td><td>2016-2018
2017-2019</td><td>1.052
1.023</td><td>Pass
Pass</td></tr>
</table>
Only one site, the Lambourn at Bagnor is routinely sampled for BOD. This is compliant for CSM targets from 2016-2019.</td>
<td>EA do not routinely monitor this metric</td>
</tr>
</table>

3b i: Water framework directive target values

Phosphate	Dissolved Oxygen	Ammonia	BOD
Annual Mean	10%ile	90%ile	90%ile
120µg/l	60%	0.6mg/l	5mg/l

3b ii: Water framework directive target compliance for each unit

Water body ID	SSSI unit	Water framework directive GES/GEP target(s)	Compliance/status	Waterbody specific P target per site(Pass/Fail)
GB106039023220 Lambourn (Source to Newbury)	R. Lambourn Units 1, 2, 3	GES by 2015	Moderate (2019) **Element** / **Class in 2019** / **Target** Fish / Mod / Good 2021 Invertebrates / High / Good 2015 Macrophytes / Mod / Good 2027 Ammonia / High / High 2015 Dissolved Oxygen / High / High 2015 pH / High / Good 2015 Phosphate / High / High 2027 Temperature / High / Good 2015	PKER0058 80µg/l(Pass) PKER0059 76µg/l(Pass) PKER0063 69µg/l(Pass)

3b iii: Water framework directive status for tributaries

Waterbody ID	Waterbody name	WFD Status 2019	Failing element
GB106039023210	Winterbourne	Moderate	Macrophytes/Phytobenthos

3c: Ecological evidence of impact

Summarise the additional ecological evidence of impact to the SSSI, which could have been caused by the failure of the water quality attributes in section 3a above.	Evidence used to support assessment
Riverfly Census 2015 – The Riverfly census of 2015 highlighted concerns over trends in riverfly taxa, indicating that populations are declining in the Lambourn (and other Chalk streams). Riverfly studies largely focus on EPT taxa, namely mayflies (Ephemeroptera), stoneflies (Plecoptera) and caddis flies (Trichoptera), although freshwater shrimps (*Gammarus* sp) are also included. **Local Monitoring data** Local data does not show the same trend of decline in species highlighted in the 2015 report. Fly life monitoring is carried out on the Lambourn at six sites by local angling groups. Local monitoring by the Environment Agency has been undertaken for pre and post enhancement work and as part of the ECN (Environmental Change Network). A review carried out by the EA in 2018 used local fly life monitoring data and long term EA data. Only data on EPT taxa were considered from the EA dataset, the wider invertebrate community were not examined. The combined monitoring data (Fly life monitoring and Environment Agency data) indicates a river system of good ecological diversity. Appendix 10.4 lists the sites monitored, their frequency and to what level of identification. The EA sites at East Shefford and Bagnor have the longest continuous time series (2004-2017), with the ARK site at Great Shefford having the most complete monthly monitoring record. • At a river scale EPT richness and abundance show variation over time, although the overall trend appears to show a degree of consistency or slight increase over the last 17 years (2000-2017). There is a seasonal difference within the data, with richness and total abundance normally greater in spring. Declines in both richness and abundance are apparent in 2011 and again in 2014. The latter may relate to antecedent flows from significant flooding in late 2012 and 2013, potentially 'washing-out' some invertebrate populations/impacting the success of subsequent generations. However, following this the EPT community appears to have recovered with richness now close to the maximum recorded (in 2004). • The seasonal time series plots for each site presents a mixed picture of long term trends in EPT richness and abundance along the river. The overall impression is that sites towards the bottom of the river (Shaw & A4 Newbury) have improved both in richness and	Riverfly census 2015 Salmon and trout conservation UK

abundance, but this is based on short or interrupted time series data. At the two upstream sites (East Shefford & Welford) the trend is largely a declining one, most pronounced in the spring, with autumn values either remaining constant or increasing slightly. In the mid to lower stretch of the river at Bagnor, the site with the longest continuous time series, the trend is a declining one. However, again this appears to be driven by some particularly low values which may be related to natural perturbations in flows such as flooding (2014) or drought. Interestingly recent recorded values (2016, 2017) indicate an increase in richness and abundance, perhaps simply reflecting a response to a period of recovery where the system is not as flow stressed. Further analysis examining related hydrological data is therefore needed before any conclusions can be drawn over whether the trends presented portray a real long term decline in riverflies or simply reflect natural perturbations in the environment.

The Water Framework Directive status for the macroinvertebrate community in the River Lambourn is consistently classified as High, this evaluation looks at all categories and not just riverflies.

Impact of Siltation on macroinvertebrate community

The three EA sites were assessed for the Proportion of Sediment-sensitive Invertebrates (PSI) metric (Extence *et al.* 2011). This describes the impact on the macro-invertebrate community of fine sediments (defined as less than 2mm in size) deposited on the river bed.

The site at East Shefford is the most impacted with moderate impact due to siltation. Bagnor and A4 Newbury sites are only slightly impacted by silt.

Fishery survey results 2017

There are two long term monitoring sites on the River Lambourn; the most recent survey was carried out in November 2017. The two monitoring sites are at Easton Lodge and Moorbridge Farm. Appendix 10.5 details the survey locations and a summary of the results.

- Overall both sites on the Lambourn had reduced numbers of fish caught in comparison to the survey carried out in 2016. Both sites are likely to have been influenced in some manner by low flows, this impacted the distribution of the fish population. Long term trends show decreasing fish numbers at Moorbridge and increasing at Easton Lodge. Easton lodge has deeper sections which provide refuge in lower flows.
  The overall fish population at Moorbridge may not have relocated permanently and may repopulate this location when environmental factors change.

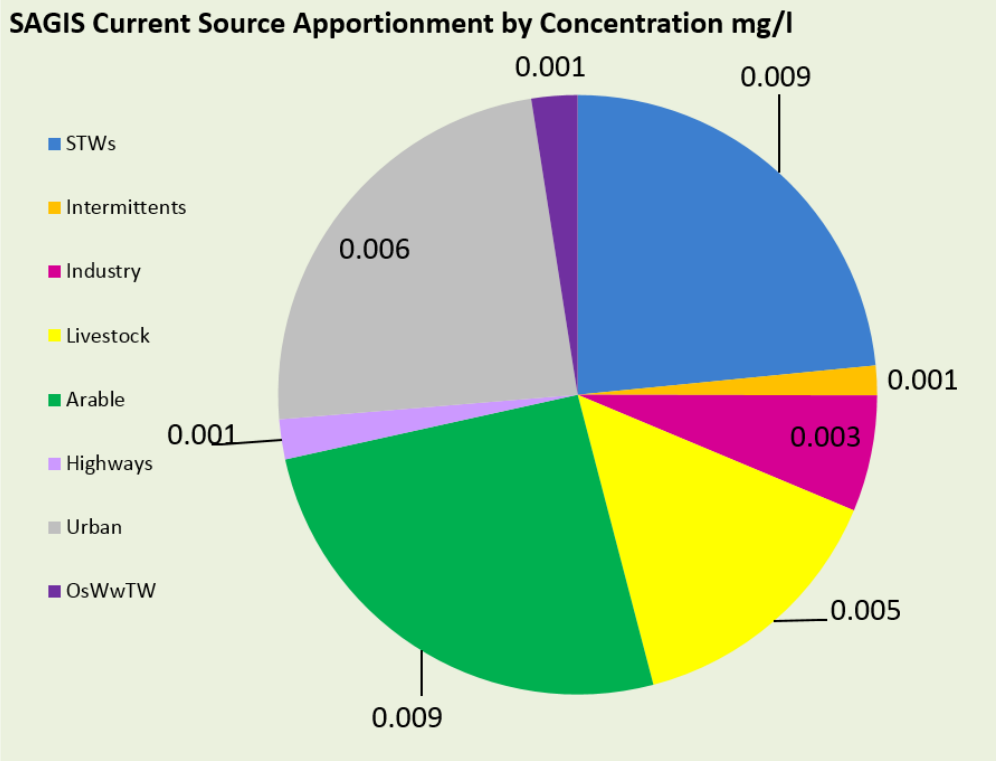
The classification for this waterbody is deemed at moderate status due to the lack of species diversity at the selected classification sites. This is believed to be an anomaly of the WFD classification tool as chalk streams would not naturally be expected to have a large diversity of fish species.	

3d: Additional evidence requirements

Additional evidence needed to understand the impacts to the SSSI(s)
From April 2019 orthophosphate, ammonia (total and unionised) and Dissolved oxygen will be monitored at two new sampling locations: • Maidencourt Farm which is the perennial head of the river. • Downstream of East Shefford WWTW. This data will be used to get a better understanding of the P concentrations along the river and help to inform the SIMCAT model for this river system.

4. Sources of pollution leading to water quality failure

Sources of Phosphate	
Summary of sources of pollutant	**Lambourn** The SAGIS modelling (2014) included in the Pollution Risk Assessment (WCRT 2017) for the Lambourn indicates that the main sources of Phosphate are arable farming, livestock farming and urban run-off, with Sewage Treatment Works being a significant factor below East Shefford. The model indicates that lesser contributions come from small domestic discharges, highways, storm overflows and industry. SAGIS modelling was rerun in 2018 by the Environment Agency, below is the breakdown of sources of P entering the River Lambourn catchment by concentration.

Sources of Phosphate	
	 Report NECR222_edition 1 – "Development of a Risk Assessment Tool to Evaluate the Significance of Septic Tanks Around Freshwater SSSIs" detailed that, for the River Lambourn "The catchment upstream of the River Lambourn SSSI covers an area of about 264km2. Most (89%) of the catchment is low risk in terms of the siting of SSDs, while 6% is moderate risk and 5% is high risk. Approximately 9,584 properties were found to be located within this catchment. Of these, about 6,916 (72%) are likely to be connected to mains sewerage systems. Of the remainder (2,668 – 28%), 355 (13%) were located in high risk areas, 140 (5%) in moderate risk areas and 2,173 (82%) in low risk areas. Most of the high risk areas were very close to the main river channel. The average density of un-sewered properties across the catchment was found to be about 10.1km-2". See risk zone map in Appendix 10.6.
Evidence gaps – highlight gaps in our understanding of the sources	• Psychic data for catchment – which will highlight hotspot areas for P run off • Catchment Walkover – try to identify pathways of point and diffuse sources entering the river • It is uncertain what the contribution of the race horse stables in the Upper catchment is to the P loading in the river. An investigation or audit of stables is required to determine their level of actual or potential impact. • It is uncertain what the long term impact of storming water company assets due to groundwater intrusion is having on P levels in the sediment and on the macrophyte community

Sources of Suspended Sediment	
Summary of sources of pollutant	See source apportionment charts in appendix • Overland runoff from: - high risk crops such as maize - livestock access to river banks or the river itself - farm tracks - Rights of Way - roads - feeder streams and ditches - bank erosion - including by livestock and signal crayfish activity. • Urban runoff
Evidence gaps – highlight gaps in our understanding of the sources	Collation of intelligence required regarding sediment inputs gathered during CSF project visits It is uncertain what the contribution of the race horse stables in the Upper catchment is. An investigation or audit of stables is required to determine their level of actual or potential impact.

