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Geological Survey

NATURAL ENVIRONMENT RESEARCH COUNCIL



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MIST/BGS co-funded project
Environmental and economic information for
future aggregates planning

Dissemination & consultation seminar
January 2005

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Seminars

- Tuesday 18th January 2005
The Natural History Museum, London
- Thursday 20th January 2005
BGS< Keyworth, Nottingham
- Thursday 27th January 2005
Royal Armouries Museum, Leeds



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Environmental information and tools

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Outline

- Drivers for information
- Environmental information
- Environmental sensitivity mapping
- Methodology



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Drivers for environmental information

- Strategic Environmental Assessment
 - environmental baseline data is required
 - alternatives need to be identified
- Environmental appraisal of aggregates provision
 - scenario testing of supply of aggregates
 - environmental focus, some economic drivers
- Sustainability Appraisal
 - an assessment of all three pillars of sustainability
 - environment, economic and social



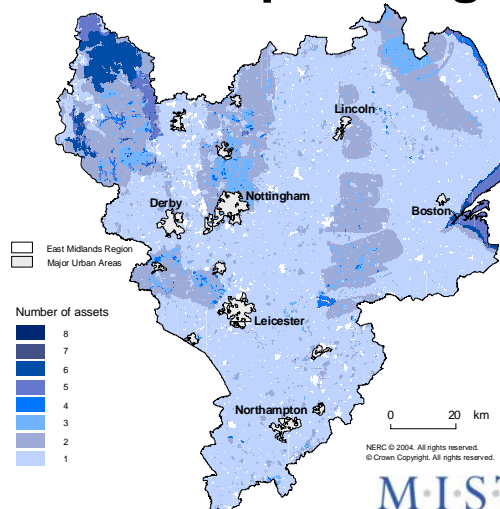
Environmental information for planning

- when considering options for aggregates provision spatial information is necessary e.g.
 - location of aggregate resources
 - location of valued environmental & cultural features
- necessary for:
 - baseline studies and for considering alternatives
- necessary to inform decision making **and** to explain decision making



Environmental tools for planning

- BGS has developed the technique of environmental sensitivity mapping
- developed with aggregates in mind
- but can be used for any type of development
- useful tool for consultation



Environmental sensitivity

- sensitivity is based on the number of **environmental and cultural assets** in an area
- higher sensitivity means there are more assets in a area (like a density map)
- the data shows the gradation between the MOST and the LEAST environmentally sensitive areas
- higher sensitivity does NOT preclude development

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What are environmental & cultural assets?

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East Midlands Region

Asset data courtesy of: English Nature, English Heritage, Environment Agency, DEFRA, Countryside Agency, Community Forest, National Forest, Woodland Trust, Ordnance Survey and RSPB. Many supplied through MAGIC.

