2014/15 Capital Grants: Natura 2000 (N2K) Targeting Plan

River Basin District Plans outlining the proposed targeting approach to Catchment Sensitive Farming (CSF) Capital Grants in 2014/15.

River Basin District	South West River Basin District	Plan prepared	22 November 2013

Natura 2000 Catchments covered by this plan

CSF Priority Catchment	SSSI Site Name	N2K Site Name	Target Area
South West			
1. River Piddle, River Frome and 2. Fleet Lagoon	Poole Harbour	Poole Harbour Special Protection Area (SPA)	NE CSF priority catchment - in target area
	Fleet Lagoon	Poole Harbour SPA	NE CSF priority catchment - in target area
3. River Axe and Otter	River Axe	River Axe Special Area of Conservation (SAC)	NE CSF priority catchment - in target area
4. Hampshire Avon	River Avon System	River Avon SAC	NE CSF priority catchment - in target area
	River Till	River Avon SAC	NE CSF priority catchment - outside target area
	Avon Valley (Bickton To Christchurch)	Avon Valley SPA, River Avon SAC	NE CSF priority catchment - outside target area
5. River Camel Valley and Tributaries	River Camel Valley And Tributaries	River Camel SAC	NE CSF priority catchment - in target area
6. West Cornwall Catchments	Marazion Marsh	Marazion Marsh	NE CSF priority catchment - in target area
7. Somerset Levels and Moors	West Sedgemoor	Somerset Levels and Moors SPA	NE CSF priority catchment - in target area
	Westhay Moor		NE CSF priority catchment - in target area
	Wet Moor		NE CSF priority catchment - in target area
	Moorlinch		NE CSF priority catchment - outside target area
	Tealham And Tadham Moors		NE CSF priority catchment - in target area

	Southlake Moor		NE CSF priority catchment - outside target area	
	King's Sedgemoor		NE CSF priority catchment - outside target area	
	Catcott Edington And Chilton Moors		NE CSF priority catchment - in target area	
	Curry And Hay Moors			

Catchment 1: Dorset Frome & Piddle, Sherford River, Corfe River, tributaries of Poole Harbour (streams)

Catchment where grants will be offered	Predominantly the Dorset Frome and Piddle but in addition there are some other smaller tributaries draining into Poole Harbour (Sherford, Corfe)
Rationale for offering grant	Poole Harbour is a designated 'water body' and 'protected area' under Water Framework Directive (WFD) as well as a Special Protection Area (SPA) and a Ramsar site. The chalk groundwater in the catchment provides most of the river flow to the harbour and is critically important for public water supply. Over the last 50 years the nitrogen load entering the harbour has more than doubled from less than 1000 tonnes/year to over 2000 tonnes per year. The nitrogen load is expected to continue to rise over the next 15-20 years due to the long timescale taken by nitrate enriched water infiltrating through the chalk geology. About 85% of the nitrogen load is derived from agricultural sources and 15% from development sources, mainly sewage works. The nitrogen load on Poole Harbour causes the growth of macro algal mats which are damaging the ecology of the harbour. As a consequence of the nitrogen enrichment the harbour is designated as a Sensitive Area (Eutrophic) under the European Urban Waste Water Treatment Directive and a Polluted Water (Eutrophic) under the Nitrates Directive, and the catchment is a designated Nitrate Vulnerable Zone (NVZ) To protect public water supplies, the environment, the commercial fisheries of Poole Harbour and to comply with the Water Framework Directive (WFD) and various European and international environmental and nature conservation obligations we need to address the concentrations of nitrate reaching the chalk groundwater The Environment Agency (EA) and Natural England (NE) in liaison with the water industry, local authorities and the farming

