# Towards Sustainable Land Management

*A report for the National Trust by Richard Cowell*

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A report for the National Trust by Richard Cowell, Senior Lecturer in Environmental Policy and Planning at Cardiff University

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# Foreword

Water, wildlife, landscape and the impacts of climate change know no artificial boundaries. Yet it is increasingly clear that we need to manage them in a more integrated way if we are to look after the natural world and increase its benefits to society. Calls for joined-up thinking and integrated planning are nothing new but evidence of the need for progress is all around us. The National Trust and other practitioners face constant frustration in contributing to public policy objectives without it. Drawing on our experience, Richard Cowell from Cardiff University helps point the way forward. There is no 'right' answer to the wicked problem of delivering sustainable land management for our land, coast and seas but there are key principles to guide us and paths to success. We urge all those with an interest in the issues to respond and look forward to the debate.

**Tony Burton**
Director of Policy and Strategy
The National Trust

# Introduction – what's wrong with business as usual?

In many respects, our systems for managing the land and its environmental resources have never been so sophisticated, nor so attuned to the principles of sustainable development. If that's the good news, it is equally true that the world does not stand still and pressures on our land-based resources and seas continue to mutate and intensify. Three brief examples illustrate the challenge to current institutional arrangements.

- **Complex, cumulative problems – climate change**. Climate change simultaneously injects greater scientific uncertainty into land management, while demanding longer-term, larger scale, preventive and adaptive responses. Site-specific, sticking plaster solutions are insufficient to grapple with issues of water demand in drought prone areas, shifting flood risks, accelerated coastal erosion or habitat migration. Land management is also deeply implicated in mitigation strategies, whether that is growing energy crops or developing shorter food supply chains with lower transport impacts.

- **Multi-dimensional change – the countryside**. A combination of economic, policy, technological and social changes are transforming the countryside, amplifying the need for solutions which accommodate multiple objectives. Questions arise about how the landscape-scale restoration of valued wildlife habitats can be coordinated with the social and economic sustainability of rural communities, while also meeting demands for accessible green space arising from large-scale urban development, as required by the Government's Sustainable Communities Plan.

- **Escaping territorial and sectoral boundaries – water**. Water connects urban and rural, land and sea, linking the environmental fortunes of these spaces through run-off, supply infrastructure, flood risk, pollution and fisheries. The way that land is managed is integral to conserving water resources; yet routine planning, building design and agricultural practices rarely view water as something to be managed holistically and sustainably. Meanwhile, stiffer European water quality objectives are looming, and new markets for land management that delivers services in flood control, water storage and purification are underdeveloped.

These problems have not crept up on us overnight – most will be acutely familiar to those in the land management and environmental policy field. But they all underline the need to rethink the fragmented and largely sectoral institutions of the post-war period, and make it abundantly clear that the case for change is simultaneously economic, social and environmental. The consequences of inadequate land management frameworks can be seen in unnecessary resource degradation, and decisions that favour short-term, piecemeal responses. Our post-war systems have been especially myopic towards problems that escape regulatory, site-based measures, such as declining farmland bird populations or soil erosion. An inability to think pro-actively and strategically, across a range of issues, also makes it harder to connect adaptive responses to environmental change with new economic opportunities and difficult to identify – let alone redress – unequal distributions of environmental quality.

The absence of a cohesive land management system

also has profound democratic consequences. It makes it difficult for us, as a society, to ask what the countryside is for, or whether it is desirable to restrain patterns of growth that exceed environmental limits – a dimension of sustainable development now given greater prominence in government strategies.[1] It is difficult to confront these questions, and engage the public, when bits of the answer are either scattered across different planning exercises, or fall between them. And separating land management from other policy arenas makes it more difficult to tackle the root causes – rather than symptoms – of land management problems, in patterns of production and consumption, fiscal regimes or dominant social values.

If these are familiar complaints, many will be equally familiar with a reflex response – a call for a more *comprehensive*, *strategic* and *spatial* planning system, capable of deriving solutions which *integrate* environmental, economic and social objectives over the longer term. This is the **Sustainable Land Management (SLM)** referred to in the title of this report. SLM represents an ideal, defined loosely by the greater capacity it offers to overcome institutional fragmentation, operate at more appropriate scales, develop more flexible, tailored solutions, and provide a focus for better public involvement and accountability. 'Land' in this context is a shorthand for terrestrial, coastal and marine environments.

To repeat this call for SLM is not to imply that nothing has changed. After decades of fire-fighting habitat loss and resource degradation with narrow, post-war regulatory instruments, there is evidence of people beginning to look more holistically, cross-sectorally and creatively at what we require from land. The formation of Natural England is following the path trodden by the formation of the Countryside Council for Wales fourteen years ago,

to bridge Britain's 'great divide'[2] between landscape and wildlife conservation. New tools, such as Strategic Environmental Assessment, provide more ways of 'joining up' plans and programmes. Funding regimes have responded to the demands of sustainable development, with the expansion of agri-environmental schemes being a prominent example. Policies are being pulled together at new spatial scales, including the neighbourhood, region, watershed and landscape character unit. Threading through this policy landscape is a growing web of partnerships, working to resolve particular sustainability issues.

However, while these developments look like steps on the road to a sustainable land management system it is unclear where, or how far, they are taking us. There is the risk that this proliferation of innovations has pathologies of its own, by further entangling administrative arrangements. In most cases, these innovations fail to address key 'givens' of our environmental management systems, such as fragmented patterns of land ownership, divided responsibilities between sea and shore, or the competitive project-based bidding culture for environment and development programmes, that make knitting together cohesive, large-scale, long-term solutions such a difficult, *ad hoc* process.[3] *The 'bigger picture' is missing.*

Perhaps the bigger picture is right in front of us – to adapt the existing Town and Country Planning system to embrace a wider range of land management activities. After all, recent reforms to the system have extended its remit to 'spatial planning' which 'goes beyond traditional land use planning to bring together and integrate policies for the development and use of land with other policies and programmes',[4] with tentative steps being taken towards marine spatial planning.[5] While the planning system has an important role in any agenda for sustainable land management, the view

adopted here is that it would be wise to widen our search. Focusing on planning alone diverts attention from the array of factors driving unsustainability that lie outside its ambit, while previous exhortations to extend planning's remit have not been notable for their success.

The objectives of this paper are twofold. First, it offers an explanation of our limited progress to date in realising more cohesive, SLM arrangements. Second, it considers ways in which current arrangements for managing our land-based and marine resources might be knitted together into a spatial framework that is more effective, open and accountable. In so doing, it builds on the recommendations of the Royal Commission on Environmental Pollution's Report into Environmental Planning.[6] Finally, it reflects on the *process* of achieving change. The arguments are illustrated by brief case studies drawing on the National Trust's experience – examples of SLM in action that also highlight the challenges ahead.[7]

## The lure of 'comprehensiveness'

Some would say that the path to sustainable land management has been clear for over a century – to attain some form of 'comprehensive' or 'holistic' spatial planning. Right at the start of the 20th century, planning luminary Patrick Geddes called for 'surveys before plans', to encompass 'situation, topography and natural advantages … means of communication, land and water … industries, manufactures, and commerce … population … Town Conditions … fisheries' and 'drainage'.[8] More recently, the RCEP took up this baton, in its call for a new form of 'integrated spatial strategies'. These go beyond the narrow remit of land use planning to cover 'all aspects of sustainable development' including, *inter alia*, developments below the high water mark, agriculture and forestry. Integrated Spatial Strategies 'should be four-dimensional, covering the atmosphere and groundwater as well as the land surface, and looking at least 25 years ahead'.[9]

The espoused advantages of the RCEP's integrated spatial strategies are as follows:

- They offer a more effective mechanism for connecting the consideration of economic and social objectives to environmental constraints.

- They offer the best opportunity for identifying crucial issues and making long term choices, on the basis of adequate information and a full review of the options.

- By adopting larger spatial units, it is hoped that integration can be achieved without creating unnecessary complexity or detail, to provide greater scope for effective liaison between different tiers of government, the public and statutory agencies.

- Focusing on a single, integrated strategy provides the most 'accountable and transparent way of setting and achieving environmental goals'.[10]

The Commission concluded that these advantages would be best achieved by strategies produced at a sub-regional scale, larger than district-level councils but smaller than England's standard regions.

The logic of such ideas is undeniably enduring.[11] But if we are to progress this century-old agenda, then the question we need to ask ourselves is this – if the advantages of integrated spatial strategies have been so clear for so long, why has progress been so limited?