Sources of Organic Pollution (DO failures)	
Summary of sources of pollutant	• Treated sewage effluent from STWs and private plants • Consented storm discharges from STWs • Small, unconsented sources e.g. septic tanks • Equine industry unquantified impacts • Surcharging of sewerage system under high groundwater conditions (see below for evidence gaps)

Evidence gaps – highlight gaps in our understanding of the sources	• Condition, maintenance of and contribution of septic tanks and other unconsented discharges is unknown. • Little hard evidence for equine industry impacts. Much of this is within the winterbourne upper reaches of R. Lambourn. As above an investigation or audit of stables is required to determine their level of actual or potential impact. • The impact of storming water company assets due to infiltration

3. Diffuse Pollution actions needed to achieve favourable condition

Adaptive management

The tables below show the actions that are required for the site to achieve favourable condition. Due to the evidence gaps outlined above additional monitoring and data gathering will be undertaken from March 2021 (after the suspension of monitoring due to the 2020 corona virus national lock-down rules). This plan and the actions identified will be subject to adaptive management. The plan has identified a monitoring programme will be required to validate these actions, and there will be a regional, annual review of the Plan to check progress against these actions, with a detailed assessment of the new monitoring data to take place in 2023. The process of this adaptive management will therefore be to implement the current Plan, monitor progress and review. It may be the case that future iterations of this DWPP will need additional staff resource, especially as the new Environmental Land Management Scheme (E.L.M) is set to have a full roll out in 2024 and will offer substantial options to remediate diffuse pollution. It is important to consider that at least 1 FTE will be required to deliver countryside stewardship options, outside of CSF, though there is no confirmation that this will be secured over the next 12 months.

Enforcement

Monitoring is being recommenced from March 2021 (after being suspended due to the corona virus), the adaptive approach being applied across the Lambourn catchment will allow for a detailed review of data to be undertaken in 2023. At this time an audit of compliance of options will be undertaken, and if any enforcement activity is required the current position on enforcement will be revised and the amount of FTE required to review potential enforcement activity will be calculated. This will not negate the annual reviews of the DWPP that have been committed to. It is important to note that the plan does not presume that farmers are not complying, indeed, it is generally understood that compliance is good across the catchment. However, the Plan acknowledges that lack of compliance is a possibility, especially as additional options are undertaken, and enforcement action will be taken/sought on this front as and when required.

Agriculture and Rural Land Management Actions and Measures

Action / Measure	Pollutant(s) the action will tackle	Type of action / measure	How?	Where?	Who?	When?	Progress	Issues / effectiveness / learning points
e.g. specific agri-environment options that need to be sought, specific on ground actions that need to be implemented, specific investigations, data analysis or monitoring that needs to be undertaken. Ensure that actions are quantified (e.g. how much action is needed) so that progress can be measured and contributions can be quantified.	e.g. sediment, phosphate	Choose from: - Evidence investigation or analysis - On ground local delivery - National delivery - Monitoring outcomes/efficacy	What mechanisms or funding is going to be used to make it happen? e.g. CSF, Agri-Environment, WFD funding, EA WFD catchment walkover, Partnership/catchment project etc	Specific source or location or catchment wide, but be as specific as possible - Include water body number. Maps should be included (in annex) to show where each action/measure is needed or already in place where appropriate to aid delivery.	Who is going to lead on taking forward the action and making sure it happens? Who might also need to be involved?	When action needs to start and be completed by.	Provide indication as to what progress has been made on action, is it completed, if underway what aspects have happened.	Highlight any issues with implementation, any good practice or learning points and any evidence on how effective the measure has been.
Influencing farming practice & land management.	Nutrient and sediment. Pesticide.	On ground local delivery	NE CSF to encourage in field buffer strips Extended buffer strips Min or no-till options Woodland for water Hedgerow planting (in appropriate locations)	Whole catchment - using CSF priority holdings to target. Target improved Agri-Environment advice for all expiring holdings to ensure better uptake of high value options.	CSF, NE	ongoing	Underway Indication of AE scheme and CSF grant uptake for the Lambourn Appendix 10.7 is a table of uptake rates A Pollution Risk	The level of uptake of advice by land managers was found to be high in Phase 1 of ECSFDI (CSF Phase 1 Report, March 2008). Modelling predicts that, at a local scale, significant reductions in nutrient and sediment loss can be expected as a result of applying CSF measures.

Action / Measure	Pollutant(s) the action will tackle	Type of action / measure	How?	Where?	Who?	When?	Progress	Issues / effectiveness / learning points
			Agri-Environment land management options Action for River Kennet FWAG, nutrient management/ Resource protection advice etc. Cross compliance regulatory visits Resource protection work under the Campaign for the Farmed Environment (CFE)				assessment of the whole catchment is provided Appendix 10.6 CSF maintains records of farm advice and engagement. NE hold data on agri-env funding.	At a catchment scale, predicted reductions in P, N and sediment loss resulting from CSF measures are generally small (<5% P; 5-10% N; 2-7% sediment), although in some catchments relatively large reductions are predicted (20-40%) (ECSFDI Evaluation Report, May 2008). The scale of impact depends on effective targeting of advice towards high-risk areas, and voluntary uptake by land managers. Inventory of effects associated with various methods available in Defra DWPA User Manual (Newell Price et al 2009). Use of Agri-env options needs to be targeted across catchment. Most arable land close to the river now

Action / Measure	Pollutant(s) the action will tackle	Type of action / measure	How?	Where?	Who?	When?	Progress	Issues / effectiveness / learning points
								includes wide grass buffer strips etc.
Influence management of farm infrastructure such as farm tracks, yards, buildings etc.	Nutrient and sediment, also pesticide.	On ground local delivery	CSF Agri-Environment capital grants Cross compliance regulatory visits Resource protection work under the Campaign for the Farmed Environment (CFE)	Whole catchment - using CSF priority holdings to target	CSF	ongoing	Underway CSF maintains records of farm advice and engagement. NE hold data on agri-env funding.	See previous action.
Targeting of resource protection options to key landholdings in the catchment	Sediment and phosphate	On ground local delivery	Agri-env land management and capital grants funding	Agricultural land that drains to catchment	Natural England (EA to provide data to inform targeting)		Underway. CS delivery	Inventory of effects associated with various methods available in Defra DWPA User Manual (Newell Price et al 2009)
Rural sediment sourcing investigation	Sediment, phosphate, diatoms	Investigation	WFD Wet weather walkover survey ARK 'muddy walkers'	All units - priority is unit 1	CSF & KCRP		Underway and ongoing	Accurate pinpointing of localised hotspots for routing of sediment sources of land to rivers

Action / Measure	Pollutant(s) the action will tackle	Type of action / measure	How?	Where?	Who?	When?	Progress	Issues / effectiveness / learning points
Provide advice and grants for fencing, to reduce impact of livestock in and near rivers	Sediment and phosphate	Advice/ capital grants for fencing	Identify problem locations and target visits/advice	as identified by local surveys/farm visits	CSF, catchment partnership		Various CSF and agri-env advice and funding for fencing.	Advice helped to remove pig units from a high risk location. Advice and grants have helped to protect most of the river & bank from direct damage by livestock.
Agri-env options to deliver track improvements for new and existing tracks	Sediment and nutrient	On ground local delivery	Agri-Env, CSF	**Whole catchment**: road runoff and farm tracks. Unit 1 - upper reaches of Lambourn: rights of way and farm tracks	CSF		Underway	
All stables in and around Lambourn village and in the upper reaches of the catchment	uncertain	Investigation	Contract – WEG?	Lambourn racing stables	NE/EA/CSF	tbc	Some positive engagement about environmental issues with Jockey Club Man Down Farm (2019/20 DS & NWD AONB). Potential to bring racing community	Needs to be progressed in more focussed way to address WQ issues.

Action / Measure	Pollutant(s) the action will tackle	Type of action / measure	How?	Where?	Who?	When?	Progress	Issues / effectiveness / learning points
							together using Jockey Club as 'advocates'. Use Jockey Club as 'test case' ?	
Enhancing and creating riparian habitats, to reduce run-off, and impacts of run off.	Nutrient and sediment	Habitat and in field management, and targeted floodplain/ catchment habitat creation	CSF and Agri-Env funding – including woodland grants, potential for net-gain from local development, or via the creation of habitat which contributes to a Nature Recovery Network. Some localised potential to use floodplain habitat creation to contribute to SUDS. Action for River Kennet	Notably where arable and intensive grassland management occurs in or adjacent to floodplain, and high erosion risk locations in arable. Some localities where wetland filtration systems might reduce impacts of existing and/or proposed news SSD's. Needs investigation to pinpoint locations.	NE, CSF, FC, LPAs,	ongoing	NE is staring to increase engagement with West Berkshire Council in relation to pollution and biodiversity of the R. Lambourn (as of August 2020).	Nature Recovery Network creation is a relatively new concept for LPAs (as of 21/09/2020), uptake and execution will need to be carefully monitored to understand benefits

Water Industry Measures

Action / Measure	Pollutant(s) the action will tackle	Type of action / measure	How?	Where?	Who?	When?	Progress	Issues / effectiveness / learning points
e.g. specific agri-environment options that need to be sought, specific on ground actions that need to be implemented, specific investigations, data analysis or monitoring that needs to be undertaken. Ensure that actions are quantified (e.g. how much action is needed) so that progress can be measured and contributions can be quantified.	e.g. sediment, phosphate	Choose from: - Evidence investigation or analysis - On ground local delivery - National delivery - Monitoring outcomes/efficacy	What mechanisms or funding is going to be used to make it happen? e.g. CSF, Agri-Environment, WFD funding, EA WFD catchment walkover, Partnership/catchment project etc	Specific source or location or catchment wide, but be as specific as possible - Include water body number. Maps should be included (in annex) to show where each action/measure is needed or already in place where appropriate to aid delivery.	Who is going to lead on taking forward the action and making sure it happens? Who might also need to be involved?	When action needs to start and be completed by.	Provide indication as to what progress has been made on action, is it completed, if underway what aspects have happened.	Highlight any issues with implementation, any good practice or learning points and any evidence on how effective the measure has been.
Review contribution from septic tanks and misconnections. If deemed to be significant, target clusters where cost effective improvements can be implemented.	Sewage	Investigation/ Analysis Monitoring On ground local delivery	NE project 2014 EA/NE (& engage Thames Water)	All units – probably more relevant to the rural reaches, where mapping of unsewered properties might identify clusters for ground truthing. A lot depends on the type of/ condition of existing systems.	EA/NE- require funding for a bespoke project		NE review of septic tank risks complete (2014). Further action required to ground truth. NE failed to get funding to expand this project in 2019. Ground truthing	Address hotspots where impacts of clusters are likely to lead to local deterioration

Action / Measure	Pollutant(s) the action will tackle	Type of action / measure	How?	Where?	Who?	When?	Progress	Issues / effectiveness / learning points
							of initial findings still required, a bid will be resubmitted for this work in 2021. Potential use of Net Gain funding to be explored with WBC.	
Adhere to local plan policy	Nutrient	EA and NE as consultee Land-use Planning consultee	Making representations on Local Plan policy and development consultations		NE, EA, LPA	Ongoing	Local Plan already has policies referring to development and treatment of sewage effluent to protect the River SSSIs. As of September 2020, the LPA has informed of potential improvements to planning	Local plan stipulates a preference for all new development to connect to the main sewer over package works.

