Upstream Thinking

South West Water's Catchment Management Programme
Upstream Thinking 3 (2020-2025)

AMP7 Quarterly Report

October - December 2020

South West Water

Upstream Thinking

This is the Upstream Thinking quarterly update for UST partners and stakeholders. The purpose of this report is to provide a quarterly summary of achievements from each partner, project impact, case studies of good practice or innovation and future aims. The Delivery Partners for UST3 (2020-2025) are:

Devon Wildlife Trust

Cornwall Wildlife Trust

South West peatland Partnership

A clear solution for farmers CATCHMENT SENSITIVE FARMING

NATURAL ENGLAND

FWAG SouthWest

UNIVERSITY OF EXETER

swlakestrust

WESTCOUNTRY RIVERS TRUST

Schemes

Burrator; Wolf (Roadford); Stithians; Wistlandpound (WINEP schemes); Exe; Dart; Tamar; Fowey; Otter Valley; Fernworthy; Barnstaple Yeo; Argal & college; Cober; Drift and Stour (BW area). The Exe Catchment scheme comprises 3 catchment components: Exmoor mires; Headwaters, and Main River.

Investigations

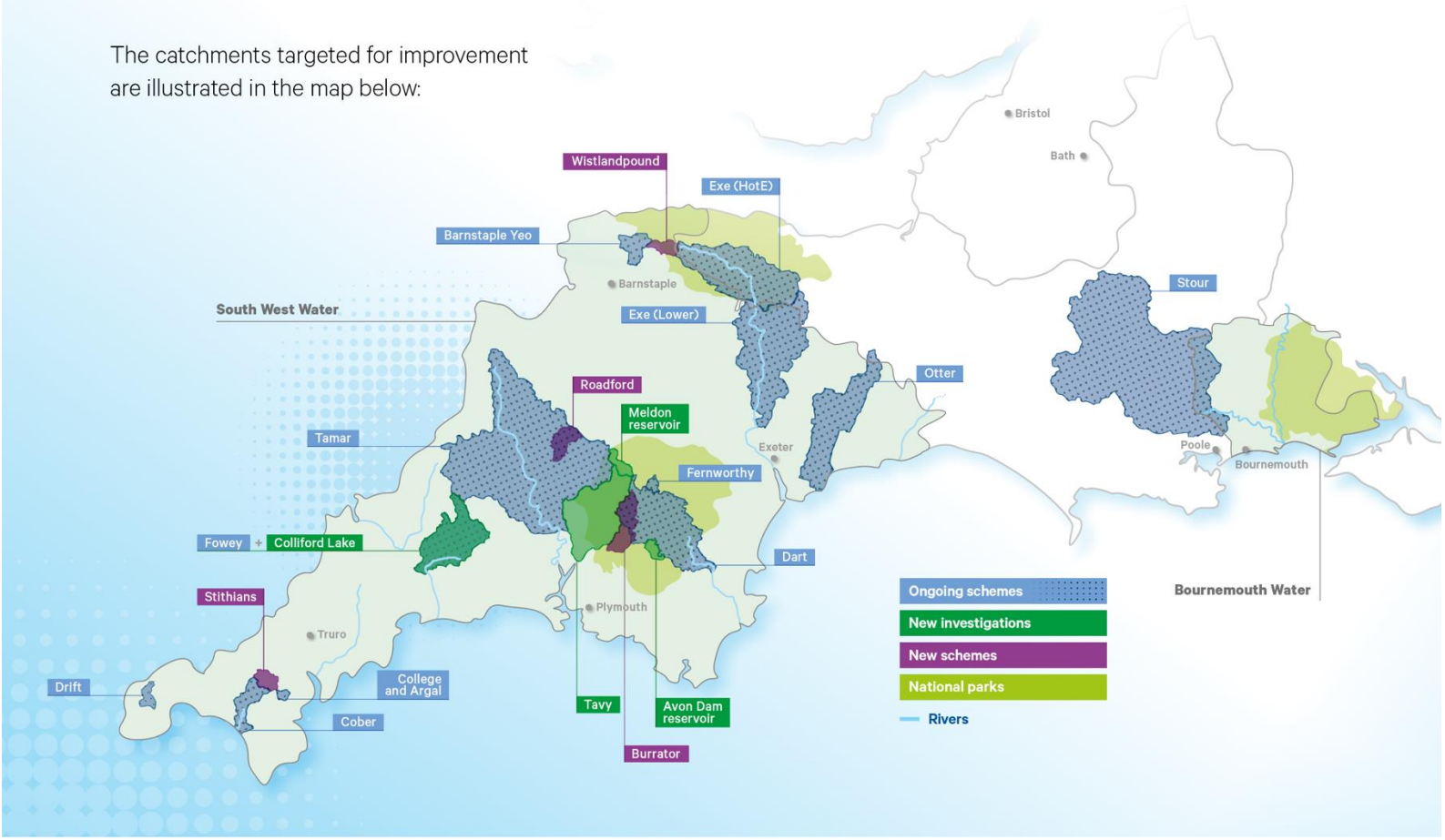
Burrator; Avon; Tavy; Meldon; Colliford (Fowey). These WINEP investigations are to be completed by March end 2022.

Upstream Thinking is managed by **Dr David Smith**, **Crawford Munro** and **Amber Willis** for South West Water.

The Delivery Partner Project Managers are:

Tom Hicks	Catchment Sensitive Farming
Daniel Poole	Cornwall Wildlife Trust
Ruth Testa	Devon Wildlife Trust
Adam Lockyear	Farming and Wildlife Advisory Group
Morag Angus	South West Peatland Partnership
Moira Manners	North Devon ELMs Trial
Stephanie Knights	Westcountry Rivers Trust
Prof Richard Brazier	University of Exeter
Emma Scotney	South West Lakes Trust

The catchments targeted for improvement are illustrated in the map below:



EXE

SWPP FWAG
DWT WRT

TAMAR

DWT WRT

DART

DWT WRT

OTTER

DWT WRT

ROADFORD

DWT WRT

WISTLANDPOUND

DWT NDP

BURRATOR

SWPP SWLT

YEO

DWT

FOWEY

SWPP WRT

FERNWORTHY

DWT

ARGAL & COLLEGE

CWT

COBER

CWT

DRIFT

CWT

STITHIANS

CWT

STOUR

CSF

Summary of the 2020-25 AMP7 Upstream Thinking Programme

This five-year programme is a combination of new Catchment Management Schemes and Investigations as specified on the EA WINEP and the continuation of ongoing AMP5/6 work in the SWW and Bournemouth Water areas. The outcomes contribute to:

- Improved raw water quality and supply and long-term business resilience
- The new Biodiversity Improvement ODI **"Hectares of new catchment management"** which is penalty/reward
- The Pennon Sustainability and Natural Capital commitments of year-on-year 3% improvement from a 2020 baseline
- Water UK carbon mitigation commitments made to the Secretary of State for the Environment (Peatland restoration and tree planting)

The programme is designed to combat deterioration in soil, nutrient and water management in the farmed landscape of catchments abstracted for drinking water supply. There are potential long-term resilience benefits including;

- new treatment investment deferment at treatment works
- reduced power, chemicals, maintenance costs and carbon emissions
- reduced risk of WTW shut down and DWI penalties.

The engagement of **Delivery Partners** and environmental stakeholders in the SW region and their match funding contributions is a key aspect of the programme, as are the **Natural Capital outcomes.** These are aligned with OFWAT and EA expectations and Pennon ambitions to become a leading company in environmental delivery.

Upstream Thinking for AMP7 comprises of 16 Schemes and 5 investigations in 18 catchments. The programme is fully endorsed by our local quality regulators, the EA, DWI and Natural England, and is wholly aligned with the national guidance issued for PR19 by Defra in the 'Statement of Obligations'.