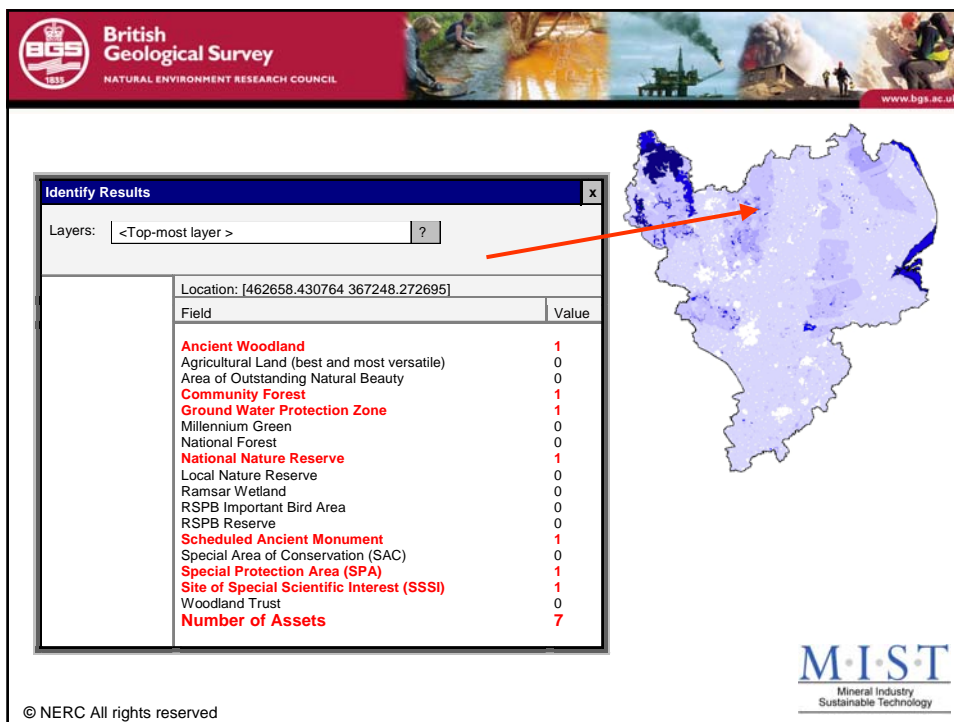
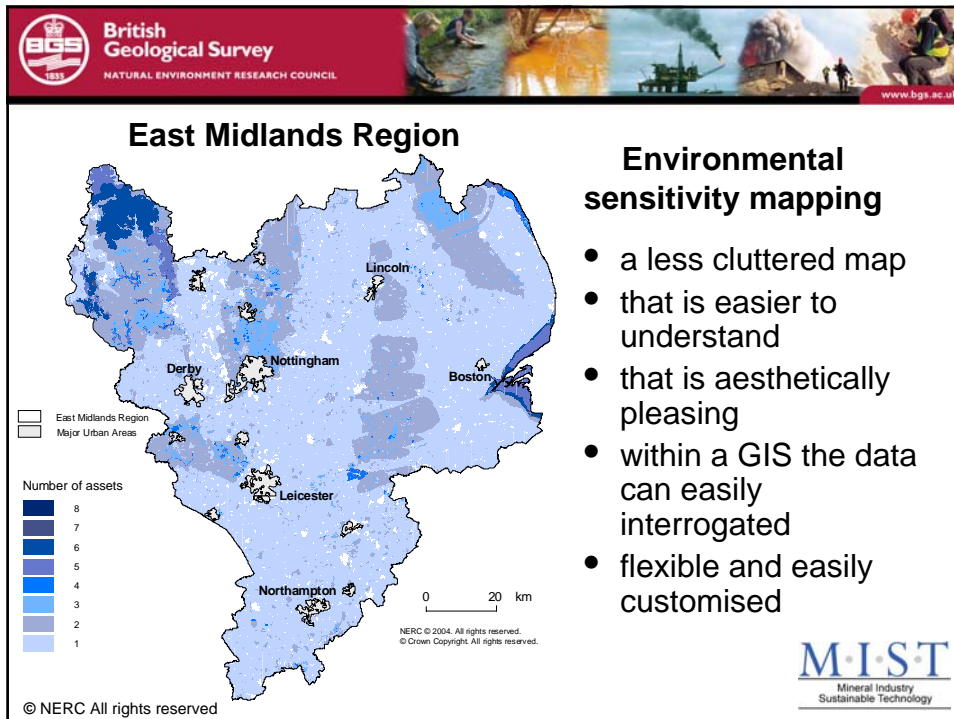
All available assets displayed

Displaying asset information

- the result is
 - a cluttered map
 - that is difficult to understand
 - not aesthetically pleasing
- there is just too much information
- even in a GIS it is difficult to make sense of the data

M·I·S·T
Mineral Industry Sustainable Technology

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Phase 1: Feb 2003 – March 2004

Strategic Environmental Assessment (SEA) and future aggregate extraction in the East Midlands Region

- Identify aggregate resources in study area
- Develop methodology of environmental sensitivity mapping
- Produce draft map for consultation
- Modify methodology based on consultation
- Dissemination & final report

Phase 2: April 2004 – March 2005

Environmental & economic information systems for aggregates provision

- Develop online version of the environmental sensitivity map
- Develop economic tools for planning



Identify assets

Landscape	Nature conservation	Heritage & cultural
National Park	Ramsar	World Heritage Sites
Heritage Coast	Special Areas of Conservation	Scheduled Ancient Monuments
Area of Outstanding Natural Beauty	Special Protection Areas	Listed Buildings:
Green Belt	National Nature Reserves	National Trust Land
Millennium Greens	Marine Nature Reserves	Conservation Areas
Ancient woodland	Sites of Special Scientific Interest	Historic Parks and Gardens
National Forest	Local Nature Reserves	Agricultural
Footpaths	RSPB Reserves	Agricultural Land Quality (ALC):
Important hedgerow s	RSPB Important Bird Areas	Likelihood of best & most versatile (BMV) land
Community forest	Sites of Important Nature Conservation	Geological
Community woodland	Groundwater	Limestone pavements
Woodland Trust	Aquifers:	Geological Conservation Review Site
Tranquil Areas	Groundwater Source Protection Zones:	RIGS
Others	Surface water	Local Geodiversity Action Plan
Biodiversity Action Plan area	National water quality	
	Flood zone	