Action / Measure	Pollutant(s) the action will tackle	Type of action / measure	How?	Where?	Who?	When?	Progress	Issues / effectiveness / learning points
							validation checklist, prohibiting development proposals from progressing if appropriate due diligence hasn't been given to water pollution from SSDs.	
Ground water infiltration plan	Nutrients	Agree and implement plan	EA Engagement	Lambourn village,	Water Company - Thames Water	2014-16 2020 - 2021	Started 2014. TW completed some improvement works, but wet winter 2019/20 demonstrated that this is still a significant risk/issue to WQ. Requiring an update in 2020 due to infiltration in 2019/2020 in the Upper	Prevent further discharge of untreated sewage during flood/ high ground water events <u>East Shefford STW drainage strategy –to be reviewed</u>

Action / Measure	Pollutant(s) the action will tackle	Type of action / measure	How?	Where?	Who?	When?	Progress	Issues / effectiveness / learning points
							Lambourn causing prolonged storming of water company assets	

Urban and Transport Measures/Actions

Action / Measure	Pollutant(s) the action will tackle	Type of action / measure	How?	Where?	Who?	When?	Progress	Issues / effectiveness / learning points
e.g. specific agri-environment options that need to be sought, specific on ground actions that need to be implemented, specific investigations, data analysis or monitoring that needs to be undertaken. Ensure that actions are quantified (e.g. how much action is needed) so that progress can be measured and	e.g. sediment, phosphate	Choose from: - Evidence investigation or analysis - On ground local delivery - National delivery - Monitoring outcomes/efficacy	What mechanisms or funding is going to be used to make it happen? e.g. CSF, Agri-Environment, WFD funding, EA WFD catchment walkover, Partnership/catchment project etc	Specific source or location or catchment wide, but be as specific as possible - Include water body number. Maps should be included (in annex) to show where each action/measure is needed or already in place where appropriate to aid delivery.	Who is going to lead on taking forward the action and making sure it happens? Who might also need to be involved?	When action needs to start and be completed by.	Provide indication as to what progress has been made on action, is it completed, if underway what aspects have happened.	Highlight any issues with implementation, any good practice or learning points and any evidence on how effective the measure has been.

Action / Measure	Pollutant(s) the action will tackle	Type of action / measure	How?	Where?	Who?	When?	Progress	Issues / effectiveness / learning points
contributions can be quantified.								
Public highways. Work with contractors and Highways Authorities to follow guidance and best practice	Road run off – often contributing large volumes of sediment and pollutants during wet weather.	Preventing highways acting as major pathways with direct connection to river.	Use of wetland (creation) to act as filtration for improved WQ and provide useful floodplain habitat where space allows.	As identified by local surveys. Some localities where wetland filtration systems might reduce impacts of highway run off. Needs investigation to pinpoint locations. M4 run off at Easton is one Location. WBC highway flooding/road run off at Donington.	National and local Highways authorities. M4 solution is being negotiated with Highways England (Alison Love 2020)			
Engagement with Local Authority highways (strategic level and maintenance / operations.) Install SUDS or alternative attenuation/filtration systems.	Road and urban run-off Sediment Nutrient	On ground local delivery	EA	Whole catchment	CSF/EA/NE		Underway	A review of SUDS in Scotland found that they reduced and attenuated pollutants in runoff. (SNIFFER report SR (02)51, March 2004). Good examples on the Kennet and Lambourn exist as part of the A34 Newbury Bypass scheme. There may be practical problems in some

Action / Measure	Pollutant(s) the action will tackle	Type of action / measure	How?	Where?	Who?	When?	Progress	Issues / effectiveness / learning points
								locations, where space to attenuate runoff is limited. M4 found to be a source from investigation work carried out (see action above)

River Restoration Actions/Measures

Action / Measure	Pollutant(s) the action will tackle	Type of action / measure	How?	Where?	Who?	When?	Progress	Issues / effectiveness / learning points
e.g. specific agri-environment options that need to be sought, specific on ground actions that need to be implemented, specific investigations, data analysis or monitoring that needs to be undertaken. Ensure that actions are quantified (e.g. how much action is needed) so that progress can be measured and	e.g. sediment, phosphate	Choose from: - Evidence investigation or analysis - On ground local delivery - National delivery - Monitoring outcomes/efficacy	What mechanisms or funding is going to be used to make it happen? e.g. CSF, Agri-Environment, WFD funding, EA WFD catchment walkover, Partnership/catchment project etc	Specific source or location or catchment wide, but be as specific as possible - Include water body number. Maps should be included (in annex) to show where each action/measure is needed or already in place where	Who is going to lead on taking forward the action and making sure it happens? Who might also need to be involved?	When action needs to start and be completed by.	Provide indication as to what progress has been made on action, is it completed, if underway what aspects have happened.	Highlight any issues with implementation, any good practice or learning points and any evidence on how effective the measure has been.

Action / Measure	Pollutant(s) the action will tackle	Type of action / measure	How?	Where?	Who?	When?	Progress	Issues / effectiveness / learning points
contributions can be quantified.				appropriate to aid delivery.				
Restoration of channel morphology to improve river flows, providing improved resilience to sediment.	Sediment	On ground local delivery	Whole River Habitat Restoration Strategy	All units where channels are degraded and impounded	EA/NE/Catchment Partnership		Underway. Following significant progress with most of the priority structures and projects, the River restoration plan is being updated to identify any remaining priorities and reflect work already completed.This will be a small list with most of the work having been carried out.	Degraded and impounded channels significantly compound the problems of enrichment through the deposition and retention of nutrients bound to silts, and through an increased availability of nutrients for biological processes in slack flows. Habitat restoration can significantly alter these dynamics leading to a positive biological response. There has been substantive progress in implementing the restoration strategy for the Lambourn with c.30% of the river having been restored or enhanced to improve the quality of flow-dependent habitat, increasing the resilience to enrichment.

Action / Measure	Pollutant(s) the action will tackle	Type of action / measure	How?	Where?	Who?	When?	Progress	Issues / effectiveness / learning points
Promotion of sloping bank profile where appropriate and good marginal plant growth to reduce impact of crayfish burrowing.	Sediment	On ground local delivery	River restoration project	Locations where signal crayfish burrowing is causing significant bank erosion.	EA/NE		Underway	The crayfish is not proven as a major contributor to suspended solids problems

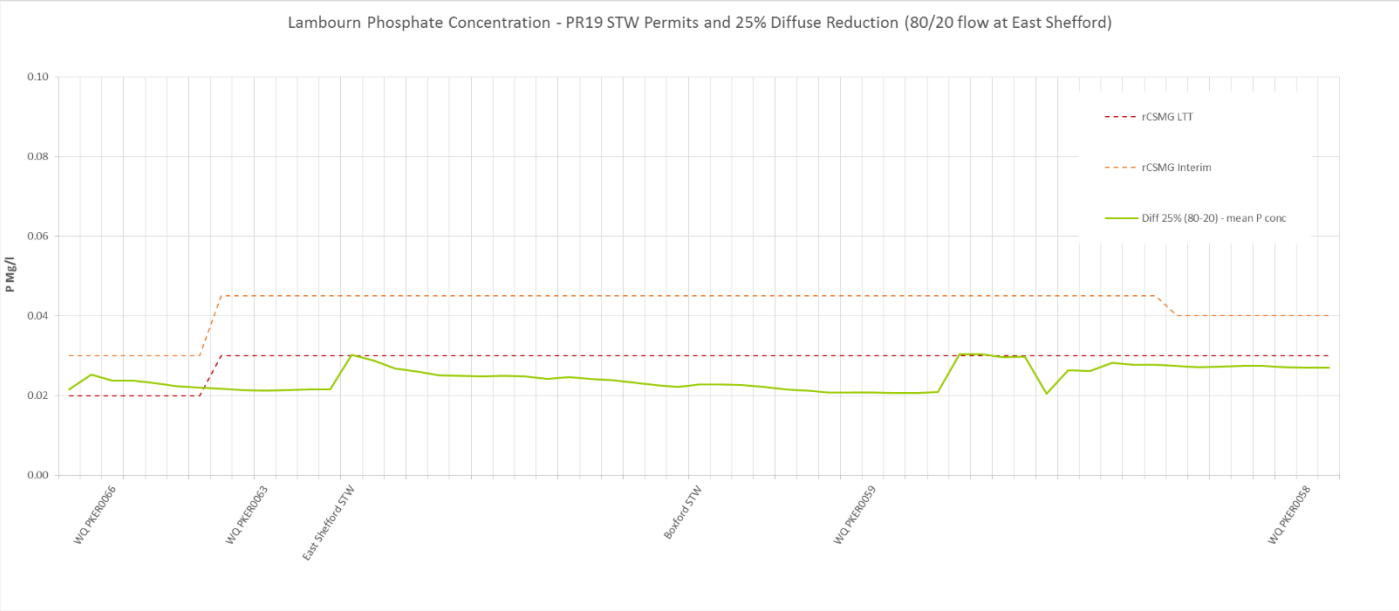
Review of Water Quality Data

Action / Measure	Pollutant(s) the action will tackle	Type of action / measure	How?	Where?	Who?	When?	Progress	Issues / effectiveness / learning points
Review of water quality data from new monitoring points	Phosphate (bound to sediment/in solution?)				EA/NE	2023	Monitoring will recommence in March 2023, and there is a commitment for an annual review of the plan prior to this.	To better understand phosphate and dissolved oxygen levels at the top (perennial section) of the waterbody, and to update the current actions selected in the DWPP, if this is seen as necessary after the review

6. Evidence on how far actions will get us to achieving favourable condition

How far will actions get us to achieving favourable condition?	Evidence used to support this	Further evidence required
River Lambourn - The 2017 Pollution Risk assessment suggests that current agri-environment uptake is achieving c 8-9% reductions in phosphorus, and about 10% reductions in sediment loss from agriculture to the river. The report modelled a 'high uptake' scenario (of all relevant FARMSCOPER measures) based on an 80% uptake. The modelling indicates that such catchment management could achieve phosphorus reductions in the order of 25-27%. However this would only marginally bring soluble reactive phosphorus within the long term SSSI target in the downstream reaches below the Winterbourne. The modelling indicates that such catchment management could achieve sediment reductions in the order of 27-30%, which is a significant improvement on current delivery. It is noted that the modelled scenario assumes a very high uptake (80%) of measures, and some of the highest impact measures are not considered likely to be adopted at the modelled scale. Additionally, some of the recommended high impact land use changes (undersown spring cereal, early harvesting) are not available as funded Countryside Stewardship options. This strongly suggests that reductions need to be achieved across other sectors to meet the SSSI CSM target for P. Development of water company schemes for PR19 are well advanced and have been submitted to OFWAT for approval in March 2020. The intention is that further improvements in P-stripping will be established on the three sewage treatment works on the Lambourn. Farmscoper was rerun in 2018 with the indicative PR19 permit limits for P and to address diffuse sources. Fair share reduction (40%) across all sectors identified as contributing to the P load led to long term P targets being met along the majority of the river (96%). Using a 25% reduction from diffuse sources assuming 100% uptake from Farmscoper (63 mitigation measures and review of baseline conditions) resulted in 90% of the ephemeral river reaching the long term target. The aim of our plan is to concentrate of the top ten measures as a start on the catchment and to review and monitor the impact of these changes alongside PR19 improvements.	Natural England Pollution Risk Assessment – River Lambourn Catchment-May 2017 **SAGIS**	Run FARMSCOPER with more recent data, and model with scenarios of measures that are more likely to be adopted by typical farms in this catchment.