Part of the problem is that 'comprehensiveness' is easier to say than to achieve. As the Commission duly recognised, no single planning framework can claim to be comprehensive in the sense of being omniscient. Moreover, reorganising the policy-making machinery around particular agendas tends inevitably to reveal gaps elsewhere. A classic example is the recent formation of the Department of Environment, Food and Rural Affairs which, in pulling agricultural and environmental policy closer together, left central government's planning directorate more detached from environmental concerns. This estrangement might explain the criticism that DCLG's Sustainable Communities Plan has received for being more concerned with housing delivery than environmental sustainability.[12] In addition, 'a naïve faith in the benefits of larger institutions'[13] can deflect attention from the kind of cultural changes required to make integration work.

But perhaps the biggest problem with the logic of comprehensive spatial planning is its faith in logic alone as a force for pushing the various dimensions of land management together. This ignores the forces that maintain fragmented, sector-specific planning, 'even when historical needs, policies, and structural mismatches are so blatant that … a fundamental reconstitution of the existing order seems necessary and inevitable'.[14] Organisations and sectors have dominant objectives, key client groups, strong vertical lines of accountability and their own norms about what constitutes relevant evidence for policy – some of it very useful in its own terms, but driving different interpretations of sustainable development. Consequently, any effort to promote new, cross-cutting ways of working must do more than expound the virtues of a spatially cohesive approach; it must also exert leverage over the powerful processes that sustain sectoral ways of working.[15]

A reliance on the neutral-sounding logic of 'comprehensive spatial planning' also ignores the essentially political task of determining the *objectives* which should lie at the heart of any integrated solution. This means giving priority to *particular* understandings of our sustainability predicament, around which other actors and strategies should align their activities. A good example can be found in coastal planning, where calls for more integrated *processes* often run jointly with the integrating *idea* that flood and coastal erosion management should 'work with nature'.[16] Constructing ideas and objectives is as vital in forging cohesive planning approaches as designing processes or organisations, but one should recognise that ideas can attract resistance, as well as galvanise action.

This failure to challenge powerful sectoral and organisational cultures helps to explain why it is that we have seen a proliferation of new, integrated policy innovations for sustainable development, but which are often poorly connected with each other, grafted on to essentially unchanged governance arrangements, weak and voluntaristic in nature, with limited powers of delivery. The result is 'a rather halting, halfway and patchworked environmental governance … that satisfies no one',[17] creating greater complexity, ambiguous authority relationships, confused publics and increasingly fatigued officers. As the RCEP sagely opined:

> 'It is tempting to conclude that adding new layers of activity has become a substitute for the commitment and co-ordination that could

make existing institutional arrangements work better. Indeed, devising new plans is one way of denying the contradictions in a system that seeks both to accommodate growth and to protect and enhance the environment'.[18]

Recognising the challenges of rethinking our land management systems, and the impossibility of perfection, should not provide a fig leaf for glaring contradictions in business-as-usual. But we ought to be modest enough to recognise that this is a journey of improvement not a destination, with numerous tensions en route. And we should look

beyond the shiny, front-stage 'hardware' of new types of plan, because the back-stage 'software' [19] – the working patterns, remits and objectives of the parties involved – is every bit as important.

In all likelihood, a singular, comprehensive 'final solution' will forever escape us, and this report has not sought to prescribe what a system of SLM must look like. However, one should be able to clarify the signposts that point us towards more sustainable land management. This is the task of the next section.

# Principles for progress

The key attribute of a system of sustainable land management is that it enhances society's capacity to manage change sustainably. This section addresses seven aspects of this ideal – knowledge; accountability; public involvement; scale – spatial and temporal; implementation; staffing and environmental justice.

## Knowledge

Few dispute that 'an efficient supply of up-to-date information, about all aspects of the environment',[20] which is readily available to practitioners, developers and the public, is an essential component of sustainable land management. It is vital for assessing pressures on the environment, identifying options and setting targets. Logically, then, one could 'SLM proof' any initiative by requiring that it improves the quality, consistency, coverage and accessibility of our environmental data base. Such a step is pushing on doors already opened by the Aarhus Convention, the internet and

moves towards an EU-wide environmental information network. Two of many examples are the British Geological Survey's GeoIndex, and the LANDMAP landscape characterisation data being produced for Wales.

This is not to underplay the challenge ahead. For many sustainability issues, the task is more one of accommodating ignorance than evidence-based policy-making: either because we lack the coverage or resolution for data that we need or, more fundamentally, because the complexity of environmental and social processes makes it impossible to predict patterns of change with any precision.

There are institutional challenges, too. In numerous areas we face 'the perceived constraints of confidentiality, unreliable and unrepresentative data, the fragmentation of sources using varying conventions, charging for supplying data held by public bodies and the distribution methods used'.[21]

The failure of the cross-governmental National Forum for Environmental Monitoring to get beyond the base camp of cataloguing monitoring programmes[22] also illustrates the weakness of horizontal, collaborative initiatives in persuading sectors to change their practices. And better information will not necessarily improve land management decisions unless one can ensure that it is used effectively. There is significant scope for progress here, not least with liaison between planning authorities and statutory consultees – 'a basic mechanism for co-ordinating the regulation of land use with other environmental factors'.[23] Indeed, steps are being taken to tighten coordination, such as new measures to check planning authorities that are minded to approve development in flood risk areas despite sustained objections from the Environment Agency.[24]

Finally, too often land managers see environmental knowledge in terms of a stock of information that needs to be collected, verified, *then* communicated to the uninformed, rather than seeing knowledge *production* as something which can itself help to forge a common perspective on policy problems. Allowing a range of stakeholders to contribute to the collation, sifting and application of environmental information can improve its quality, identify areas of ignorance, encourage deliberation on 'what matters and why' in the environment, and might allay mistrust in an era when public trust in information from government, scientists and environmental NGOs is falling.[25] Treating knowledge production as a social process becomes increasingly important as society demands multiple benefits from its land resources.

These wider issues take us beyond the technologies of information coordination *per se*, to the challenges of accountability and public involvement.

## Accountability

Improving accountability is vital if our land management framework is to command sufficient legitimacy to take controversial decisions, such as around managed coastal retreat. One might therefore judge progress towards SLM according to whether it tightens requirements on key actors to *give an account* of their actions; makes it easier for the public to *hold agents to account*; and increases the likelihood that the priorities of SLM are *taken into account.*[26] Improvements in these three dimensions would improve transparency in the system and increase the capability for learning.[27]

One should not under-estimate the challenges this implies. Increasing accountability to a wider community impinges upon the traditional autonomy of land owners and managers – including conservation NGOs. And it is not made easier either by our fragmented policy systems for land and environmental management, or the growth in partnership working. Where land management issues involve a plethora of stakeholders, each accountable to different government departments, communities, or memberships, then it is difficult to allocate responsibility, and tricky to secure accountability through elected representatives, professional codes or external inspection.[28]

For some commentators, the only way to unravel this knot is to move towards 'results-based environmental governance', where the focus is on accountability for measurable improvements in sustainability and the 'the means for attaining these results are left up to the regulated community to decide …'.[29] The argument is that old-style 'compliance accountability' – focused on inputs and adherence to procedures – 'inhibits flexibility, causes risk aversion among regulators and polluters, and diminishes innovation'.[30] Results-based ways of

working, in contrast, have a range of magical properties:

> 'Goal displacement can be averted, employees can be more inspired when focused on goals, and the public can be more attentive, informed and involved in agency decision-making. In the process, priority setting can be enhanced, resources can be shifted to more pressing needs, and political support for agency performance and good-faith effort can be garnered'[31]

These look like requisite virtues for SLM. Indeed, elements of 'results-based' accountability can already be detected in Biodiversity Action Planning, in which organisations across the public, private and voluntary sector have been bound into the delivery of conservation objectives, achieving accountability 'upwards' to a strategic planning process. Could this approach be widened to other features of our land resource?

In practice, introducing new layers of results-based environmental governance achieves the greatest benefits where old structures of procedural accountability, that add little to achieving substantive land management objectives or procedural probity, are re-thought.[32] This highlights connections between agendas of Sustainable Land Management and wider principles of 'better governance': that removing unhelpful, redundant processes and plans can be integral to creating new, more effective institutions.

Of course, any system of accountability is little more than a hollow ritual unless affected parties are sufficiently informed, skilled and confident to use the mechanisms available.

## Public involvement

It is widely acknowledged that an effective system of land management needs to engage the public, whether that is justified in terms of democratic rights, or because bringing the public into decision-making can generate new knowledge and better solutions. Thus progress towards SLM means tackling the barriers of accessibility, time and expertise that prevent wider public involvement. Practice seems to be moving in this direction, with land and environmental management becoming a hotbed of democratic experimentation. The public has been involved as 'citizens', 'users' and 'communities'; in exercises shaping the future of rural communities, estuaries and landscapes; at a range of scales, and using a variety of participatory techniques.

