



Contaminated Land Inspection Strategy

Environmental Protection Act 1990 Section 78B

September 2002



**Housing and Public Protection
Department**

Pollution Control Unit

FOREWORD

I am pleased to present Gwynedd Council's Contaminated Land Inspection Strategy.

Contaminated land is the unwanted legacy of past industrial and waste disposal activity. Gwynedd, unlike more heavily industrialised parts of the Country does not have vast areas of highly contaminated land, but, along with other similar authorities, will have its share of land affected by the manufacture of gas, sewage disposal and the landfilling of waste. It is also likely that there may be other small pockets of contamination as a result of smaller local industries. As a consequence of previous redevelopment, the Council has developed competence in dealing with contaminated land and has a good record in identifying such land and ensuring new development is carried out safely and responsibly.

I welcome the production of this Strategy, it will guide the officers undertaking the inspection of the Authority's area, in their task of identifying contaminated land, using a risk based approach in which the protection of human health will always be paramount.

It is recognised that in the last decade, Government policy has changed significantly, particularly in defining what is contaminated land, and in determining how far land should be cleaned up. This inspection strategy should ensure that Gwynedd Council uses its resources wisely by identifying and assessing its land systematically and in order of priority. The inspection strategy will also make a contribution towards fulfilling the Council's wider objectives in promoting social, environmental and economic well being.

**By Councillor Linda Wyn. Jones,
Portfolio for Housing, Public Protection and Municipal Services**

EXECUTIVE SUMMARY

Part IIA of the Environmental Protection Act 1990 came into force in Wales in July 2001. It places new responsibilities on local authorities to deal with contaminated land. The main initial priority is for local authorities to develop, adopt and implement a strategy detailing how contaminated land in their area is to be identified, investigated and where necessary, remediated. It is important that the sites requiring the most immediate attention are identified first, and this Strategy document explains how Gwynedd Council is to go about this task.

The draft Contaminated Land Inspection Strategy was published for consultation with the relevant public organisations and the local community during May 2002. The Strategy has been amended accordingly and relevant comments have been incorporated into this final version. The Strategy will be kept under periodic review.

Due to the large geographical area and fairly dispersed population in Gwynedd, Electoral Wards will be prioritised for inspection in terms of the presence of receptors and known potentially contaminated sites. Within each of the prioritised Wards, resources will be targeted where there is the greatest probability of identifying contaminated land.

The implementation of the Strategy is a long-term programme, and it is anticipated that the preliminary assessment will be performed between October 2002 and December 2005, with more detailed inspections following there after. Because of the potential for harm from contaminated sites there will be scope for flexibility within this approach. Sites requiring immediate attention will be dealt with when they arise.

Gwynedd Council's priorities in order of importance will be: -

- To protect human health;
- To protect controlled waters;
- To protect designated ecosystems;
- To prevent damage to property;
- To prevent any further land contamination;
- To encourage voluntary remediation;
- To encourage re-use of land considered to be brownfield or contaminated.

Within Gwynedd for example, sites which are anticipated to be identified as potentially contaminated sites include former landfill sites, former gas works and former military establishments.

At the present time we do not have accurate estimates relating to the extent of contaminated land in Gwynedd. We can only determine land as *contaminated land* where it meets specified criteria laid down in Part IIA and supporting Statutory Guidance. This Strategy document provides details of the necessary criteria for land to be designated as contaminated and the procedures it will follow to secure remediation.

Gwynedd Council will work closely with the Environment Agency Wales and other appropriate agencies. Environment Agency Wales are responsible for dealing with *special sites* and the Council will take into account their guidance on controlled waters and policies on the protection of groundwater.

The Strategy will link with other Gwynedd Council Statutory Plans and partnership organisations policies and procedures in respect of sustainable development and contaminated land.

The Housing & Public Protection Department have the lead role in the Strategy's implementation. In addition, a Contaminated Land Working Group comprising all relevant Council departments has been established.

Gwynedd Council must maintain a public register of regulatory action in relation to contaminated land.

The Contaminated Land Inspection Strategy is available online at: www.gwynedd.gov.uk/

CONTENTS

	Page No.
1 INTRODUCTION	1
1.1 UK Perspective: Government Objectives	1
1.1.1 National Perspective: Wales Programme for Improvement	1
1.2 Local Perspective: Gwynedd Council's Corporate Aims and Objectives	1
1.3 Regulatory context	2
1.3.1 Regulatory role of Gwynedd Council	3
1.3.2 Regulatory role of the Environment Agency Wales	3
1.3.3 Definition of Contaminated Land	3
1.3.4 Risk Assessment	4
1.3.5 Principles of pollutant linkages	4
1.4 Interaction with other Regulatory Regimes to Deal with Contamination	5
1.5 Requirement for strategic approach	7
1.6 Development of the Strategy	7
1.6.1 Pollution Control Unit – Housing and Public Protection Department	7
1.6.2 Gwynedd Contaminated Land Working Group	8
1.6.3 Consultation	8
2 CHARACTERISTICS OF GWYNEDD	10
2.1 Geographical location	10
2.2 Brief description of the area	10
2.2.1 Population distribution	11
2.3 Land owned by Gwynedd Council	11
2.4 Current land use characteristics	11
2.5 Redevelopment history and controls	11
2.6 Protected locations	12
2.7 Key property types	12
2.8 Water Resources	12
2.8.1 Hydrology	12
2.8.2 Hydrogeology	12

