

Contaminated Land

Protecting Forth Valley's citizens

Introduction

Every Local Authority in the United Kingdom is tasked with meeting the conditions of Contaminated Land Part IIa of the Environmental Protection Act 1990. As such local authorities are required to:

- Inspect their areas for contaminated sites
- Determine whether particular sites are contaminated
- Act as the enforcing authority for sites which are not designated Special Sites

Requirements

As described in the legislation it is essential for Local Authorities to be able to identify where potentially contaminated sites are located and, furthermore, prioritise those sites in terms of the level of contamination. As an initial stage a desk study is required. Effectively the problem is site based and as such is very well suited to the use of Geographic Information Systems and spatial data.

Approach

To be able to identify potentially contaminated sites using GIS requires knowledge of the analytical systems capable of running complicated environmental models and the ability to source and implement the data that is required to run these models. Forth Valley GIS (FVGIS) collaborated with



the Contaminated Land Officers at each of the three Councils to join our technical knowledge of systems implementation with their expertise of contaminated land identification and remediation. In a consultative approach we identified the Councils' systems and data requirements from their Contaminated Land strategies and also considered their budgetary constraints so that any solution matched their requirements.

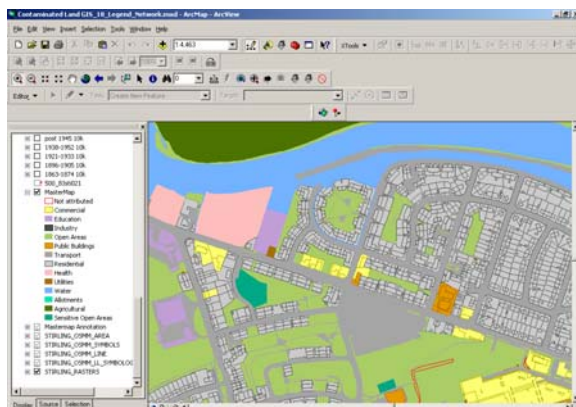
Solution

GIS plays an essential role in the Local Authority Contaminated Land strategy i.e., as both a tool for analysing a number of environmental and social datasets as well as acting as a registry of Contaminated sites. GIS is best suited to this task as it enables the spatial analyses of the components that constitute contamination, the sources of pollutants, pathways by which they may move and the receptors that they may affect. By using algorithms comparing these three factors at specific locations it is possible

to evaluate the level of contamination. In addition, maintaining a spatial registry of potentially contaminated sites and those that have been remediated is essential to informing the public of possible risks in addition to feeding the planning processes.

Forth Valley GIS has considerable expertise in this area and have assisted Falkirk, Stirling and Clackmannanshire in selecting appropriate solutions for their Contaminated Land requirements. FVGIS completed the following tasks:

- Costing and technical evaluation of the 'best of breed' contaminated land systems (Babtie & BGS)
- Sourcing and managing the licenses of the data sets required by the contaminated land systems
- Implementing the contaminated land prioritisation systems
- Implementing a data management regime
- Managing the training of users



©Crown Copyright. All rights reserved. Stirling Council 100020780 (2007)

Re-attributed Mastermap® in BGS system

Data Management

Data is the key to the successful implementation of all contaminated land prioritisation systems. FVGIS sourced and procured the data for the systems. The data required is created by a number of different agencies and includes Land Use and Environmental data.

Although the data was procured for the contaminated land prioritisation systems the data has been made available corporately. Key data sets that are available corporately include Historical and Land Use mapping that are very useful to the Planning and Archaeological functions of the Councils. Using the FVGIS infrastructure of GeoStore and GeoLink the data can be used by anyone in the Councils gaining the most benefit from the initial investment.

Data Management is an essential component of the project. All of the data sets that describe the current situation within a Council's area are constantly changing. As such ordered data management is essential so that data that is received from suppliers is updated and made available to the system and logged. At Stirling Council this has been implemented by using versioning within SDE so that each prioritised site is tagged with the data from which it was derived.

Benefits

The benefit of the Forth Valley approach has been that systems implementation was rapid. In addition, Forth Valley GIS capitalised on its data procurement and management expertise to ensure that this data driven application was delivered on time and that the data derived from the system is always correct and up to date. The applications themselves have given another set of tools to Contaminated Land officers that can now prioritise their work and identify the most contaminated sites quickly and efficiently.

As a new GIS user I found the technical assistance and training provision of Forth Valley GIS invaluable

- **Arthur Law, Environmental Health Officer,
Stirling Council**

Project type: Data Management, Application
Development, Data
Procurement

Software Platform: ArcGIS®, ArcSDE®, BGS
Consept, Babbie.

Customers: Falkirk, Clackmannanshire,
Stirling and Dundee City
Council

For further information, visit our web site where
you can fill in an on-line request for further information:

www.forthvalleygis.co.uk

or contact us:

**Forth Valley GIS
Drummond House
Wellgreen Place
Stirling
FK8 2DY**

Telephone: **01786 443939**

Fax: **01786 443987**

Email: **fvinfo@forthvalleygis.co.uk**

ArcGIS & ArcSDE are registered trademarks of Environmental Systems Research Institute, Inc.

Ordnance Survey & MasterMap are registered trademarks of Ordnance Survey, the national mapping agency of Great Britain.

All referenced third-party trademarks are hereby acknowledged to their rightful owners.