	community are working together on an implementation plan for the Nitrogen Reduction Strategy for Poole Harbour to address this situation. Analysis of past nitrogen loads and macro algae cover in Poole Harbour suggest the nitrogen load should be reduced by about one-third to 1980 levels. Modelling shows that despite current efforts, which include NVZ and catchment sensitive farming measures, when combined with sewage load forecasts from predicted development, we will still not achieve the required level of nitrogen reduction. For agriculture, the Nitrogen Reduction Strategy recommends that diffuse inputs are reduced by about 550 tonnes nitrogen per year across the catchment. In partnership we are working with the farming community to identify how this can be achieved. Various possibilities have been considered including use of cover crops, removing oil seed rape waste, enhancing agronomy advice, and land use change to chalk grassland or woodland. Ref: Poole Harbour Nutrient Management Plan 2011; Poole Harbour Nitrate Reduction Strategy and draft Implementation Plan 2013; Poole Harbour Catchment Initiative Action Plan 2012 and EA WFD Catchment Information Pack, with CSF cited in all as a measure for addressing some of the issues. This grant will also supplement and add value to the WFD funded projects in the Catchment including:- • The EA Diffuse Pollution Project • CSF Nitrogen Use Efficiency Advise Project As both of these largely focus on changes to land management practices to reduce nitrate leaching, having the grant to focus on yard infrastructure will ensure all aspects of farm activity are addressed
Description of theme	Pollutants being targeted: nitrates Farming activities: **l**ivestock - dairy and intensive beef Themes: Farm yards and infrastructure – works for clean and dirty water separation; roofing of stock gathering areas; silage, slurry and farmyard manure stores; rainwater storage to tackle nitrate and phosphate pollution.
Area / holdings to be targeted	Livestock: intensive dairy and beef holdings (over 20ha within entire Poole Harbour Catchment with (all rivers and streams draining into Poole Harbour). The majority will be within the current CSF Frome and Piddle Target Area.

CSF Capital Grant Scheme (CGS) items to be deployed	CSF014	Yard works for clean and dirty water separation
	CSF023	Roofing of manure storage and/or stock gathering areas
	CSF026	Roofing of slurry and silage stores
	CSF017	Rainwater storage
	CSF016	Resurfacing gateways
	CSF001	Gateways
	CSF007	Bases for drinkers and feeders

Catchment 2: Fleet Lagoon

Catchment where grants will be offered	**Fleet Lagoon**
Rationale for offering grant	The Fleet forms part of the Chesil and Fleet Site of Special Scientific Interest (SSSI). This recognises the important habitats: saline coastal lagoon, vegetated shingle beach, saltmarsh and reed bed: and species: nationally rare and scarce plants, rare and scarce marine algae, specialist lagoon invertebrates, starlet sea anemone; breeding birds; breeding population of little tern, colonial breeding population of mute swan and overwintering population of wigeon. The designated area extends on to a few of the wetland areas inland, but the rest of the catchment is not designated a SSSI. West Fleet is currently assessed as unfavourable condition due to diffuse water pollution from agriculture and run-off. The rest of the SSSI is in favourable condition. The Fleet also has some European designations: it is a Special Area of Conservation (SAC), Special Protection Area (SPA) and a Ramsar site, recognising the important habitats and species it supports. The Fleet lagoon is designated as Polluted Water (Eutrophic) under the Nitrate Directive and its catchment is designated as a Nitrate Vulnerable Zone (NVZ). Agriculture is considered to be the main reason why the West Fleet is failing its conservation objectives resulting in raised levels of nitrate, phosphate and sediment loading. These cause algal blooms during summer months and a reduction in many of the rare species associated with the lagoon. The EA has also monitored the quality of the water entering the Fleet from the seven streams that feed in to the lagoon. Concentrations of phosphate have generally exceeded the target levels and are contributing

	to unfavourable condition. Nitrate levels reached a peak in the 1990s and have declined since, however more improvement is needed. Nitrate loads are highest in the winter months, indicating a loss of nitrogen from land in the autumn months. The loading of these nutrients in to the lagoon are most significant at the western end. There are seven inflowing streams to the west of the lagoon discharging sediment and whilst loading levels are not high, they will have phosphate particles bound to them, increasing the phosphate loading into the lagoon as well. The West Fleet sub-catchment is dominated by heavy clay soils with little water percolation and much steep land. It is also farmed very intensively with large number of both dairy and arable units for a comparatively small catchment area. It contributes significant amounts of diffuse sources of phosphates and sediments to this portion of the Fleet, due to the high numbers of livestock associated with the heavy soils. To bring the SSSI back into favourable condition, targets for annual average nutrient levels have been set for the Fleet lagoon water; these are ≤30 micrograms per litre of total reactive phosphate and 420 micrograms per litre dissolved inorganic nitrogen measured as a winter average. This grant will also supplement the Fleet Farm Advice Project currently being delivered in the catchment (an action identified in DWP Plan) which is looking at effective measures currently practiced and identifying additional ones required on farms to address DWP from agriculture.
Description of theme	Pollutants being targeted: nitrates, phosphates and sediments Farming activities: livestock and arable Themes: Farm yards and infrastructure: works for clean and dirty water separation, roofing of stock gathering areas, silage, slurry and farm yard manure stores, rainwater storage to tackle nitrate and phosphate Run-off, drainage & dirty water: farm tracks, cross drains, sediment ponds and tracks, swales and check dams, relocation and resurfacing gateways to tackle sediment and phosphate.
Area / holdings to be targeted	Holdings within the West Fleet sub-catchment Farms to target will be those participating in the Fleet Farm advice project having been identified as having most significant impact on the Fleet. These are predominantly livestock and / or with one purely arable holding.