2.8.3	Source Protection Zones	13
2.8.4	Public Water Supplies	13
2.8.5	Private Water Supplies	13
2.9	Broad Geological Characteristics	13
2.9.1	Soil Quality	14
2.9.2	Mines and Mineral Extraction	14
2.9.3	Radon	14
2.10	Known information on contamination	15
2.11	Action already taken to deal with land contamination	15
3	GWYNEDD COUNCIL INSPECTION STRATEGY: OVERALL AIMS	16
3.1	Aims of the Strategy	16
3.2	Objectives of the Strategy	16
4	LOCAL AUTHORITY PRIORITY ACTIONS AND TIMESCALES	17
4.1	The Prioritisation Process	17
4.1.2	Prioritisation of Geographical Areas	17
4.1.3	Prioritisation of Sub-areas or Sites	17
4.2	Timescales	19
4.3	Resource Implications	19
4.3.1	Human	19
4.3.2	Financial	19
5	PROCEDURES	21
5.1	Internal management arrangements for inspection and identification	21
5.1.1	Pollution Control Unit – Housing and Public Protection Department	21
5.1.2	Contaminated Land Working Group	21
5.1.3	Role of Elected Members	21
5.2	Outline of the Statutory Procedure	21
5.2.1	Determining land is contaminated	21
5.2.2	Where the significance of a pollutant linkage cannot be adequately determined	22
5.2.3	Land which may be a special site	22

5.2.4	Powers of entry	22
5.2.5	Written record of determination and formal notification	22
5.3	Liability	23
5.3.1	Apportionment of costs	23
5.3.2	Limitations on costs to be born by appropriate persons	24
5.4	The Enforcement Process	24
5.4.1	Specifying remediation	24
5.4.2	Urgent action	25
5.4.3	Land under ownership of the local authority	25
5.4.4	Remediation by the Local Authority	25
5.4.5	Orphan linkages	26
6	INFORMATION COLLECTION	27
6.1	Actual harm or pollution of controlled waters	27
6.2	Receptors	27
6.2.1	Human	27
6.2.2	Buildings	27
6.2.3	Ancient Monuments	27
6.2.4	Agricultural and horticultural crops	27
6.2.5	Timber crops	28
6.2.6	Produce grown domestically	28
6.2.7	Agricultural livestock, game and other owned animals	28
6.2.8	Ecological receptors (see Table A, Appendix I, for definitions)	28
6.2.9	Aquifers	28
6.2.10	Public water supplies	28
6.2.11	Private water supplies	28
6.2.12	Other authorised abstraction points	28
6.2.13	Other specified water receptors	28
6.3	Contaminants	28
6.3.1	Industrial history	28
6.3.2	Current industry	29

6.3.3	Environmental Protection Act 1990 Part I	29
6.3.4	Hazardous Substances	29
6.3.5	COMAH sites	29
6.3.6	NIHHS sites	29
6.3.7	Explosives	29
6.3.8	Current landfill and waste processing sites	29
6.3.9	Closed landfill sites	29
6.3.10	Sewage works and land used for the disposal of sewage sludge	30
6.3.11	Mines and mineral extraction	30
6.3.12	Waste or derelict land	30
6.3.13	Ministry of Defence land	30
6.3.14	Previously developed contaminated sites	30
6.4	Other information	30
6.5	Information and Complaints	30
6.6	Anonymously provided information	31
6.7	Anecdotal Evidence	31
6.7	Confidentiality	31
6.8	Information Evaluation	31
6.8.1	Evaluating information on actual harm or pollution	31
6.8.2	Risk Prioritisation Methodology	32
6.8.3	Site-specific Risk Assessment	32
7	GENERAL LIAISON AND COMMUNICATION PROCEDURES	33
7.1	Internal Liaison and Communication	33
7.2	External Liaison with Statutory Bodies	33
7.3	Liaison with other Local Authorities	34
7.4	Liaison with Stakeholders	34
7.5	Risk Communication	34
7.6	Arranging Site Access	34
7.7	Liaison with Other Interested Parties	34
7.8	Press and Media	34

8	PROGRAMME FOR INSPECTION	35
8.1	Local issues	35
8.2	Criteria for selecting areas and individual sites	35
8.3	Activities	35
8.4	Timetable	35
8.4.1	Assess Local Authority Financial Implication	35
8.5	Arrangements for carrying out detailed inspection	35
8.5.1	Methods of inspection	36
8.6	Site Specific Liaison	36
8.6.1	Consultation with Owners and appropriate persons	36
8.6.2	Consultation with the Environment Agency Wales and other statutory bodies	36
8.7	Potential Special Sites	36
8.8	Health and safety procedures	37
8.9	Appointment of Consultants	37
9	REVIEW MECHANISMS	38
9.1	Triggers for reviewing inspection decisions	38
9.2	Review of Inspection Strategy	38
9.3	Financial Review	38
10	INFORMATION MANAGEMENT	39
10.1	Storage Systems	39
10.2	Access to information	39
10.3	Public Register	39
10.4	Environmental Information Regulations 1992	39
10.5	Local Land Charges Search Questionnaires	40
10.6	Planning Files	40
10.7	Use by other Authority Departments	40
10.8	Provision of information to the Environment Agency Wales	40
11	OTHER SUPPORTING INFORMATION	41
11.1	Council Contacts	41

11.2	Statutory Consultees	42
11.3	Other Consultees	42
11	REFERENCES	43
APPENDIX I	TABLE A – CATEGORIES OF SIGNIFICANT HARM	
APPENDIX II	TABLE B - SIGNIFICANT POSSIBILITY OF SIGNIFICANT HARM	
APPENDIX III	POTENTIAL OF SITES TO CAUSE CONTAMINATION	
APPENDIX IV	POTENTIALLY SENSITIVE RECEPTORS	
APPENDIX V	PRIORITISATION OF ELECTORAL WARDS	
APPENDIX VI	WORK SCHEDULE	
APPENDIX VII	GLOSSARY	

1 INTRODUCTION

Being at the forefront of an industrial revolution and two world wars has left the UK with a legacy of contaminated land. Various estimates indicate between 50,000 and 300,000 hectares of land in the UK may be affected to some extent by industrial or natural contamination. However, not all of the contamination poses problems and some may only be of concern if the land is used for a particular purpose.

Contamination may take a variety of forms, including chemical, biological and radioactive. It may impact upon human health or the environment, ranging from toxic effects on humans and livestock, inhibition of plant growth, or explosive properties which may damage buildings.

Part IIA of The Environmental Protection Act 1990, as amended by Section 57 of The Environment Act 1995 has introduced for the first time a strategic approach to the identification of contaminated land.

