



Solway Tweed first River Basin Management Plan – English Actions

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Regulatory actions

What Will Happen	Broad pressure	Specific pressure(s)	Sector(s) affected / responsible	Where it will happen	Lead organisation and partners	Start Date
Use powers to give site specific notice to remove nitrate, pollutant and agri-chemical risk to groundwater (under Water Resources Act, Groundwater Regulations, Silage Sludge And Fuel Oil Regulations, Contaminated Land Regulations)	Water quality	Nitrate Hazardous substances & non-hazardous pollutants Priority substances & specific pollutants	Agriculture/rural land management Industry & business Water industry	English parts of STRBD	Environment Agency	Started
Comply with site specific notice to remove nitrate, pollutant and agri-chemical risk to groundwater (under Water Resources Act, Groundwater Regulations, Silage Sludge And Fuel Oil Regulations, Contaminated Land Regulations)	Water quality	Nitrate Hazardous substances & non-hazardous pollutants Priority substances & specific pollutants	Agriculture/rural land management Industry & business Water industry	English parts of STRBD	Land managers and owners Business and industry	Started
Use powers to give Contaminated Land Regulations Notices to remove pollution risk to groundwater	Water quality	Hazardous substances & non-hazardous pollutants Priority substances & specific pollutants	Industry & business Agriculture/rural land management	English parts of STRBD	Local Authorities	Started
Comply with Local Authority Contaminated Land Regulations Notices to remove pollution risk to groundwater	Water quality	Hazardous substances & non-hazardous pollutants Priority substances & specific pollutants	Industry & business Agriculture/rural land management	English parts of STRBD	Industry Land managers and owners	Started
Use powers under Groundwater Regulations to control agri-chemicals through Cross Compliance	Water quality	Hazardous substances & non-hazardous pollutants Priority substances & specific pollutants	Agriculture/rural land management	English parts of STRBD	Environment Agency	Started
Introduce new EC Sustainable Use of Pesticides Directive to control use of Plant Protection Products	Water quality	Hazardous substances & non-hazardous pollutants Priority substances & specific pollutants	Agriculture/rural land management	English parts of STRBD	Central Government	2012
Comply with new EC Sustainable Use of Pesticides Directive to control use of Plant Protection Products	Water quality	Hazardous substances & non-hazardous pollutants Priority substances & specific pollutants	Agriculture/rural land management	English parts of STRBD	Land managers and owners	2012
Establish Nitrate Vulnerable Zones in catchments at a high risk from nitrate pollution	Water quality	Nitrate	Agriculture/rural land management	English parts of STRBD	Environment Agency Defra	2009
Enforce nitrate input restrictions under Nitrate Vulnerable Zone action plan by Cross compliance	Water quality	Nitrate	Agriculture/rural land management	English parts of the STRBD	Environment Agency	Started
Comply with nitrate input restrictions under Nitrate Vulnerable Zone action plan	Water quality	Nitrate	Agriculture/rural land management	English parts of the STRBD	Land managers and owners	Started
Enforce Sludge (Use in Agriculture) Regulations	Water quality	Nitrate	Agriculture/rural land management	English parts of STRBD	Environment Agency	Started

What Will Happen	Broad pressure	Specific pressure(s)	Sector(s) affected / responsible	Where it will happen	Lead organisation and partners	Start Date
Comply with Sludge (use in Agriculture) Regulations	Water quality	Nitrate	Agriculture/rural land management	English parts of STRBD	Land managers and owners	Started
Enforce environmental permits in the agricultural sector, including those for: - disposal of sheep dip - disposal of pesticides - effluent discharges to ground	Water quality	Hazardous substances & non-hazardous pollutants Priority substances & specific pollutants	Agriculture/rural land management	English parts of STRBD	Environment Agency	Started
Comply with environmental permits in the agricultural sector	Water quality	Hazardous substances & non-hazardous pollutants Priority substances & specific pollutants	Agriculture/rural land management	English parts of STRBD	Land managers and owners	Started
Follow pesticides statutory Code of Practice and comply with published advice for operators on control of plant protection products	Water quality	Hazardous substances & non-hazardous pollutants Priority substances & specific pollutants	Agriculture/rural land management	English parts of STRBD	Land managers and owners	Started
Implement new regulatory approach (via Environmental Permitting Regulations) through new Groundwater Directive	Water quality	Nitrate Hazardous substances & non-hazardous pollutants Priority substances & specific pollutants	Agriculture/rural land management	English parts of STRBD	Environment Agency	2012
Suspend use of Cypermethrin as sheep-dip (temporary)	Water quality	Sheep dip	Agriculture/rural land management	River Lyne	Veterinary Medicines Directorate	Started
Enforce REACH (Registration, Evaluation, Authorisation and Restriction of Chemicals Regulations 2006) Annex 17 restrictions	Water quality	Hazardous substances & non-hazardous pollutants Priority substances & specific pollutants	Industry & business	English parts of STRBD	Environment Agency	Started
Enforce discharge/PPC and other environmental permit conditions	Water quality	Hazardous substances & non-hazardous pollutants Priority substances & specific pollutants Phosphorus	Industry & business Water industry	English parts of STRBD	Environment Agency	Started
Comply with discharge/PPC and other environmental permit conditions	Water quality	Hazardous substances & non-hazardous pollutants Priority substances & specific pollutants Phosphorus	Industry & business Water industry	English parts of STRBD	Industry Water companies	Started