Expenditure will be focused on delivering the programme and exceeding the new OFWAT Biodiversity Improvement ODI **"Hectares of new catchment management"** in year 1 and across the AMP7 period. To achieve this alongside the WINEP Investigation (2-year) commitments the programme is profiled to ensure sufficient funds in years 1 and 2 to provide the resources to the Delivery Partners for the stretch targets and outcomes.

Delivery of the in-catchment Schemes will be by the UST Partner Teams. Expenditure funds them to engage farm managers to address the catchment pollution and flow problems, with a focus on the development of "farm water management plans" and the roll-out of grant funding of catchment improvement work.

The WINEP Peatland restoration on Exmoor and the Defra funded (to 2021) work on Dartmoor and Bodmin moors, which benefits water storage, quality and long-term moorland resilience (and carbon storage) will also continue. This work is led by the SWW Mires Team, supported by other partners, including SWLT who are leading the WINEP investigation around Burrator.

The WINEP DWPA at Risk Investigations delivery will be through the SWW and University of Exeter (UoE) CREWW programme utilising the SWEEP team, who have had a key role in AMP6 investigations delivery and the design and set-up of the AMP7 programme.

Westcountry Rivers Trust (WRT) and Devon Wildlife Trust (DWT)

Catchments
Exe, Tamar, Dart, Otter, Fowey, Yeo, Wistlandpound, Roadford, Fernworthy

Ongoing schemes
Exe, Tamar, Dart, Otter, Fowey, Yeo, Fernworthy

New WINEP schemes
Wistlandpound, Roadford

ODI delivery in Q3
202.53 hectares WRT
820.17 hectares DWT

Total so far in year 1
3,544.96 hectares (combined)

Yearly target
4,100 hectares for DWT
4,100 hectares for WRT

A happy farmer taking receipt of his trees in the Dart catchment

Consolidated, waterlogged soil in floodplain in the Mardle Catchment. This land has been identified as suitable for reduction in grazing intensity as well as tree-planting.

WRT and DWT overview

The DWT and WRT teams have been working on the water quality monitoring plan, and baseline sampling is now underway on the Exe, Otter, Dart, Yeo, Wistlandpound, Roadford and Fernworthy catchments. Additional investigatory sampling work on the catchments has led to new focal areas for farm advisory visits.

The DWT Project Manager arranged for almost 10,000 trees, donated by the Woodland Trust, to be distributed to farms in the UST catchments. The majority have now been planted and the story was picked up by the media, including a feature in the Western Morning News.

DWT have been utilising the species and habitats data provided by Devon Biodiversity Records Centre to target work across all catchments. Staff are also working with them to build up a programme of monitoring works across the County Wildlife Site network for the summer.

Dart

This quarter saw the arrival and planting of just under 1,000 trees in the Dart catchment on two different farms to help with reducing flooding and soil erosion. Colleagues and partners helped with the planting over three days and the landowners gave positive feedback on the support from DWT, Woodland Trust and SWW. These landowners independently and proactively promote UST.

DWT have completed four farm plans in the catchment, and one farm has become active through changes in the management of meadows, riparian strips and tree planting. One grant has been signed off and the landowner will start the yard concreting shortly. Another pro-forma has also been approved.

WRT have one farm in active management on the Dart that has completed grant funded work on a farm in the Postbridge area, which has resulted in the floor of a stock shed being concreted to reduce the risk of manure and feed effluent from leaching into the river. The stock shed is within 2m of a tributary of the East Dart near Bellever. Only part of the shed floor was originally concreted, leaving the remaining area as soil, which provided an easy pathway for nutrients and faecal coliforms to enter the rivers system, by leaching down through the soil.

The WRT Farm Advisor for the Dart has continued work on soil surveys evaluating the structure of the soil in the Dean Burn and Mardle catchments, working alongside the Dartmoor Headwaters NFM project.

Site vists on wet days help to trace pollution sources in the Exe!

Exe

DWT are working with a large estate to advise on soil run-off issues and Agri Environment Scheme possibilities. A number of earlier recommendations are already being implemented including the sowing of buckwheat with oilseed rape to stop flea beetle attacking the rape. This stops the need for spraying because the buckwheat is slightly taller than the crop and keeps the pests away.

Visits continued to take place in conjunction with the Exe Catchment Sensitive Farming Officer, and Mid-Tier Countryside Stewardship agreements are being worked up with complimentary capital grant investment to give the best outcome for the water environment. DWT have submitted and had approved two grant proformas.

Twelve farms took part in the Woodland Trust tree offer, and this has seen lots of new copses and hedges start to take shape.

One of a series of ponds installed at Parkhouse Stream, Stoodleigh

During the last three months, WRT have visited ten farms and discussed potential grant offers and natural capital improvements. Most of these farmers would like grants for infrastructure work including clean and dirty water separation, fencing, wetland management and water holding facilities. However, several farms are looking to offset the grants with larger areas of habitat works including water meadows, tree planting and natural grassland protection.

Under the guidance of a WRT Farm Advisor, water storage and erosion control interventions have been successfully delivered on a farm in the valley at Parkhouse Water Stream, which is now in active management. This involved the creation and restoration of a series of ponds, shallow scrapes, woody debris dams, and the construction of several culverts. This will help increase water storage capacity and reduce the speed of surface run-off, reducing turbidity and suspended solids in the watercourse, and associated pollutants such as phosphates.

Fernworthy

Looking at habitat possibilities around Fernworthy Reservoir

A productive meeting took place this quarter with the Forestry Commission, South West Peatland Partnership and Dartmoor National Park Authority to discuss alternative ways of restoring the recently felled compartment that has been the focus of attention for the last couple of years. This will potentially include blocking up streams and wet areas, reduced tree stocking rates and the development of more natural upland habitat. A plan is being drawn up for the area and it is hoped that results will be seen soon. Additionally, separate discussions have been taking place with the Forestry Commission over the next phases of felling in the forest, with early identification of resource protection areas.

The water quality monitoring report, started for Fernworthy in UST2, has been finalised and shared with partners. This will be updated during UST3, and regular water quality monitoring continues across the catchment.

The DWT Reservoirs Officer has been looking at ongoing options for habitats across the South West Lakes Trust landholding with their Ecologist on how they might progress past their Higher-Level Countryside Stewardship agreement and what options there are for joint biodiversity monitoring.

Fowey – Post Harvest Maize Scheme. Breaking up compaction, leaving a rough surface and breaking up surface water flow paths after maize harvest

Otter - Pesticides collected under UST3 pesticide amnesty scheme

Roadford – Lake site visit

Fowey

So far, the post maize harvest scheme has been successful on the Fowey, with 120 ha post-harvest maize cultivations due to be completed by mid-January. The scheme has covered 100% of the maize area grown in the catchment at risk of soil erosion/run-off. All cultivations were carried out by a 260hp tractor pulling 3m Kevernland CLC Pro, to a depth of 15cm – 20cm depending on soil conditions. Three field approaches were applied: whole-field following contours, part-field following contours, and strip following contours. The approach taken on each individual field has been made by the input of the Farm Advisor, the farmer, and the operator. The scheme has proved highly effective in reducing surface run-off from maize stubble, even in extreme rainfall, as seen in December.

Otter

The DWT Farm Advisor signed off a grant for concreting in December, and this farm is now in active management, having also undertaken other measures across the holding, including soil aeration. A further grant proforma to improve habitat for southern damselfly has just been approved.

WRT have been working with many of the farmers in the lower Otter to develop their ideas and expectations for the re-structuring of farm payments. Much of this work has revolved around reducing nitrogen losses to the aquifer and improving farm efficiency, equating to potentially 300 ha. The WRT Farm Advisor has been helping to develop analytical outputs to reflect the cost of nitrogen loss to SWW as well as the natural capital equivalent.

Under the UST Pesticide Amnesty Scheme, the WRT Farm Advisor has arranged collection of a consignment of pesticides from a horticultural farm on the River Tale, totalling 55.5kg. A wide range of pesticides have been removed from the site and will have a considerable benefit to long-term water security in the catchment.