The Welsh Assembly Government has provided Statutory Guidance on the inspection of its area by a local authority, and the manner in which an authority is to determine whether any land appears to it to be contaminated land.

This Strategy document details the arrangements and procedures that Gwynedd Council will follow to inspect land within the County for contamination, in order to identify and remove unacceptable risks to human health and the environment.

1.1 UK Perspective: Government Objectives

The Government has recognised that land contaminated in the past presents a threat to sustainable development, i.e. it threatens the environment both now and in the future. With this in mind, the Government's key objectives driving the new regime are: -

- To ensure that risks associated with land contamination are reduced to an acceptable level;
- To bring contaminated sites back to beneficial use; and
- To make sure that the cost burdens in doing so are proportionate, manageable and economically sustainable.

The 'suitable for use' approach, which the Government's considers to be the most effective way of delivering these objectives is to ensure that where 'unacceptable' risks to human health or the environment are identified, remediation requirements should be set on the basis of the current use or proposed use, as well as the circumstances of the land. Risks will therefore always need to be assessed on a site-specific basis. The regime also follows the 'polluter pays' principle with the onus on the local authority to determine liabilities.

1.1.1 National Perspective: Wales Programme for Improvement

The improvement of local services to the public in Wales and the achievement of better outcomes for the people in Wales is a huge agenda. The underlying objective of the new Wales Programme for Improvement is to achieve the delivery of high quality services to the public which meets identified needs. The Wales Programme for Improvement is underpinned by the statutory requirements of the Local Government Act 1999. It is also firmly embedded in the wider context of the community leadership role of local government and the new political structures of local authorities.

Every effort shall be made to ensure that the implementation of this Strategy will adhere to the requirements of this programme.

1.2 Local Perspective: Gwynedd Council's Corporate Aims and Objectives

The Council's aim is to serve the residents of Gwynedd by: -

- Improving the quality of life;
- Preserving and strengthening the County's communities;
- Safeguarding its unique character as regards language, culture and environment.

The Councils' objectives, in co-operation with others are:

- To provide services of the best possible quality within the resources available in accordance with the needs and aspirations of the people;
- To increase employment opportunities by supporting steps to strengthen the economy and ensure effective training and education to enable the County's residents to take advantage of employment created;
- To promote equal opportunity for all, to reduce deprivation and poverty and ensure care and protection and improving their circumstances;
- To safeguard and improve the County's natural and built environment and contribute towards safeguarding the global environment;
- To safeguard the County's cultural heritage by promoting the use of the Welsh language in all Council activities and throughout the area generally.

The implementation of the Part IIA regime does not stand in isolation from the other Council functions, policies and strategies. Moreover, it plays an important role in allowing the Council to move closer to meeting its aims and objectives.

In compiling this Strategy, every endeavour has been taken to ensure consistency and compatibility with the Council's Statutory Plans and partnership organisations policies, in particular:

- Gwynedd Council Unitary Development Plan;
- Snowdonia National Park Authority Unitary Development Plan;
- The Gwynedd Council Environmental Strategy;
- Corporate Plan;
- Community Plan;
- Economic Development Strategy;
- Area Regeneration Strategy;
- Gwynedd Objective 1 Programme;
- Local Biodiversity Action Plan;
- Social Inclusion and Anti Poverty Strategy;
- Countryside Strategy.

1.3 Regulatory context

The new regime for Contaminated Land set out in the Environmental Protection Act 1990 (EPA), Pt IIA, ss. 78A-78YC, as inserted by section 57 of the Environment Act 1995 came into force in Wales on 1st July 2001.

Primarily, the implementation of new the regime will fall to local authorities, and places a statutory duty on Gwynedd Council to 'cause its area to be inspected from time to time for the purpose of identifying Contaminated Land'. The guidance requires a strategic approach, formulated over the first 15 months of the regime's operation, to any programme of land investigation, phased according to priority.

1.3.1 Regulatory role of Gwynedd Council

The Council has three general regulatory roles in relation to contaminated land: -

- To inspect the area in order to identify potentially contaminated land;
- To determine whether any particular site is contaminated within the meaning of the legislation;
- To act as the enforcing Authority for all contaminated land which is not designated as a ‘special site’.

Because of their particular potential for harm, some sites are to be designated as ‘special’ sites, and these will be regulated by the Environment Agency Wales. In either case, whoever is the regulator, the procedure is the same, and entails the following stages: -

- To establish who should bear responsibility for the remediation of the land;
- To decide, after consultation, what remediation is required and to ensure that such remediation takes place, either through agreement with the appropriate person, or by serving a remediation notice on the appropriate person if agreement is not possible or, in certain circumstances, through carrying out the work themselves;
- To apportion costs of the work dependent upon liability; and
- To maintain a public register of contaminated land.

1.3.2 Regulatory role of the Environment Agency Wales

The County of Gwynedd lies within the boundaries of the Environment Agency Wales Northern Area Region, with the Area Office located at Llwyn Brain, Penlan Road, Parc Menai, Bangor, Gwynedd. Their principal roles with respect to contaminated land under Part IIA EPA 1990 are to: -

- Provide relevant information held by the Agency to local authorities;
- Assist local authorities in identifying contaminated land, particularly in cases where water pollution is involved;
- Ensure remediation of Special Sites;
- Maintain a Public Register of Regulatory Action for Special sites;
- Prepare a national report on the state of contamination;
- Provide site-specific guidance to local authorities on contaminated land.

1.3.3 Definition of Contaminated Land

Contaminated land is defined by the EPA 1990, s. 78A(2), as being:

‘...any land which appears to the local authority in whose area it is situated to be in such a condition, by reason of substances in, on or under land, that :-

- (a) significant harm is being caused or there is a significant possibility of such harm being caused ;or*
- (b) pollution of controlled water is being, or is likely to be caused.’*

‘Harm’ is defined in the Guidance as ‘harm to the health of living organisms or other interface with the ecological systems of which they form part and, in the case of man, includes harm to his property’.

The categories of harm to that type of receptor that is to be regarded as significant harm are shown in Appendices I & II. These definitions are intended to encourage councils to concentrate their efforts on land which poses an unacceptable risk.

