

## **Living Wales, the Natural Environment Framework – Core Narrative**

### ***Wales' land, water and air - our ultimate resource***

Our land, water, seas and air are a finite resource that we need to use wisely if we are to prosper now and in the future.

We make a whole series of demands on our environment and we need to make sure that the way we use the environment can sustain its healthy functioning as well as meeting our immediate needs.

The condition of our rivers and air and the appearance of our landscapes have improved hugely over the past decades as a result of effective regulation of industrial pollution and work to reclaim industrial land.

But the challenges we now face are more complex. Wales' environment is facing increasing pressures from the changing climate that will affect habitats and species, make water more scarce and increase flood risk. There are also complex multiple pressures from our modern uses of land that are leading to poor soil and water quality and increased pressure on species and habitats.

To tackle these challenges we need to make sure we are managing our natural resources as a whole and to understand better how we can get the services we need while sustaining a resilient and healthy environment. This is the **ecosystems approach** that has been adopted by the international community and which Wales is looking to be among the first to build into the way government manages the environment.

### ***Wales leading the way***

Maintaining healthy ecosystems is less expensive than treating problems later on. For example, good land management in river catchments can keep water clean and reduce flooding. Well-functioning ecosystems will be more resilient to climate change and extreme weather events.

A recent study has shown that for every pound invested in the natural environment we get ten to a hundred pounds in return. In Wales the environment contributes at least £8.8billion to the Welsh economy every year - 9% of Welsh GDP and one in six Welsh jobs – but it could be worth much more.

Taking an ecosystems approach to managing our natural resources makes economic as well as environmental sense.

### ***What we are doing***

In the [Programme for Government](#) the Welsh Government has committed to develop an integrated approach to the way we manage our environment. [A Living Wales - the Natural Environment Framework](#) (NEF) sets out how we will use the **ecosystem approach** to look at the environment as a whole and improve our understanding of its relationship to our social and economic needs, health and well-being.

In early 2012 we're asking for views on our Green Paper which sets out specific proposals for how we're going to do this. It will explain the limitations of our current systems, the challenges we face, and the steps needed to develop a fresh approach. We are asking for views and ideas on the level of appetite for a radical approach and whether the suggested building blocks are the right ones.

### ***The need for change***

Up until now we've managed parts of the environment separately rather than managing them together as systems. Regulatory regimes have become increasingly complex over the years as law has developed separately in a series of related areas sometimes resulting in conflicting outcomes applied in a piecemeal way. We've focused on protecting rare or interesting species and habitats in isolation from our other activities and we've reacted to individual pressures one at a time. This way of managing and conserving the environment struggles to tackle complex issues and sometimes presents users of land with an over-complex process of regulation.

This is a problem because by damaging ecosystems we are reducing the natural environment's ability to give us valuable services that underpin our economic, social and personal well-being. And because most of these services aren't paid for, there is no clear way of reflecting the costs of their loss when we make decisions.

### ***Some examples of the challenges***

#### **WATER RESOURCES**

Even though Wales receives more annual rainfall than many other parts of the UK this does not mean that we can take a continuous and endless supply of water for granted. In Wales rainfall travels quickly to our rivers and so during dry periods our river levels can also drop quickly in response. In addition to causing stresses to the water environment and aquatic habitats in these rivers, this also creates challenges to ensuring security of public water supply and supporting other water abstractions. Currently the Environment Agency estimate that, in approximately 38% of river water bodies in Wales, water is no longer reliably available for new water abstractions.

The combination of climate change, population growth and potential increasing consumption of water per person are likely to cause additional pressure on our water resources in the future. Current climate change projections indicate that natural river flows in Wales could reduce by 40 to 60% in the summer months by the 2050s<sup>1</sup>. We are also likely to experience longer and more frequent dry periods in future. Climate change could be causing significant impacts on our water resources as early as the 2020s, although some of these impacts may be masked by natural variability until the 2030s.

With a better understanding of the impacts of these pressures, we will be able to work together to take a long term approach to managing water resources sustainably, putting in place the right planning regime so that the all the options to meet these challenges can be explored and decisions can be made to protect the environment and secure water supplies in Wales in the future.

### **WATER REGULATION**

The water sector is highly regulated, it is required to comply with a wide range of different requirements and deliver a number of other policy objectives. In many cases these different objectives are competing with one another for limited resources to deliver them and, in some cases, are pulling in opposite directions or driving actions that do not deliver good overall environmental outcomes.

We want to find ways to bring together requirements to enable holistic, long term planning that will deliver better environmental outcomes and allow investment to be planned and funded over a realistic timescale.

The structures within the water industry, for example the periodic price review overseen by Ofwat, provide a mechanism that could enable integrated planning for optimised environmental, economic and social outcomes. We will be exploring possible options in this area in more detail in our Water Policy consultation.

### **FLOOD RISK AND COASTAL RISK MANAGEMENT**

With increasing pressures from our changing climate, we are looking at fundamentally different approaches to managing flood and coastal erosion risk. Traditional defences, while remaining part of our armoury, risk putting the communities behind them at a greater threat when flooding does occur. We are therefore putting much greater emphasis on the management of the flood risk as whole, starting with retaining more water in uplands and slowing its rate of movement, allowing more areas of lowland to flood naturally to dissipate impacts. We are also addressing the causes of urban surface water flooding by making urban areas more permeable and introducing sustainable urban draining systems to take excess water out of the drains.