Roadford

The DWT and WRT Farm Advisors working around Roadford met to discuss plans for the catchment. Visits have taken place to many farms in the catchment by DWT, following up on leads of habitat and County Wildlife Sites (CWS) that need restoration work, and farms that are interested in Countryside Stewardship applications.

Water quality monitoring has restarted, allowing us to build up a baseline for the project. Discussions have taken place with South West Lakes Trust about their landholding and their new Higher-Tier Countryside Stewardship agreement, and how it will be implemented.

WRT have delivered soil aeration and buffering in the Roadford catchment under the Channel Payments for Ecosystem Services (CPES) project, which is run in parallel with UST.

Tamar – Newly planted trees

Tamar

DWT gave 850 trees to two farms in the catchment, seeing a new hedge and a small copse planted on one farm, and a steep slope planted up on another to help slow the flow of water into the valley bottom. Many capital grants are being worked up by DWT Farm Advisors. One proforma has been approved, and a grant that was held over from UST2 has now been completed.

The DWT Farm Advisors are focussing on farms in the Otterham area, in particular targeting those with CWS or CWS quality habitat, with the aim to work with those landowners and connect areas of good habitat. Water quality monitoring and area walk overs have taken place to identify focal areas for work this coming year. Farms have come forward asking for help, and landowners are being identified for Countryside Stewardship agreements for 2021.

Soil sampling permanent pasture near Launceston. Good soil structure with roots penetrating to depth and plenty of earthworm activity (can you spot one?)

The new WRT Senior Farm Advisor in the Tamar catchment is working on a proposal for a new roof over a cattle handling area at a farm near the main River Tamar, which will help separate clean and dirty water levels. Another proposal in the River Claw will see 3km of watercourse fenced and the creation of designated drinking bays for cattle. Tree planting and hedgerow restoration have continued; and soil nutrient and soil compaction testing have also taken place to help improve landowner's nutrient management planning and identify fields where sward lifting, or soil aeration would be beneficial.

There has been a noticeable interest amongst farmers in the Tamar about multi-species swards and including these within their grazing systems in future. The driving forces behind this interest is a combination of looking to reduce nitrogen fertiliser input costs by taking advantage of the legumes in the multispecies swards and acknowledging that some of the deeper rooting species bring increased resilience to dry hot summer conditions, experienced over the last few years, whilst also improving soil health. It is hoped that WRT will run a workshop in 2021 to help increase farmers' knowledge and familiarity with the establishment and management of multispecies swards.

Track and cross drain works completed on River Deer to prevent sediment run-off – photos before (top) and after (bottom)

WRT have one farm in active management on the Upper Tamar. Grant funded work has been undertaken on a farm to resurface two field gateways, install three crash barrier cross drains and concrete parts of the farm's main farm track to reduce sediment run-off to the river Deer. Prior to the any grant intervention work, surface water and sediment collected at the lowest point of the track and was unable to drain away even though the farmer has installed a large drain. This was due to the sheer volume of water and sediment entering and blocking the drain. The track is also a public right of way, which became impassable during periods of heavy rain.

WRT have delivered 2,086 trees (1.25 ha) through the CPES/ NatureBid auction to a farm on the River Carey that discharges into the Tamar. The farm becomes waterlogged in winter causing erosion and run-off issues. Trees will be planted to buffer the flow of water across the farm and provide habitat for wildlife. This will form part of a bigger proposal to tackle the run-off issue on the farm, which will include the construction of a sediment pond, and track works.

Wistlandpound

Following site visits in September with Natural England, as part of the ELMs test and trial, five farm plans have been completed by the DWT Farm Advisor, containing recommendations for both grants and Countryside Stewardship options. Two grant proposals are now in discussion with landowners. Joint visits have taken place with the Yeo Farm Advisor and the North Devon Biosphere to a farm which spans both catchments and where multiple interventions are needed.

The DWT Farm Advisor is in touch with the Forestry Commission about the proposed clear fell at Wistlandpound Reservoir in 2021.

Yeo

During the last quarter over 3,000 trees were distributed to farms in the catchment, a real win for this area, particularly with the focus on the Lesser Horseshoe bat locally which relies on woodland edges and hedgerows for navigation. A further grant for hedgerow planting has been approved.

Match funding secured
Quarter 3 October to December 2020

Source	Catchment	£
Countryside Stewardship	Tamar – DWT	391,118
Countryside Stewardship	Dart – DWT	44,700
Countryside Stewardship	Otter – DWT	6,340
Countryside Stewardship	Exe – DWT	72,801
Total		**£514,959**

Cornwall Wildlife Trust (CWT)

Catchments
Argal and College, Cober, Drift, Stithians

Ongoing schemes
Argal and College, Cober and Drift

New WINEP schemes
Stithians

ODI delivery in Q3
543 hectares

Total so far in year 1
963 hectares

Yearly target
1,155 hectares

Countryside Stewardship buffer options on a landholding adjacent to Argal Reservoir are currently under review to further improve land management and water quality. The grass buffers and over-winter stubble, shown below, come under an existing Mid-Tier Countryside Stewardship agreement (SW3) put in place two years ago to help improve water quality, reduce run-off and benefit winter birds. Prior to engaging with CWT the Farm Advisor, this field was planted right up to the stream edge in cabbages. Proposed future management of these buffers include planting 0.89 ha of native trees, which forms part of a larger tree planting plan for this farm totalling 65 ha in total. Currently under discussion is inclusion of this farm as an ELMs research test site for tree planting options.

Argal grass buffer

Soil monitoring

Soil structure and chemistry analysis have been undertaken on a further three farms in the Drift catchment this quarter. Farmland soils in the Drift catchment generally have a high organic matter content (10-20%), high phosphate levels (P Index 3 and 6) but low potash levels (K Index 0-1). This recent advice means that, since the beginning of PR19, eight farms are now addressing their potash shortages to benefit both crop yields and water quality, by undertaking one or more of the following actions: making better use of their farmyard manure; selecting a high potash compound fertiliser such as 25:0:13; purchasing straight potash (Muriate of Potash). All eight holdings have adjusted their fertiliser purchases for 2021 with immediate effect and committed to zero phosphate, high potash fertiliser applications.

Through the Devon and Cornwall Soils Alliance (DCSA) project, CWT Farm Advisors have been undertaking soil condition and field/crop investigations across the lower Cober and part of the Fal catchments. Potential problem fields and associated vulnerable sections of watercourses, compromised by run-off issues, have been identified for further investigation. Although these feasibility studies fall outside of the UST catchments, it complements advisory work in the Cober and Argal & College catchments, particularly where landholdings and local growers' rented land fall across multiple catchments.

Fencing off the water course reduces streamside poaching

Capital grant agreements

Three UST capital grant agreements, totalling £16,760, were signed off in the last three months, all of which are in the Drift catchment:

1. A whole farmyard drainage system project (improved guttering, soakaways, ditches, and dirty water storage) will bring significant improvements for water quality. The works will complement and enhance the Mid-Tier Countryside Stewardship capital funding already utilised and ensure that there is no uncontrolled loss of nutrients or sediment from the yard. This separation of clean and dirty water, and reduced sediment input will also benefit wildlife habitats, including the Drift County Wildlife Site and the nationally important reed beds at the head of Drift Reservoir.
2. A grant towards fencing and the creation of a pond will protect the watercourse from sediment as well benefiting the land for wildlife. Fencing off marshy grassland will facilitate access for conservation grazing, which includes controlled grazing of invasive Himalayan balsam, as well as protecting dry woodland and the adjacent watercourse from stock access, thus reducing the amount of poaching and bank-side erosion. The pond creation, within an area of dense soft rush, will result in habitat diversity and wildlife benefits.
3. A small grant for a new yard drain to contain surface run-off and prevent sediment from washing into the nearby watercourse. This is a joint project with the Penwith Landscape Partnership (PLP), associated with the surface upgrade of a nearby lane and new permissive path. Improved yard drainage has been proposed on this farm previously, but never undertaken. With the additional grant funding through the PLP project, it means that these works are now financially viable for the farmer.