Top ten measures • Establish in-field buffer strips • Cultivate compacted tillage soils • Establish cover crops in autumn • Under sown spring cereals • Management of arable field corners • Establish riparian buffer strips • Loosen compacted soil layers in grassland fields • Reduce the length of the grazing day/grazing season • Cultivate land for crops in spring rather than autumn • Leave over winter stubbles Unit 1 will require specific targeting due to the gap between current P levels and long term CSM targets. The SIMCAT model can't predict the levels accurately in unit 1 due to the intermittent nature of the waterbody and more data will be gathered to inform actual concentrations at this location. The area directly downstream of East Shefford STW and the Winterbourne may also need to be targeted due to modelled non-compliance of long term targets at these points. In the future the three STW's in the catchment may provide a greater than 'fair-share' reduction in P inputs by performing at better than P permits leading to better water quality. Monitoring data will be used to determine if extra work is required at these locations. See Table 7.		



SIMCAT output of P concentrations along the River Lambourn with PR19 reductions of P from STW's and 25% reduction in diffuse pollution (across all sectors).

7. Actions required on non-diffuse sources

Issue / Remedy	Likely measures and mechanisms
Improve P discharge standards at STW	Work with water companies to agree and implement or investigate further improvements to discharge standards for P at the relevant STWs, including the application where necessary of new technically achievable limit standards to ensure 'fair-share' reductions in P inputs– EA/NE. • WINEP 2018 documents the improvements programmed at Chieveley, Boxford and East Shefford sewage treatment works to be completed by 2025.
New small domestic discharges (SDDs)	Reach agreement between LPA, EA and NE on policy on when it is acceptable to allow new small domestic discharges for existing and new development in the high risk zones. Agree best practise 'conditions' for SSD discharges (eg. Discharge to ground at X m from river and Y m above saturated zone). Seek creation of wetland filtration systems where appropriate. Avoid all direct discharges to the river.
River Restoration Plan	Continue to implement EA/NE action plan. Review and update the plan to identify current priorities.
Invasive non-natives	Identify species that are a threat particularly to sediment (crayfish, Himalayan balsam) and take appropriate measures to control/eradicate where these are agreed and available.

8. Sign Off

Natural England and the Environment Agency commit to work together to gather evidence and implement necessary remedy measures as guided by this plan, in order to maintain an improving trend in nutrients and sediment in the River Lambourn catchment, so that SSSI condition targets are achieved in the future.

Version 1.0 Nov 2010

Organisation	Signed	Date
Natural England	Wanda Fojt	25 Nov 2010
Environment Agency	Matt Carter	25 Nov 2010

Version 3.3 October 2020

Organisation	Signed	Date
Natural England	Andrew Smith	22 December 2020
Environment Agency	Richard Thompson	22 December 2020

9. Reference list

Include list of the all references that have referenced/used in sections above.

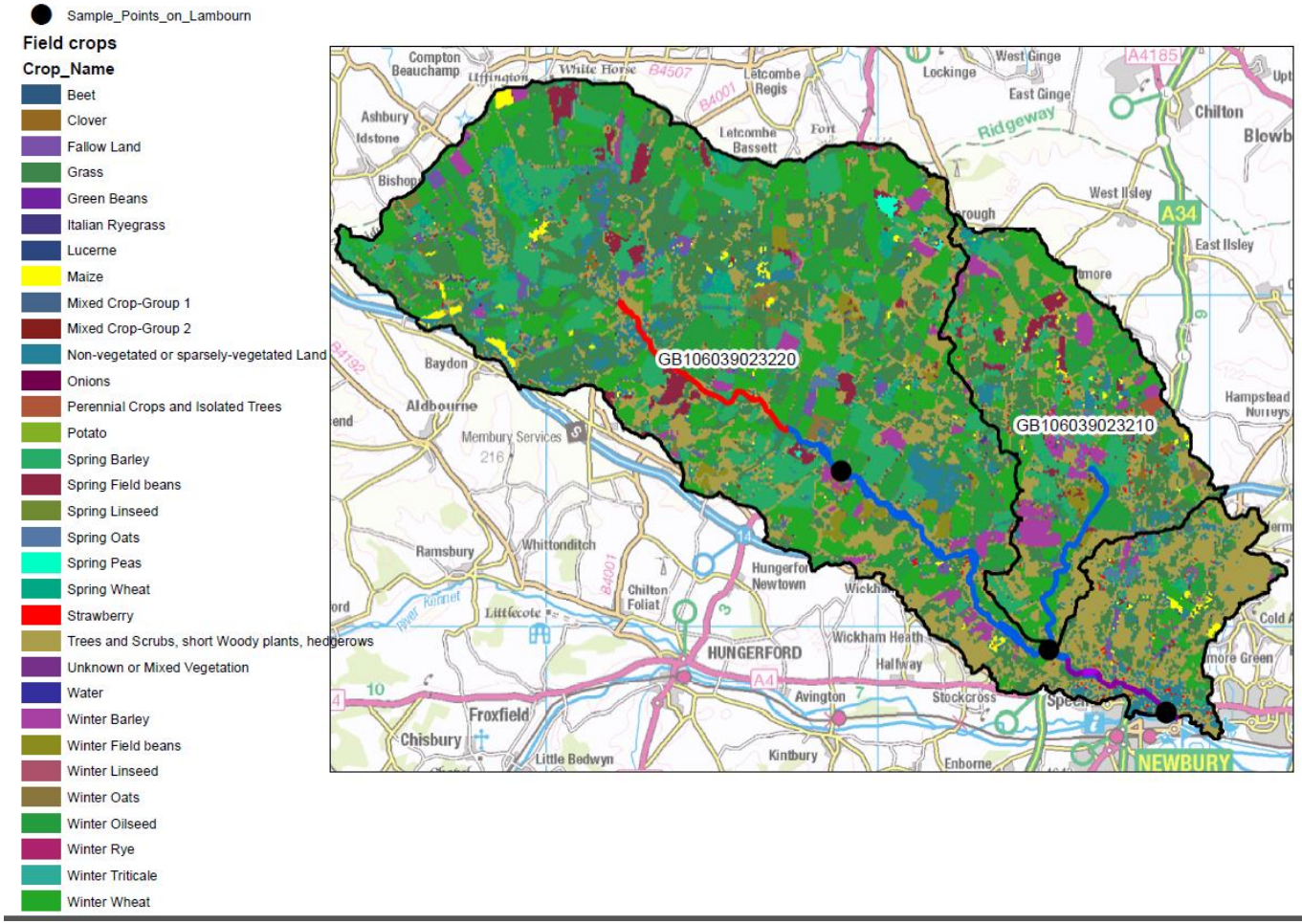
Development of a Risk Assessment Tool to Evaluate the Significance of Septic Tanks Around Freshwater SSSIs - Phase 2 – Risk screening of 20 potentially vulnerable SSSIs – 2 Sept 2016 (NECR222)

Natural England Pollution Risk Assessment RIVER LAMBOURN CATCHMENT – May 2017 (ref ESP 259 NE)

Common Standards Monitoring Guidance for Rivers, Version September 2016, Joint Nature Conservation Committee, ISSN 1743-8160(online)

