



Land and ecosystem accounting

A landscape is essentially a photograph of what is going on; it reveals, in short, who we are.

Landscapes are also dynamic expressions of continually changing natural processes (climatic, physical, biological) and changes caused by human activity.

Europeans are now living in a part of the world where rapid changes are shaping landscapes as never before, but

tensions are arising almost everywhere between the needs of society for resources and space, and the capacity of the land to support and absorb these needs.

Landscapes powerfully characterise our sense of place and their slowly shifting patterns both reflect and support Europe's many cultures, societies, economies and environments.

Europe has a rich and diverse environment. With its beautiful landscapes, historical cities and cultural treasures, it remains one of the world's most desirable and healthy places in which to live.

To best protect our landscape it is important for us to know not only what is happening and why, but also where it is happening. This is because there are so called tipping points or thresholds in natural systems.

Tipping points happen when nature's balance point is lost, leading to a sudden fast change. In nature these sudden tips can result in long term changes to ecosystems, such as species extinctions or loss of habitats for example.

It is often difficult to detect how close we are to reaching these tipping points in nature, as we might miss the earliest warning signals. A safer alternative is therefore to calculate how well nature would be able to withstand changes if they were to happen.

To calculate this we need to understand what is happening to the environment at a specific place, which means making sense of all the separate pieces of information and data that we have. Some of these information sources will be official ones while others will not.

At the European Environment Agency, we are starting to organise all the separate pieces of environmental information and data we have according to their specific geographical location and distribution. This will take some time, but will eventually allow us to make sense of this information maze and to see what is happening in a specific place and its surroundings.

We are also working with images of Europe's environment taken from satellites. Two big European satellite imaging exercises took place in 1990 and 2000 during which satellite images were taken of most European countries.

These pictures were examined and the whole of Europe was then mapped accurately, with over 40 different classes of land cover including for example pasture land, roads, pine forests, lakes and rivers.

Such maps give us a good idea of what Europe's environment looks like in different places and can be used to answer questions such as: what characterises places where most people live?

If we compare two pictures taken at different times we are also able to see what has changed and to look for patterns. In Europe this has been done with the two maps taken in 1990 and 2000.

Background note: land and ecosystem accounting

With a better idea of how Europe is changing, as well as the information about where those changes are taking place, we can start to make predictions and models about what is likely to happen in the future and where. This gives policymakers a much better chance of creating policies that work and are effective and also helps to pinpoint places where policies are needed.

- Across Europe as a whole for example, there has been a 6 % increase in the amount of artificial surfaces in ten years, a rate that corresponds to a doubling in little more than a century.

- Urban sprawl is happening all over Europe, as the growth of very large cities is balanced by the growth of smaller cities and there is a trend towards increased settlement in the nearby countryside.

These sorts of results are just the beginning of what promises to allow policy and decision makers a more complete view of what is happening to Europe's environment.

In the longer term the EEA aims to produce an assessment of Europe's ecosystems in 2012. This will put an emphasis on the contribution of ecosystems to human well-being in terms of goods and services.

If we are aware of how we use our land in Europe we will be better able to accommodate future needs by appropriate spatial planning. How Europe's landscape changes today will also affect Europeans in the future - we don't have an infinite amount of land.