Grant applications for capital works in the Argal & College and Stithians catchments have also been drawn up for submission in Quarter 4.

Across the Cober catchment, the Farm Advisor has developed farm-based projects to mitigate diffuse pollution issues, resulting in offers of match-funding grant support via CWT and project partners. Capital works currently in progress across the Cober catchment include rainwater harvesting projects for clean and dirty-water separation; new livestock and machinery tracks; provision of alternative livestock drinking facilities (utilising solar pump and storage tanks); installation of a small leachate sump-tank receiving fluid from covered farmyard manure store; new culvert-crossing and track upgrade.

Volunteer efforts

The SWLT volunteer group have carried out a variety of tasks to improve wildlife habitats across both the Stithians and Argal & College catchments, including clearing and mulching around previously planted trees in Stithians, and willow clearance on an area of purple moor-grass rush pasture. As well as supporting landowners with Mid-Tier Countryside Stewardship applications, CWT's Farm Advisors also offer wildlife and habitat advice through targeted management plans. As part of one of these five-year habitat management plans to recreate 0.22 ha of heathland on a landholding in the Argal & College catchment, volunteers have cleared 0.1 ha of bracken and then reseeded 200m^2 with heather seed collected on site.

SWLT volunteers collecting heather seeds by hand to aid heathland recreation. A 'leaf-sucker' was trialled but collecting the seed by hand proved to be the most effective method.

Match funding secured
Quarter 3 October to December 2020

None

Farming and Wildlife Advisory Group (FWAG) South West

Catchments
Exe

Ongoing schemes
Headwaters of the Exe (HotE), the part of the ongoing River Exe Scheme within the Exmoor National Park area

New WINEP schemes
Joint project with Exmoor Mires Partnership to reduce the damaging impacts of Exmoor moorland boundary ditches on peatlands and downstream flows

ODI delivery in Q3
145 hectares

Total so far in year 1
335 hectares

Yearly target
1,750 hectares

At the beginning of the quarter the FWAG UST Project Manager went on maternity leave. Her work has been adopted by a staff member who previously worked on the project to allow for a smooth transition. The team has been invited to join the WRT and DWT monthly team meetings which is a productive collaboration opportunity.

Work is progressing to sign off existing grant agreements and staff have engaged with several new holdings over this quarter. Work is ongoing to develop grant proposals including yard concrete and drainage to aid clean and dirty water management and advising on the set up of a rotational grazing system and associated infrastructure.

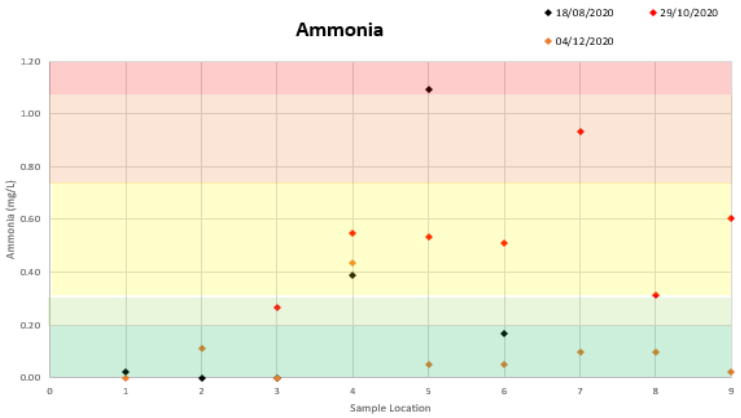
Soil monitoring

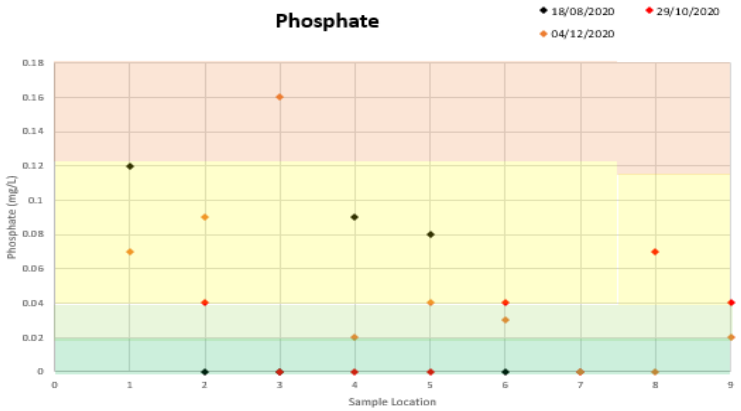
In addition to looking at soil structure and health, staff have started looking at soil biology including earthworm counts, analysis of moisture content, active and total bacteria, active and total fungi, fungi hyphal diameter, organism ratios, protozoa (number, by type), nematodes (number, % feeding type), mycorrhizae colonisation (ecto or endo) and potential biomass nitrogen. Survey protocol is currently being refined, working with labs and consultants to analyse the data and to build on conversations with farmers. During this quarter staff sampled two farms and are in the process of analysing the early results. The aim is to collect data from five farms representative of Exmoor farm and management types, to build an understanding of the biological activity of Exmoor soils. This will be used to engage with the farmers in the catchment, building on topics such as soil health and management, different crop types, different crop establishment techniques, parasite control and grazing management.

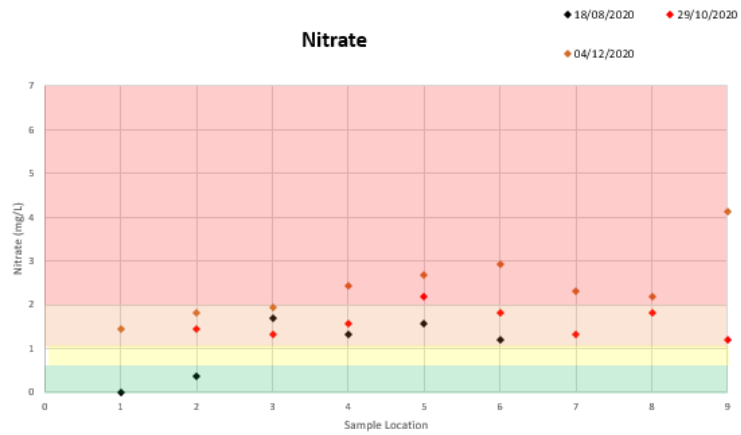
Water quality monitoring

During the last three months, water quality monitoring techniques and equipment were trialled in a small sub-catchment. Due to the findings and success of this work, regular monitoring is being undertaken on three routes, each monitored once a month. FWAG now have three sets of data for each monitoring route and are starting to see some trends in the data. This monitoring will help identify areas where project work needs to be targeted. It may also provide information about the success of activities through the project such as changes to land management or improvements to farm and forestry infrastructure. Staff are providing catchment reports and reports to individual farmers for sampling undertaken on their land. Current monitoring is informing the development of a potential grant proposal. Ten surveys have been undertaken during this quarter, gathering 13 variables from each of the 25 sites monitored.

The charts below show phosphate, ammonia and nitrate results for one watercourse between 18/08/2020 and 04/12/2020 showing three data sets. Sample location 1 is monitored closest to the tributary and sample location 9 furthest from the tributary. Phosphate binds to soil particles and is therefore used as an indicator of soil erosion. High levels of phosphate in water suggests that muddy run-off or soil erosion is occurring in the catchment. Nitrate is a stable form of nitrogen found in the environment, it is the result of the breakdown of ammonia (and nitrite) by micro-organisms. High levels of nitrate in watercourses can be traced back to inorganic fertilisers or manure inputs. Ammonia is a much less stable form of nitrogen than nitrate (and nitrite) and therefore is unlikely to remain in the environment for long periods of time. Although naturally occurring in watercourses from leaves and fish faeces, high levels of ammonia are likely to be present where inorganic fertiliser, manure or sewage has entered the watercourse. It is a good indicator of recent pollution incidents (point source or diffuse).