What Will Happen	Broad pressure	Specific pressure(s)	Sector(s) affected / responsible	Where it will happen	Lead organisation and partners	Start Date
Revoke or amend discharge/PPC consents to achieve favourable conservation status on Natura 2000 Protected Areas	Water quality	Nutrients	Agriculture/rural land management	Berwickshire & North Northumberland Coast SAC North Pennine Moors SAC River Eden SAC	Environment Agency Natural England	2012
Enforce permits for the transfer and disposal of waste	Water quality	Hazardous substances & non-hazardous pollutants Priority substances & specific pollutants	Industry & business	English parts of STRBD	Environment Agency	Started
Comply with permits for the transfer and disposal of waste	Water quality	Hazardous substances & non-hazardous pollutants Priority substances & specific pollutants	Industry & business	English parts of STRBD	Industry	Started
Follow best practice codes for agriculture including: - advice on controlling nitrate releases to land and water - Pesticides Statutory Code of Practice - Sheep Dip Statutory Code of Practice - Code of Good Agricultural Practice (nitrate and control of agri-chemicals)	Water quality	Nitrate Hazardous substances & non-hazardous pollutants Priority substances & specific pollutants Sheep dip	Agriculture/rural land management	English parts of STRBD	Land managers and owners	Started
EU Restriction on use of PAH content in oil used in the manufacture of tyres	Water quality	Benzo (ghi) perylene; Indeno (123-cd) pyrene	Industry & business	English parts of STRBD	European Union	Started
Follow Petrol Retailing Code of Practice (Groundwater Regulations) - advice for operators	Water quality	Hazardous substances & non-hazardous pollutants Priority substances & specific pollutants	Industry & business	English parts of STRBD	Environment Agency	Started
Follow Solvents Code of Practice (Groundwater Regulations) - advice for operators	Water quality	Hazardous substances & non-hazardous pollutants Priority substances & specific pollutants	Industry & business	English parts of STRBD	Environment Agency	Started
EU-wide ban on marketing and use of TBT as a biocide	Water quality	Tributyltin compounds	Navigation	River Eden River Eamont Solway Estuary	European Union	Started
Extend abstraction control to include previously exempt uses	Water quantity	Abstraction and other artificial flow pressures	Agriculture/rural land management Mining and quarrying Water industry Navigation	English parts of STRBD	Environment Agency	2012

What Will Happen	Broad pressure	Specific pressure(s)	Sector(s) affected / responsible	Where it will happen	Lead organisation and partners	Start Date
Extend abstraction control to include previously exempt areas	Water quantity	Abstraction and other artificial flow pressures	Agriculture/rural land management Water industry Industry & business	Till Catchment	Environment Agency	2012
Better co-ordinate cross-border abstraction control	Water quantity	Abstraction and other artificial flow pressures	Agriculture/rural land management Water industry	Till catchment	Environment Agency SEPA Tweed Forum	2012
Enforce abstraction and impoundment licence conditions	Water quantity Habitat	Abstraction and other artificial flow pressures Physical modification	Agriculture/rural land management Water industry Industry & business	English parts of STRBD	Environment Agency	Started
Comply with abstraction and impoundment licence conditions	Water quantity Habitat	Abstraction and other artificial flow pressures Physical modification	Agriculture/rural land management Water industry Industry & business	English parts of STRBD	Land managers and owners Water companies Industry	Started
Revoke or amend abstraction licences to achieve favourable conservation status on Natura 2000 Protected Areas	Water quantity	Abstraction and other artificial flow pressures	Water industry	River Eden SAC	Environment Agency United Utilities	2012
Use existing legislative powers to prevent / minimise the impact of invasive species	INNS	Direct biological pressures	Central Government Environment Agency	English parts of STRBD	Central Government Environment Agency	2012
Implement Catchment Flood Management Plan for the Derwent system, including a policy of reducing land drainage activities with likely knock-on benefits for improving water bodies and providing wetland	Water quality Habitat	Physical modification	Agriculture/rural land management	Waver & Wampool catchments	Environment Agency	Started

Voluntary actions

What Will Happen	Broad pressure	Specific pressure(s)	Sector(s) affected / responsible	Where it will happen	Lead organisation and partners	Start Date
Apply learning from Newcastle University projects looking at measures to reduce or control runoff from arable land and create wetland filtration systems	Water quality	Diffuse pollution (general)	Agriculture/rural land management	Till catchment	Natural England Newcastle University Tweed Forum	Started