With this experience, however, comes the growing recognition that 'increasing public involvement' needs careful thought. It cannot always be equated with consensus-building, especially where land management decisions face divergent goals and sharp redistributions of risks and benefits. As the East Head case study shows, even parties that broadly support the principle of working with natural coastal processes might legitimately disagree about how this principle should be applied. In conflictive situations, ineffective and inappropriate forms of public engagement – especially where they are clearly intended to manufacture consent – can themselves be alienating.

A more democratic approach to strategic land management decisions is unlikely to be comfortable, but progress may be assisted if a number of issues are confronted head on.

Prior decisions about the *design* of participation processes are as important as their careful implementation. Decision-makers need to be aware

of the power they exert in initiating, designing and managing public involvement processes, and to make sure that the structure and format of public involvement mechanisms are appropriate to the nature, scale and complexity of the issue concerned.[33] Dilemmas cannot be avoided:

- Between ensuring the close involvement of important actors with an ability to influence the necessary outcomes (which may exclude others), and involving 'everybody', which may be more inclusive, but risks delivering diffuse outcomes that cannot be implemented;

- Between producing plans that command consensus across a wide audience (but which risk being bland, and disconnected from prescriptions for action) and identifying priorities for action, which have clout but not necessarily general agreement.[34]

The task, say Connelly and Richardson, is to recognize these trade-offs; to make design decisions consciously and transparently; to take steps to sustain the legitimacy of the process, and to avoid misrepresenting public involvement as 'consensual' or 'inclusive' where this is not the case.

While no single approach to public involvement is a panacea, three aspects are pertinent to SLM:

- **Deliberative processes**. Processes that are stakeholder-based, carefully facilitated, cross-sectoral and deliberative (encouraging reasoned argument) may be particularly useful, especially where they facilitate mutual learning. They could widen appreciation of the uncertainties involved in complex environment-society interactions, of the moral dilemmas which policy-makers often face,[35] and the need for 'serviceable truths'[36] on which precautionary action can be based. They may be particularly useful at early stages of planning processes, where issues are being identified and framed.

- **Capacity-building**. If even exemplary participation rarely leads to consensus we might at least aspire to processes that develop people's skills, capacity and willingness for further involvement. Bad experiences of public involvement – a lack of feedback, a feeling of not being listened to – can undermine public confidence.[37] SLM can contribute to the wider agenda of cultivating 'civic virtue', but ensuring that the experiences are positive – even if the results cannot always satisfy everybody – requires staff with appropriate skills.[38]

- **Integration supporting participation**. The *complexity* of arrangements for land management may itself be confusing the public and exhausting their patience,[39] especially when told that issues they see as connected fall outside the remit of the exercise they are involved in. A more cohesive, spatially-based, results-focused system of land management might thus assist public involvement.

## Scale – spatial and temporal

Scale is a central variable in devising institutions that balance effective delivery and democratic input. Little wonder then that the spatial scales of governance through which sustainable development is delivered are forever changing. In some areas, we see tentative steps to more ecological scales of working, such as through the European Union's INTERREG programme for cross-national planning, and the strengthening of catchment-based planning for water resources. In many spheres, however, our land management institutions follow an administrative or political logic which is out of kilter with the ecological, social and economic drivers of change.

Perhaps the spatial structures of governance could be made more SLM-sensitive by asking the following question of any new instrument, process or allocation of powers:

*Do the proposed spatial boundaries do enough to embrace key members of 'the community' that shape environmental and land management outcomes in a given area?*

Such communities are simultaneously ecological (in the form of hydrological, estuarine, biological and soil systems, and connections between them) and social (in people's relationships to the land concerned, and the material basis of the local economy, consumption behaviour and waste management activities). Thinking carefully about this question might prevent important cause and effect relationships being split needlessly by institutional boundaries.

Beyond this, further prescription is difficult, possibly even unhelpful. Much energy has been expended on trying to define a singular answer to '*the* best scale' for planning – making big claims for the 'local level', the 'city-region', the catchment or coastal cell – when a key feature of sustainable development is that the constituent processes unfold at a multiplicity of scales. British history also suggests it is unrealistic to expect local government or regional boundaries to be changed to fit ecological criteria.

The key to further progress is to take on board two points. The first is to recognise that selecting any scale of operation has wider consequences. To select a scale is also to prioritise certain relationships above others: perhaps to place hydrological processes or economic relationships in the front line; to give priority to the attachments between citizens and 'their' environment; or to place a political entity, such as a local council, in the

driving seat. It also has significant implications for the kind of public involvement that might be achieved, with direct, inclusive processes becoming progressively more difficult as scale increases. Different choices will work better for certain problems.

The second point is that accommodating our diverse entanglements with land requires less obsession with defining institutional boundaries, and more attention to permeable cross-boundary relations. In any future scenario for SLM – whether that is addressing climate change or the Water Framework Directive – organisations like local authorities are going to be spending more time working across their boundaries. This permeability applies in the vertical dimension, where adapting sustainable development objectives to variable geographical conditions needs us to see local SLM processes not just as vehicles for 'delivering' national policy, but also as arenas for grounded learning and experimentation to help shape national policy. It applies equally to the 'horizontal' boundaries. The tendency to develop SLM arrangements which focus inwards on an area, a watershed, a habitat, a coastal cell - for the laudable motives of cultivating a sense of collective responsibility and understanding for a defined physical resource – needs to allow for permeable cross-border connections, to ensure that sustainability is being delivered at a larger scale.

What applies to space applies equally to temporal scale, where there is a need to address multiple time horizons in a similarly connected fashion. SLM institutions need both to be responsive and adaptive in the short term, given the rapidity and unpredictability of social and environmental change, while also giving visibility – and, where necessary, solidity – to likely long term changes and preferred adaptive responses. Time can be a creative ingredient in steering future change: for example

by offering people affected by coastal erosion the assurance of stability in the short-term, while envisaging how societies and economies can adapt over longer periods. As with other aspects of institutional design, there is a parallel need to re-evaluate norms which impose unhelpful time-frames. The tendency of project-based funding cycles to restrict the time available for consultation, or demand rapid implementation when a more gradual shift in land management practices would be better is a common source of complaint, as the case studies below reveal.

## Implementation

All this discussion of knowledge, accountability and public involvement helps in understanding how visions for SLM might be put together but does not necessarily resolve what, for many commentators, is the main issue in effective land management institutions – implementation. Whatever the merits of more cohesive, multi-dimensional strategies for steering the use and management of land and environmental resources, they need tying to effective action.

Popular policy discourse often holds that collaboration, participation and implementation are inextricably connected. Undoubtedly there will be many occasions where progress towards SLM will be delivered by collaboration and information-sharing, held together only by people's shared desire for more effective solutions. Where trust and capacity is created, this can provide a platform for more ambitious programmes in the future. But as experience in partnership working grows, from terrestrial and coastal environments, so have concerns that new, collaborative institutions lack teeth, do not dovetail with each other, and exert few claims over more powerful, 'higher-level' policies which have resources attached. Similarly, many innovative attempts to promote public

involvement have ended up 'isolated in a 'bubble' of consensuality from the arenas in which real decision-making is done'.[40]

Often, therefore, implementation requires leverage of some form. It arises when actors and agencies with resources or regulatory power ought to do more than 'take into consideration' the wider consequences for land resources. Thus there is plenty of interest in clarifying the relationship between different kinds of environmental plan, whether that is making the RCEP's 'integrated spatial strategies' the dominant, statutory plan for each area,[41] or requiring land use plans to take on board recommendations for managed retreat emerging from Shoreline Management Plans.[42] It arises when the best solution is not a 'win-win' solution for all parties. The need to set aside specific, sizeable areas of land – whether for watershed restoration, managed coastal retreat or regional green space – and move beyond serendipitous, small-scale solutions challenges one of the holy orders of rural land management, the principle of voluntarism. Similarly, the growing use of regulatory cross-compliance may help to mainstream better baseline environmental performance, as in the Single Farm payment, though this will not necessarily channel significant improvements into the most vulnerable environment (as case studies of Derby and the High Peak discuss).

This is not to ignore the weaknesses of centralised bureaucracy, or of prescriptive master planning. When it comes to implementation, of course the willing commitment of all parties is more effective than coercion, and driving through implementation needs legitimate authority. It is simply to recognise that not all sustainable development problems can be solved through the mechanisms available to parties operating within an area and that there are limits to what can be implemented by voluntaristic,

negotiable *ad hoc* approaches, which do not redirect resources or change land manager behaviour. Nevertheless, we do need to think through very carefully the mechanisms by which implementation is progressed.