Monitoring a wider range of pollutants

The project has started to look at the possible impacts of a wider range of potential pollutants within the Exe catchment. The first part of this work included developing a broad understanding of the potential chemicals entering the watercourses and what existing monitoring is in place for these compounds. The Environment Agency has a list of compounds which they test for in waterbodies which includes veterinary drugs, solvents, pesticides, herbicides, fungicides, personal-care-products, dye and many others. We have been working up a list of the most relevant compounds to Exmoor such as cattle and sheep veterinary drugs and will request data to establish what testing is occurring that is relevant to our area and what the results show. This will identify any further work required.

Headwaters

During UST2, the Headwaters project provided faecal egg counting training sessions and events to raise awareness and understanding around the use of anthelmintics (worming drugs), animal health, resistance, and the effects on the wider environment. During this quarter, staff have been gathering feedback from participants and are starting to evaluate the impacts on anthelmintic use on farms. Early results indicate that many farms have reduced anthelmintic use because of working with FWAG and UST, some by up to 50%.

The project weed wiper was used on rushes, thistles, and bracken during the last season. This has provided targeted weed treatment in the Headwaters catchment and has reduced the amount of sprayer usage over the same area.

Match funding secured

Quarter 3 October to December 2020

None

South West Peatland Partnership

Catchments
Burrator, Upper Exe, Bodmin moor catchments, Dartmoor

Ongoing schemes
DEFRA funded peatland restoration on Dartmoor and Bodmin moor

New WINEP schemes
- WINEP DWPA scheme in Burrator catchment
- WINEP project to improve *Sphagnum* regeneration on restored Exmoor moorlands and to reduce damaging impacts of Exmoor moorland boundary ditches on peatlands and downstream flows (this element shared with FWAG)

ODI delivery in Q3
135 hectares

Total so far in year 1
167 hectares

Yearly target
300 hectares

During the second Covid-19 lockdown the team used the time constructively to review, refine and compile all data relating to peatlands in the south west which included mapping the extent of peatland in the south west and on SWW landholdings and Drinking Water Protected Areas.

Restoration plans for future sites have also been compiled and staff have been engaging with partners in planning the WINEP schemes delivery.

Bodmin Moor

Phase 1 of works has been completed at Priddacombe Downs across the 89 ha site. This work will slow flows and over time lead to improved water quality entering the De lank river (see case study).

Dartmoor

Restoration continues at Hangingstone. At Burrator the estimate of costings for peatland restoration within this catchment have been developed.

Exmoor

One landowner pulled out of site works after a long consultation process. Consultation and planning continue with three other landowners to commence works.

Match funding secured
Quarter 3 October to December 2020

Source	Catchment	£
Defra	De Lank, East Dart, Taw, Teign, Exe	125,000
Total		**£125,000**

South West Lakes Trust

Catchments
Burrator

Projects
WINEP Habitat Regulations Investigation into species and habitat potential in SWW landholdings in the catchment

[There are no ODIs for this part of the project]

Surveys

Over the last three months, SWLT have been busy surveying. Their contractor has completed the first survey visits for the Upland Winter Bird survey across the moorland area recording all the birds they see and hear. Highlights included a hunting merlin, golden plover, woodcock, snipe and reed bunting. The second visits will start in January.

For the Harvest Mice Nest surveys, staff and volunteers have started searching for used summer harvest mice nests. Although no nests have yet been found, in the New Year staff and volunteers will be working with Devon Mammal Group to survey other areas, including tree tubes.

Volunteers have completed Fungi surveys across some of the woodland areas and will be pulling together these records over the winter months. Lockdown 2 prevented Devon Fungus Group getting out onto site, but they did pass on their previous records and are hoping to help with fungi recording in 2021.

The completed Phase 1 Habitat survey report and GIS habitat files are expected to be submitted in early January 2021.

Checking *Molinia* tussocks for used harvest

Top: **Waxcap (sp) growing on stone wall**

Right: **Fungi on log spanning across the river**

Building relationships

Staff have been working closely with Buglife to support their Dartmoor Important Invertebrate Area (IIA) project. This initiative aims to bring together invertebrate recorders to discuss data from 85 national recording schemes to identify key species and associated habitats on Dartmoor and highlight opportunities and enhancements to improve these habitats for invertebrates. https://www.buglife.org.uk/our-work/important-invertebrate-areas/

To help build relationships with Dartmoor National Park Authority (DNPA), SWLT has hosted two site visits and a virtual meeting with various DNPA Advisors and SWW at Burrator, to introduce staff and projects and to share thoughts and ideas about future management of the site. The aim of this work is to explore opportunities to work more closely together.

Part of Yennadon Down Common falls within the UST project boundary. This site is heavily grazed by sheep, ponies and cattle and has soil compaction issues. Staff have been liaising with West Country Rivers Trust Pro Water project to discuss the potential for some soil and water monitoring which can provide evidence.
A SWLT/SWW site meeting is planned in the New Year to discuss opportunities.

Left: **Heavily grazed grass at Yennon Down (May 2020)**
Right: **Surface water at Yennadon Down (Nov 2020)**

Discussions and meetings have been ongoing over the last three months with SWLT forestry contractors and Forestry England about the Higher-Tier Countryside Stewardship scheme, Woodland Management Plan and exploring the long-term vision for the woodland resource around Burrator Reservoir which will protect water quality, increase biodiversity and make the catchment more resilient to climate change. No clear felling will take place this winter, only some thinning and ride cutting.

Match funding secured

Quarter 3 October to December 2020

None

Catchment Sensitive Farming (CSF)

Catchments
Dorset Stour

Ongoing schemes
Metaldehyde use engagement and other catchment management outcomes

ODI delivery Q3
67 hectares

Total so far in year 1
977.6 hectares

Yearly target
1,000 hectares

Lockdown 2 meant that CSF could not carry out farm visits throughout November and into December.

Dorset Pesticide Amnesty

CSF has had over 70 requests from Dorset farmers for their participation in the pesticide amnesty. The pesticides listed for collection contain several highly toxic products including Paraquat and Dursban, so the team are keen to get these out of circulation.

The scheme opened on 3rd December with a deadline of 16th January for farmers to send in their requests, after which all responses will be reviewed, and CSF will confirm with farmers whether their request can be accommodated. Collections will be organised by Peake (GB) Ltd throughout February.

Water pathway management/track advisory visit

In October staff visited a farmer who was experiencing problems with a particular farm track. The farm is an organic sheep dairy with 2,500 ewes and followers. A lot of the ewes use this one steeply sloped track to access some of the grazing fields which goes through a wood. There is a small watercourse at the bottom of the track, and staff were discussing solutions to the poaching and erosion problems that were present. Possible solutions discussed were different considerations to diverting water off the track to improve farm track management and to break the connectivity from the watercourse. The farmer will be applying for new livestock tracks through Countryside Stewardship, to reduce poaching, compaction and erosion whilst improving access to grazing fields.

Stour catchment water sampling

The results of October's water sampling runs on the 21 October and 29 October conducted during heavy rainfall detected no exceedances of the drinking water standard for metaldehyde. The first run showed that detections across the sampled tributaries were all relatively low with no exceedances of the 0.1 µg/l detected. The highest detection of metaldehyde was in the River Cale at 0.018 µg/l which is still well below the drinking water standard. The second run showed very low levels of metaldehyde with no exceedances of the 0.1 µg/l individual pesticide limit in drinking water and no exceedance of the 0.5µg/l of total pesticides in drinking water.

Whole farm in active management

CSF have provided enough advice, and sufficient actions have been implemented on Bloomers Farm near Gillingham to turn the whole farm holding into being under 'active management'.

The farm has received advice from staff in the form of both a farm infrastructure audit and a soil and nutrient management plan. The farmer is delivering on the nutrient management recommendations and will be implementing some of the farm infrastructure recommendations through Countryside Stewardship water capital grants to reduce dirty water generation.