1.3.4 Risk Assessment

Risk assessment is a generic technique that can be applied to any potentially hazardous situation to establish whether there is a need to take action to reduce or control the risk of adverse effects.

Used properly, it should ensure that available resources are effectively targeted on those sites most in need of action to reduce or control unacceptable risks to health and the environment. The absence, or inappropriate use of risk assessment can mean that potentially serious risks are overlooked, or that costly and unnecessary remedial works are put into place when they are not justified.

The principle of risk assessment forms the basis of defining contaminated land. The Guidance defines ‘risk’ as the combination of:

- (a) the probability, or frequency, of occurrence of a defined hazard (for example, exposure to a property of a substance with the potential to cause harm); and
- (b) the magnitude (including the seriousness) of the consequences.

Throughout risk assessment, the aim is to progressively better define the relevant ‘source-pathway-receptor’ relationships or ‘pollutant linkages’ until a point is reached at which confident decisions can be made on the most appropriate response to risk assessment findings. The process relies heavily on the fact that the relationship between sources, pathways and receptors must be plausible for a risk to exist, and that plausibility must be related to a defined time scale. For example, pollutant linkages can be considered in the context of the current use and environmental setting of the land, or in the context of possible future uses and settings.

Typically, risk assessment is described in terms of the four conceptual stages, which are as follows: -

Hazard Identification	Identification of contaminant sources, pathways and receptors (pollutant linkages), taking into account the actual or intended use of the site and environmental setting.
Risk Estimation	Estimation of the risk(s) that identified receptor(s) will suffer harm under defined conditions. Note that the expression of risk may be in narrative (i.e. the risks are low or high) or (more rarely) quantitative terms.
Hazard Assessment	Consideration of the plausibility of pollutant linkages and determination of the potential for health and environmental risks
Risk Evaluation	Evaluation of the need for risk management action (i.e. risk reduction or control measures) having regard to the nature and scale of actual or anticipated risks, any uncertainties associated with the assessment process and, where further action is required, the broad costs and benefit of that action

Conceptual stages of risk assessment (BSI 01, 2001).

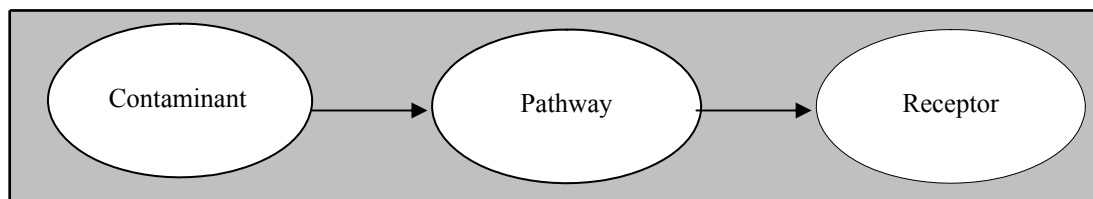
1.3.5 Principles of pollutant linkages

For land to meet the definition of contaminated land as defined in the legislation, a pollutant linkage must be established. A pollutant linkage or a significant pollutant linkage if all three elements are identified, consists of the following:

- (a) a contaminant or source is a substance which is in, on or under the land, and which has the potential to cause harm, or to cause pollution of control waters;
- (b) a receptor, limited to five categories by the Guidance, is either a living organism, a group of living organisms, an ecological system or a piece of property which
 - i. is in a category listed in Appendix I as a type of receptor, and
 - ii. is being, or could be, harmed, by a contaminant; or controlled waters which are being, or could be, polluted by a contaminant
- (c) a pathway is one or more routes or means by, or through, which a receptor is being exposed to, or affected by, a contaminant, or could be so exposed or affected.

Direct observation of a pathway is not necessary, as it is possible to identify this element on the basis of a reasonable assessment of the general scientific knowledge about the nature of a particular contaminant. **However, the**

identification of these elements cannot be made in isolation, and an identification of a plausible pathway can only be made if it is capable of exposing an identified receptor to an identified contaminant.



Significant Pollutant Linkage

1.4 Interaction with other Regulatory Regimes to Deal with Contamination

The primary aim of the Government is to prevent new contamination occurring. There are several situations where existing pollution control legislation would apply.

- **Planning and Development Control**

The planning system seeks to lessen the risk from natural or man-made hazards, including risk from contaminated land. Planning Policy Wales 2002 requires the local planning authority to ensure that development is suitable and that the physical constraints on the land are taken into account at all stages of the planning process. It is envisaged that a Technical Advice Note, dealing specifically with issues relating to Contaminated Land, will be published by the Welsh Assembly Government in the near future. The local planning authority in preparing development plans must also consider contamination. The emerging Gwynedd Unitary Development Plan includes a policy that seeks to ensure that development involving the reuse of contaminated land will only be approved if satisfactory site investigations, risk assessments and remedial actions are taken to address any potential risk. Any such remediation will be policed via the planning system and not Part IIA of the EPA 1990. Remediation under Part IIA is intended to deal with current land use only.

- **Building Control**

Under the provisions of the Building Regulations 1991, the local authority can require suitable protection to new buildings and their future occupiers from the effects of land contamination. Building Control Inspectors follow the guidance contained in approved Document C – Site Preparation and Resistance to Moisture when considering building applications. Where new development is proposed, the appropriate investigation and remediation will, under normal circumstances, be dealt with through the Development Control and Building Control processes and not via the Part IIA regime.

- **Food safety**

Authorities using Part IIA powers are required to liaise with the Food Standards Agency and the Welsh Assembly Government's Department of Agriculture and Rural Affairs over any use by the latter bodies of their power of control under Part I of the Food and Environmental Protection Act 1985.

- **Health and Safety**

Health and safety issues under the Health and Safety at Work etc Act 1974 may arise on any site where workers may be at risk of exposure to contaminants. In any such case authorities under Part IIA of the EPA 1990 are to liaise with the Health and Safety Executive to ensure that no duplication of control takes place and that the most appropriate system of control is used to deal with the problem.