What Will Happen	Broad pressure	Specific pressure(s)	Sector(s) affected / responsible	Where it will happen	Lead organisation and partners	Start Date
Influence location of development to protect groundwater	Water quality	Nitrate Hazardous substances & non-hazardous pollutants Priority substances & specific pollutants	Local Government	English parts of STRBD	Local Authorities/ Regional Development Agencies Water companies Environment Agency	Started
Implement Planning Policy Guidance Statement 23 on controlling pollution of groundwater from land development	Water quality	Nitrate Hazardous substances & non-hazardous pollutants Priority substances & specific pollutants	Agriculture/rural land management Industry & business	English parts of STRBD	Local Authorities	Started
Implement Groundwater Protection: Policy & Practice – guidance on prevention of groundwater pollution	Water quality	Nitrate Hazardous substances & non-hazardous pollutants Priority substances & specific pollutants	Agriculture/rural land management Industry & business	English parts of STRBD	Environment Agency Land managers and owners Industry	Started
Develop pollution action plan and designate Safeguard Zones to identify specific measures to address impacts on drinking water abstractions	Water quality	Microbiology Nitrate Hazardous substances & non-hazardous pollutants Priority substances & specific pollutants	All sectors	English parts of STRBD	Environment Agency	2010
Apply Sustainable Drainage Systems (SUDS) Code of Practice in new developments	Water quality	Diffuse pollution (general)	Industry & business	English parts of STRBD	Industry	Started
Fire service Memorandum of Understanding on implementing pollution control measures in emergencies	Water quality	Hazardous substances & non-hazardous pollutants Priority substances & specific pollutants	Local Government	English parts of STRBD	Environment Agency Local Authorities	Started

Advice and education

What Will Happen	Broad pressure	Specific pressure(s)	Sector(s) affected / responsible	Where it will happen	Lead organisation and partners	Start Date
Establish and maintain agri-environment and environmental stewardship schemes, including payments for best practice to limit nitrate input and control agri-chemicals	Water quality	Nitrate Hazardous substances & non-hazardous pollutants Priority substances & specific pollutants	Agriculture/rural land management	English parts of STRBD	Natural England Land managers and owners	Started

What Will Happen	Broad pressure	Specific pressure(s)	Sector(s) affected / responsible	Where it will happen	Lead organisation and partners	Start Date
Establish and maintain the England Catchment Sensitive Farming Delivery Initiative to reduce diffuse water pollution from agriculture	Water quality	Diffuse pollution (general)	Agriculture/rural land management	English parts of STRBD	Defra Environment Agency Natural England	2010
Target partnerships and regulatory activities that give advice to / inspect the agricultural sector at Water Framework Directive priority areas	Water quality	Diffuse pollution (general)	Agriculture/rural land management	English parts of STRBD	Environment Agency Natural England	2012
Online riverworks information portal for the Tweed catchment, to include regulatory frameworks, best practice and a register of qualified specialists	Habitat	Physical modification	All	Till catchment	Tweed Forum	2009
Increase awareness of both statutory and non-statutory diffuse pollution codes of practice	Water quality	Diffuse pollution (general)	Agriculture/rural land management	Till catchment	Tweed Forum	2009
Implement agri-environment schemes to achieve favourable conservation status on Natura 2000 Protected Areas	Water quality	Diffuse pollution (general)	Agriculture/rural land management	Lake District High Fells SAC North Pennine Moors SAC South Solway Mosses SAC North Pennine Moors SPA Berwickshire & North Northumberland Coast SAC	Natural England	2012
Promote and encourage uptake of agri-environment schemes in catchments most at risk	Water quality	Diffuse pollution (general)	Agriculture/rural land management	English parts of STRBD	Natural England	Started
Target compliance and campaigns work at Water Framework Directive risks	Water quality	Diffuse pollution (general) Point source pollution	Agriculture/rural land management Industry & business	English parts of STRBD	Environment Agency	Started
Follow advice on use of agri-chemicals and nitrate control from local agricultural partnerships e.g. LEAF, NGOs such as Rivers Trusts, Landcare, Farming & Wildlife Advisory Group	Water quality	Nitrate Hazardous substances & non-hazardous pollutants Priority substances & specific pollutants	Agriculture/rural land management	English parts of STRBD	Land managers and owners	Started
Educate key sectors on groundwater pollution legislation through NetRegs	Water quality	Nitrate Hazardous substances & non-hazardous pollutants Priority substances & specific pollutants	Agriculture/rural land management Industry & business	English parts of STRBD	Environment Agency	Started