CSF Capital Grant Scheme (CGS) items to be deployed	CSF021	Livestock and machinery tracks
	CSF011	Cross drains on farm tracks or in farm yards
	CSF012	Sediment ponds and traps
	CSF013	Swales and check dams
	CSF016	Resurfacing gateways
	CSF001	Gateways
	CSF007	Bases for drinkers and feeders
	CSF014	Yard works for clean and dirty water separation
	CSF023	Roofing of manure storage and /or stock gathering areas
	CSF026	Roofing of slurry and silage stores
	CSF017	Rainwater storage

Catchment 3. River Axe and Otter

Catchment where grants will be offered	**River Axe (middle and lower Axe) – adjacent to River Axe SAC**
Rationale for offering grant	**Reason for targeting the River Axe Special Area of Conservation (SAC)** The SSSI and SAC were designated for the geomorphological interest, diverse communities of aquatic and marginal vegetation and fish species of European importance (bulhead, brook lamprey and sea lamprey). The main diffuse pollution pressures on the river are sedimentation and increased phosphate levels which are having an adverse effect on the ecology of the river. The SSSI and SAC have been assessed as unfavourable declining due to agricultural run-off of sediment and nutrients, heavily grazed riparian zone and Himalayan balsam in terms of the structural attributes rivers with floating vegetation condition, fish populations, the invertebrate assemblage and invasive plant target. Similarly the WFD water body is at poor ecological status for phytobenthos, macrophytes and phosphate with risks from diffuse sediment pollution cited as one of the key issues by the Environment Agency (Corry Brook Cluster Waterbody Implementation Plan). The main issues that will be addressed by these capital works are sedimentation affecting the fish populations, aquatic and marginal vegetation and the heavily grazed riparian zone affecting the marginal vegetation and structural attributes SSSI targets.

	The grazing of the riparian zone is preventing the development of a diverse vegetation structure and poaching of the river banks. The lack of vegetation is leading to increased bank erosion and, together with poaching, is leading to an increased loss of sediment to the river. Sediment finger printing carried out by ADAS in 2008 and 2009 recorded that 22% of the overall spatially-weighted mean relative contributions to the bed sediment samples in the Axe SAC was from channel banks and sub-surface sources. The Axe Catchment Geomorphological Action Plan (2004) also identified poaching of channel banks and field ditches by livestock as the dominant localised sources of fine sediment. Livestock accessing the channel was also highlighted as contributing to bank erosion through degradation of riparian vegetation. The Environment Agency Environment Management, Flood, Recreation and Biodiversity teams have been consulted as has relevant staffs in Natural England. All support the targeting of the River Axe SAC and in particular the improvement of the Riparian Zone through fencing and vegetation improvements. This approach is also supported by a number of studies of the River Axe and the most recent SSSI condition assessment.
Description of theme	Reduction of channel bank erosion and siltation and improvement of the riparian zone The aim of this project and series of capital works is to reduce sedimentation caused by livestock poaching and poor riparian vegetation structure as a result of intensive grazing on the river banks. This work will address two main remedies of SSSI and SAC: to reduce siltation on the river bed and improve the structural attributes of the riverbanks by preventing overgrazing. The lack of a well structured riparian zone colonised by a range of native plants is a major contributing factor to the Unfavourable Declining Status of the River Axe SAC. The overgrazing and short vegetation is also leading to poor bank stability, erosion and increased sedimentation.
Area / holdings to be targeted	This project will primarily target holdings with land adjacent to the River Axe SAC where intensive grazing, poaching and access to the river is leading to poor marginal vegetation and bank erosion. Please see map of the holdings adjacent to the River Axe SAC attached in Appendix 1. There are 31 holdings adjacent to the Axe SAC according to Rural Payment Agency data and this will be confirmed through a walk of the river stretch and contacting the farmers.