The farmer is improving nutrient use efficiency by better integrating their fertiliser and manure applications and using their latest soil analysis results to better inform organic and inorganic fertiliser applications.

Mid-Stour Valley Farmer Cluster

Staff have been working with the two Farm Managers in the Stour catchment who approached CSF in October wanting to establish a farmer cluster group. It quickly became apparent that the River Stour and its corridor was a common interest that linked the two farms and that both had the desire to improve water and habitat quality along the Mid-Stour valley. Possible benefits for participants in a farm cluster could be increased biodiversity on their holdings, reduced nutrient losses, access to further funding for options from Countryside Stewardship and subsequent ELMs.

Countryside Stewardship

The team have been in contact and providing advice and guidance to farmers who are starting to think about making a Countryside Stewardship application in 2021. Some farmers would like to make infrastructure improvements and plan to use the water capital grants. Where this is the case, staff have put these farmers forward to receive more detailed specialist advice on farm infrastructure to give them short, medium, and long-term maintenance and capital investment requirements. Advice will also include recommendations for the farm business to improve environmental performance, achieve best practice and to meet regulatory requirements. Five famers have been put forward who would benefit from this level of advice.

Match funding secured
Quarter 3 October to December 2020

Source	Catchment	£
Pesticide amnesty match funding contributions:		
CSF	Dorset/Stour	4,000
Wessex Water	Dorset/Stour	4,000
Total		**£8,000**

North Devon Pioneer ELMs Trial

Catchments
Wistlandpound (catchment outputs shared with DWT)

Projects
Natural England's North Devon Pioneer ELMS Trial, farm business engagement and planning in the Wistlandpound Drinking Water Safeguard Zone. This is a starting point for delivery of the new WINEP scheme with DWT.

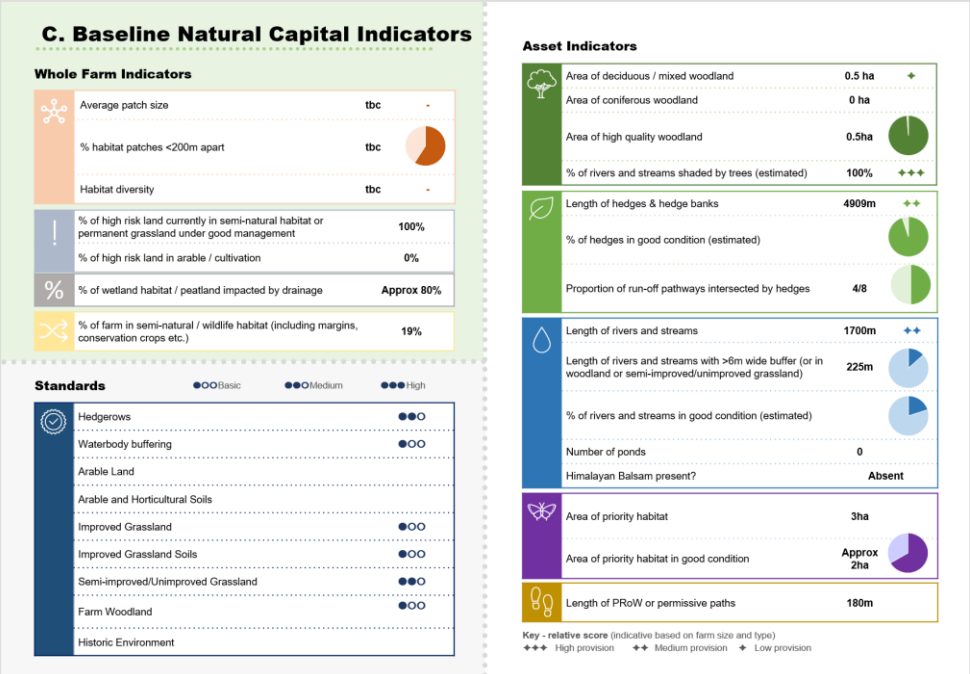
[There are no ODIs for this part of the project]

During October and November, Natural England, the Forestry Commission, and the Environment Agency developed a series of 'farm standards' for the Defra ELMs team, which will form the basis of the 'sustainable farming incentive' component of the ELM scheme. The farm standards have basic, medium and high levels which the farmers can choose to deliver and payment rates for each level, based on 'income foregone + costs' have been developed. These farm standards are being trialled with the farmers through the land management plans, which were provided to farmers in December.

The farm business finance information has also been provided as part of the land management plans, so farmers can see how the tapered reduction of the Basic Payment Scheme will affect their businesses.

The 3 ELMs scenarios are currently being developed for each farm in discussion with the farmers, these will then be costed, and the Farm Business Finance Advisor will be able to show the impact of ELMs payments on the farm businesses.

A graphic has been developed by Westcountry Rivers Trust and the Project Team to show how the farm scale natural capital indicators developed for this Trial relate to each holding. The graphic also shows which level of the farm standards might be relevant. See example below.



Example of how the farm scale natural capital indicators relate to each holding

University of Exeter (UoE)

Catchments
WINEP DWPA Investigations in Tavy, Meldon, Colliford and Avon catchments

Projects
WINEP scheme monitoring outcomes in Exmoor, Roadford, Wistlandpound, Burrator, Stithians. Ongoing business impact and Mires monitoring programmes.

[There are no ODIs for this part of the project but there are EA reporting and completion deadlines for the WINEP elements.]

UoE staff continue to work from home with University guidelines limiting face to face meetings, fieldwork and laboratory work. Purchasing of field equipment is currently underway, either directly or via a tender process. Progress has been made towards understanding water quality issues within the catchments of interest.

Fieldwork and laboratory work

In the period covered by this report, access to laboratories and field equipment has been substantially limited due to restricted opening hours and reduced presence in the building, thereby limiting the work that can be achieved. However, the team were able to conduct several site visits to gain a better understanding of the situation in the Burrator, Meldon, Tavy and Avon catchments and help plan future monitoring installation. This work focussed on experimental design and the parametrisation of spatial risk mapping.

Strategic planning

To assist with the design of monitoring plans and understand the spatial distribution of risk within a catchment, the team intend to map potential source areas for the contaminants of interest (DOC, manganese, geosmin and MIB). Work has continued to collate the input data required for this.

Partners and project collaborations

Collaboration with project partners continues where possible. Staff have continued to liaise with the SWEEP 009 team to ensure data from the intervention reporting and monitoring tool is integrated within UST3 monitoring plans and any future analysis. Additionally, the team are collaborating with South West Peatland Partnership to try to secure additional funding that would enable mires-related research that is currently not possible due to insufficient funds.

Left: **The UoE team surveying the Avon catchment**

Right: **The leat in the Burrator catchment**

Data collection

Data collection from different sources that will be used in both risk mapping and water quality monitoring is underway. Spot sample data from 2010-present for locations within the catchments of interest from both SWW and the Environment Agency have been collated. Additionally, continuous data that may drive temporal changes in water quality such as temperature, rainfall, river discharge or sunshine, have been collated for the catchments of interest. Staff are working on correlating water quality parameters with antecedent rainfall, stream discharge and temperature conditions to understand the drivers behind poor water quality events.

Data analysis

High resolution, optimised watershed modelling and flow routing has now been completed for catchments where the current watershed boundary is considered insufficiently accurate.

Reporting

The Mires on the Moors Scientific Report 2020 has now been finalised and printed. It will soon be uploaded to the CREWW website (https://www.exeter.ac.uk/creww/research/casestudies/miresproject/) and is available as a pdf. A joint media release will be issued.

The UST2 Monitoring and Impact Assessment report is currently being designed.

Recruitment

We have recruited a new member of the team whose role will be to contribute to the design and running of CREWW. Recruitment for a field and maternity cover lab technician is also underway.