What Will Happen	Broad pressure	Specific pressure(s)	Sector(s) affected / responsible	Where it will happen	Lead organisation and partners	Start Date
Give site specific groundwater pollution prevention advice and recommendations in development planning	Water quality	Nitrate	Agriculture/rural land management Industry & business	English parts of STRBD	Local Authorities	Started
Provide advice to small and medium sized businesses on obligations in relation to priority substances, priority hazardous substances and specific pollutants through NetRegs website	Water quality	Hazardous substances & non-hazardous pollutants Priority substances & specific pollutants	Industry & business	English parts of STRBD	Environment Agency	2012
Promote use of Sustainable Drainage Systems (SUDS) in new developments and retro-fitting	Water quality	Diffuse pollution (general)	Local Government	English parts of STRBD	Local Government Environment Agency	Started
Provide groundwater protection advice to Chemicals Regulation Directorate approvals process	Water quality	Priority substances & specific pollutants Hazardous substances & non-hazardous pollutants	Agriculture/rural land management	English parts of STRBD	Environment Agency Central Government	Started
Provide groundwater protection advice to Veterinary Medicines Directorate products approvals process	Water quality	Hazardous substances & non-hazardous pollutants Priority substances & specific pollutants	Agriculture/rural land management	English parts of STRBD	Central Government	Started
Provide advice and infrastructure improvements to National Trust tenanted farms	Water quality Habitat	Diffuse pollution (general) Physical modification	Agriculture/rural land management	National Trust tenanted land	National Trust	Started
Promote water efficiency and auditing of water use on National Trust land	Water quantity	Abstraction and other artificial flow pressures	Agriculture/rural land management	National Trust tenanted land	National Trust	Started
Target work with key groups to promote water efficiency, eg. Regional Development Agencies grant scheme for Farm Resource Efficiency measures as part of the Rural Development Programme	Water quantity	Abstraction and other artificial flow pressures	Agriculture/rural land management Industry & business Individuals	English parts of STRBD	Environment Agency National Farmers' Union Natural England Regional Development Agencies Water companies	2012
Encourage farmers to build winter storage reservoirs where appropriate and promote the uptake of grants within priority catchments	Water quantity	Abstraction and other artificial flow pressures	Agriculture/rural land management	Till Catchment	Natural England National Farmers' Union Regional Development Agencies Environment Agency Tweed Forum	2012

What Will Happen	Broad pressure	Specific pressure(s)	Sector(s) affected / responsible	Where it will happen	Lead organisation and partners	Start Date
Educate targeted audiences to raise awareness of sustainable water use, including conservation and re-use	Water quantity	Abstraction and other artificial flow pressures	Agriculture/rural land management Industry & business Individuals	English parts of STRBD	Central Government Environment Agency Water companies Tweed Forum	2012
Reduce water demand through promotion of free household meters	Water quantity	Abstraction and other artificial flow pressures	Water industry Individuals	English parts of STRBD	Water companies	2010
Reduce water demand through tax incentives (enhanced Capital Allowances) for the purchase and use of efficient plant and fittings by commercial organisations	Water quantity	Abstraction and other artificial flow pressures	Industry & business	English parts of STRBD	Defra HM Revenue & Customs	Started
Develop Water Framework Directive mitigation measures manual for flood and coastal erosion risk management and land drainage activities	Habitat	Physical modification	Agriculture/rural land management	English parts of STRBD	Environment Agency	2010
Develop and implement codes of practice to reduce the spread of invasive non-native species	INNS	Direct biological pressures	Central Government Environment Agency	English parts of STRBD	Central Government Environment Agency	2012
Increase awareness of the importance of prevention in addressing the threats posed by invasive non-native species	INNS	Direct biological pressures	Central Government	English parts of STRBD	Central Government	2010
Provide advice and training on identification, control and disposal of invasive non-native species to all relevant groups and encourage monitoring schemes	INNS	Direct biological pressures	Central Government Environment Agency	English parts of STRBD	Central Government Environment Agency	2012
Eliminate invasive non-native species from gardens and dispose of them responsibly	INNS	Direct biological pressures	Individuals	English parts of STRBD	Central Government	Started
Set up and maintain a website that acts as a "one stop shop" for information and advice on invasive non-native species	INNS	Direct biological pressures	Central Government	English parts of STRBD	Central Government	Started
Raise awareness of the of the risks of transferring non-native species to the wild	INNS	Direct biological pressures	Central Government Environment Agency	English parts of STRBD	Central Government	2010