This may be another area where 'results oriented governance' could help. Inscribing robust, sustainability objectives into our policy systems is a vital tool in aligning sectoral actors around the delivery of cohesive, sustainable, land management solutions. It addresses one of the weaknesses of horizontal collaboration – that voluntaristic efforts to achieve integrated solutions tend to fail where they have little impact on core sectoral objectives.[43] The seeds of a results-oriented approach can be detected already in the Government's framework of sustainable development indicators and, more pertinently, in the use of these indicators in setting departmental performance targets. DEFRA's target for farmland birds is just one example. However, that progress is uneven, with many key players still pursuing objectives in 'denial' of sustainability requirements, should alert us to the conditions required for performance objectives to have a significant effect on outcomes (*see* Table 1 on page 16), which combine many of the challenges for SLM raised in this paper.

Clearly, any effort to deliver outcomes consistent with sustainable land management requires that we think through *how* performance objectives will promote change - through public pressure, agency performance, or political leadership.[44] As well as regulatory sanctions, economic incentives are likely to be a critical component of negotiating change. One can only allude to the huge potential here: one example is creating new markets for managing land in ways which sustains watershed environments and reduces flood risk; the flipside might be greater use of charging for the use of environmental services, as is proposed under the Water Framework Directive.[45] There may be scope to adjust national systems of price regulation for electricity, gas and water to encourage targeted environmental investment – OFGEM's allowance for electricity companies to spend more on undergrounding overhead lines in national parks is a step in this direction.[46] More might be done to encourage collective land management by sharing rights, revenues and responsibilities among local user groups.

## Staffing

Too often, new approaches to land management talk glibly about 'partnership', 'public engagement' and 'integration', without thinking clearly about the individuals that will make these concepts meaningful. The environmental field is full of excellent new initiatives that failed to deliver because sufficient staffing never materialised, or because staff lacked requisite skills, training or advice.

Increasing concern about the long-term, multi-functional solutions that SLM requires is likely to increase the salience of facilitation skills. It requires individuals that can act as 'boundary spanners', to connect participants, knowledge and strategies, reinforce shared activities and maintain people's willingness to remain engaged.[47] For many agencies, it means taking their strong technical skills in land management, hydrology or nature conservation, and making connections with those that can market the premium products of conserved landscapes (as in the Tomorrow's Heathland Heritage case studies), or with social demands for greenspace (as at Wicken Fen). In a number of the case studies, interviewees recognised the need for better project management training, and skills in building the capacity of partnerships.

# Conditions for performance objectives to have an impact

• **Where objectives foster a supportive social environment**. Goals that are too vague, too numerous, insufficiently inspiring or meaningful to focus the attention of the media, the public or partner organisations are unlikely to develop support.

• **Where objectives have credibility**. Problems can arise where performance data is not collected or audited independently or where it is not obligatory to report it to the public. Meeting or failing to meet targets needs to have real consequences.

• **Unhelpful interactions with other (existing) accountability mechanisms**. This could be clashes between results-based performance goals and procedural mechanisms, or tensions between national targets and local accountability.

• **Where results are prioritized by powerful actors**. Without clear support from policy-makers, central administrators or strong leaders, the actors involved in implementation may feel unsupported.

• **Where viable measures exist**. Many of the more holistic features that we might value in our land resource - the quality of the countryside, the resilience of ecosystems, the social sustainability of rural communities, and the reduction of risks - have proved consistently difficult to translate into sustainability indicators, though they could feature more strongly in systems of plan appraisal. Other important areas for indicator development are the accessibility of the countryside and food miles.

• **Where objectives can bridge scales**. A key challenge in the design of objectives is to ensure that they have sufficient reach to steer organisational behaviour at a broad scale, but can also be adapted to address local problems.

• **Where there is good technical support**. Staff need to have the appropriate training and remit.

Based on Durant *et al*. 2004.

*Table 1*

However, to regard these desirable qualities as simply a matter of training, ignores the role of organisations in providing a context for staff which supports collaborative working, and reduces turf consciousness. The kind of outcomes-based accountability systems discussed above may soften the *ultra vires* principle of UK administrative law which frames the participation of statutory bodies in integrated initiatives,[48] but staff need to feel that getting involved in multi-purpose, collaborative initiatives is respected and rewarded by their parent employer.[49] That skills and experience in collaborative working are gold dust is a good reason to think carefully about the rapid staff turnover that often accompanies strategic planning, and how the knowledge accrued by experienced practitioners can be passed on through training.

A sense of organisational memory and sustained relationships is also vital for cultivating longer-term trusting relations with the public. Staff need to have the skills and confidence to go out and communicate effectively the challenges, risks and opportunities of taking a more sustainable approach to managing our land resources. But this means more than skills in proselytising 'the truth' to non-believers. It requires an aptitude for more sensitive, deliberative engagement with the environmental beliefs held by the public, farmers and other land managers, to develop mutually informative relationships.

### Environmental justice

Policy agendas for sustainable development have started giving greater attention to 'environmental justice' – the acknowledged tendency for communities experiencing social and economic deprivation to suffer poor environmental quality.[50] For example, dwellings in the 10% most deprived council wards are eleven times more likely to be situated in a neighbourhood with poor

environmental amenity than those in the least deprived wards.[51] Environmental justice, and intra-generational equity in general, provide both a justification and a series of tests for an effective system of sustainable land management.

The first point is that environmental justice requires procedural fairness in SLM decisions, underscoring the demands of public involvement discussed above. It is important therefore that decision-making processes embrace all groups affected, not just the most organised or most vocal.

The second point is that our land management frameworks must be able to identify and address the uneven consequences of environmental change, and inequalities in the social distribution of risk. At present, there is a powerful institutional apparatus for channelling land management resources to our highest quality, designated environments, but our capacities to deliver areas of new nature or greenspace in areas of deficit remain comparatively under-developed, and highly dependent on the environmental entrepreneurialism of environmental NGOs. The RSPB's new reserve at Old Moor in the former mining territory of Yorkshire's Dearne Valley is a positive example.

Thirdly, the *scale* of land management needs to be seen as an active ingredient in the visibility or invisibility of distributive consequences. Strategic direction needs to be coupled with a capacity for both localised targeted action, and an ability to influence actors 'upstream', whose policies could be made more sensitive to unequal consequences on the ground.

Finally, environmental justice is also relevant when negotiating accelerating environmental change and hazardous extreme events. Being able to deal with winners and losers from, say, managed coastal retreat, requires a system of compensation that deals

fairly with those whose assets are affected. Of course, financial compensation or other reparations cannot salve the hurt of losing things that people value, but one can at least hope that the system is seen as more legitimate, effective and fair. A more effective system might reduce any clamour for private, individual solutions which work against the public interest, and connect with positive payments where coastal retreat delivers environmental benefits[52]

## Steps in the right direction?

This paper has walked a tightrope. It has sought to demonstrate the importance of an improved framework for sustainable land management, and explain the shortfalls of business-as-usual. At the same time – humble in the face of history – it has guarded against the counsel of perfection lying behind calls for 'closer integration', 'better information' and 'more participation'. Indeed, we should not necessarily expect simple solutions. As Neil Adger suggests, '(t)he scale of diverse environmental impacts, as well as the diversity of multiple use resources … translates into a demand for a diverse institutional architecture'[53]

But if the present cannot stand, what are the options for change? Broadly speaking, one might conceive of three broad paths towards a more effective sustainable land management framework:

- **Something new** – to imagine new institutions for managing environmental resources, in which spatial, temporal and sectoral structures achieve a better 'fit' with the problem. Integrated Spatial Strategies at sub-regional scale recommended by the RCEP is one contender, although the uneven development of sub-regional spatial planning and political cooling towards elected

regional government raises questions about some of the potential institutional 'homes'.

- **Focused enhancement** – to find ways to knit together cohesive, accountable and democratic solutions across our presently disjointed system. This means seizing incremental opportunities to make existing governance arrangements work better, as well as thinking strategically about whether particular institutions could be progressively enhanced to take on board SLM functions. Components of the planning system, catchment and coastal planning, or further development of an environmental agency are all potential candidates. There is also under-examined scope for closer links between spatial planning, regional sustainable development frameworks, and 'greener government' at national level, in the form of national sustainability strategies and the Sustainable Development Commission.

- **Active experimentation**. Recognising that 'at times it may be more prudent to experiment with human than natural systems'[54] there is a need to set up case studies or exemplars which can pilot more rigorously some of the institutional designs for SLM and act as exemplars. The case studies discussed below offer some potential, as may initiatives under the auspices of DEFRA's adaptation policy framework[55]

Of course, there are clear connections between these pathways. Even where there is little stomach at present for something new, some form of plan remains a vital tool in directing energy and alliance-building. At the same time, excessive focus on the 'front of stage', and new planning processes, can too often divert attention from the 'back stage' processes which affect the degree of coordination achieved. It is as well to remember that powerful

influences on land management may arise from arenas outwith spatial planning, in global trade and agricultural policy discussions, in utility regulation, and in the pursuit of efficiency and speed in decision-making. Undue focus on instrument choice can obfuscate the real issue, the commitment with which any instrument is used to achieve the desired objectives.[56] Better networking within a more incrementalist route may foster a more cohesive lobby for radical reform.