Summary of Match Funding

Value of match funding secured by each partner

Partner	Quarter 1 April - June	Quarter 2 July - September	Quarter 3 October - December	Quarter 4 January - March
WRT and DWT	£632,305	£1,223,078	£514,959	
CWT	£29,445	£20,000	–	
FWAG	–	–	–	
SW Peatland Partnership	–	–	£125,000	
SWLT	–	–	–	
Catchment Sensitive Farming	–	–	£8,000	
Total	**£634,805**	**£1,243,078**	**£647,959**	

Appendix 2
Case studies

Case study 1
Westcountry Rivers Trust – Using cover crops to improve soil health

Background

A farmer outside Crediton contacted the UST team with an idea for a trial to grow a cover crop which includes beans (legumes are the drivers of good soil health and vetch pre-maize). Oats, linseed or other crops could also be used depending on the site specifics.

Solution

The aim is to choose seed varieties that feed the soil biology including mychorrizal fungi and enhance the glomalin that is produced, which binds the soil particles together making the structure more stable. The cover crop would also increase surface biodiversity by providing refuges for over wintering beneficial insects and birds, with a “hungry gap” feed supply in March and April.

It would also replace bagged nitrogen fertiliser for the following maize crop with over-wintered field beans which will collect nitrogen from the atmosphere and store it in nodules in the roots, which will then be available to the following crop of maize. Strip tilling the maize would reduce the disturbance of soil, thus reducing the amount of soil organic matter lost during cultivation.

The farmer would test for available nitrogen in the soil before sowing the maize and adjust the fertiliser use accordingly.

If successful, this will be included in further advice under the UST programme to reduce fertiliser use and carbon footprints within catchments.

WRT agreed to pay for the cultivation and sowing of 15 ha of ground at the rate of £61/ha for cultivation and £75/ha for seed cost under a revenue contract. The farmer would undertake soil nitrogen testing, which WRT would then follow up in the following year.

Positive results so far

The field is quite steep with a convoluted slope leading down to a spring, which eventually flows into the River Creedy to the west of Crediton. The cover crop has come up nicely, reducing the risk of soil loss and compaction, and protecting watercourses below from sedimentation with attached nutrients being reduced.

The cover crop will provide refuge for beneficial insects and cover for ground nesting birds and hares, whilst protecting the soil from capping and increasing soil organic matter from root growth and, eventually, when sprayed off, allowing the strip tilling of the following maize crop.

With further success of this trial, there is an opportunity for more of this work to be funded as revenue payments in UST catchments.

Location of farm

Legumes planted on a steep and convoluted slope leading down to a spring flowing to the River Creedy.

Cover crop coming up in December 2020

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Case studies

Case study 2
South West Peatland Partnership – Peatland restoration at Priddacombe Down

Problem

Historic reclamation, peat cuttings, drainage ditches, enclosure of the land, high density grazing and burning and a variety of land management practices over hundreds of years has led to a depleted and degraded peatland habitat. This is resulting in a peatland that is releasing carbon (gaseous and in dissolved form), has a low water table and is not actively laying down peat on the majority of the site. In addition, soils and peat are being eroded away as compaction of the peat and drainage ditches means water leaves the site very quickly. Habitat is depleted of its biodiversity and there is erosion of historic environment features, ie, the historic peat cutting pattern is changing and a scheduled monument is being negatively impacted owing to erosion channels.

Within former peat cutting areas, restoration methods need to ensure that the physical integrity of these features is maintained. The majority of the peat cuttings are also in very shallow peat, ie less than 50cm, so there is not the quantity of peat to construct peat blocks (dams) as would be the normal methodology used. Because of the various land management practices mentioned above, large areas of the landscape have also become heavily dominated by purple moor grass (*Molinia caerulea*), which is out-competing other bog associated flora from growing such as sphagnum mosses.

Solution

Innovative peatland restoration techniques were used to block the peat cuttings. Timber rounds, purchased from a Woodland Trust site that is being restored to a more natural broadleaf woodland, were used across the width to sub-divide these large features as well as blocking exit points and raising water tables. Where purple moor grass (*Molinia caerulea*) dominated, several areas were mown with a flailbot. Some areas were planted with sphagnum mosses and other areas were left unplanted to help make sure when cattle are grazing these areas, they do not spend all their time in the mown and planted area, which may lead to these areas being too trampled or eaten.

This also encourages the livestock across the site to graze and trample in areas they might otherwise not go to or spend a lot of time in.

Timber rounds/logs being installed across a peat cutting

Close up of timber rounds being installed

Outcome

Restoration of the peatland by the process of blocking peat cuttings and ditches has led to a more natural hydro-ecological system being restored. By blocking boundary ditches to protect the peatland edge and capture water, the flow of water is slowed, and sediments are captured. In addition, the planting of sphagnum mosses has created the right micro-environment for these plants to thrive and spread out which will lead to greater water storage and more biologically diverse flora and fauna.

Timber rounds with water stored behind them

Appendix 1
Case studies

Flailing dense purple moor grass areas

Sphagnum planting

Further monitoring

Vegetation monitoring has been established, and this will act as a proxy as to whether hydrological restoration has been a success.

High resolution photographic footage was recorded via a drone flying across the site. This enabled the historic environment features and the ground vegetation to be recorded prior to restoration. Any future drone images can be compared against those taken before restoration works.

Surveys of the vegetation in several quadrats was done prior to any restoration intervention which gave a baseline of vegetation in those quadrats. This will then be repeated in the same quadrats at a set time after restoration to monitor if any changes in the vegetation are detected - the aim being, if the hydrology has been restored, there will be a more stable and higher water table and more species associated with peatland habitats, such as sphagnum mosses and cotton grasses, should establish in these areas.

Appendix 1
Case studies

Case study 3
Cornwall Wildlife Trust – Tree planting in the Cober

Background

Cornwall Wildlife Trust's UST project team were approached by the Environment Agency in 2020 with a request to assist with some tree planting in the Cober catchment. The Helston Flood Alleviation Scheme (FAS) is designed to address the flood risk directly from the River Cober, in particular to alleviate the risk to homes prone to flooding in the town of Helston.

Problem

Although the work site has been replanted with trees, there was insufficient space to plant the number of trees necessary to meet the offsetting target specified for the project. The surplus trees could be planted elsewhere in the Cober catchment where they would still support the work undertaken through Helston FAS.

Solution

The Cober Team has already been supporting the farm business where the trees could be planted, through land management advisory and technical services and have helped with Countryside Stewardship applications. Soil testing and nutrient advice has already resulted in positive outcomes, improving grass yield and quality on the grass slopes above the planting site, whilst reducing fertiliser inputs, thereby helping safeguard soil and the nearby watercourses.

Once the farm had agreed to use their site, CWT provided 19 UST Wild Cober Volunteers who planted a mix of 410 broadleaved trees and shrubs, including oak, wild cherry, birch, rowan, hazel, elder, goat willow and hawthorn, with alder, and grey willow in wetter parts of the location. As well as planting all the trees in one day, stakes and shelters were also put in to protect the trees from the red deer and rabbits that frequent the site.

Outcome

The planting site is at the downslope end of a steep, improved grassland field, adjacent to the stream corridor. The trees will create a buffer, intercepting surface run-off and the sediment, nutrients and chemicals it carries from the adjacent field. Increasing infiltration rates and take-up of flood water will help to reduce the risk of flooding in Helston at the bottom of the catchment, thus supporting the works undertaken through the Helston FAS. Creating new woodland habitat is important for wildlife and will link with existing habitats via the network of Cornish hedges, which provide wildlife corridors for birds, bats and other small mammals and insects.

Success

The tree planting scheme is an example of a successful multi-funded, multi-benefit, partnership project, with materials and equipment funded through the Environment Agency Flood Alleviation Scheme project, delivered through the UST project in the CWT Cober catchment to meet SWW's UST3 project objectives.

Further monitoring

There is a national drive to plant more trees, however, it became clear to CWT that tree planting activities were happening unchecked. To combat this, CWT have developed a 'Right Tree Right Place' guide to ensure that rare and special wildlife habitats are not damaged or destroyed through inappropriate tree planting schemes. Locally, CWT are working closely with Cornwall Council's Forest for Cornwall programme to help identify and advise on suitable locations for planting trees.