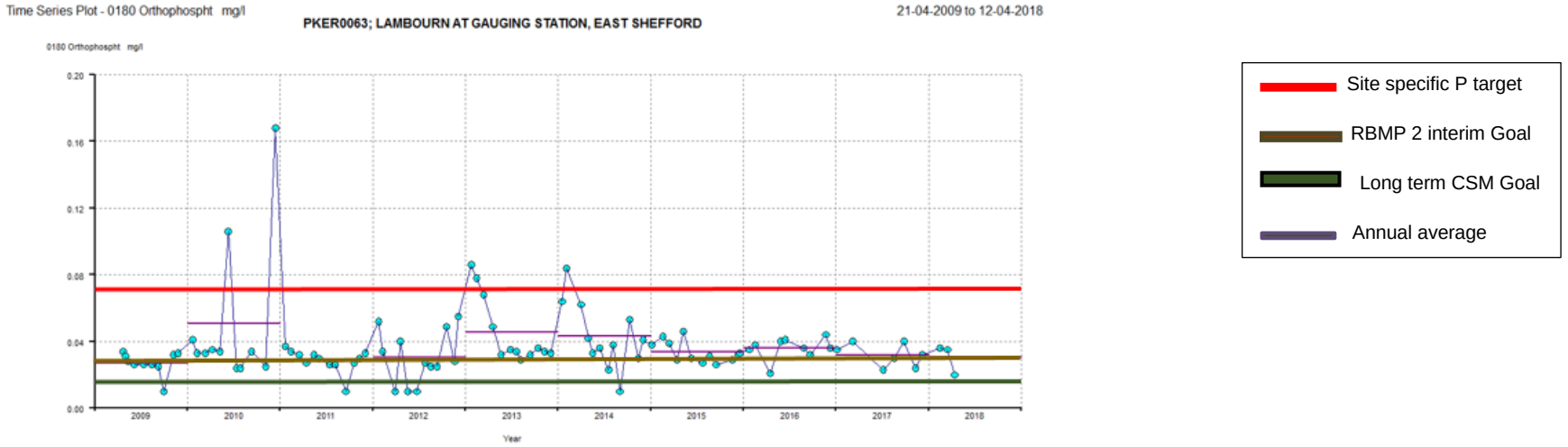
10. Appendix

10.1 Field crop breakdown for the Lambourn catchment

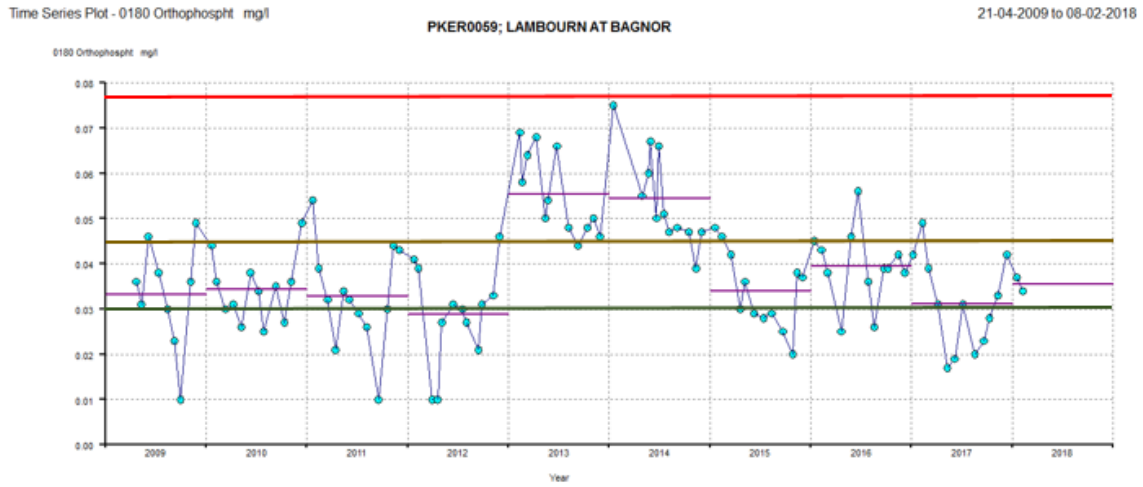


10.2

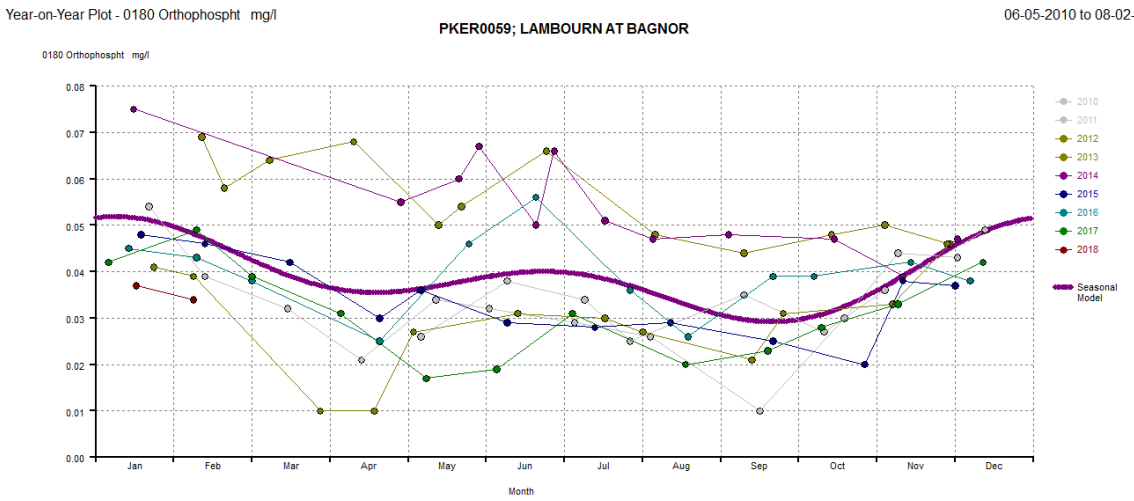
Orthophosphate concentrations on the Lambourn



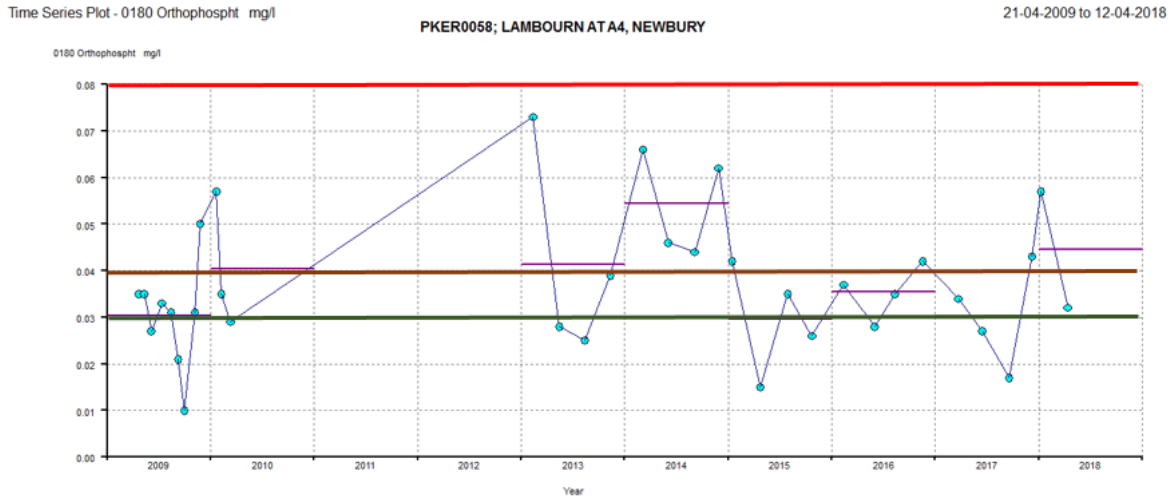
Orthophosphate concentrations on the Lambourn at Gauging Station, East Shefford



Orthophosphate concentrations on the Lambourn at Bagnor



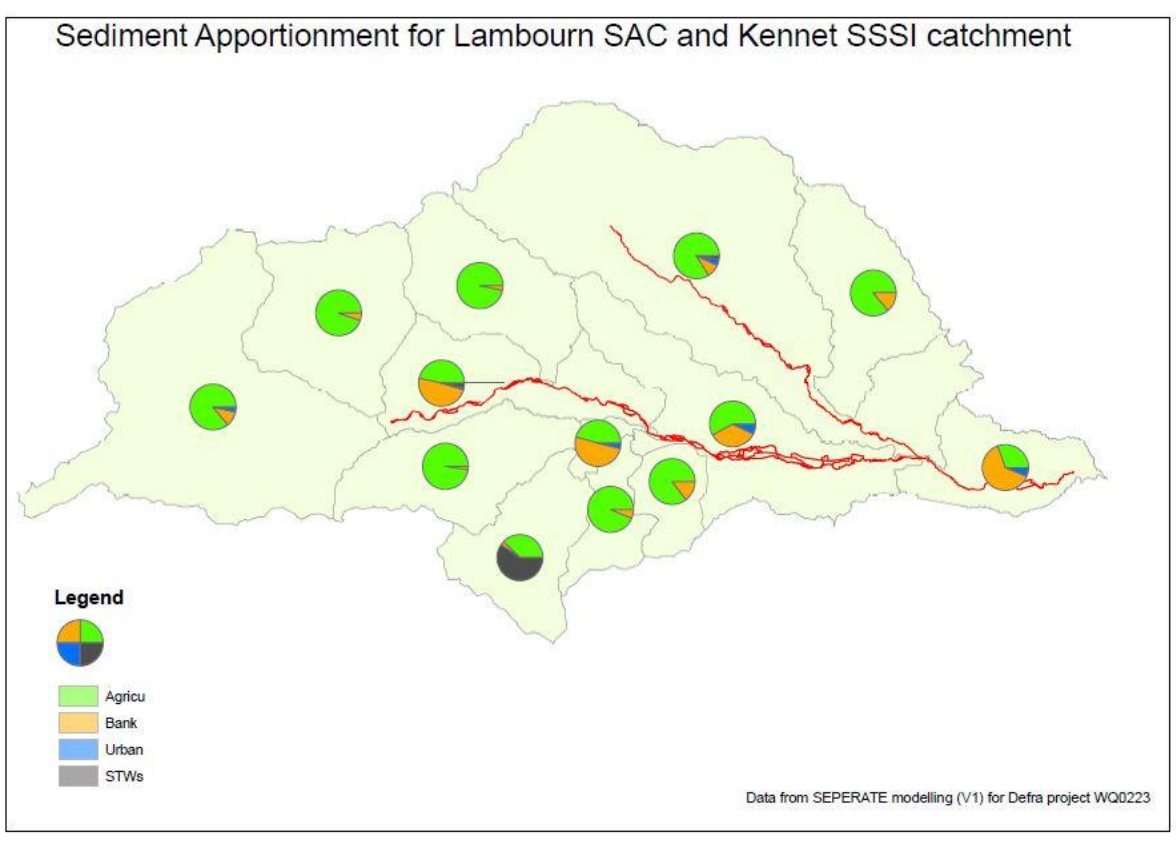
Season trend of orthophosphate concentrations on the Lambourn at Bagnor



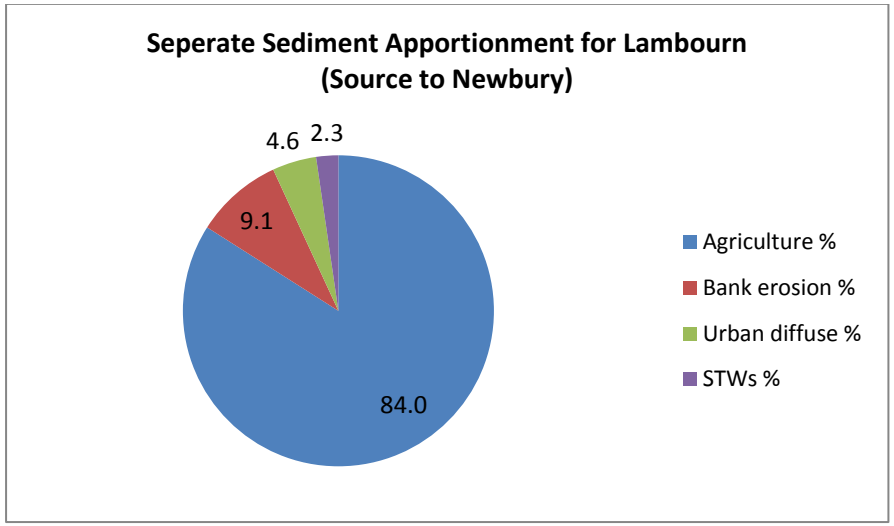
Orthophosphate concentrations on the Lambourn at A4 Newbury