Over 50 assets were identified





Score assets

Environmental & Cultural Assets	Score
Special Area for Conservation (SAC)	10
Agricultural Land Grade 1 or 2	8
Scheduled Ancient Monuments	8
National Park	8
Ancient Woodland	6
Community Forest	4

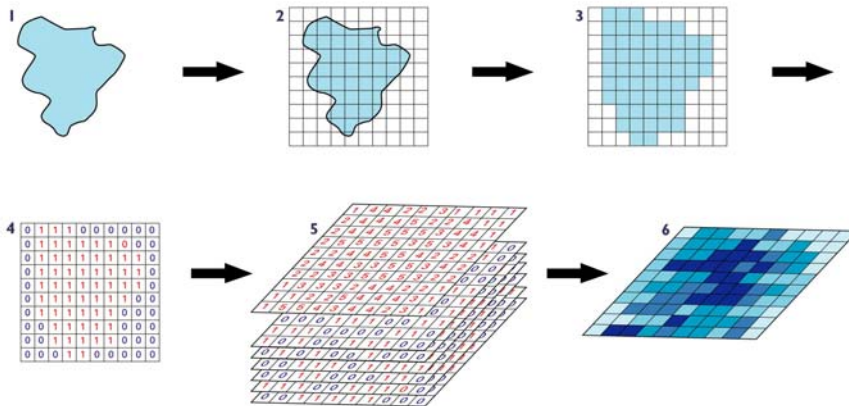
Considered more important
(anchored to law, planning guidance & expert & stakeholder opinion)



Considered less important



GIS - conversion to grid





Why convert to grids?

- to generalise the data
 - not exact site boundaries
 - to reduce copyright and IPR issues for 3rd party data
- to analyse the data more easily
- to provide the basis for seamless coverage
 - grids are aligned to British National Grid
- with all data in one layer it can be quickly interrogated by the user
 - one click identifies all the assets at that location



Stakeholder consultation

- Stakeholder workshop held on Nov 7th 2003
- Range of stakeholders:
 - Planners
 - Industry
 - Government organisations
 - Non-government organisations
 - Consultants
- Also one to one consultations with planners
- Dissemination seminar Feb 10th 2004



Modifications to methods based on consultation

- Not to restrict scoring to only those assets that overlay aggregate resources
- Remove scoring system, replace with 'frequency of assets'
- Users want to know why an area has a high or low score - can't do this with a map
- Interactive map – online GIS? (Phase 2)



Phase 2

- Provide 'online' version of environmental sensitivity map
- Consultation and dissemination
- Final report (due end March 2005)

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Technical issues: size of grid?

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Minerals Information Online

Change region: Select a region --> Feedback Form | Disclaimer | Help

Refresh Map Show Legend

Click layer names for details

Visible Active

Environmental Sensitivity	
(Click on an asset for background information)	
Agricultural land classification (best & most versatile)	1
Ancient Woodland	0
Area of Outstanding Natural Beauty	0
Community Forest	0
Doorstep Green	0
Groundwater Source Protection Zone	0
Historic Parks & Garden	0
Millennium Green	0
National Forest	0
National Nature Reserve	0
National Park	1
Ramsar International Wetland	0
Royal Society for the Protection of Birds Reserve	0
Royal Society for the Protection of Birds- Important Bird Area	0
Scheduled Ancient Monument	0
Special Site of Scientific Interest	1
Special Area of Conservation	1
Special Protection Area	1
Woodland Trust	0
Local Nature Reserve	0
Total number of assets present	5

0 40km

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Identify Zoom to Scale (no comma) 1: 1268295 This site is hosted by the British Geological Survey



Limitations & considerations

- all assets are included, no assets have been 'sieved'
- the method does not reflect the impacts from quarrying
 - this is the role of site specific EIA.
- coverage is not restricted to aggregate resources
- data is limited to:
 - measurable and mapped assets
 - available digitally
 - that are free
 - are available consistently across the region
- map is only as good as the data that can be obtained or used



Feedback

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