

SWEEP Regional Development Resources (RDRes) for Local Government

Evidencing the role of Natural Capital as a driver towards economic prosperity and societal benefit

This SWEEP Resource Pack provides evidence, information and tools to support the role of Natural Capital as a driver towards economic prosperity and societal benefit.

It has been designed for local councils and other organisations in the South West to aid preparation of Business Cases, development of Local Plans, implementation of policies and preparation of new initiatives or projects. It draws from across SWEEP's wide-ranging portfolio of 35+ projects and includes information about reports, tools and approaches developed under SWEEP.

The SWEEP project (**South West Partnership for Environment and Economic Prosperity; 2017-2023**) aimed to bring natural capital and environmental considerations into the heart of the decision-making in the South West. SWEEP provided a regional exemplar of how the 'Natural Capital Approach' can be adopted at scale. It helped to deliver this approach by co-creating guidance, tools and solutions with a diverse range of project partners. Please view our [film](#) to learn more about the SWEEP approach.

SWEEP's portfolio of interlinked Impact Project was co-designed with over 300 partners from business, policy or community sectors. SWEEP academics and Impact Fellows worked in close collaboration with these partners to realise environmental, economic and/or community benefits for the South West region and beyond. We also advanced early research careers through supporting a range of diverse PhD studentships.

For more information about these resources please **use the hyperlinks**. For other enquiries please email sweep@exeter.ac.uk To view SWEEP's legacy website and our series of 35+ Project Impact Summaries please visit www.sweep.ac.uk

SWEEP resources for local government

Subject	Resources	Summary
<p>Nature-based Health and Well-Being</p> <p>Best practice for the planning, financing, delivery, monitoring and evaluation of green and blue spaces for health and wellbeing.</p>	Making the most of green space for people’s health	<p>Guidance on how green space benefits health and can be improved, expanded and promoted to maximise benefits for people and the environment.</p>
	Improving access to green space: A new review for 2020	<p>Evidence and recommendations on the equitable provision of greenspaces for communities.</p>
	Review of health and wellbeing evidence for the green infrastructure standards	<p>Summary of evidence on how green space supports health and wellbeing.</p>
	Alternative funding mechanisms for green space	<p>Alternative mechanisms for funding green space beyond local authority provision, including case studies of successful use.</p>
	More than just a skate park? A review and practical guide on how to make urban green space more accessible to adolescents to support health and wellbeing	<p>Drawing on the latest evidence from across the world, a review and practical guide on how to make urban green space more accessible to adolescents to support health and wellbeing.</p>
	Nature on prescription Handbook	<p>Evidence and suggestions on how Nature on Prescription can support people’s mental health and how to deliver a high-quality scheme.</p>
	Evaluating interventions in green space: Derriford Community Park	<p>An evidence-based resource using causal loop diagrams to show links between greenspace interventions and health benefits, highlighting key factors for success and evaluation measures.</p>
	Understanding environmental investment for health in the southwest – exploring dynamic mapping case studies	<p>Looking at three cross-sectoral health focused projects in the South West, this explores stakeholder’s connections, revealing opportunities and challenges</p>

	<p>A Five Capitals Model approach – building a business case for investment in nature for health</p> <p>Supporting case studies for the ‘A Five Models approach’ resource</p>	<p>Demonstrating how the Five Capitals Model approach, backed by relevant evidence, can provide a convincing and credible framework for strengthening such a business case, placing Natural Capital at the centre of interest.</p>
	<p>Economic and Non-Economic Measures and Tools – Evaluating the health and wellbeing benefits of nature based health interventions</p> <p>–</p> <p>Supporting case studies for the ‘Economic and Non-Economic Measures and Tools’ resource.</p>	<p>Presenting and analysing case studies, and drawing on the latest evidence, to provide details about some of the most commonly used economic and non-economic measures and tools for measuring, and quantifying, the success of investments in the environment for health.</p>
<p>Quantitative Habitat mapping</p> <p>Mapping habitat cover using satellite and LiDAR data</p>	<p>Habitat Classification tool and Habitat Change Detection tool</p>	<p>The Habitat Classification tool enables consistent, and annually repeatable, baseline mapping of habitats across the extent of Dartmoor National Park, not possible by previous field survey methods.</p> <p>The Habitat Change Detection tool detects and maps change over time in the habitat classes within Dartmoor National Park.</p>
<p>Tree Hedgerow and Woodland (THaW) mapping</p> <p>Mapping woodland cover using satellite and LiDAR data</p>	<p>THaW tools</p>	<p>First of its kind, the THaW Mapping Toolbox autonomously and rapidly generates high resolution, baseline maps, across landscape extents, using 2m2 LiDAR Data and bespoke data processing approaches.</p> <p>The THaW Change Detection autonomously detect changes to the mapped THaW habitats over time.</p>
<p>Enhancing pollinator-friendly land management practices</p>	<p>BEE-STEWARD model</p>	<p>This cutting-edge computer software tool helps farmers and land managers see how pollinator-friendly management on their farm could affect bee survival and pollination rates.</p>

