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# **The Conservation and Management of Unconsolidated Geological Sections**

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### ***Introduction***

There are 1240 SSSIs in England with a geological or geomorphological interest. A number of these, in particular sites containing Quaternary deposits, are composed of soft or unconsolidated sediments. These can be difficult to maintain and manage because of their inherent instability. This becomes particularly important when development is proposed on sites, or where sites have public access, due to health and safety considerations.

### ***What was done***

English Nature commissioned Wardell Armstrong to look at the factors affecting unconsolidated sediments and to make a detailed study of the options for managing and stabilising sites, incorporating conservation of the geological interest. The study includes an outline of engineering geology and slope stability factors, with advice on site investigation techniques and assessment of stabilisation methods.

### ***Results and conclusions***

This study has created an overview of engineering geology concepts and factors relating to soft sediments, of use to those involved in working on such sites who do not have a strong geotechnical background. It explains much of the common terminology and indicates how geotechnical assessments should be applied on these sites. The section on stabilisation methods provides an overview of some potential options, which will need to be assessed in conjunction with the nature of the SSSI interest on a case by case basis before decisions can be made.

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## ***English Nature's viewpoint***

This report provides a basis against which geotechnical assessments and proposals on soft sediment sites can be assessed. The conservation options focus on maintaining a stable face with visible exposures, which has been English Nature's prime conservation goal until now. The work, however, has challenged this viewpoint, due to the inherent difficulties in maintaining such faces, and has resulted in a re-think of English Nature's policies for these sites. This report should be read in conjunction with the leaflet "The conservation of soft sediments on geological SSSIs", which outlines English Nature's updated guidance on these sites, resulting from this work.

## ***Selected references***

BELL F.G. 1994. *Engineering Properties of Soils and Rocks*. Blackwell Science.

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SYMONDS. 2002. *Geological Conservation of Unconsolidated Sediments in quarry Exposures*. Peterborough: English Nature.

### ***Further information***

For the full report or other publications on this subject, please contact the Enquiry Service on 01733 455100/101/102 or email [enquiries@english-nature.org.uk](mailto:enquiries@english-nature.org.uk)

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