Whichever combination of paths seems most appropriate, there is a need for a more productive co-evolution between our understanding of land management problems and the institutional architecture to address them. To this end, one might treat the ideals discussed in this paper as a framework for 'SLM-proofing' the decisions of government and key agencies, to steer progress across Government policy. One might ask, when-ever a policy, organisational reform or new planning process for the land resource is proposed, will it:

• improve the quality, consistency, coverage and accessibility of our sustainability data base?

• treat knowledge production as a collaborative exercise?

• tighten requirements on key agencies to give an account of their actions; improve the capacity of the public, or their representatives, to hold agents to account; and increase the likelihood that the demands of SLM will be taken into account?

• re-think or remove unhelpful remnants of 'first generation' environmental governance and resource planning that add little to achieving substantive objectives or procedural probity?

• lower the barriers of accessibility, time and expertise that prevent wider public involvement?

• include public involvement mechanisms that are appropriate to the nature, scale and complexity of the issue concerned?

• operate in a way that helps to develop people's skills, capacity and willingness for further involvement?

• work at a scale that embraces the key members of 'the community' that shape environmental and land management outcomes?

• facilitate cross-boundary communication and a two-way, learning-based dialogue between different 'tiers' of governance?

• institute appropriate sustainability outcomes, and back these objectives with appropriate sanctions, incentives, powers and responsibilities to encourage key actors and agencies to support them?

• improve the financial incentives to support more sustainable land management?

• be accompanied with appropriate training for key staff in collaborative working and public communication, and back this training with appropriate resources and a supportive work environment?

• enhance our capacity to identify and address environmental injustice?

And finally, would bringing issues together within a single planning framework enhance our capacity to deal democratically with genuine conflicts of interest, or internalise them, making them less open to public scrutiny?[57] Integration is not without its dangers.

# A theory of change?

To date, debates about sustainable land management systems have been concerned mostly with the merits of competing visions and their ingredients. Almost entirely absent has been any consideration of the steps that might take us closer to realising these visions – a real problem when time is short. Making progress requires us to link knowledge *for* the policy process with knowledge *of* the policy process.[58] Adapting the ideas of Kingdon, Hajer and Degeling,[59] suggests that policy change needs four elements to come together.

*The ideas stream*
This means the development of a persuasive new idea with demonstrable merits which, increasingly, means making an economic and social as well as an environmental case for change. The 'Active Experimentation' suggested above needs to be executed with future learning and advocacy in mind. Too often, however, proponents of policy change believe that ideas-or evidence-based argument ought to be enough to drive change – clearly it is not.

*The policy stream*
This requires that ideas are connected to emerging policy needs and problems. A number of organisations have been developing responses to government policy consultations which, rather than just reacting to proposals, draw upon cohesive models of alternative arrangements. This has been a feature of the National Trust's response to policy consultations, and this paper has built on one exemplar – the RCEP's *Environmental Planning* report.

*The political stream*
In the end, significant change only occurs when the ideas and policy streams converge with the political stream – moments of opportunity when there is demonstrable willingness to take more than incremental action. The RCEP's report largely failed to hit a political opportunity, but various policy announcements suggest that the political environment is becoming more conducive. Of course, proponents of sustainable land management can be entrepreneurial in creating opportunities. They need to pull together evidence of failure with current land management arrangements and be prepared to argue for the value of planning in steering change, often in the face of powerful political pressure for streamlining.

*Advocacy coalitions*
Significant ideas need to be propelled into action through coalitions, otherwise powerful sectoral ways of working will have no difficulty maintaining their partial visions of our land management problems. Developing such a coalition requires spaces for dialogue where objectives can be discussed, shared, and sharpened. Such spaces may be national, and focused around a policy agenda, but need to be enduring. They might also bridge scales, taking the myriad land management projects currently struggling to link national instruments to local solutions, and using them as active experiments in adaptive policy learning. And, as in past battles for integrated governance,[60] they need to cultivate those voluntary and business sector bodies that do not see their futures as bound up with particular sectoral ways of working.

This perhaps represents the greatest challenge of all. By its very nature, the complex objectives of a sustainable land management system creates very different interests in policy change – organisations that share a vague feeling of dissatisfaction with the *status quo* have sometimes been unwitting co-conspirators in fragmentation. Hopefully, this report, and the responses to it, will help to bring these interests together.

# Case Studies

## Beyond the Country Park - Multi-function Green Space: Wicken Fen, Cambridgeshire

The large-scale urban development now proposed under the Sustainable Communities Plan undeniably requires careful consideration of the environmental consequences. Delivering high quality green space is just one component of this task, but even this brings together a range of different issues. Green space within and beyond built-up areas can provide a range of economic, social and environmental benefits, including regeneration, health improvement, flood protection and aquifer recharge. However, while we have a range of agencies dedicated to meeting specific needs, we still lack a mechanism that can take strategic, holistic decisions on areas of land needed to deliver an array of public benefits. In few areas is this strategic gap more acute than Eastern England, and the development of the National Trust's vision for Wicken Fen illustrates some of the problems.

Wicken Fen is one of England's premier nature reserves, and the Wicken Fen Vision is a 100 year, landscape-scale agenda to increase the size of the reserve tenfold by recreating fenlands from farmland. This will make it easier to achieve conservation objectives – it was never easy to sustain an oasis of wetland in a desert of intensive farming – but as the Vision has evolved, proponents have come to recognise the potential social and economic contribution to the region. At the same time, Wicken Fen is just one of a number of large-scale wetland re-creation projects in East Anglia, evolving without any clear, strategic land management context.

The Vision could deliver quality of life benefits to the Cambridge 'sub-region' – a key area for high-tech development and house-building, but one that is under-supplied with accessible green space and protected landscapes. Planned appropriately, the enlarged Wicken Fen could deliver a valuable 'Green Lung' with new recreational trails, sporting areas and visitor facilities, contributing to the health agendas of Sustainable Communities. Planning the provision of Green Space at this larger spatial scale could also help in negotiating land-use pressures facing the wider region, whether that is off-setting potential changes to green belt boundaries around Cambridge, or compensating for the loss of internationally important wetlands on the Norfolk Coast threatened by sea level rise.[61] The proposed habitat restoration also offers alternative income streams for peatland agriculture that is facing soil erosion, flood risks and increasing costs for crop irrigation, all heightened by climate change.

It is one thing to identify these wider benefits; it is another to deliver them. To date, the Wicken Fen Vision has received modest policy support in local development plans, Regional Spatial Strategies and the Regional Economic Strategy. This, and the fit with DCLG's Sustainable Communities agenda for the Cambridge sub-region, has translated into financial support for initial land acquisitions. Going beyond this, however, requires that Wicken Fen's development is viewed in a wider spatial and social setting than is the norm for conservation-focused land management. Implementation also raises searching questions about our land management mechanisms.

While spatial plans can acknowledge the likely future existence of major recreational and conservation projects, they do little directly to assist in delivery. Because of this lack of delivery mechanisms (no powers of compulsory purchase for example) it is difficult to include them in land allocations. While planning gain offers a mechanism for realising public benefits from private development, planning authorities can be unwilling

to pool these gains to deliver more significant environmental gains at a sub-regional scale. Although systems of farming support now embrace a wider range of environmental and economic objectives, agri-environmental schemes are still not designed or resourced to take Grade 1, high value agricultural land out of production for public benefit for long periods of time. This is the scenario at Wicken Fen, surrounded as it is by highly profitable commercial farming, which makes it something of a test-case of the capacity of Natural England to drive forward effective management agreements in such contexts. In short, how do we target resources at areas of future environmental potential and social need, rather than just at areas of recognised quality?

The scale of the land management changes proposed for the Wicken Fen Vision also highlight the anomaly that although development falling under the planning system is subject to public consultation, other major changes do not: 'people tend to say, 'this is farmland, we don't need to have a discussion''. Indeed historically, it has suited most landowners – whether private interests or NGOs – to be able to change land management regimes without extensive public input. Wicken Fen shows why this position is untenable. Firstly, discussions with landowners and local communities about the likely consequences have raised predictable concerns around flooding, increased visitors and so on, but there is no existing public arena for debating these issues as the project develops. Secondly, while conservation NGOs are proficient in understanding the environmental benefits of their work, they cannot so easily claim to understand what people want from accessible greenspace. The operational philosophy tends to be 'if we build it, they will come'. This is problematic, given that large-scale restoration schemes like Wicken Fen will increasingly be rationalised as delivering public, social benefits, and to win

funding on that basis. The problem is compounded by limited expertise in planning authorities, or ODPM, to assess whether such conservation projects satisfy demonstrable public needs.