- **Major accident hazards**

The Control of Major Accident Hazards Regulations 1999 (COMAH) require action plans in relation to dangerous substances stored on sites, providing for the steps to be taken in the event of an escape. Authorities under Part IIA of the 1990 Act should again liaise with the Health and safety Executive who oversee such plans.

- **Landfill tax**

Landfill tax under the Finance Act 1996 will be payable on any waste going into landfill. However, exemption is available for wastes from contaminated sites or those remediated as part of certain developments. The exemption will, however, not be available to anyone cleaning up a site as part of enforcement action under Part IIA of the EPA 1990, though it will still be available to those cleaning up a site voluntarily. This is intended to be a fiscal incentive to voluntary clean-up.

- **Integrated Pollution Control (IPC) / Pollution Prevention and Control (PPC)**

A number of industrial premises are subject to regulatory control under the IPC Regime contained in Part I of the EPA 1990, which is enforced by the Environment Agency and local authorities. Installations regulated by the above could under certain circumstances be dealt with under Part IIA. In particular, if contamination results in significant harm or pollution of controlled waters and may relate to activities from a non 'central control' process or to activities that were authorised under 'central control' but have now ceased i.e. historical contamination. Sites regulated by the above could be a potential Special Site by virtue of Regulation 2(d).

- **Waste management**

This regime is enforced by the Environment Agency. Significant harm or pollution of controlled waters arising from land subject to a waste management licence will not normally be subject to the Part IIA Regime, but dealt with via licence conditions imposed. However, where the harm or pollution is attributable to a cause other than a breach of a site licence, or arises from an activity authorised by the licence, the Part IIA of the EPA 1990 will apply.

The local authority (or the Environment Agency Wales with respect to 'special sites') cannot use Part IIA to deal with land contamination resulting from illegal deposition of controlled waste. In such circumstances, there are waste regulation powers to remove the waste and deal with the consequences of it.

However, material removed as part of a remediation operation under Part IIA may constitute waste (or even special waste), thus requiring a licence or other compliance procedure.

- **Statutory nuisance**

Until the implementation of Part IIA, the Statutory Nuisance provisions under Part III of the EPA 1990 was the main regulatory mechanism for dealing with land contamination. The statutory nuisance regime will continue to apply to deposits of substances on land that give offence to human senses (such as odours) as to constitute a nuisance, but no land in a 'contaminated state' can now be a statutory nuisance.

- **Water pollution**

The Environment Agency has powers under Section 161A – 161D of the Water Resources Act 1991. These enable them as a water regulator to serve a works notice on those responsible for the water pollution requiring them to clean it, and all its consequences. Moreover, the notice can be used to prevent anticipated water pollution before it occurs.

The Environment Agency has published a policy statement, agreed by the DEFRA (formerly DETR), and entitled '*Environment Agency Policy and Guidance on the Use of Anti Pollution Works Notices*'. This document sets out how the Agency will deal with cases where there is an overlap between powers under the above Act and the Part IIA Regime.

- **WDA**

Gwynedd Council aims to work in partnership with other organisations, and their programmes, where there is the potential for overlap with the Authority's responsibilities under Part IIA EPA 1990. Of particular relevance is the WDA Land Reclamation Programme, which is available to both the Public and Private sectors, where the

Agency's objective is to secure beneficial reuse of derelict land through reclamation. This task is seen by the Agency as central to the regeneration of the Welsh economy. For grant purposes, derelict land is defined as "land so damaged by past industrial or other activity that it is incapable of beneficial use without treatment". The site must, therefore, have had some type of development previously which has ceased and is in need of clearing or reclaiming before any further development or use can take place. The grant does not extend to sites that have dereliction of natural origin, or works that are covered by enforceable restoration conditions or statutory requirements (including remediation notices). The WDA will, however, consider grant aiding any additional eligible works necessary to achieve complete reclamation of a contaminated site for a defined new use. The WDA evaluates all applications with a view to local needs, value for money, priority of the project and budget availability for such projects in the financial year in which the grant is paid.

1.5 Requirement for strategic approach

In fulfilling its duties for inspecting the area under its control, the Authority is required to adopt a strategic approach. The Statutory Guidance states that this approach should: -

- be rational, ordered and efficient;
- be proportionate to the seriousness of any actual or potential risk;
- seek to ensure that the most pressing and serious problems are located first;
- ensure that resources are concentrated on investigating areas where the Authority is most likely to identify contaminated land and;
- ensure that the Authority efficiently identifies requirements for the detailed inspection of areas of land.

In developing and adopting its strategic approach, the Statutory Guidance issued by the Welsh Assembly Government requires the Authority to consider the following: -

- (a) Any available evidence that significant harm or pollution of controlled waters is actually being caused;
- (b) The extent to which any receptor (which is either of a type listed in Appendix I & II or is controlled waters) is likely to be found in any of the different parts of the authority's area;
- (c) The extent to which any of those receptors is likely to be exposed to a contaminant (as defined in Appendix I & II), for example as a result of the use of the land or of the geological and hydrogeological features of the area;
- (d) The extent to which information on land contamination is already available;
- (e) The history, scale and nature of industrial or other activities which may have contaminated the land in different parts of its area;
- (f) The nature and timing of past redevelopment in different parts of its area;
- (g) The extent to which remedial action has already been taken by the authority or others to deal with land-contamination problems or is likely to be taken as part of an impending redevelopment; and
- (h) The extent to which other regulatory authorities are likely to be considering the possibility of harm being caused to particular receptors or the likelihood of any pollution of controlled waters being caused in a particular part of the local authority's area.

1.6 Development of the Strategy

1.6.1 Pollution Control Unit – Housing and Public Protection Department

The overall responsibility for the preparation of this corporate Strategy document and for the implementation of subsequent actions, including the identification, inspection and securing the remediation of contaminated land under Part IIA, lies within the Pollution Control Unit of the Public Protection Section of the Housing and Public Protection

Department. The Strategy was developed by following the Statutory Guidance and the Inspection Strategy Advice Note issued by DEFRA and the Environment Agency (see flowchart on page 8).