10.3 Sediment apportionment modelling

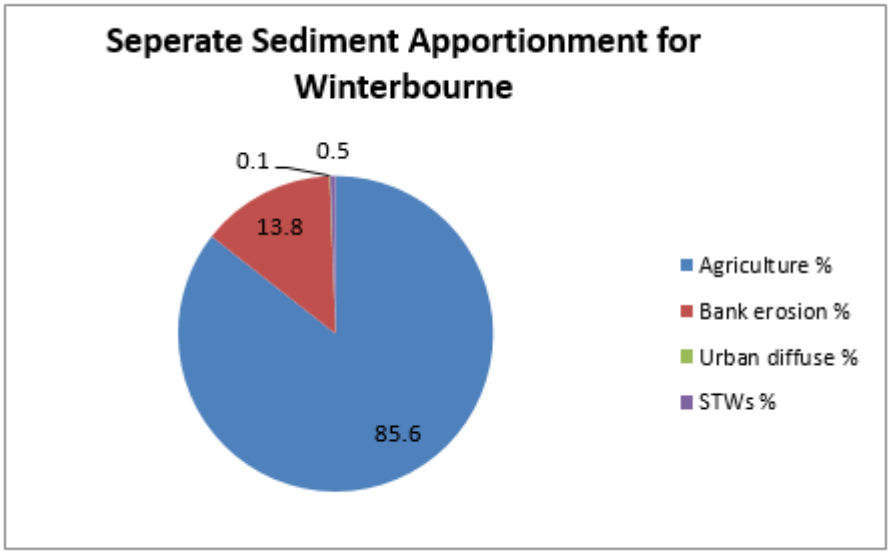
Sediment Apportionment for Lambourn SAC and Kennet SSSI catchment



Separate sediment source apportionment data Feb 2015



Separate sediment source apportionment data Feb 2015

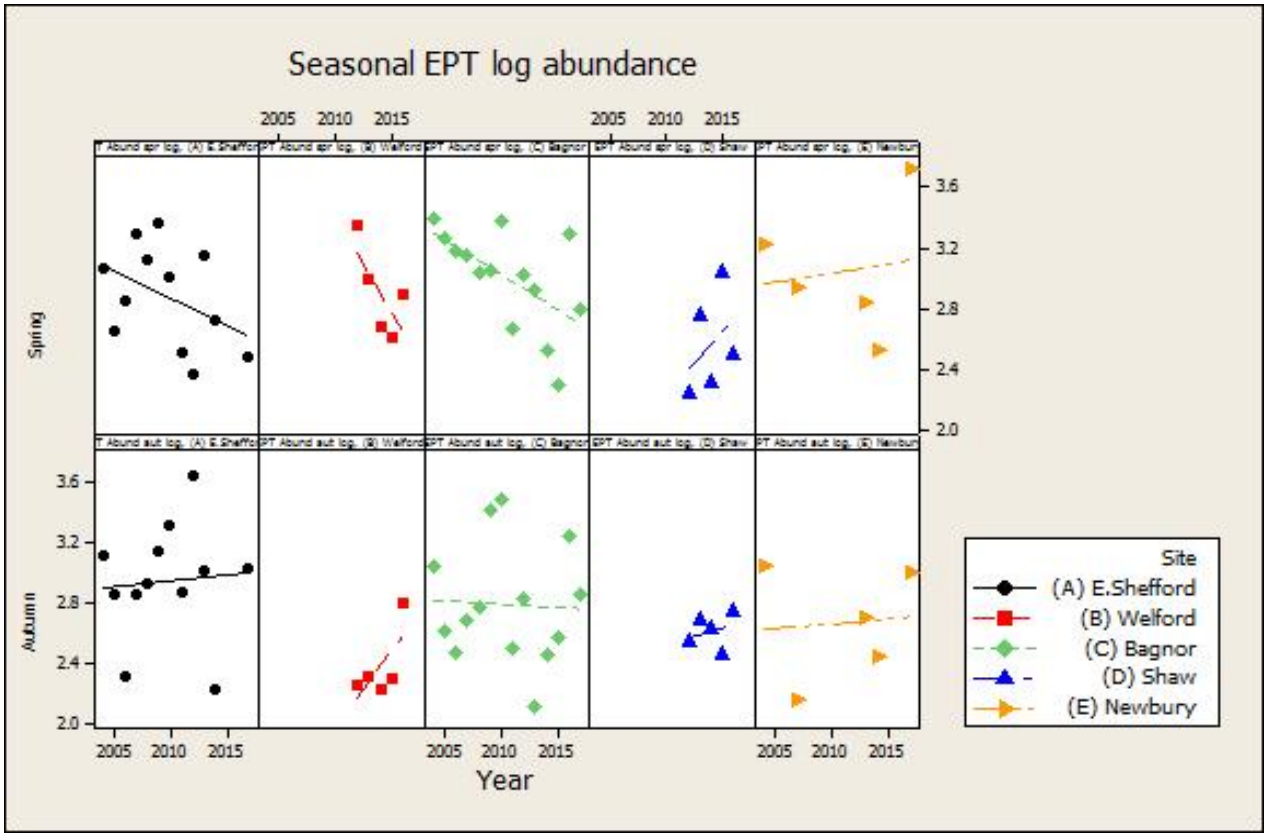


10.4 Fly life monitoring sites on the River Lambourn

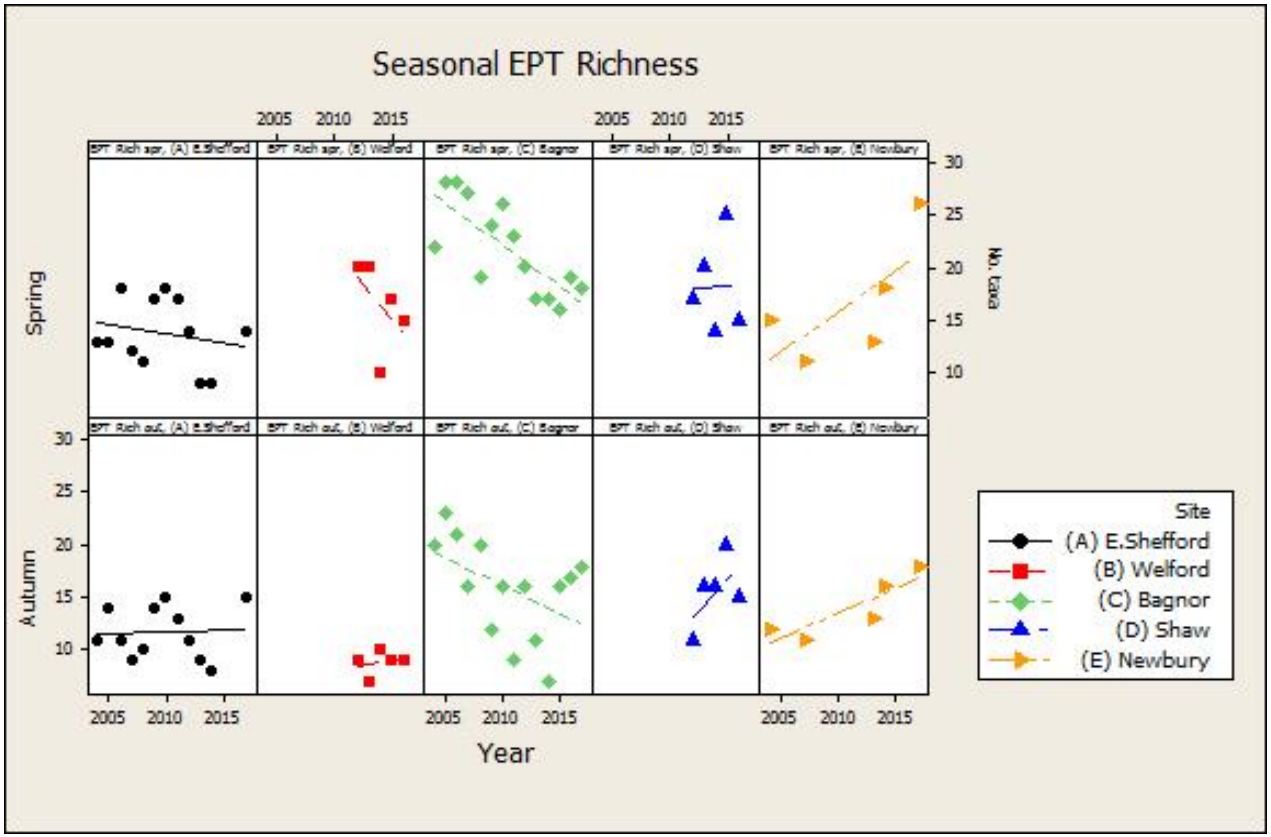
Site name	Data range	n	Freq.	Org.	ID level
Great Shefford	2011-2018	43	Monthly	EA	Mixed taxon
East Shefford	2000-2017	35	Spr/Aut	ARK	Groups
Welford	2012-2016	9	Spr/Aut	EA	Mixed taxon

Boxford Church	2017-2018	6	Monthly	ARK	Groups
Bagnor	2000-2017	52	Spr/Sum/Aut	EA	Mixed taxon
Donnington Grove	2015-2018	25	Monthly	ARK	Groups
Almond Ave	2011-2018	39	Monthly	ARK	Groups
Shaw (Priory)	2012-2016	9	Spr/Aut	EA	Mixed taxon
Shaw House	2011-2017	34	Monthly	ARK	Groups
The Swan Newbury	2016-2018	5	Monthly	ARK	Groups
A4 Newbury	2000-2017	13	Spr/Aut	EA	Mixed taxon

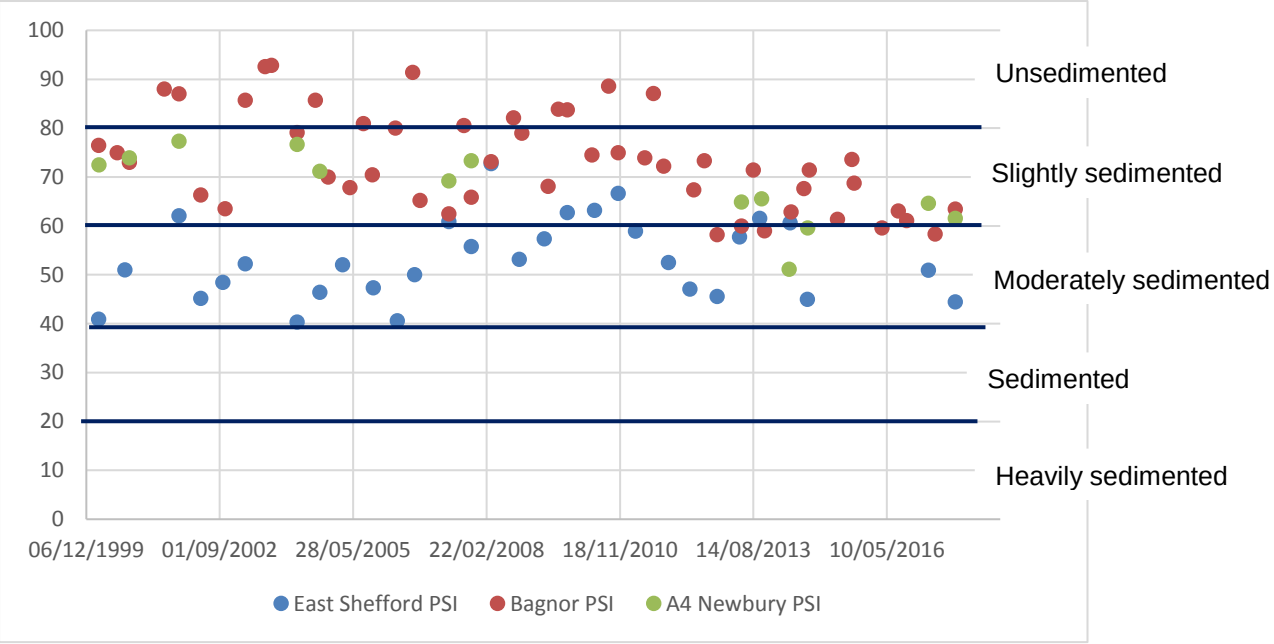
Seasonal EPT log abundance at five sites along the River Lambourn