CSF Capital Grant Scheme (CGS) items to be deployed	The most suitable capital items are those that prevent or reduce access of livestock to the river and banks and provide alternative drinking supplies. The most appropriate items are therefore: • CSF003 Watercourse fencing. The most appropriate items are CSF003 b (high tensile) and c (post and wire), but in reality the most appropriate fence type will be permanent posts with temporary electric wire. • CSF005 Solar-powered electric fence kits for seasonal fencing. • Water provision for grazing livestock: o CSF006 Livestock drinking bays (Not the preferred option, but could be used where appropriate) o CSF007 Hard bases for livestock drinkers and feeders ▪ A: hard base for a livestock drinker ▪ B: hard base for a livestock feeder o CSF008 Pasture pumps and associated pipe work o CSF009 Ram pumps and associated pipe work o CSF010 Livestock troughs with associated pipe work (as an alternative to livestock drinking from watercourses) A: livestock drinking trough B: pipe work for the supply of drinking water o CSF015 Installation of piped culverts in ditches. In addition we would like to include the planting of the riparian zone to improve the stability of the banks and create a more long term impact. The EA Geomorphology Advisor has commented: "I'm sure we could support you in working up a case for what could be termed 'Riparian Zone Restoration' projects. These would be capital restoration projects that would be a package of: fencing of heavily grazed river margins; clearance of Himalayan balsam (in that area and ideally immediately upstream); possible re-seeding or where necessary reconstruction of the river bank structure (including for example the use of appropriately pre-planted and pre-grown coir rolls); and provision of alternative drinking water facilities." This recommendation includes more than just planting up the margin, but this would be the long term plan for parts of the Axe which I understand does not come under the scope or timing of this funding. However, a grant for tree planting would be very beneficial to the longevity of the affects of the fencing and alternative drinking supplies.

Catchment 4. Hampshire Avon

Catchment where grants will be offered	**Hampshire Avon**
Rationale for offering grant	The River Avon SAC and SSSI form one of the most important river systems in England for nature conservation. It is designated as a large, lowland river system that includes sections running through chalk and clay, with transitions between the two. These are the Annex 1 habitats that are a primary reason for designation of this site. Five aquatic *Ranunculus* species occur in the river system. The Annex II featured species are desmoulin's whorl snail, sea lamprey, brook lamprey, Atlantic salmon and bullhead (source: http://jncc.defra.gov.uk/protectedsites/sacselection/sac.asp?EUCode=UK0013016). The SAC and underpinning SSSI are currently in "Unfavourable no change" status (last assessed in 2009). The designated area is not meeting its objectives due to siltation, water pollution from agriculture and run off, water pollution from discharges, inappropriate water levels, water abstraction and invasive freshwater species (source: ENSIS). The SSSI units which are failing ar 1 to 11, 27, 30 and 31. Almost the entire catchment from Salisbury upstream is designated as a (groundwater) Nitrate Vulnerable Zone. Nitrates from agriculture are an issue, as well as sediments and phosphates. This is supported by evidence in the Diffuse Water Pollution Plan for the catchment which was agreed by Natural England and the Environment Agency in 2010. CSF is cited as a key measure in tackling the above issues. Under the Diffuse Water Pollution Plan sits a Nutrient Management Plan (drafted by the Environment Agency, May 2013) which addresses how to reduce phosphorus loading derived from point and diffuse sources across the catchment. Modelling suggests that diffuse phosphorus loads could be reduced by up to 40% within the catchment, but more realistic target would be 5-20%, by CSF activity.
Description of theme	The pollutants to be addressed are nitrates, phosphates and sediment. Both livestock (beef, sheep and dairy) and arable farms are going to be targeted. Any farm above 20ha will be eligible. The farms are to be within the current CSF Target Areas, which encompass the failing SSSI units. The agreed approach to take has been to tackle themes as the best way of addressing issues identified in the DWP Plan and Nutrient Management Plan for SSSI/SAC remedies to reduce impacts of agricultural diffuse pollution on the river.