Predictive tool, wildflower seed Business Case, seed swapping Collective.	The Lost Garden of Heligan Wildflower Business Case	An innovative business case highlighting the potential opportunities and benefits of wildflower seed production in Cornwall and the Isles of Scilly – now inspiring other land owners across and beyond the SW.
	Lost Gardens of Heligan case study for growing and harvesting wildflower seeds	
	The Lost Garden of Heligan Wildflower business film	
	Meadow Match	A novel scheme that matches wildflower seed ‘donor’ sites and ‘recipient’ sites in the South West.
Natural capital valuation tools – freely available online tools covering all areas of England	Natural Environment Valuation Online tool (NEVO) Tool	<p>The NEVO Tool is a powerful, open-access, web application designed for regional spatial planning. It can be used to explore the integrated relationships between climate change, land-use change, ecosystem service flows and economic values.</p> <p>SWEEP is helping to improve its accessibility and function – including the ability to upload ‘custom area’ shape files to explore your own unique areas of land. Contact the team for more information on this.</p> <p>NEVO is endorsed by Defra’s ENCA Guidance and one of their ‘Featured tools’ for assessing natural capital and environmental valuation.</p>
	Outdoor Recreation Valuation (ORVal) Tool	<p>The ORVal Tool is a web-based application that allows users to understand and value the benefits derived from publicly available, accessible greenspace in England, for example, as part of strategic or project appraisal, policy evaluation or natural capital accounting.</p> <p>It also provides contextual information about land cover, land uses, water margins, special designations and points of interest found in or near each recreation site.</p>

		ORVal is endorsed by Defra's ENCA Guidance and one of their 'Featured tools' for assessing natural capital and environmental valuation.
New ways of considering, managing and valuing the marine environment	A Marine Natural Capital Asset and Risk Register . Journal of Ecology paper 2022	<p>Explains the asset and risk register (first of its kind for the marine environment) - how it creates a baseline of current marine natural capital assets and enables better decision making to secure future benefits.</p> <p>Working with 7 councils across the SW, this has been applied to various specific sites eg. Tamar and Exe estuary; Isles of Scilly; Plymouth Marine sound</p>
	North Devon Marine Natural Capital Plan	<p>UK first local Marine Plan based on a natural capital - develops and tests a local spatially evidence base to support discussions for opportunities and risks for activities, developments and management approaches in the marine environment.</p>
	<p>Various other resources supporting marine natural capital policy and practice improvements – best to talk direct to the team, or see https://sweep.ac.uk/projects/marine-natural-capital/</p>	<p>Integrating a marine natural capital approach into sustainability appraisal; marine net gain; sustainable fisheries; sustainable finance.</p>
Improved forecasting of coastal wave and water levels to better protect/enhance coastal zones and businesses	<p>OWWL – Operational Wave and Water Level model</p> <p>OWWL film</p>	<p>This predicts waves, water levels, and wave overtopping hazard around the southwest coast of the UK. Improving on other forecasts it provides more timely, localised, accurate and high spatial resolution data.</p> <p>It has been applied and used by the EA in the SWest, and in South Wales; bespoke models delivered to benefit local businesses e.g. Offshore Shellfish Ltd and Bombora Energy; 100s of wider coastal stakeholders are signed up to receive the forecast which is enhancing their coastal management decisions.</p>