Local direct actions

What Will Happen	Broad pressure	Specific pressure(s)	Sector(s) affected / responsible	Where it will happen	Lead organisation and partners	Start Date
Sustainable Trout Restoration Ecosystem Approach and Monitoring (STREAM) project to investigate trout habitat availability and population dynamics, including habitat improvements	Habitat Water quality	Physical modification Diffuse pollution (general)	Agriculture/rural land management	Eden catchment	Eden Rivers Trust	Started
Establish SSSI management agreement to achieve favourable conservation status on Natura 2000 Protected Areas	Habitat Water quality	Physical modification Nutrients	Agriculture/rural land management	Bolton Fell Moss SAC North Pennine Moors SPA	Natural England	2012
Implement River Restoration Programmes to achieve favourable conservation status on Natura 2000 Protected Areas	Habitat	Physical modification	Agriculture/rural land management	River Eden SAC River Tweed SAC	Environment Agency	2012
Develop pollution action plans to achieve favourable conservation status on Natura 2000 Protected Areas	Water quality	Diffuse pollution (general) Point source pollution	Agriculture/rural land management Water industry	Asby Complex SAC Berwickshire & North Northumberland Coast SAC Lake District High Fells SAC Naddle Forest SAC River Eden SAC River Tweed SAC South Solway Mosses SAC	Environment Agency Natural England	2012
Implement water company Asset Management Plan schemes to achieve favourable conservation status on Natura 2000 Protected Areas	Water quantity	Abstraction and other artificial flow pressures	Water industry	River Eden SAC	United Utilities Environment Agency Natural England	2012
Contribute to achieving favourable condition on Thurstonfield Lough SSSI by implementing lake restoration project	Water quality	Nutrients	Conservation Groups	Thurstonfield Lough	Natural England	2012
Contribute to achieving favourable condition on Brothers Water SSSI, Cotehill Pastures and Ponds SSSI and Thurstonfield Lough SSSI by developing a pollution action plan	Water quality	Nutrients	Agriculture/rural land management	Thurstonfield Lough Brothers Water Cotehill Pastures & Ponds	Environment Agency Natural England	2012
Implement Invasive Species Control Programme to achieve favourable conservation status on Natura 2000 Protected Areas	INNS	Direct biological pressures	All sectors	River Eden SAC River Tweed SAC	Natural England Tweed Forum	2012

What Will Happen	Broad pressure	Specific pressure(s)	Sector(s) affected / responsible	Where it will happen	Lead organisation and partners	Start Date
Eradicate and control INNS at selected SSSIs and Natura 2000 sites	INNS	Direct biological pressures	Central Government	English parts of STRBD	Natural England Tweed Forum	2012
Map invasive plant distribution and develop a control strategy	INNS	Direct biological pressures	Conservation Groups	River Eamont	Eden Rivers Trust	2009
Reduce pollution and colour impacts on drinking water supply through Sustainable Catchment Management Programme 2 (SCaMP) on United Utilities' tenanted farms	Water quality	Diffuse pollution (general)	Agriculture/rural land management	Haweswater catchment	United Utilities	2009
Continue the Cumbria Wetlands Project to develop further wetland habitat	Habitat Water quantity	Physical modification Abstraction and other artificial flow pressures	Agriculture/rural land management	Waver & Wampool Catchments	Environment Agency Natural England RSPB	Started
Complete the Tweed Wetland Strategy to enable targeted wetland habitat restoration/creation	Habitat Water quantity	Physical modification Abstraction and other artificial flow pressures	Agriculture/rural land management	Till catchment	Tweed Forum Environment Agency Farming & Wildlife Advisory Group Natural England Northumbria Wildlife Trust	Started
Encourage reduced stock numbers in riparian areas and, where appropriate, exclude stock to minimise erosion and retain/re establish bankside vegetation	Water quality Habitat	Diffuse pollution (general)	Agriculture/rural land management	Till Catchment	Tweed Forum	Started
Fish habitat improvement work on National Trust land	Habitat	Physical modification	Agriculture/rural land management	National Trust land	National Trust	Started
Create 12 wetlands to demonstrate the multifunctional role that ponds and wetlands can play	Water quality Habitat	Diffuse pollution (general) Physical modification	Agriculture/rural land management	Till Catchment	Tweed Forum	Started
Hoff and Helm Becks catchment plan including riparian habitat improvement, in-stream habitat enhancement, whole farm environmental plans, monitoring ecological and habitat improvements, engaging local community, awareness raising about invasive non-native species	Water quality Habitat INNS	Direct biological pressures Diffuse pollution (general) Physical modification	Agriculture/rural land management	Hoff Beck Helm Beck	Eden Rivers Trust	Started
Leith & Lyvennet catchment plan including riparian habitat improvement, in-stream habitat enhancement, whole farm environmental plans, monitoring ecological and habitat improvements, engaging local community, awareness raising about invasive non-native species	Water quality Habitat INNS	Direct biological pressures Diffuse pollution (general) Physical modification	Agriculture/rural land management	River Lyvennet River Leith	Eden Rivers Trust	Started