## Sustainable Housing: Stamford Brook, Cheshire

Sustainable housing offers significant potential for reducing a range of pressures on the environment. Building regulations for energy and resource efficiency have started to mainstream higher sustainability standards, but reliance on voluntary commitment for further improvements[62] leaves progress dependent on developers seeing opportunities for green marketing. Further mainstreaming also raises questions about the relationship between flexible, locally-adapted solutions, universal technical standards and the large-scale production lines of the volume house builders. As well as scaling up the challenge, sustainable development also requires closer attention to the position of houses within the landscape than is routinely the case with development planning, whether that is in re-thinking water management or promoting biodiversity. Sustainable Land Management thus needs to deliver in a number of directions simultaneously.

An example of what can be achieved, under particular circumstances, is provided by the National Trust's Stamford Brook development, where 710 homes are being built on part of the Dunham Massey Estate near Altrincham. The Trust and the developers - Redrow Homes and Taylor Woodrow - are keen to create a community with sustainability principles at its heart that would improve the quality of life both of residents and surrounding communities. Two key elements have been the pursuit of higher energy efficiency standards and a more sustainable relationship with water. By working with the volume house builders, it was hoped that the project would demonstrate that large-scale housing development could incorporate better environmental performance and

still be affordable, and thus exert greater influence on wider agendas – notably Part L Building Regulations on energy efficiency.

While the project was in broad compliance with the local development plan, it showed that the wider considerations of sustainable land management cannot easily be addressed within this limited framework. The Trust employed a community outreach worker to engage communities about the Trust's intentions, and assist in ensuring that the project took on board community preferences as far as possible. This person was in post for two years, organising various events to bring local people into discussions about the project. 2–3 years were spent in the consultation stage. The main outcome of all this consultation was to help improve the local 'fit' of the proposals, and weave together the vision. This vision then drove particular ways of designing the whole landscape, which included community woodland, new walks and a wildlife corridor running through the development. Resources were also put into community facilities, for new and existing residents of the area.

Another feature of the project was the desire to produce an exemplar of how one might develop housing in a flood plain, by utilising a plan that considered water first, then how domestic water systems would relate to it, and then last of all fitted in the houses with those requirements. Thus a major component of the project is a semi-natural sustainable urban drainage system (SUDS) which allows waste and rain water to be stored, flow slowly to the brook, or seep into the permeable geology. The plan also involves restoring a canalised watercourse which runs through the site, creating a more biologically diverse and appealing river corridor with flood risk alleviation built in. The scheme has been designed to exceed the Environment Agency's flood risk of 1:100 by 10%,

and to prevent flooding into the existing developed area to the north (currently a flood risk area).

Stamford Brook has achieved its core objective of demonstrating that volume house builders can achieve higher sustainability standards in a large-scale housing estate. Research showed how unit costs of energy efficient construction fall significantly from initial estimates as projects proceed. Stamford Brook outperforms Part L Building Regulations by 10–20% (and the pre-existing standards by 50–70%), and may thus influence future revisions of those standards. In achieving this outcome, it was helpful that the Trust, as land owner, was prepared to sacrifice some returns from the land sale price to incentivise developers to go the extra mile. This incentive, alongside setting out the desired sustainability requirements in the initial contract, ensured that potentially expensive items (such as non-PVC double-glazed windows) were delivered, and not negotiated away as difficulties arose.

However, implementation has faced a number of difficulties arising from the wider regulatory environment. It proved difficult to get the utility company to adopt elements of the proposed SUDS system. The problem is that although the Government has given a degree of policy endorsement to SUDS,[63] this has not translated into steps which would make utility companies happier to assume responsibility for them.

More widely, researchers have identified weaknesses with the implementation of SUDs within the development control process.[64] Most planning authorities and many statutory consultees simply do not have the time or expertise to negotiate the potentially more complex, context-specific requirements of SUDs with developers. Arguably, progress requires closer connections between national guidance and spatial strategies (including

development plans) which can specify and target the delivery of SUDs to areas where they are needed, and also coordinate the provision of sustainable drainage with requirements for public open space and biodiversity. This could also help resolve thorny issues over who, ultimately, adopts responsibility for managing such multi-functional spaces.[65]

## Negotiating Coastal Change: Formby, Merseyside and East Head, Sussex

Coastal environments create some of the most exacting challenges for Sustainable Land Management. Very often, we are left estimating how coastal environments are likely to change, in the face of considerable uncertainty, and then thinking through how best – and how far – to ensure that valued features are maintained. Undertaking these discussions in ways which engage all the relevant publics is no easy task when decisions can have major distributive consequences across a wide spatial area. The well-acknowledged complexity and fragmentation in arrangements for governing the coastal zone is a further hindrance.

In some locations, a long-standing tradition of effective collaborative working has enabled debates to be relatively consensual. At **Formby**, **Liverpool Bay**, accommodating the erosion and inland migration of beach and dune habitats has implications for nature conservation assets – the estate contains habitats of European importance – as well as archaeology and recreational facilities. This stretch of coast is an important visitor and educational resource for Merseyside, and incorporates pine woods home to Red Squirrels, a caravan park, and an important coastal footpath. Fortunately, the Sefton Unitary Development Plan, the coastal defence strategy and major landowners all support approaches which accept erosion and accretion as desirable natural processes, integral to the character and value of the place.

Through the Sefton Coastal Partnership, the National Trust has been able to work with other agencies in devising strategies which maintain the economic and environmental sustainability of its Formby estate. This involves managing the natural

defences in the short term, then moving towards managed retreat. Relocation and redevelopment of the Trust's own infrastructure has been planned in the context of the 'Gateway Project', developed jointly with Sefton Council, allowing the future of key public access points at Formby to be considered in relation to gateways on adjoining land. The Partnership has provided an arena for discussing environmental trade-offs – such as the need to relocate facilities in areas of SSSI and green-belt – and to consider the connections between different factors affecting the coast, such as tourism, access and nature conservation.

While the partnership has been a good forum for addressing broadly consensual issues, some topics have greater potential to divide. One example might be a detailed analysis of the physical capacity of different parts of the coast to accommodate visitors from different user categories – useful managerial information, but the implications of seeking to suppress, accommodate or expand visitor numbers could be contentious. A further difficulty is opening up partnership-based negotiations to wider public audiences. Hostile public reaction to English Nature's Dune Restoration project at nearby Ainsdale, where pine trees were removed without, it was perceived, adequate public involvement, has sensitised parties to these issues.

Coastal management issues have been much more conflictive at **East Head**, **West Sussex** – a dynamic sand and shingle spit system, with biologically important dune and salt marsh habitats, on the eastern side of the entrance to Chichester Harbour. Over the last two centuries, the spit has moved and its neck has become increasingly vulnerable to breaching. The dilemma is this. Some parties – including the National Trust and English Nature – would be willing to risk further breaching or disappearance of the neck of the spit, because it continues the natural processes which have created

the scientific importance and landscape value of the site – one of the few places on the south coast that remains natural, undefended and dynamic. However, other groups think that the spit plays a vital role in maintaining a deep open channel for Chichester Harbour, and believe that further breaches would increase flood risk, modify channels, require increased dredging and threaten the considerable boating and recreational interests within the Harbour.

To date, a voluntaristic, consultative approach has helped to bring the main parties together to discuss 'soft' engineering solutions. There is support for a medium-term compromise strategy involving modest sediment recharge, and the meetings have been useful in fostering discussion and data exchange – all parties recognise Chichester Harbour as a strategically important environmental jewel in 'Solent City'. But this has not reduced differences about which solution best represents sustainable development in the long term. The National Trust believe that the artificial movement of sediment may not be sustainable, and some land managers complain of a culture of 'denial' among residents and interests groups about sea level rise and other long-term changes facing the south coast. Other interests feel that the annual process of recharging sediment within the coastal cell of East Head is a perfectly affordable soft solution (at £18,000 per year), and strikes a more effective balance between the environmental, social and economic assets within Chichester Harbour. Given the ephemeral nature of the landscape, an adaptive, 25 year 'monitor and manage' solution, seems more sustainable to them than the imposition of policy 'dogmas' of non-intervention, by unaccountable NGOs and Quangos. In this context, while a great deal of additional data has been gathered, the inherent uncertainty of sediment processes, and the tendency to interpret data through consultants and legal advice, makes it unlikely that 'better data'

alone would reconcile conflicting positions.