CSF capital Grant Scheme (CGS) items to be deployed	Clean and dirty water separation in yards, farm tracks and gateways: • CSF001A - Relocation of gates: to reduce sediment loss and sediment-bound phosphate from a field. • CSF001B to I - Gapping up of boundary following gate relocation: to compliment the above. • CSF011 - Cross drains on or in farm tracks or within farm yards for clean and dirty water separation: part of the clean and dirty water separation theme to control sediments, sediment-bound P and wider nutrients (P and N) from running off a farm yard or to reduce surface run-off (carrying sediments and nutrients) along a track. May be in conjunction with other improvements to a farm track or farm yard. • CSF012 - Sediment ponds and traps: surface water management to help control and contain sediment run-off. May be in conjunction with other improvements to a farm track. • CSF013A - Swales and CSF013B - check dams: surface water management to help control and contain sediment run-off. May be in conjunction with other improvements to a farm track. • CSF014A to D - Yard works for clean and dirty water separation: to help control loss of nutrients and sediment from a farm yard, reduce the amount of dirty water produced, clean up livestock yards and arable yards if they are not concreted and cause a lot of sediment/mud issues. • CSF016 - Resurfacing of gateways: to reduce sediment loss and sediment-bound phosphate from a field. • Livestock and machinery tracks: CSF021B hardcore tracks and CSF021E associated fencing: to reduce sediment loss and sediment-bound phosphate from a field. May be in conjunction with other improvements to a farm track. • CSF023A - Roofing of manure storage: to help control loss of nutrients and sediment from a farm yard, separate clean and dirty water, reduce the amount of dirty water produced, clean up livestock yards. • CSF023B - Roofing of livestock gathering areas: to help control loss of nutrients and sediment from a farm yard, separate clean and dirty water, reduce the amount of dirty water produced and clean up livestock yards. • CSF026A to D - Roofs for slurry and silage stores including self-feed silage stores: to help control loss of nutrients and sediment from a farm yard, separate clean and dirty water, reduce the amount of dirty water produced and clean up livestock yards.

Catchment 5: River Camel Valley and tributaries

Catchment where grants will be offered	**River Camel and Tributaries (27a)**
Rationale for offering grant	The River Camel is designated as SSSI (River Camel Valley & Tributaries SSSI) and SAC. It has a number of tributaries, the main ones being the De Lank, Allen, Ruthern, and Clerkenwater. The source of the Camel is at Hendraburnick Down. The Rivers Camel, Allen and tributaries, their associated woodlands, carr and wet meadows are of outstanding importance for wildlife. The system is particularly valuable for otters. The rivers are also of great value for fish such as the Atlantic salmon, bullhead and sea lamprey. One tributary, the De Lank River, is of national importance as an outstanding example of an upland acid river. For a river of this type it supports an exceptionally rich flora, over 70 species have been recorded including 32 mosses and liverworts. Higher plants include the nationally scarce Coral-necklace. The river is also rich in invertebrate species, particularly mayflies, caddis flies, including the nationally rare *Ylodes simulans*, as well as a nationally scarce midge and water beetle. The River Camel SAC covers the same area as the SSSI. The SAC is designated for European dry heaths, old sessile oak woods in the British Isles, Alluvial Forests, bullhead, Otter and Atlantic salmon.
Description of theme	**Phosphate** Current Common Standards Monitoring (CSM) targets for phosphate is not met for units 51, 52, and 53 (and possibly 50 – requires further clarification). All units predicted not to meet revised CSM targets The predominant land use in the catchment is agriculture, comprising mostly dairy farming and grazing of cattle and sheep on improved pasture (improved 70%; unimproved 7 %; cereals 10% and other crops 6 %). In the lowlands, which are represented by the Allen and western parts of the Camel catchment, the main farming types are livestock (grassland) and autumn sown crops. The late season grazing and cultivations can lead to compaction in upper soil layers or tractor 'wheelings'. This risk is escalating with the recent increase in maize silage production and short rotation vegetable production which has come up from the west of Cornwall. **Sediment - suspended solids compliance:** Where monitoring occurs (units 50, 52, 53, 55 and 57), the data suggests that generally the relevant target for suspended solids has been met except for the River Allen (Unit 53) which has failed to meet target in 3 out of last 5 years. However, the extent of monitoring is very limited. Units 50 (Upper Camel) and 52 (Lower Camel) failed to meet the target in 2010. These failings are considered to partly result from known local issues resulting in high levels of sediment run-off into the river at particular times

