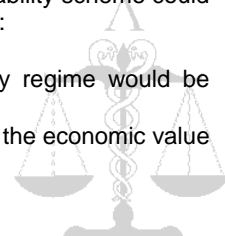


Study on the Valuation and Restoration of Biodiversity Damage for the Purpose of Environmental Liability

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Various options for developing a liability regime for damage to biodiversity or natural resources were explored in a European Commission White Paper on Environmental Liability in February 2000. A subsequent study was commissioned to provide further information on how such a liability scheme could work by answering a number of questions, some of particular interest to insurers, i.e.:

- How to define 'significant' damage to natural resources (i.e. when the liability regime would be triggered);
- How, and to what extent, monetary valuation techniques can be used to estimate the economic value of damage to natural resources.



Significance of change

The proposed test to determine if environmental damage is considered significant (outlined in the EU Habitats Directive) is based on whether the damage has had an adverse effect upon the integrity of the site concerned. The integrity of a site has been defined by DoE as "The coherence of the ecological structure and function across its whole area, or the habitats, complexes of habitats and/or populations of species for which the site is or will be classified". Further details are mentioned in the Habitats Directive concerning the conservation status of a natural habitat.

Many of the criteria mentioned in the Habitats Directive are to a large degree subjective. The report mentions that an assessment of significance may be performed based on a scoring and weightings system. This uses expert judgement to identify the different aspects of biodiversity damage and assign weightings, and so this approach is obviously open to interpretation.

Because all sites, and their damage, will differ to a greater or lesser degree, the assessments will have to be site-specific, with the level of what might be deemed significant applied on a site specific basis.

Obviously, there is a great deal more to be 'fleshed-out' in the assessment of significance process before it can be incorporated in a liability regime.

Valuation of environmental change

The economic approach to valuing an environmental change (improvement or degradation) can be based on individuals' preferences for that change, reflected in people's willingness to pay (WTP) to secure the improvement, or avoid (WTA) the degradation. This willingness is defined as the amount of goods, services or money individuals are willing to give up to secure or avoid the change.

There a number of techniques aimed at evaluating WTP and WTA mentioned in the report. Various strengths and weakness in the techniques are highlighted, however further discussion and guidance would be required as to the scientific and political acceptability of the various options.

Restoration of (compensation for) environmental damage

The total restoration of the site can be split into two areas:

Primary restoration - to restore the damaged resource and, if possible, return the resource to baseline conditions;

Compensatory restoration - to compensate the public for any interim (during primary restoration) or permanent (if primary restoration is not possible) losses.

While the total economic value of damage is based on public preferences for an environmental state, costs of clean-up and restoration are based on the technical options available. There may therefore be a substantial difference between the total economic value of damage and the costs for the primary restoration methods chosen. For example, the public may express a desire for a certain number of salmon in a river, measured in their willingness to pay to travel to the river (petrol costs, etc), however their travel costs will not reflect the costs required to clean up the river and (re)introduce the salmon and maintain their numbers.

One stated objective of the proposed legislation is to avoid spending on restoration that is disproportionate to the total economic value of the damage. It is therefore possible that the total economic value of damage (plus the costs of any assessment processes) would be the limit of liability. However, this is by no means clear.

It is clear that all parties concerned would need to have a large degree of confidence in the economic evaluation methods in order to prevent costly disagreement.