	Film - Crantock beach hazard forecasting	Developed in collaboration with RNLI, this real-time innovative ‘Smart Beach’ signage and technology is helping to save lives at the coast.
	Film - North Devon World’s first surf reserve	A recent designation which will help boost local business/ support coastal and marine conservation work
	Coastal Change Management Area mapping in North and East Devon	A new, scientifically robust method for demarcating CCMA’s – used to mapping the whole of Taw Torridge and Sidmouth coastline enabling better decisions around coastal planning and engineering decisions.
Supporting mariculture development in the South West Evidence and best practice recommendations to support sector development and regulation	Supporting Mariculture Development: Evidence for Informed Regulation	Policy Brief and Policy Statement This project brought together experts from the fields of marine planning, regulation, management, science, and industry to explore opportunities to streamline regulatory processes and clarify evidence requirements for emerging marine aquaculture (mariculture) developments focused on the South-west. A design-workshop explored case studies including marine licensing, aquaculture strategy, mariculture planning in association with fishing, and mariculture developments around MPAs. Findings fed into the English Aquaculture Strategy.
	Potential for marine aquaculture development in and around Marine Protected Areas (MPAs) in England.	Policy Brief and Policy Report Synthesis of evidence and recent developments in marine policy-making and decision support tools for enabling the sustainable development of mariculture sites, species and technologies in and around marine protected areas (MPAs).
South West land use scenario planning (to 2050), effects on water quality	Future land-use scenarios developed to inform modelling of freshwater water quality in Exe Catchment and its impact on growth of the aquaculture sector in South West England	Executive Summary (with hyperlinks to all other resources) Full Report

<p>and impact on potential growth of South West mariculture sector</p>		<p>Descriptions of co-created Future Land Use Scenarios mapped out for the South West to 2050</p> <p>Visit the SWEEP Aquaculture and Water Quality webpage to access these resources and other key information and tools for assessing the impacts of land use on water quality, and the viability of coastal bivalve aquaculture in the UK and South West England in particular. https://sweep.ac.uk/projects/water-quality-and-aquaculture/</p>
<p>Wholescape evaluation: impacts of land use and climate change on water quality and bivalve shellfish aquaculture in Exe catchment and estuary.</p>		<p>Exe Catchment Investigation - Wholescape assessment of water quality status, drivers and implications for ecosystem health and services, including shellfish aquaculture. Produced with West Country Rivers Trust. Report & Appendices</p> <p>Modelling – Provides the first highly-integrated and innovative modelling and evaluation method for comprehensively evaluating the effects of potential future land use changes on water quality, and their associated impacts on shellfish farming in estuarine and adjoining coastal waters.</p> <p>Innovations notably include modelling the shellfish uptake of pathogens (via ShellsIM) and the valuation of costs and benefits throughout the aquatic system (via the NEV models).</p> <p>Brings to life, for the first time, the UK's National Ecosystem Assessment future land use scenarios in the South West, in relation to their potential effect on water quality in the Exe Catchment and shellfish farming in the Exe Estuary.</p> <ul style="list-style-type: none"> • Graphical report - 25-page flipbook

		<ul style="list-style-type: none"> • Slide set – with hyperlinks <p>Visit the SWEEP Aquaculture and Water Quality webpage to access these resources and other key information and tools for assessing the impacts of land use on water quality, and the viability of coastal bivalve aquaculture in the UK and South West England in particular.</p> <p>https://sweep.ac.uk/projects/water-quality-and-aquaculture/</p>
<p>Exploring effect of agricultural (weed killer) run-off during periods of high rain fall on the South West’s estuaries</p>	<p>Acid herbicide catchment wash-off scenario exploration tool</p>	<p>The Acid herbicide catchment wash-off scenario exploration tool can be used to explore the potential impacts of acid herbicides on phytoplankton in South West’s estuaries. Using a simple logic chain risk assessment process, it has been designed to provide a means for simple, high-level analysis and exploration of the relative risks from acid herbicide wash-off from agricultural land during periods of intense rainfall. The approach is easily adaptable to incorporate new catchments, chemicals and future scenarios.</p> <p>Details of the tool are set out in the guidance report and the spreadsheet tool is available from Dr Ross Brown (Ross.Brown@exeter.ac.uk).</p> <p>An application of the tool to five catchments within South West England (Camel, Clyst, Exe, Kenn, Taw & Torridge) is available on request from Dr Ross Brown (Ross.Brown@exeter.ac.uk).</p>