	(cattle poaching of tributaries and river banks).
Area / holdings to be targeted	Farms located in or within very close proximity to SSSI.
CSF Capital Grant Scheme (CGS) items to be deployed	**Sediment:** Fencing water courses, ponds and lakes to prevent animals from damaging banks and dunging in water: • CSF003 watercourse fencing • CSF004 fencing for buffer strips, marshes, wet grassland, wet woodland and ponds. **Sediment:** Provide alternative water sources: • CSF009 ram pumps and associated pipework (per unit) • CSF010 livestock troughs with associated pipework (as an alternative to livestock drinking from watercourses) • CSF006 livestock drinking bays **Sediment and phosphorus**: Installing farm tracks and controlling water run-off: • CSF021 livestock and machinery tracks • CSF011 cross drains on or in farm tracks or within farm yards for clean and dirty water separation. **Sediment and phosphorus:** Reducing soil damage: • CSF007 hard bases for livestock drinkers and feeders • CSF016 resurfacing of gateways. **Sediment and phosphorus**: Reducing yard run-off: • CSF014 yard works for clean and dirty water separation • CSF023 roofing of manure storage and Roofing of livestock gathering areas

Catchment 6: West Cornwall

Catchment where grants will be offered	**Marazion**
Rationale for offering grant	The Marazion catchment is a priority due to the negative impact that sediment is having on the condition of the Marsh and the features for which the site was notified. Marazion Marsh is a SSSI and SPA. Investigations and discussions are currently underway in order to fully capture the impact of the sediment loading on the site. Capital works programmes have the potential to significantly contribute to a reduction in sediment loss from fields and will be an incentive for landowners to take up further specialist advice from CSF. A study is currently underway to investigate the sediment flux within the catchment, to identify high-risk fields within the catchment and to propose capital works solutions for high-risk holdings.
Description of theme	The objective of the capital grants programme in this catchment will be to reduce sediment run-off from in-field practices. High-risk fields and high-impact land use (horticulture, potatoes, brassicas, bulbs, market gardening, forage crops) will be the priority target. The proposed capital items will include engineered structures to trap and filter sediment (sediment traps, barrier ditches, check dams), changes to field layout and infrastructure (track construction, relocation of gateways, gapping up hedges and walls) and improved water management (grassed waterways, ditches and culverts). Improved management of surface water, capture and containment of run-off and a reduction in connectivity will also reduce the amount of sediment lost from fields. To ensure we have effective and quality applications, we should give specialist one-to-one advice for each holding on sediment run-off mitigation. This could either be a condition of the application or an incentive, depending on landowner response to the initiative.
Area / holdings to be targeted	The Marazion catchment is 3527 ha. The first criterion is that the holding has fields identified as a 'risk' in the 2010 ADAS report. The second criterion is that the field has a high-risk land use – maize, horticulture, market gardening, root crops or bulbs. The third criterion is the degree of connectivity of the at-risk field, to watercourses and to other at-risk fields.

CSF Capital Grant Scheme (CGS) items to be deployed	CSF001A/B/C/D/E/F Relocation of gates and associated gapping up of boundaries CSF0012 Sediment ponds and traps CSF0013A/B Swales and check dams CSF0015 Piped culverts CSF0021 Livestock and machinery tracks These options are all physical engineering options which are aimed at improving surface water management, reducing direct run-off, slowing and containing surface water run-off and allowing settling out of sediment. There are a number of additional capital items proposed in the 2010 ADAS report which would also be effective in reducing run-off: specifically the construction of grassed waterways. These would necessitate a Special Project.

Catchment 7: Somerset Levels and Moors

Catchment where grants will be offered	**Catchment 12: Tone ,Parrett, Brue and associated WFD water bodies**
Rationale for offering grant	The water quality within the SSSIs remains at risk from phosphate enrichment within the feed catchments. This can impact on the features of interest within the sites including ditch flora which are negatively impacted by nutrient enrichment. The conservation objective for phosphate of 100ug/l is currently exceeded at inlets to all sites. Water Framework classification for phosphate remains poor in several of the water bodies that make up the primary feed routes to the moors. The River Tone, River Yeo and River Brue are currently classified as 'poor' ecological status under the directive. Water from main rivers is fed onto each moor via artificial main drains and rhynes. Across the Levels, approximately 1200km of designated low-lying ditches are potentially at risk from diffuse and point sources of pollution. The additional N2K funding will be used to tackle elevated phosphate arising from agricultural sources in the wider catchment upstream of the sites at risk. Relevant sites and key water bodies are listed below in Table 1.