Seasonal EPT Richness at five sites along the River Lambourn

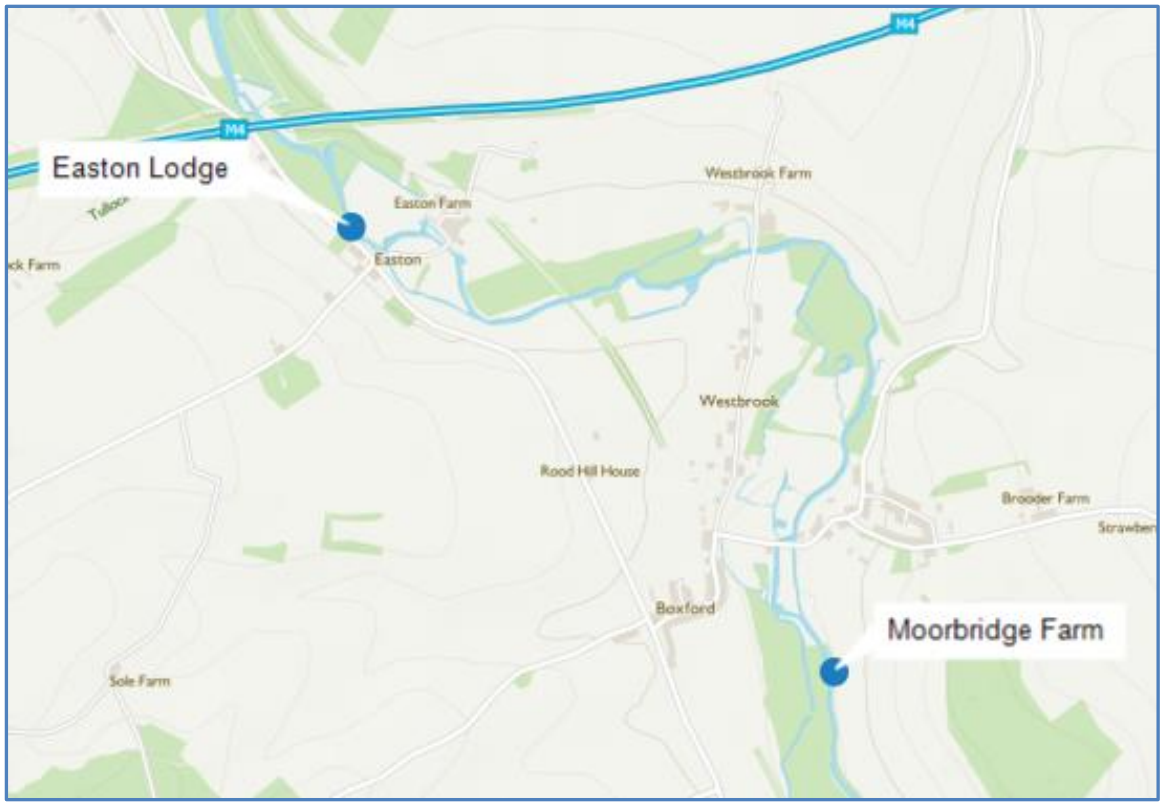


PSI scores for macroinvertebrate sampling points on the River Lambourn

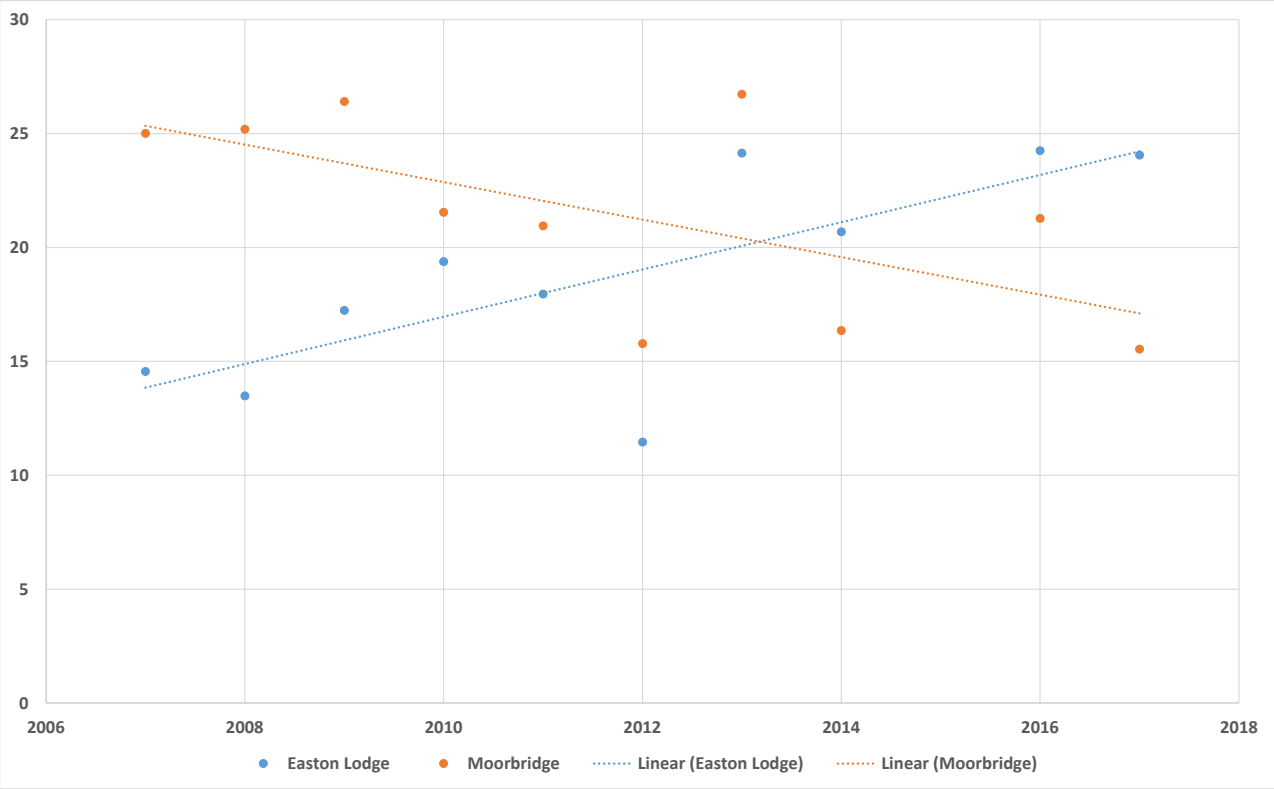


10.5 River Lambourn Fishery survey results

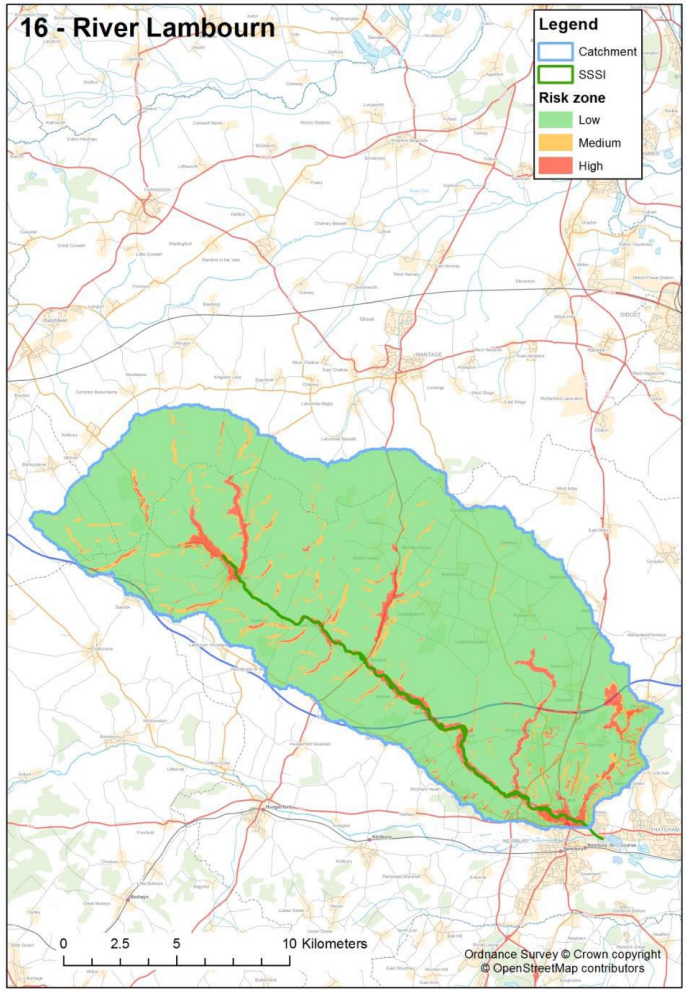
Fishery survey location sites



Number of fish per 100m2 at two survey sites on the River Lambourn 2007-2017



10.6 River Lambourn catchment showing high, moderate and low risk zones for locating domestic discharges (From NECR222)



10.7 Agri-environment Scheme uptake

Due to the nature of the schemes, farms start or finish agri-environment agreements each year, so the status of agri-environment agreements in the catchment an ever changing picture. The maps and data below show a snapshot of the agreements as at mid 2018. Agreements with a start date of 2019/20 are not included in the table below but have been added to the table of Agreements.