What Will Happen	Broad pressure	Specific pressure(s)	Sector(s) affected / responsible	Where it will happen	Lead organisation and partners	Start Date
River Petteril catchment plan including riparian habitat improvement, in-stream habitat enhancement, Himalayan balsam clearance, whole farm environmental plans, identifying problem road drains and culverts, monitoring ecological and habitat improvements	Water quality Habitat INNS	Direct biological pressures Diffuse pollution (general) Physical modification	Agriculture/rural land management	River Petteril Blackrack Beck	Eden Rivers Trust	Started
Trout Beck catchment plan including riparian fencing, whole farm environmental plans, fish easement, monitoring ecological and habitat improvements	Water quality Habitat	Diffuse pollution (general) Physical modification	Agriculture/rural land management	Trout Beck	Eden Rivers Trust	Started
Implement actions in the Tweed Fisheries Management Plan	Water quality Water quantity Habitat INNS	Diffuse pollution (general) Abstraction and other artificial flow pressures Physical modification Direct biological pressures	Agriculture/rural land management Conservation Groups	Till Catchment	River Tweed Commission	Started
Woodland planting, hedgerow work and tackling invasive species on National Trust land	Water quality Habitat INNS	Diffuse pollution (general) Direct biological pressures	Agriculture/rural land management	National Trust land	National Trust	Started
Implement actions in the Tweed Catchment Management Plan	Water quality Water quantity Habitat INNS	Diffuse pollution (general) Abstraction and other artificial flow pressures Physical modification Direct biological pressures	All sectors	Till Catchment	Tweed Forum	Started
Improve defunct fish pass in Hartley Beck	Habitat	Physical modification	Conservation Groups	Upper Eden	Eden Rivers Trust	2009
Improve Corby Weir gauging station and fish counter to ease lamprey and elver passage at low flows	Habitat	Physical modification	Environment Agency	River Eden	Environment Agency	2010
Peatscapes project to block moorland grips in the North Pennines	Habitat Water quantity	Physical modification	Agriculture/rural land management	Upper Pennine streams	North Pennines AONB Partnership	Started
Tweed Foundation American signal crayfish projects	INNS	Direct biological pressures	Conservation Groups	Till Catchment	Tweed Foundation	2010
Tweed Invasives Project to reduce the distribution and abundance of invasive non-native plants	INNS	Direct biological pressures	Conservation Groups	Till Catchment	Tweed Forum	Started

What Will Happen	Broad pressure	Specific pressure(s)	Sector(s) affected / responsible	Where it will happen	Lead organisation and partners	Start Date
Investigate and improve continuous and intermittent sewage discharges	Water quality	Point source pollution	Water industry	English parts of STRBD	Water companies	2010
Improve discharges under Asset Management Plan 4	Water quality	Point source pollution	Water industry	English parts of STRBD	Central Government Water companies Environment Agency	Started
Improve discharges under Asset Management Plan 5	Water quality	Point source pollution	Water industry	English parts of STRBD	Central Government Water companies Environment Agency	2012
Provide agreed first time rural sewerage schemes	Water quality	Diffuse pollution (general)	Water industry	English parts of STRBD	Water companies	Started
Reduce abstraction impacts through capital works and licence changes under Asset Management Plan 4	Water quantity	Abstraction and other artificial flow pressures	Water industry	English parts of STRBD	Central Government Water companies Environment Agency	Started
Reduce abstraction impacts through capital works and licence changes under Asset Management Plan 5	Water quantity	Abstraction and other artificial flow pressures	Water industry	English parts of STRBD	Central Government Water companies Environment Agency	2012
Reduce water demand through installation of agreed household meters on change of occupier	Water quantity	Abstraction and other artificial flow pressures	Water industry Individuals	Till catchment	Northumbrian Water	2021

Investigations

What Will Happen	Broad pressure	Specific pressure(s)	Sector(s) affected / responsible	Where it will happen	Lead organisation and partners	Start Date
Assess risks to drinking water abstractions and develop pollution action plans / designate Safeguard Zones if required to identify specific measures to address impacts	Water quality	Microbiology Nitrate Hazardous substances & non-hazardous pollutants Priority substances & specific pollutants	Water industry	English parts of STRBD	Environment Agency	2010
Support Chemicals Regulation Directorate research into amenity use of pesticides	Water quality	Priority substances & specific pollutants Hazardous substances & non-hazardous pollutants	Agriculture/rural land management	English parts of STRBD	Central Government	Started

What Will Happen	Broad pressure	Specific pressure(s)	Sector(s) affected / responsible	Where it will happen	Lead organisation and partners	Start Date
Carry out additional diatom monitoring to understand sources of phosphorus	Water quality	Phosphorus	Agriculture/rural land management Urban and transport	River Petteril	Environment Agency	Started
Demonstration Catchments Project to monitor the effectiveness of agricultural diffuse pollution control measures	Water quality	Diffuse pollution (general)	Agriculture/rural land management	Eden catchment	Defra Environment Agency	2009
Investigate to better understand problems in waterbodies where extended deadlines have been put in place and identify actions to resolve them where possible	Water quality Water quantity Habitat	Diffuse pollution (general) Point source pollution Abstraction and other artificial flow pressures Physical modification	All sectors	English parts of STRBD	Environment Agency	2009
Investigate the impacts of commercial shell and fin fisheries to improve the risk assessment of the impact of these activities on ecology and identify appropriate measures	Water quality	Dredging and trawling (commercial fishing and shellfish)	Industry & business	Transitional and coastal waters	Environment Agency	2010
Investigate discharges from abandoned metal mines and prioritise for inclusion in national agreement with relevant mines partner organisations	Water quality	Hazardous substances & non-hazardous pollutants Priority substances & specific pollutants	Mining and quarrying	Glenridding Beck	Environment Agency	2015
Investigate to assess the contribution from dredging or disposal activities on Environment Quality Standard compliance	Water quality	Tributyltin compounds	Navigation	River Eden River Eamont Solway Estuary	Environment Agency	2012
Highways Agency programme to investigate soakaways	Water quality	Hazardous substances & non-hazardous pollutants Priority substances & specific pollutants	Urban and transport	English parts of STRBD	Highways Agency	Started
Investigate fate and transport of phosphorus in groundwater to determine impact on surface water	Water quality	Phosphorus	Water industry	English parts of STRBD	Water companies Environment Agency	2012
Investigate rising nitrate trends in groundwater	Water quality	Nitrate	Agriculture/rural land management	Eden Valley and Carlisle Basin Permo-Triassic sandstone aquifers	Environment Agency	Started
Investigate pressures on groundwater-dependent terrestrial ecosystems - continue to monitor, investigate and develop understanding	Water quality Water quantity	Diffuse pollution (general) Abstraction and other artificial flow pressures	All sectors	English parts of STRBD	Northumbrian Water Environment Agency	Started