In various respects, the institutions available for coastal management are not helping to resolve these disagreements. Local councillors see little political capital in supporting solutions with vague, long-term systemic benefits but potential short term costs to constituents. Statutory agencies are understandably reluctant to venture beyond their sphere of responsibility. The present (1997) Shoreline Management Plan is due for review and the Coastal Defence Strategy will not start public consultation in earnest until a draft document has been released, by which time options may have already been framed. In the resulting vacuum, public debate has been conducted through leafleting campaigns or the local media, which sees more 'news value' in discourses of threat than coastal management. Moreover, some perceive the Coastal Defence Strategy exercise as excessively constrained by funding guidelines, imposing a cost-benefit logic that favours the defence of urbanised coasts, a spatial scale of reference which underplays the connections between coastal actions and their wider hinterlands, and which inhibits creative investment in the long term ecological design of coastal maintenance.[66]

## Catchment-scale management: Derby and the High Peak

Landscapes deliver a whole range of services, from underpinning agriculture, sustaining biodiversity, to maintaining hydrological and carbon cycles. Yet devising policies which recognise and maximise these benefits requires joined up working, organised at an appropriate spatial scale. This type of working is especially pertinent to the connections between water, soils and farming practices, and has been taken increasingly seriously in a range of 'integrated catchment planning' initiatives, two of which are discussed here.

The **Mercaston and Markeaton Brooks** project operates in an area north-west of Derby, containing arable and dairy farms, a sewage outlet and trout farm. The mix of slope, topography and soil makes the catchment prone to generating excessive runoff and sedimentation, which is exacerbated by local land management practices – cultivating on steep gradients, ploughing in inappropriate directions and locations, and poor slurry containment. Downstream, this is polluting lakes that provide nature conservation, recreation and flood management services for Derby, with the clogging up of flood storage capacity requiring expensive and unsustainable de-silting.

A key part of the solution is encouraging farmers to maintain a range of environmental functions, and a partnership has been formed to drive forward this agenda. The partnership brings together the Environment Agency, English Nature, DEFRA, FWAG, the National Trust and neighbouring farmers, as well as Derby City Council – despite the project falling outside their administrative boundaries, they recognised the potential impacts on flood risks within the city. Representing stakeholders has been seen as more important than involving wider publics, but partnership working has benefited from being formalised by an agreed Terms of Reference. It helped parties to justify spending time and money on the project to their masters in their employing organisations.

A central challenge for the partnership is pulling together the pieces i.e. drawing upon existing policy levers to deliver effective, coherent land management solutions targeted on the most vulnerable areas. Particularly helpful in this regarded has been funding from DEFRA to support FWAG officers which have been able to advise 25 farmers of the potential benefits of taking up the Environmental Stewardship agri-environmental scheme. Project managers are hoping that farmers will consider setting aside land as wetland habitats or permanent pasture, to buffer the river against flooding and trap silts. The value of this face-to-face advice is apparent from the fact that prior to contact from FWAG officers, none of the farmers were considering participating; because of FWAG assistance all of the original ten farmers contacted have applied, four of them at the Higher Level Scheme (HLS). FWAG Officers have also been able to utilise farmers' own knowledge of their farming operations and erosion to design effective farm management plans.

Inevitably, a catchment-scale project is being delivered within a wider context of farm-scale funding payments and voluntarism: thus individual farmers can choose whether or not to participate and this makes it difficult, though not impossible,[67] to achieve wider solutions. Catchment-scale coordination is also made more difficult by the limited resources available for the higher level of Environmental Stewardship, with the likelihood that funding will be targeted on farms within important designated areas, rather than areas of 'the wider countryside' with multi-faceted environmental problems.

The second example is located in the **High Peak, Derbyshire**. The Ashop catchment – part of the upper Derwent – covers about 125km$^2$ of blanket peat bog, and supplies drinking water to conurbations of the north and midlands. As well as its value for landscape and recreation, the bog habitat is of European nature conservation importance, but has suffered significant degradation from the combined effects of drought and fire – both likely to intensify with climate change – as well as overgrazing and atmospheric pollution. Peat erosion has contributed to increasing discoloration of the drinking water, which needs expensive treatment and, as at Mercaston Brook, leads to sedimentation of local reservoirs. Degradation of peat bog also amounts to the loss of a significant carbon store.

None of these systemic problems can be dealt with adequately or efficiently at 'the end of the pipe'. A voluntary partnership was formed between English Nature, Severn Trent Water, Nottingham Trent University and the National Trust to identify and implement pro-active solutions that tackle the root causes of the water quality problems, at an appropriate spatial scale. Simultaneously, the Trust has worked with its tenants and English Nature to produce Moorland Management Plans to address many of the land management issues.

A key component of the project is research. The partners have funded a study into the effects of different moorland management techniques – including blocking gullies, different burning and grazing regimes, improved firefighting of moorland fires and restoring eroded footpaths – with a view to identifying win-win solutions which are cost-effective in delivering water quality, nature conservation, economic and recreational benefits. Such solutions might then be rolled out at a wider catchment scale. Participants sometimes felt that existing academic knowledge was not readily

available, and that information held by individual water companies was withheld as commercially sensitive, forcing them to take the expensive step of hiring consultants.

In terms of delivery structure, interviewees feel that the partners are working effectively together, and that they have the right players for moorland restoration on board. Where voluntary, partnership-based approaches face difficulties, however, is in overcoming the tendency of stakeholders to make calculating commitments to participate. Where there are win-win solutions this is fine, thus Severn Trent Water agreed to provide £120,000 to fund the research because they could see the benefits. The same applied to statutory bodies. However, it is more difficult to find shared interests with some tenants and shooting interests: grouse moor managers gain very little from improved water quality, and yet their burning regimes have the potential to conflict with nature conservation, as well as creating risks of erosion for the deep peat. Given the intensity of visitor pressure on the Peak, engaging user groups such as the Ramblers Association is also thought to be important, but thus far has not progressed beyond quarterly information meetings.

In both of these initiatives, rolling out the scheme *across* a wider area was thought to be a much more pressing issue than engaging with *higher-level* strategic planning processes – 'so broad and strategic that they don't result in any actions on the ground'. This also reflects dilemmas in participatory design, with the risk that a wider scale of working might mean a less effective, less manageable institution, more likely to be a 'talking shop'. Nevertheless, the strategic context is important in a number of respects. In the High Peak project, one of the key tasks in extending the findings of the research across a wider area is to feed the findings about moorland restoration techniques into the

'menu' of options in future rounds of agri-environment support, and to ensure that sufficient resources would be available to support it. Influencing DEFRA is also seen as valuable in demonstrating the role of peatlands in carbon exchanges. Also in High Peak, the fact that a key Central Government PSA target is that 95% of Sites of Special Scientific Interest should be 'in favourable condition' by the end of the decade has been very useful for driving forward the project, both in levering resources, and in focusing attention on important goals. This illustrates perfectly the value of a co-evolutionary relationship between national and local land management activities, which is vital to institutional development.

In neither case study were the cross-compliance requirements of the Single Farm Payment anticipated to make a major difference. At Mercaston and Markeaton Brooks, it was felt to be too early to tell, but the rather basic minimum requirements of cross-compliance might do little to resolve severe, localised problems, and much would depend on how assiduously cross-compliance was policed. On High Peak, except at the lower end of the Ashop catchment, the problem has not been intensive point source pollution but more diffuse pollution from NOx (causing algal blooms on the moors), the continual release of heavy metals from the area's mining past and pesticides.

# Restoring Landscapes – Tomorrow's Heathland Heritage

Conservation practice has moved beyond purchasing, protecting and managing isolated fragments of habitat, and now seeks also to restore populations of species and habitats across wider areas. However, this places great pressure on the traditional *tools* of conservation: on the *scale* of planning; to deliver tailored and enduring regimes of *funding*; to *connect* the benefits of nature conservation with social and economic rewards; and to *involve* a range of publics, both those directly involved in implementation and those whose relations to the land may be affected. At present, the burden of making these connections weighs heavily on individual project managers.

The challenges of this new way of working can be illustrated by two projects within the Tomorrow's Heathland Heritage (THH) umbrella. THH is a £25 million, 10 year umbrella project for heathland restoration, supported by the Heritage Lottery Fund and managed by English Nature with a consortium of other partners. A key goal is to help deliver national Biodiversity Action Plan targets for lowland heaths of restoring 58,000ha and creating a further 6,000ha. This represents an important results–centred form of environmental governance, in which national targets must be translated into actions appropriate to the diverse social and ecological contexts of individual heaths.