Management Option	CS Mid Tier (Start dates 2016-2018)	ES Options	Total Area
Land out of production (ha) (all options which revert arable land to grass or wildlife options Such as GS8, HK8, EE3, SW1, EF1, AB1, AB9, SW3 etc	306.82	231	537.82
Spring cropping (OWS) (ha) AB14, OP5, OG1	263.3 (98)	227 (142)	490.3
Cover crops (ha)	165.5		165.5
Min till ED3, HD3 (ha)	117.6	393	510.6
Low in put grassland (ha) EK2,3 HK6,7 GS1, GS2, GS6, GS13, OT1/2, SW8	317	542	859
Woodland (ha)	411	32.29	443.29

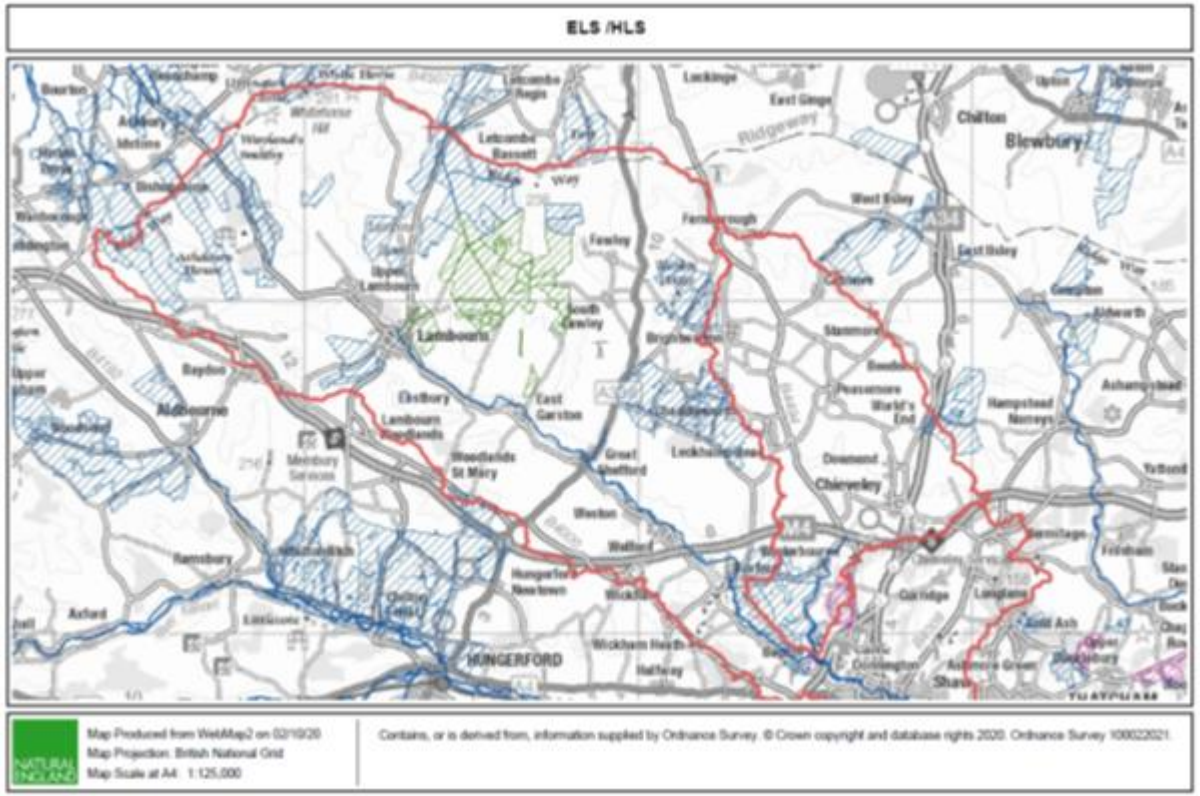
WD1, WD2, WD4, WD5, WD7 HC7, HC15			
Total land in favourable options (ha)			3006.51
Total area of Lambourn catchment			23400ha
Hedges m	40800	20670	61470

Local knowledge suggests that numerous ELS agreements in the catchment have expired in the last few years, however there are several HLS/ELS yet to expire or have been ‘rolled over’ . There has been a steady if not increasing interest in Countyside Stewardship in recent years.

Location of Environmental Stewardship ELS and HLS agreements.

Key to maps below

Light blue hatching – ELS
Light green hatching – organic OELS
Dark blue hatching –ELS / HLS
Dark green hatching – organic OELS / HLS
Pink hatching – HLS


ELS /HLS
Blewbury
Lambourn
Aldbourne
HUNGERFORD
Chieveley
Map Produced from WebMap2 on 02/10/20
Map Projection: British National Grid
Map Scale at A4: 1:125,000
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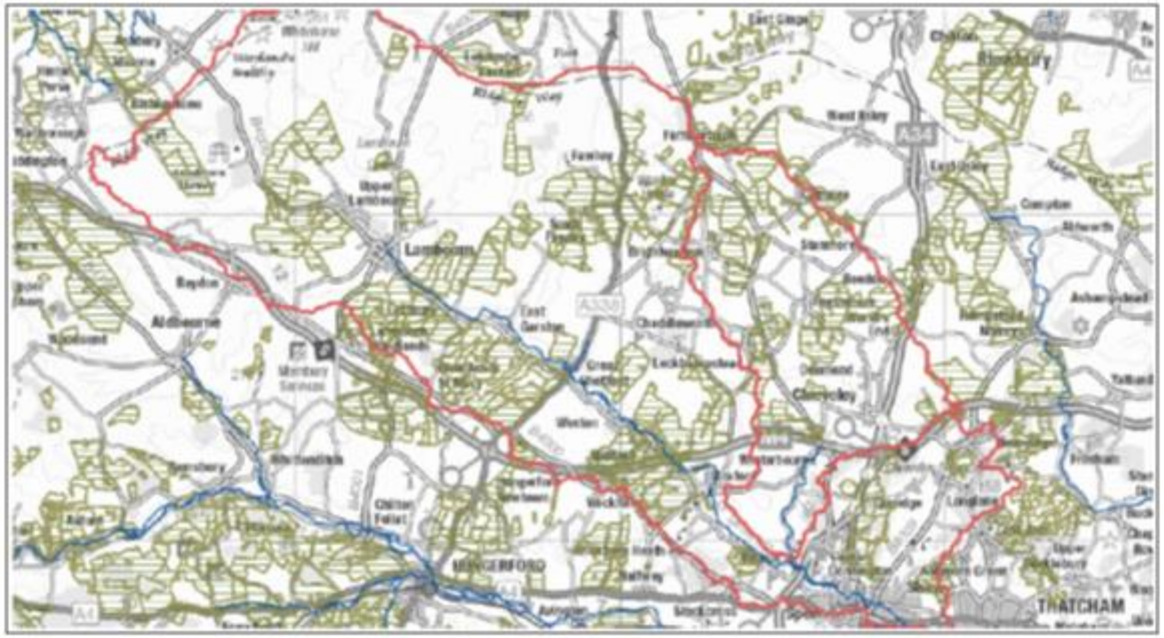
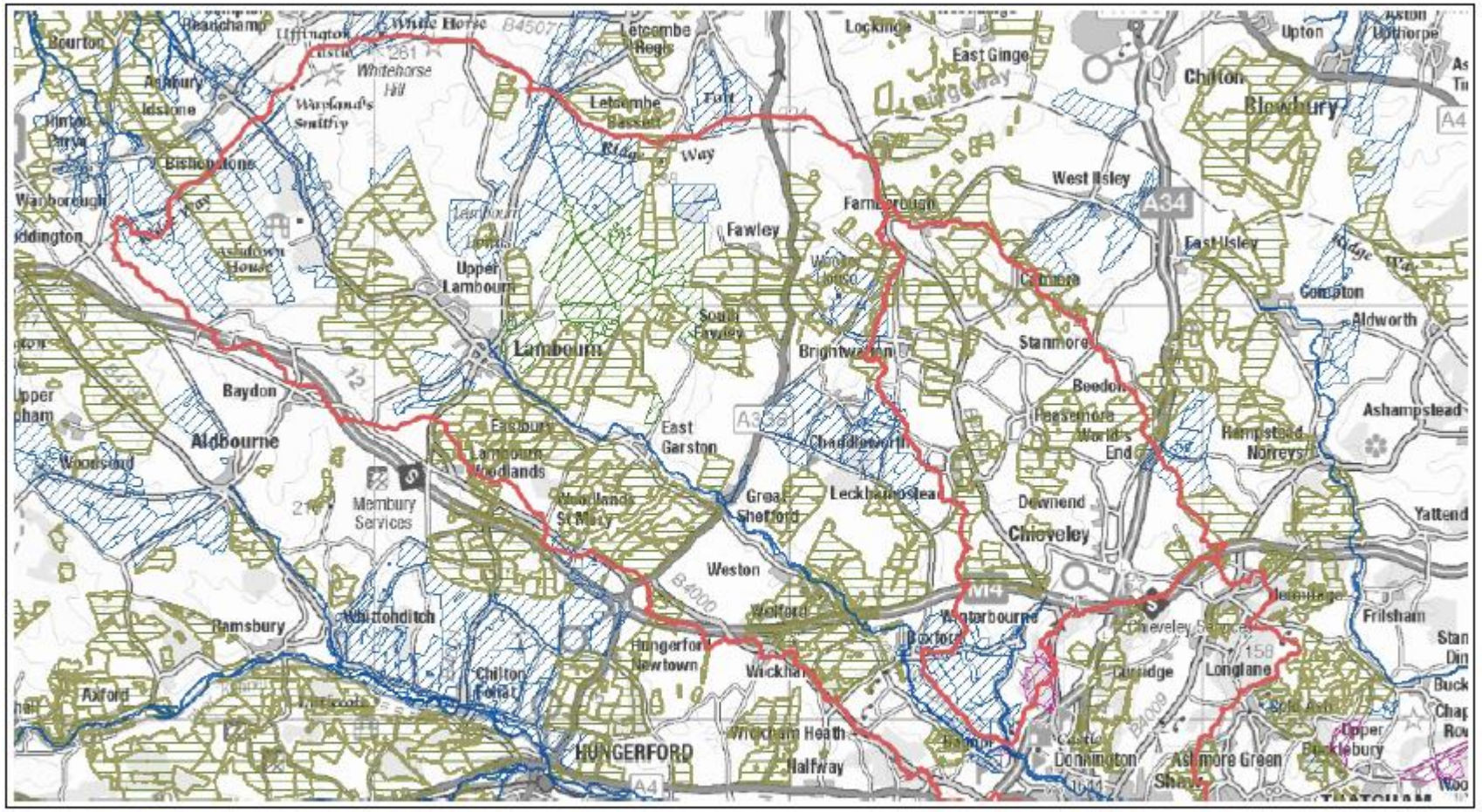
CS Mid Tier up to 2018



Map Produced from WebMap2 on 02/10/20
Map Projection: British National Grid
Map Scale at A4: 1:125,000

Combined Schemes



Map Produced from WebMap2 on 02/10/20
Map Projection: British National Grid
Map Scale at A4: 1:125,000