Officers within the Pollution Control Unit have delegated authority from the Council to undertake the necessary investigations, samples and, where appropriate, enforcement. The lead officer during the Strategy's production was Alwyn Roberts, Pollution Officer. Contact details are included in Chapter 11.

1.6.2 Gwynedd Contaminated Land Working Group

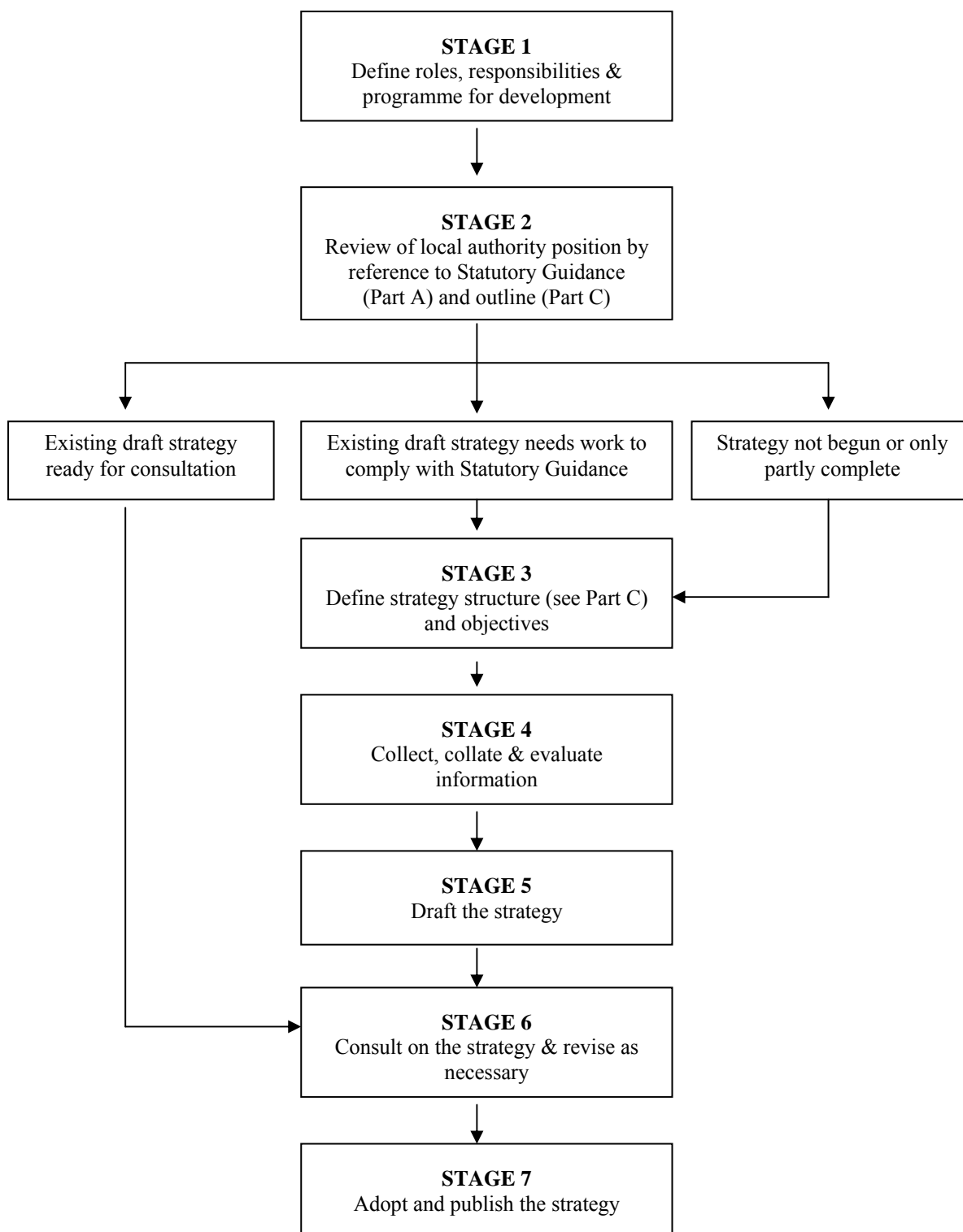
This Strategy is a corporate document, and following a presentation to the Council's Management Team during October 2001, a Contaminated Land Working Group was established to steer the implementation of Part IIA, and to ensure that the legal and technical issues of the Statutory Guidance are addressed. Participants of the Working Group include officers from the various Council departments, and representatives from the Environment Agency Wales and the Snowdonia National Park.

1.6.3 Consultation

In addition to wide internal consultation both via the Contaminated Land Working Group and through other Council Departments, the following external organisations have been consulted on the preparation of this Strategy: - Environment Agency Wales, Cadw, Countryside Council for Wales, Welsh Assembly Government, Welsh Development Agency, Food Standards Agency and neighbouring local authorities.

The Gwynedd Council Inspection Strategy may be viewed at the County libraries, Area Offices or online at www.gwynedd.gov.uk/.