What Will Happen	Broad pressure	Specific pressure(s)	Sector(s) affected / responsible	Where it will happen	Lead organisation and partners	Start Date
Improve flow estimates for surface water bodies	Water quantity	Abstraction and other artificial flow pressures	All sectors	English parts of STRBD	Environment Agency	2012
Review and improve the Environmental Flow Indicators used in Catchment Abstraction Management Strategies	Water quantity	Abstraction and other artificial flow pressures	All sectors	English parts of STRBD	Environment Agency	2012
Investigate sites identified under the Restoring Sustainable Abstraction programme	Water quantity	Abstraction and other artificial flow pressures	All sectors	English parts of STRBD	Environment Agency	2012
Investigate deregulated abstraction (<20m ³ /day) to understand cumulative impacts	Water quantity	Abstraction and other artificial flow pressures	Environment Agency	River Ive Roe Beck	Environment Agency	Started
Investigate to improve confidence in groundwater quantitative status	Water quantity	Abstraction and other artificial flow pressures	Environment Agency	English parts of STRBD	Environment Agency	2012
Tweed Catchment Management Plan - improve knowledge of the river system and current and historical riverworks throughout the catchment	Habitat	Physical modification	All sectors	Till catchment	Tweed Forum Environment Agency Natural England	Started
Adaptive Land-use for Flood Alleviation (ALFA) project to investigate the impact of different land management scenarios and identify locations for implementation actions	Habitat	Physical modification	Agriculture/rural land management	River Lowther River Eamont Dacre Beck Skitwath Beck	Eden Rivers Trust	Started
Explore opportunities for reconnecting the river with its floodplain and, where appropriate, recreate or restore wetland habitats	Habitat	Physical modification	Agriculture/rural land management	Till Catchment	Tweed Forum	Started
Investigate / revoke planning permission for peat extraction to achieve favourable conservation status on Natura 2000 Protected Areas	Habitat	Physical modification	Agriculture/rural land management	Bolton Fell Moss SAC North Pennine Moors SPA	Natural England	2012
Monitor and investigate mitigation measures techniques to establish the effectiveness of these measures and improve understanding of hydro-morph-ecological interactions	Habitat	Physical modification	All sectors	English parts of STRBD	Environment Agency	2011
Carry out risk assessments to identify priority invasive species for mitigation and control action at GB and national levels	INNS	Direct biological pressures	Central Government	English parts of STRBD	Central Government	2012
Strategic Maintenance Study into potential future scenarios for flood risk management activities	Habitat	Physical modification	Environment Agency	Waver & Wampool Catchments	Environment Agency	Started

What Will Happen	Broad pressure	Specific pressure(s)	Sector(s) affected / responsible	Where it will happen	Lead organisation and partners	Start Date
Investigate the ecological outcomes of flood risk management mitigation measures, including understanding the cost/benefit and technical feasibility of such measures	Habitat	Physical modification	Environment Agency	English parts of STRBD	Environment Agency	2010

Other actions

What Will Happen	Broad pressure	Specific pressure(s)	Sector(s) affected / responsible	Where it will happen	Lead organisation and partners	Start Date
Continue to integrate Tweed Catchment Management Plan with RBMP process	Water quality Water quantity Habitat INNS	All pressures	All sectors	Till Catchment	Tweed Forum Environment Agency	Started
Re-engineer existing discharges to avoid direct discharges of pollutants to groundwater	Water quality	Nitrate Priority substances & specific pollutants Hazardous substances & non-hazardous pollutants	Water industry Industry & business	English parts of STRBD	Water companies	Started
Review of approvals for Plant Protection Products by the European Union	Water quality	Hazardous substances & non-hazardous pollutants Priority substances & specific pollutants	Agriculture/rural land management	English parts of STRBD	European Union	Started
Develop and apply national guidance framework on dredging and disposal of dredgings to refine local measures as appropriate (where not disproportionately costly or technically infeasible)	Water quality	Tributyltin compounds	Navigation	River Eden River Eamont Solway Estuary	Marine & Fisheries Agency	2012
Help prevent illegal use of old Tributyltin containing products	Water quality	Tributyltin compounds	Navigation	River Eden River Eamont Solway Estuary	British Marine Federation British Waterways Environment Agency Royal Yachting Association	Started
Review existing controls for dredging and disposal of dredgings inside and outside harbour limits as appropriate	Water quality	Tributyltin compounds	Navigation	River Eden River Eamont Solway Estuary	Marine and Fisheries Agency	2012