Top left: **Tree planting – the perfect social distancing task for the Wild Cober Volunteers**

Bottom left: **The site, at the bottom of a steep slope, will also be fenced off to protect the trees from livestock**

Appendix 1
Case studies

Case study 4
Catchment Sensitive Farming – Maize under-sowing monitoring results

Background
Catchment Sensitive Farming have been drumming-up interest in future maize under-sowing trials and have approached four other key maize growers in the Stour catchment who together grow over 120 ha of maize. They have expressed an interest in trialling some maize under-sowing on their holdings in 2021.

Problem
Farmers and Farm Advisors want to see evidence that the under-sown cover crop does not significantly affect the maize yields. Farmers involved in 2020 maize trials said there was no noticeable impact on yield, but the yield was not weighed and there was no official control strip to compare against.

Solution
An initial trial took place last summer and CSF have been monitoring the under-sown crop over winter to see how much residual nitrogen is being absorbed and retained in the crop rather than being potentially lost by soil erosion and run-off. The trial involved three fields covering 11 ha which was under-sown on 17 June with George Frazer's Weaving IR drill.

Success
The winter monitoring results of the grass that was under-sown into maize last year show that soil mineral nitrogen in a control strip which was not drilled into was substantially higher than the rest of the under-sown field. Photos were taken to determine the average percentage ground cover in each under-sown field and the results can be seen in the table below. The seed rate used was 18kg/ha and it looks like there is scope to reduce that.

Under-sown ryegrass % ground cover

	East field	East field control	South field	North field
Rep 1	84	28	95	77
Rep 2	87	24	78	77
Rep 3	88	24	75	76
Average	**86**	**25**	**83**	**77**

Monitoring
CSF plan to look at yield more closely in trials in 2021 and are particularly interested in sharing this recent trial success with key maize growers in the catchment to maximise any uptake in trials taking place in the coming year.

Under-sown grass which shows the fibrous root structure. This photo was taken on 22 October whilst conducting Soil Mineral Nitrogen Testing with Wessex Water. The root structure improves soil structure, and the ground cover reduces soil erosion and run-off.

This cover crop is producing over 80% ground cover, holding both soil and nutrients both in the field and in the crop.

Appendix 1
Case studies

Case study 5
FWAG – Grassland Management: cell grazing system

Background

A recent grant helped to facilitate better grassland management at a site with the addition of herbal leys by creating a cell grazing system.

Problem

Water sources on the farm include three springs, which do not run year-round, and a stream which runs parallel to the farm drive. Prior to the installation by the landowner of a new bore hole and grant-funded watercourse fencing, livestock accessed the stream through the steepest fields on the farm. Animals could congregate in and around the stream which posed a risk of sediment loading and faecal inputs to the watercourse.

Solution

The landowner has recently implemented a cell-based grazing system, grazed by store cattle between April and October, moving approximately every three days. Sheep will be outwintered (if required economically), while no cattle will be on the farm in winter. Herbal leys have been established on fields that have historically been cultivated, which are included in the grazing platform. In the four permanent pasture parcels that have never been ploughed, the intention is to enhance environmental value with changes in management, for example shifting from sheep grazing only to cattle grazing. The aim is for stock densities to be kept at reduced levels or moved on regularly to allow long breaks between grazing, especially in spring/summer, so that any herb species currently present within the sward are left to flower and set seed. This would increase the frequency of herbs within the sward and increase the habitat value. The landowner applied for Mid-Tier Countryside Stewardship in 2020 and included GS4: Legume & herb-rich swards; GS1: Take areas out of management; GS5: Permanent Grassland with very low inputs in SDAs (plus supplements); and AB3: Beetle banks; and various hedge options and items.

Success

The grant funded 19 water troughs and connecting pipework to support the new grazing management and to remove the need for livestock to access the watercourse for drinking water. The watercourse was fenced off to protect the banks from livestock erosion and faecal contamination. The fencing also creates a buffer of a minimum of 2m wide, and in places is much wider, to enclose boggy patches.

Under the cell grazing system cattle move between multiple fields throughout the grazing period. Providing grant funded water troughs throughout the northern block of the farm also prevents the increase in risk of poaching in gateways and soil erosion on routes to the stream; both of which increase the risk of sediment loading in watercourses.

With no grazing adjacent to the stream, vegetation will be allowed to grow longer and more tussocky, creating a riparian corridor that should filter any run-off and provide habitat diversity within the wider context.

New fencing to protect the banks from livestock erosion and faecal contamination

Vegetation along the steam will be allowed to grow longer and more tussocky with positive wildlife and run-off benefits

Appendix 2
Media highlights

- 3 press releases
- 34 social media posts
- 6 interviews
- 7 articles

Last chance for farmers to sign up for pesticide amnesty

Farmers in North Dorset can still sign up to participate in a Dorset Pesticide Amnesty, which is being held by the Catchment Sensitive Farming team in Natural England, Wessex Water and Bournemouth Water.

Farmers have until January 16 to register their interest to take part.

Each farm can confidentially dispose of up to 75 litres or kilograms of pesticides or herbicides that have been banned or are passed their expiry date, through our waste disposal partner, Peake (GB) Ltd for free on a first come, first served basis.

Tom Hicks from Dorset's Catchment Sensitive Farming team, says out-of-date or banned pesticides and other chemicals can pose a significant risk to the environment and to water resources if they are stored or disposed of incorrectly.

He added: "That's why through this pesticide amnesty scheme they aim to facilitate the safe disposal of pesticides from farmers and land managers."

To be eligible you must farm inside a high priority area of a Dorset river catchment. Most of North Dorset lies in the high priority area of the Dorset Stour catchment.

To participate you must contact the Dorset Catchment Sensitive Farming team by January 16. Collections will be organised throughout January and February.

Contact Tom Hicks at Thomas.hicks@naturalengland.org.uk or phone 07920 708280.

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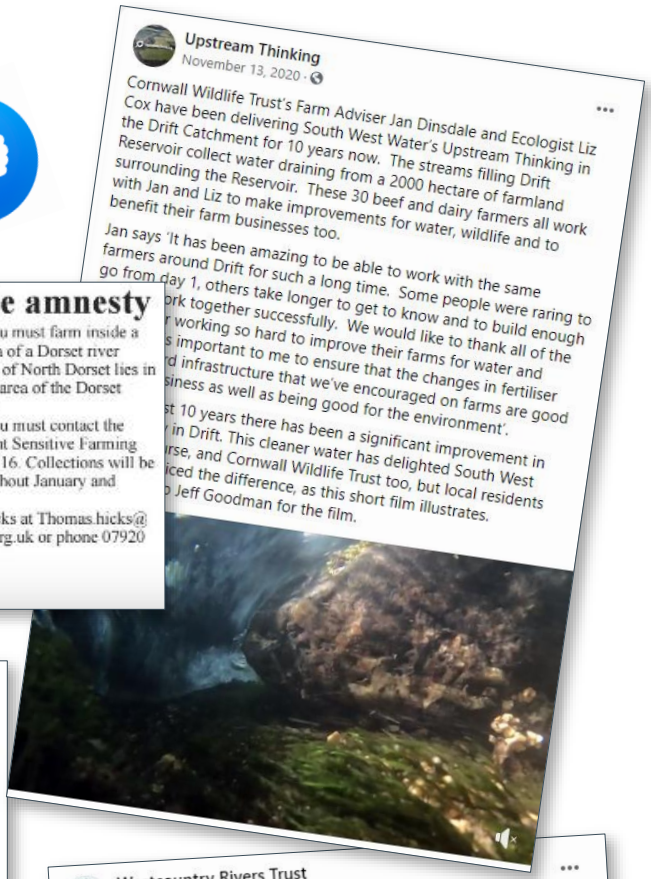

Farming

Chance to offload pesticides for free

By Miranda Robertson