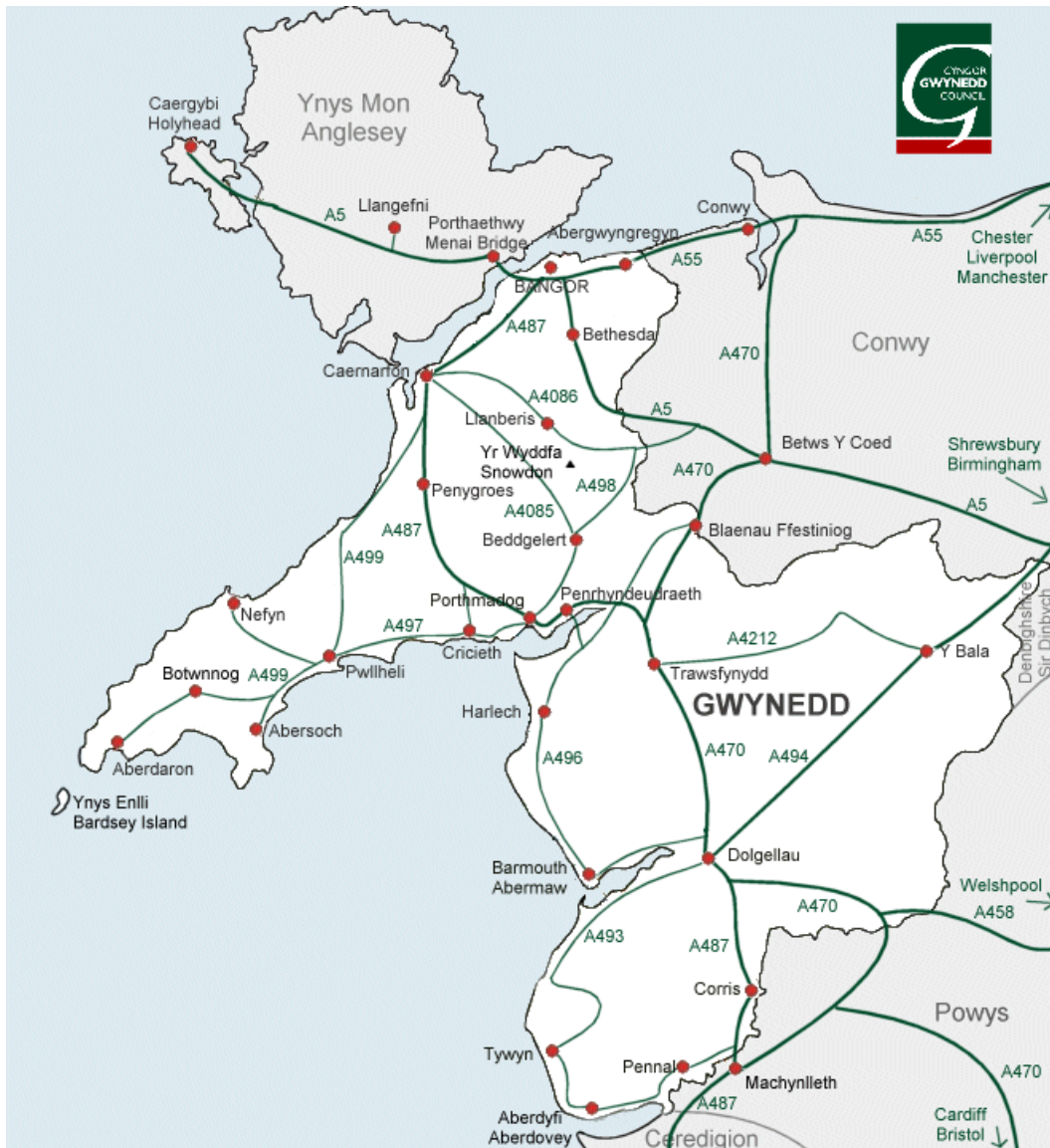
The procedure followed in the production of this Inspection Strategy is illustrated by the flowchart given below:



2 CHARACTERISTICS OF GWYNEDD

This Chapter presents an overview of the principal characteristics of Gwynedd – its geography, history, geology, hydrology, land use etc.

2.1 Geographical location



The County of Gwynedd lies in the north west of Wales bordered by the sea to the north and the west, by Conwy County to the east, and by Ceredigion to the south of the County. The County covers an area of approximately 79km from north to south, and 88 km from east to west and has a total area of 254,800 hectares, of which 174,200 hectares are part of the Snowdonia National Park Authority.

2.2 Brief description of the area

Historically the area was a mixture between rural land and quarrying communities. Over the years the slate quarries and mines have closed, and the area is now predominantly a rural mountainous area. The main urban centres in the area are: Bangor and Caernarfon in the north, Pwllheli to the west, Porthmadog and Blaenau Ffestiniog located centrally, and Tywyn and Dolgellau in the south of the County.

2.2.1 Population distribution

The estimated resident population of the County in 2000 was 116,600, approximately 4% of the population of Wales. Gwynedd has the second lowest population density in Wales at 46 people per square mile. During the 1991 census, there were 8 centres of population with over 2000 residents:

<i>Bangor</i>	<i>11,187</i>
<i>Caernarfon</i>	<i>9,690</i>
<i>Blaenau Ffestiniog</i>	<i>5,356</i>
<i>Bethesda</i>	<i>4,279</i>
<i>Porthmadog</i>	<i>4,003</i>
<i>Pwllhel</i>	<i>3,972</i>
<i>Tywyn</i>	<i>3,017</i>
<i>Dolgellau</i>	<i>2,632</i>

2.3 Land owned by Gwynedd Council

The Authority (and its predecessors) currently owns, occupies or has formerly owned or occupied a significant number of properties and land-holdings within the district. Amongst its current portfolio, the Council has: -

- 123 Schools
- 7,163 Council Houses
- 17 Public Libraries
- 18 Leisure Facilities
- 54 Smallholdings
- 2,600km (approx.) of county roads
- Over 4,000 hectares of total land

2.4 Current land use characteristics

The main use of land in the County other than for housing is for agricultural purposes, with only a small number of industrial sites which are located around the whole county area. Large areas of land within the county area have been used historically for storage of slate and quarrying waste - this land can no longer be used because the waste stored there makes the land unsuitable for use.

2.5 Redevelopment history and controls

Before the arrival of public control over the use and development of land, landowners were virtually free to use their land in any way they wished. A number of factors influenced the physical development of the administrative area now known as Gwynedd. These factors included the development of quarrying industries; improvements in communications; the growth of the tourist industry; and general increase of trade and commerce. As a consequence new settlements came into existence and older communities developed further.

Since the latter half of the last century the framework of land use has been largely provided by the town and country planning system. The main planning Act is the Town and Country Planning Act 1990. The legislation aims to secure the most efficient and effective use of land in the public interest. Under the legislation local authorities are required to prepare development plans that indicate the manner in which land should be used. Legislation requires that planning decisions made should be in accordance with the development plan unless material considerations indicate otherwise.