What Will Happen	Broad pressure	Specific pressure(s)	Sector(s) affected / responsible	Where it will happen	Lead organisation and partners	Start Date
Implement Network Rail Pesticide protocol	Water quality	Hazardous substances & non-hazardous pollutants Priority substances & specific pollutants	Urban and transport	English parts of STRBD	Industry Environment Agency	Started
Audit companies remediating contaminated land, continue monitoring groundwater quality and support local authority in bringing polluted land back into use	Water quality	Hazardous substances & non-hazardous pollutants Priority substances & specific pollutants	Industry & business	Till Fell Sandstone	Environment Agency	2012
Embed RBMP objectives, where appropriate, within the Northumberland Local Development Framework	Water quality Water quantity Habitat	Diffuse pollution (general) Abstraction and other artificial flow pressures Physical modification	Local Government	Till Catchment	Northumberland County Council	2011
Integrate Berwickshire and North Northumberland Coast Area of Outstanding Natural Beauty Management Plan with RBMP	Water quality Habitat	Diffuse pollution (general) Physical modification	Local Government	Till Catchment	Northumberland County Council	2010
Integrate Berwickshire and North Northumberland Coast European Marine Site Management Plan with RBMP	Water quality Habitat	Diffuse pollution (general) Physical modification	Local Government	Till Catchment	Northumberland County Council	2010
Establish and implement water level management plan	Water quantity	Physical modification	Agriculture/rural land management	Till Catchment	Environment Agency	2010
Use Catchment Abstraction Management Strategies to determine water available for new abstraction licence applications and variations to existing licences	Water quantity	Abstraction and other artificial flow pressures	Agriculture/rural land management Water industry Industry & business	English parts of STRBD	Environment Agency	Started
Cheviot Futures project to reduce and mitigate for the impacts of climate change	Water quantity INNS	Abstraction and other artificial flow pressures Direct biological pressures	All sectors	Till Catchment	Tweed Forum Northumberland National Park Environment Agency	Started
Align plans, processes and programmes (such as the Environment Agency Navigation & recreation and Recreation strategies) to the requirements of hydromorphology to achieve WFD objectives, especially ecological potential	Habitat	Physical modification	All sectors	English parts of STRBD	Environment Agency	2009
Continue the Riverworks Working Group as a forum for sharing best practice, disseminating guidance, discussing forthcoming work in the catchment and ensuring cross-border integration	Habitat	Physical modification	All sectors	Till catchment	Tweed Forum Environment Agency Natural England	Started

What Will Happen	Broad pressure	Specific pressure(s)	Sector(s) affected / responsible	Where it will happen	Lead organisation and partners	Start Date
Cumbria-wide invasive non-native species co-ordinator	INNS	Direct biological pressures	All sectors	Eden, Esk, Waver & Wampool catchments	South Cumbria Rivers Trust	2010
Contribute to the development of any EU level initiatives to improve legislation and controls relating to invasive non-native species	INNS	Direct biological pressures	Central Government	English parts of STRBD	Central Government	2012
Develop a national early warning system with contingencies for rapid response control measures to eradicate new invasions	INNS	Direct biological pressures	Central Government	English parts of STRBD	Central Government	2012
Draw together a database of projects to facilitate better information sharing and increase opportunities for partnership working	INNS	Direct biological pressures	Central Government	English parts of STRBD	Central Government	2012
Draw up Individual Species Action Plans for species identified as presenting particular risk levels, to minimise the risks associated with them	INNS	Direct biological pressures	Central Government Environment Agency	English parts of STRBD	Central Government Environment Agency	2012
Establish a central repository for holding data on invasive non-native species distribution.	INNS	Direct biological pressures	Central Government	English parts of STRBD	Central Government	2012
Establish national invasive non-native species forums to plan, prioritise and coordinate action	INNS	Direct biological pressures	Central Government	English parts of STRBD	Central Government	Started
Integrate invasive non-native species control measures across all policy areas	INNS	Direct biological pressures	Central Government Environment Agency	English parts of STRBD	Central Government Environment Agency	2012
Seek sustainable and cost-effective methods for managing established invasions, such as biological control	INNS	Direct biological pressures	Central Government Environment Agency	English parts of STRBD	Environment Agency Central Government	2012
North East Declaration on Climate Change	Water quantity INNS	Abstraction and other artificial flow pressures Direct biological pressures	Local Government	Till Catchment	ONE North East	Started

Explanation of acronyms

Defra Department for the Environment Food & Rural Affairs
 INNS Invasive non-native Species
 PPC Pollution Prevention & Control
 RBMP River Basin Management Plan
 RSPB RSPB

SAC Special Area of Conservation
 SEPA Scottish Environment Protection Agency
 SPA Special Protection Area
 STRBD Solway Tweed River Basin District