

EA-NCEDS Box 1

The National Centre for
Environmental Data
and Surveillance

Soil Vulnerability Surveys



ENVIRONMENT
AGENCY

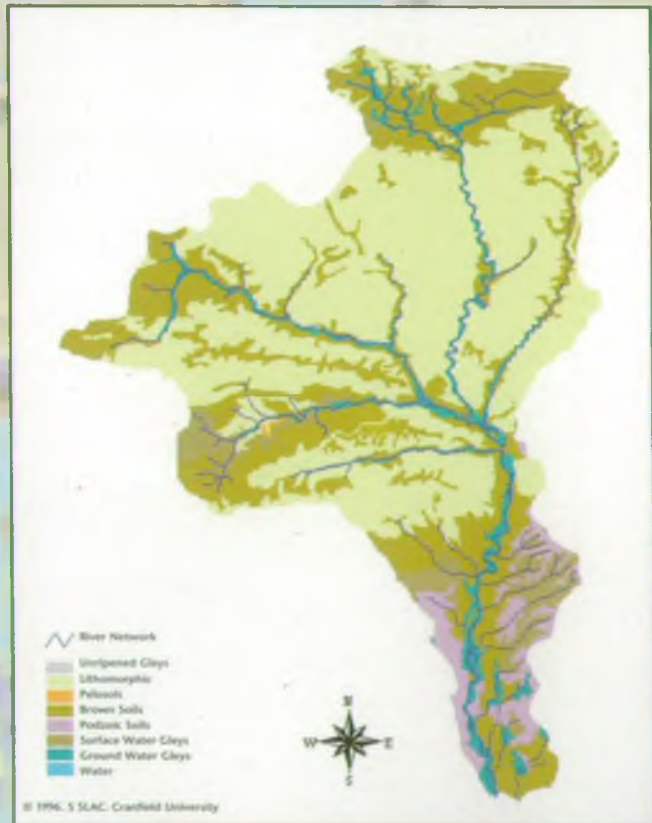
Soil Vulnerability Surveys

The Environment Agency spends £13.3m annually on research and development. A significant proportion of this is allocated to the environmental monitoring techniques topic managed by the National Centre for Environmental Data and Surveillance.

The National Centre is currently undertaking an innovative feasibility study into combining soils data with other environmental data to help characterise soil erosion in the Hampshire Avon catchment.

Sediments are entering the river system of the Hampshire Avon in a sufficient quantity to impact on the river's aquatic ecosystem and salmonid fishery. The enhanced rates of fine sediment deposition now being found are thought to result from man's activities within the wider catchment.

The principal activity is agricultural practice leaving soil bare in winter and therefore more vulnerable to erosion, especially on sloping ground. A further critical feature is the extended river network composed of ditches, tracks, paths and roads which act as pathways for sediment flow to the main river system. During transport of eroded soil, coarser particles are deposited as water velocity drops. Light organic and



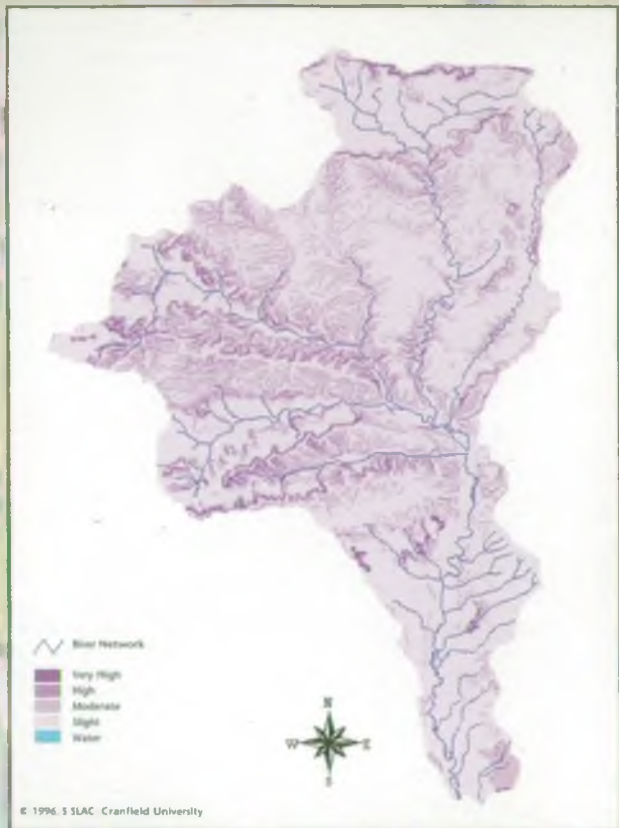
Hampshire Avon catchment soil type

fine clay particles can remain in suspension for long periods of time.

Therefore, the critical data sets to be considered when trying to target remedial works are the soil type, land use, ground elevation/slope and agricultural practice. The interrelation of these leads to the production of a soil erosion vulnerability map.

The topsoil type/texture data can be found in the Soil Survey and Land Research Centre's Land Information System. The gradient data can be generated from the PANORAMA digital terrain model. If finer

resolution is required, airborne Synthetic Aperture Radar or airborne laser scanning systems can be used. Land use classification can be added to the model via the Institute of Terrestrial Ecology's satellite derived land cover map. If a more recent, higher resolution data set is called for then Compact Airborne Spectrographic Imager data can be used. All these data sets can then be viewed and interrelated with a geographical information system to develop a vulnerability map and target areas of interest.



Hampshire Avon catchment erosion vulnerability

MANAGEMENT AND CONTACTS:

The Environment Agency delivers a service to its customers, with the emphasis on authority and accountability at the most local level possible. It aims to be cost-effective and efficient and to offer the best service and value for money.

Head Office is responsible for overall policy and relationships with national bodies including Government.

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For general enquiries please call your local Environment Agency office. If you are unsure who to contact, or which is your local office, please call our general enquiry line.

**ENVIRONMENT AGENCY
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The 24-hour emergency hotline number for reporting all environmental incidents relating to air, land and water.

**ENVIRONMENT AGENCY
EMERGENCY HOTLINE****0800 80 70 60**

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