The goals of the **Heathland Project**, **West Penwith** are to raise the profile of West Cornwall's heathland as a 'cultural landscape', to develop the infrastructure necessary for the long-term sustainable management of heathland by grazing, and to connect heathland grazing, using traditional livestock breeds, to the marketing of high value, niche agricultural products to sustain the system

economically into the future. In certain key respects, the project has been very successful. Water supplies, hedges and cattle grids have been installed on properties to enable grazing to occur; and the project has improved the conservation status of the West Penwith heaths to a level sufficient for Site of Special Scientific Interest status.

The Heathland Project also illustrates the need to balance different directions of accountability. For the project managers, a key dimension is accountability by results – 'absolutely, it comes down to 'land in favourable condition'' - which means delivering 'upwards' on the biodiversity objectives. But delivery also means steering the requirements through the web of local actors that weave through every site. To project managers, the key barrier to implementing this project lies not in wider institutional and funding frameworks for sustainable land management, but in re-inculcating heathland management into local community cultures. In contrast to the Lizard Peninsular (where people now have thirty years experience of stock grazing for conservation purposes), in West Penwith the tendency towards abandoning heathland or converting it into pasture has continued to the present day, leaving many residents startled by the prospect of new fencing, stock grazing or bracken removal affecting their favourite places. A positive cultural outcome is that the recent Parish Plan for St Levan makes statements about the value placed on the heathlands by local people, as a landscape and as a home for nature.

Project managers have various strategies for dealing with these sensitivities, which rely overwhelmingly on developing trust with local farmers and communities, rather than any 'formal' consultative institution. The community liaison officer, recently appointed, has been working on producing and distributing leaflets about the cultural significance of heathlands in the local area, together with open

days held on National Trust sites and in village halls, and advance notification of management intentions (e.g. over cattle grids). Local councillors have been shown conservation grazing on the Lizard. In the end, however, there will always be a dilemma between persuading people of the merits of heathland restoration while also allowing meaningful and responsive consultation – 'you have to be prepared to take on board what people say'. In some locations, alternatives to fencing or grazing with stock have been found. Officers do, however, seek to frame debate by arguing that with CAP reform, cross-compliance and English Nature all pressing for land to be 'in good condition' within ten years, the need for different forms of management are becoming non-negotiable.

Another THH project, **Hardy's Egdon Heath**, faces some of these difficulties, but in a markedly different landownership setting. Here the goal is to restore and recreate the large swathe of heathland that used to stretch from Dorchester to Bournemouth. There is a particular emphasis on reversing heathland losses from forestry and ecological succession (to willow, bracken or rhododendron), but 'sustainable land management' implies moving beyond the one-off removal of invasive vegetation by machinery, to introducing grazing regimes which deliver conservation outcomes, are compatible with other user pressures, and can be tied into higher value farming products. Significantly, the project builds upon much longer nature- and landscape-management interest in the Dorset heathlands, reflected in the status of key sites as National Nature Reserves, substantial ownership of the remaining patches by the National Trust and RSPB, and extensive use of agri-environmental support.

A major difficulty lies in the national regulations which surround government grant aid, which prevents agri-environmental payments being spent

on Crown Land, or land where The Crown has an interest (because responsible agencies like the Forestry Commission and English Nature get their own resources directly from the Treasury). The problem is that in areas with extensive Crown Lands like the Dorset Heaths, land which has formerly been in receipt of payments for sensitive management may shortly go without, leaving conservation management reliant on the resources available to the agencies concerned. For some practitioners, this apparent policy failure, and their dependence on competitive bidding nature of High Level agri-environment support, haunts the larger-scale and bolder visions for land management, such as opening up and 're-wilding' large swathes of heathland.

As at West Penwith, public reaction has sometimes been negative – pine clearance attracts vociferous objections where it affects stands of woodland that people have become deeply familiar with. As managers put it, 'people didn't understand what we're doing and why … I'm not sure we're good at communicating what is negotiable and what isn't'. In both projects, there is a concern that the short time frames required by funding systems are insufficient to discuss the sensitivities involved, and that it pushes land managers 'to do too much too soon', making the changes more dramatic and deepening public anxiety. Smaller, more sensitive steps might have fitted better with background rates of change. Many of the sites also raise practical difficulties for public engagement, like Studland, which receives 1.5 million visitors, which are geographically dispersed, and from distinct user groups; some cohesively represented and some not. There is simply not the single 'community' with which a cohesive relationship could easily be established, as a basis for discussing changes.

In both projects, developing economic outlets for heathland products is at an early stage, with efforts thus far proceeding largely within the National Trust's own enterprises. In Purbeck, this remains largely 'unfulfilled potential'. In West Penwith, project managers have been looking at bracken-based compost and heathland honey, but identify a need for better information, advice and contacts on marketing to farmers, to make sure they achieve a premium for high quality products rather than selling to wholesale markets. However, the Trust's own advisors were over-stretched, as were economic development officers in local councils.

## Embedding economic value: Nantgwynant, Snowdonia

In various parts of the country, conservation NGOs have become major landowners, putting them on the front-line of delivering sustainable land management. This has been a feature of land acquisition in the uplands – a particularly exacting setting for reconciling the conservation objectives of the organisations with the wider social, economic and environmental sustainability of local communities, many of which have been left reeling by the upheavals affecting hill farming. But is the unilateral action of NGOs, through serendipitous land acquisitions, sufficient to deliver public interest objectives and cohesive solutions? Would their actions be more effective, and more democratically accountable, if they operated within a supportive Sustainable Land Management framework?

Some of these issues are illustrated by the Nantgwynant Integrated Land Management Project in Snowdonia National Park. From the late 1990s, the National Trust had been liaising with local interests to look holistically at the valley, going beyond 'a list of jobs' for managing the estate, to draw up a strategy which could deepen the links between environmental enhancement, sustainable development and public access. The production of a strategic plan, *The National Trust in the Beddgelert Community*, was galvanised by the Trust's acquisition of the Hafod y Llan estate (a large area of land on the south flank of Snowdon) in 1998, and fed into bids for financial support from the EU for implementation.

The project has been successful in its aim of achieving a step change in environmental quality and maintaining local communities. To date a total of £4.75 million has been spent. This has gone into creating new, all-season, low-level footpaths,

accessible to families, the elderly and the disabled. Craflwyn hall has been restored to provide accommodation for volunteers on working holidays, conference/meetings facilities and office space. Resources have also been given to countryside conservation and biodiversity enhancement, through removing rhododendrons, repairing dry stone walls and reducing stocking densities. Organic conversion of the farm is enabling products to gain RSPCA 'Freedom Foods' status and other marketing advantages.

A significant feature of the Nantgwynant strategy has been the injection of income into the local community – £2.7 million between 2000–2004, indirectly creating a further 5.2 full-time equivalent jobs above the 25 posts that the Trust itself has created in the Beddgelert area. This linkage has been achieved by parcelling up contract work into smaller pieces to make it accessible to local contractors; boosting local skills (such as in building restoration), and increasing visitor spend.

Trust has been assiduous in using Nantgwynant to sell the wider message that a high quality rural environment is a major asset in its own right, which generates tangible economic benefit to the region. Project outcomes have informed negotiations between the locality, the EU and the Welsh Assembly Government - who now regard it as an exemplar - and it is hoped that tourism strategies and local plans will take seriously the economic significance of environmental assets in all their policies.

The process of developing the Nantgwynant strategy offers a number of lessons for progressing more cohesive land management solutions. Though there has been success in delivering new permissive paths in collaboration with neighbouring landowners, most of this 'valley-wide' project has been implemented within the National Trust's

holdings – simple persuasion hasn't persuaded other landowners to participate. Collaborative projects clearly depend on the project management skills of the staff on the ground, but professional 'project animateurs' could have been very useful in implementing such complicated, costly initiatives. Nantgwynant also shows the importance of senior management support if front line officers are to progress collaborative projects. Within the Trust, the project coincided with internal reorganisation, making it difficult to align departments behind such a cross-cutting initiative. Externally, the local authority has never participated in the technical partnership for the project, despite the salience of issues like public transport, and other organisations sometimes find it difficult to field sufficiently senior representatives to progress the strategy. This makes it difficult for partnership working to move beyond information sharing, and requires further effort to ensure that messages circulate within the organisations concerned.

Community liaison has been a vital component of Nantgwynant's success, but also prompts us to think carefully about how it might be integrated into Sustainable Land Management projects. Effective participation takes time: the sharp deadlines for delivery attached to Objective 1 resources sparked a chain of events leading to negative publicity surrounding one of the footpath projects. And even the most effective stakeholder participation at a strategic level is unlikely to obviate dissent on implementation. There will always be a section of the population for whom specific projects and tangible land use changes are the main stimulus to expressing a view – such as the desirability of removing rhododendrons – and this cannot easily, *or legitimately*, be streamlined away by strategic planning. 'A nebulous piece of paper is fine, but many people need to see something on the ground'.

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