One of the specific challenges will be addressing rising sea levels. This is likely to require us to create new habitats to replace sensitive coastal margins that will be lost to flood risk management measures.

### **MANAGING HIGH-PRESSURE ENVIRONMENTS**

We have a number of local environments, especially on our industrial south coast, where the combination of natural and human-induced pressures is pushing the limits of existing environmental management approaches.

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<sup>1</sup> Environment Agency (2008) Climate Change and River Flows in the 2050s. Science Report SC070079/SS1

For example, in Port Talbot management of air quality is challenging because of a combination of atmospheric conditions and the variety of different sources of pollutant emissions from industrial processes, transport and construction, as well as the impact of pollution from elsewhere in Europe.

Addressing these issues requires an approach that works beyond conventional individual regulatory regimes to look at the outcomes for the environment as a whole and potentially innovative ways of reducing pressures.

### **DECLINING BIRD POPULATIONS**

A number of our iconic birds, such as the curlew and lapwing, are currently in very sharp decline. At present we cannot be certain of the reasons for the decline in breeding pairs of these species but believe they are as a result of a combination of a range of factors.

In order to address these declines, we are likely to need a range of interventions beyond the traditional habitat designations and agricultural funding, as well as greatly improved understanding of what within the whole ecosystem is leading to the pressures.

### **TACKLING DIFFUSE POLLUTION**

In assessing our river and water quality under the Water Framework Directive, the total impact of diffuse pollution from a range of sources has become clearer.

Land use management practices, in different forms, have a significant impact including direct rural and agricultural pollution, forestry and land drainage. It is clear that we need to take a holistic approach that addresses the different sources of pollution.

The Environment Agency has also carried out more detailed river walks in three rural catchments and the chart below highlights the issues leading to failures in those catchments. These results make clear the significant role that land management and farming practice do play in causing diffuse pollution.

Changing farming practices, such as fencing off waterways from animals and changing the way slurries and fertilisers are applied, can help to reduce diffuse pollution while potentially also reducing long-term costs for farmers. Some of these practices are long standing and there is a significant engagement and behaviour change component to the action that we need to take alongside clear, effective regulation and appropriate incentives.

### **SOIL CARBON**

Welsh soils hold a significant stock of carbon, cycle nutrients essential for plant growth and buffer and dilute pollution. Ensuring that carbon remains in our soils by keeping our uplands wet, and ideally trapping more carbon by re-wetting areas that have been drained, rather than have carbon escape to the atmosphere, is a key climate change policy aim but one that will become more difficult as we experience drier weather.

Done well, action on upland wetlands can also help to address water quantity and quality, enhance the prospects for nature and provide benefits for land managers.

### **SHELLFISH HEALTH**

The Environment Agency Wales has been leading a multi-stakeholder study of the causes of cockle mortality in the Burry Inlet off Llanelli.

The second phase of this work is nearing completion and has identified a range of pressures and found that some of them, such as changes in water quality, are less significant than first feared.

Taking forward work to strengthen the health of the fishery will require a range of approaches across the different regulatory regimes, including potential piloting of different approach in different parts of the fisheries to see which are most effective in helping the cockles reach maturity.

### ***What the new approach could mean***

The approach is essentially about integrated natural resource management.

We currently produce a number of national environmental plans and policies that set a spatial context for decisions about the environment but we do not currently bring these together into a single framework. Our main spatial policies in the environment currently cover renewable energy, flooding, water quality and resources, waste infrastructure, landscape and nature conservation.

Bringing together existing processes, resolving conflicting aims and identifying opportunities for improved outcomes by linking common aims more clearly, could help us to create simpler systems that are better able to deliver the outcomes we need as a society.

This will be particularly important as climate change and other inescapable impacts mean we will increasingly need to find new habitats to replace those which will be lost and to help species move and adapt to change. Positive habitat creation will be an important way of tackling longer term pressures.

### **For businesses**

***A Living Wales*** should lead to more efficient and simpler processes, such as:

- Enabling businesses to plan better with clearer information at an earlier stage and encouraging collaborative, innovative design leading to multiple outcomes;
- In the longer term it will reduce the need for 'jumping through hoops' one permit after another which can currently be costly and difficult to manage;
- better economic outcomes where we have been missing opportunities;

### **For people**

A healthier environment and better access to green space.

### **For fisheries**

27th October 2011

Rivers, lakes and seas that sustain healthy fisheries through good regulation benefiting everyone now and into the future.

**For farmers and landowners**

Thriving rural communities with profitable businesses as part of a sustainable environment, where society values ecosystem services such as food, timber, water which are provided by a well-managed Welsh countryside.

**For foresters**

Considerable growth in woodland creation to deliver climate regulation and other objectives as a central part of natural resource management.

**For wildlife**

Investing in enhancing and creating habitats which means ecosystems can function fully and are more resilient to change.

**For regulated industries**

A more integrated system of environmental management which is administratively simple, cost-effective but protects and enhances our environmental assets.

**For planners & developers**

A simpler regulatory system based on assessing the risk to the ecosystem and a clearer context for decisions.

**For policy makers**

Sustainable development as the central principle which all policies are developed and delivered, and through which our natural capital is enhanced.

For further information please visit the [Living Wales](#) area of the Welsh Government website.