Description of theme	Agricultural sources include point source discharges (both consented and un-consented) together with diffuse run-off. Poor water quality arising some distance upstream of the SSSIs is responsible for the bulk of the phosphate burden transported to the site. Livestock farming activity and associated poor soil husbandry results in high phosphate loading in water bodies upstream of the SSSIs. Phosphate enriched water then flows downstream onto the low-lying SSSI Moors in the lower reaches of the catchment. In order to improve the water quality of designated sites it is therefore necessary to target the *wider catchment upstream* to improve the quality of off-takes to the sites. Reducing the burden of phosphate in feed catchments upstream of the SSSIs underpins the remedy as detailed within the Somerset Levels and Moors Diffuse Water Plan.
Area / holdings to be targeted	Following consultation between the Environment Agency and Natural England Officers responsible for the Somerset Levels and Moors, a number of priority holdings have initially been identified. N2K funding will be used to address poor infrastructure at farms that are considered to be of high risk. This will help minimise point source contribution of phosphate. 1. **Livestock farms with a registered Environment Agency discharge consent, *upstream or within a designated site***. Within the dairy and beef sector, a legacy of consented farm discharges persists. Approximately 50 of these discharges remain within the Somerset Levels and Moors wider catchment and typically consent to discharge dirty water or parlour washings with a limit of 200mg/l BOD (biological oxygen demand) and 200mg/l suspended solids. These discharges also contain high levels of phosphate and nitrogen in the form of ammonium. The farm could be located within the current target area or the wider catchment upstream of a protected site. 2. **Livestock farms *upstream or within of a designated site* but outside of the current target area and adjacent to a 'main river' or with close connectivity and known infrastructure problems or history of pollution.** Yards often slope directly to the river providing an easy pathway for dirty water run-off. Often clean water from degraded gutters and down pipes falls onto yard areas becoming contaminated and adding to volumes of run-off. This run-off is potentially high in phosphate. Improving infrastructure at these high risk sites will help reduce point sources of phosphate pollution.

CSF Capital Grant Scheme (CGS) items to be deployed	These farms will be invited to apply for grant aid to remedy poor infrastructure. This will include the following: • CSF023A and B; CSF026 - Roofing of open dirty yard areas to reduce volumes of run-off. • CSF014A, B and C; CSF011 - Yard works to redirect discharges and separate clean from dirty yard areas. • CSF021B, C, D and CSF011 - New tracks and cross drains where this will protect water courses.

Table 1: SSSIs within Somerset Levels and Moors SPA

CSF Priority Catchment	SSSI Site Name/	Area ha	N2K Site Name	Associated River Water Bodies	Target Area
Somerset Levels and Moors Catchment 12	West Sedgemoor	1020	Somerset Levels and Moors SPA	Yeo	NE CSF priority catchment - in target area
	Westhay Moor			Brue, Sheppey, Hartlake, Redlake ,Whitelake, South Drain, North Drain	NE CSF priority catchment - in target area
	Wet Moor			Yeo	NE CSF priority catchment - in target area
	Moorlinch			Tone + Kings Sedgemoor Drain	NE CSF priority catchment - outside target area
	Tealham And Tadham Moors	917		Brue, Sheppey, Hartlake, Redlake, Whitelake, South Drain, North Drain	NE CSF priority catchment - in target area
	Southlake Moor	197		Sowy	NE CSF priority catchment - outside target area
	King's Sedgemoor	831		Cary, Kings Sedgemoor Drain	NE CSF priority catchment - outside target area
	Catcott Edington And Chilton Moors	1083		Brue, Sheppey, Hartlake, Redlake ,Whitelake, South Drain, North Drain	NE CSF priority catchment - in target area
	Curry Moor			Tone	NE CSF priority catchment - outside target area
	West Moor			Parrett	NE CSF priority catchment - outside target area