In response to planning issues in the 1960s and 1970s development plan strategies were characterised by a Growth Area approach based on the concentration of new employment growth into defined areas, restriction of most new housing to the growth centres and adjacent villages, and restraint in other areas; improvement of the highway network; limited, but balanced, growth of tourism; the need for the conservation of rural and urban landscapes.

However, in the light of changes in the operating environment of the 1980s and 1990s, the concept of controlled growth was introduced. Hence current development strategies in Gwynedd aim to encourage balanced development for all parts of the area, whilst maintaining and strengthening the role of focal centres.

2.6 Protected locations

The greater part of Gwynedd is designated as either Snowdonia National Park, Area of Outstanding Natural Beauty, Heritage Coast, Site of Special Scientific Interest, Conservation Area, World Heritage Site or has other intrinsic landscape or environmental value.

There are 66 sites designated as National Nature Reserves or Sites of Special Scientific Interest, and a further 1,500 sites have been classified as Sites of Nature Conservation Interest. One site in the area has been designated as a Special Protection Area, whilst 5 other sites have been designated as candidate Special Areas for Conservation - 3 being maritime sites - Pen Llyn and Sarnau, Aber Menai and the Menai Straits. 88km of the Authority's coastline has been classed as Heritage Coast.

Designation (1998)	Area (Hectares)
National Park	174,200
Area of Outstanding Natural Beauty	15,500
National Nature Reserve	4,891
Sites of Special Scientific Interest	33,215
Environmentally Sensitive Areas	45,400
Heritage Coastline	88 kilometres

2.7 Key property types

Within the authority there are over 2,500 listed buildings which have been registered by Cadw, with a further 211 sites being classed as Scheduled Ancient Monument Sites.

A large amount of the housing stock is unsuitable for modern needs with over 50% of the housing stock built pre 1919 mainly for the miners' use.

2.8 Water Resources

Digital map based environmental information has been provided by the Environmental Agency Wales which includes details on water quality. This information will be utilised to form a basis for assessing potential problems regarding pollution of controlled waters.

There are over 300 surface abstraction points in Gwynedd licensed by the Environment Agency Wales.

2.8.1 Hydrology

Environment Agency Wales is responsible for water quality monitoring under the Water Resources Act 1991, and rivers in Gwynedd are classified against the General Quality Assessment (GQA) Scheme.

One of the most important watercourses within Gwynedd is the catchment area of the River Dee, which has an international reputation for conservation and recreation. The River Dee itself is a particularly valuable resource, it is reputed to be the most regulated river in Europe providing drinking water to over 2 million people.

2.8.2 Hydrogeology

The relevant Groundwater Vulnerability maps produced by the Environmental Agency Wales are Sheets 14, 15 and 20 for the Gwynedd area. These show the dominance of minor and 'non' aquifers across the County, other than the Carboniferous Limestone in the Bangor and Felinheli area, which constitutes a major aquifer. However it should be

noted that even nominal 'non' aquifers may contain enough water to support small domestic well supplies and are therefore equally sensitive to pollution.

2.8.3 Source Protection Zones

Despite being a minor aquifer the most significant Source Protection Zone within Gwynedd is the Dŵr Cymru Welsh Water spring fed source for private water supply at Nant Peris, which draws from a highly fractured near surface aquifer system in the Ordovician Tuff, and because of its shallow nature is highly vulnerable to pollution.

2.8.4 Public Water Supplies

The main towns and villages of the County are supplied with drinking water by Dŵr Cymru Welsh Water. The key water resources in Gwynedd are Lake Cwellyn, Lake Marchlyn Bach, Lake Ffynnon Llugwy, Lake Cwmystradllyn, River Dwyfor (Dolbenmaen), Lake Cwm Dulyn, Lake Tecwyn Uchaf, Lake Eiddew Mawr, Lake Bodlyn, Lake Cynwch, Lake Morwynion, Lake Arenig Fawr, River Fathew (Bryncrug, Tywyn), River Gwril and River Calettwr (Llwyngwriil). There are no public drinking water supply sources abstracted from groundwater within the Authority.

2.8.5 Private Water Supplies

A significant number of properties in the rural areas have private water supplies, some of which are tested periodically by the Authority to monitor water quality.

2.9 Broad Geological Characteristics

Gwynedd has an unparalleled place in the history of geology. The extraordinary variety of rock formations of so many different ages, which characterises Gwynedd, is found in no other comparable sized area in the world. It is therefore not surprising that the names of several of the geological time periods and the rock systems formed in them had their origin in Gwynedd.

Rocks in the Bangor, Llanberis and Bethesda district are an ancient group of sedimentary rocks comprising conglomerates, hard sandstones and blue, purple and red slates. The Roman name for Wales was used to term them the 'Cambrian System of Rocks'. A larger zone of Cambrian rocks, known as the Harlech Dome, measuring approximately 310 sq. km, is bounded on the east by the Arenig Mountains, and with the towns of Dolgellau, Barmouth, Harlech, Porthmadog and Blaenau Ffestiniog on its periphery.

Along the shores of Llyn Padarn, Cambrian rocks rest upon even older and more crystalline rocks logically named Precambrian, which range from 590 million to the oldest dated rocks at almost 4 billion years. In Nant Francon, Nant Peris and at Rhyd Ddu, Cambrian rocks can be observed passing upwards into younger formations of black and grey slates, sandstones and great thicknesses of volcanic and intrusive igneous rocks. In view of their great development in central Snowdonia, these rocks were given the name the 'Ordovician System of Rocks', being derived from the Celtic tribe, the Ordovices, who inhabited this most mountainous part of Wales at the time of the Roman Conquest.

The subsequent Silurian Period is named after the Silures who inhabited much of central Wales, including the southern and eastern regions of Gwynedd. Silurian rocks, mostly sandstones, mudstones and slates, are found along the borders of Gwynedd from Corwen to Machynlleth where they overlie the older rocks to the west.

At the end of Silurian times, a great continental collision resulted in the compression and deformation of rock strata into great wave forms, or folds. A large downfold or syncline is to be seen in Cwm Idwal and a spectacular adjacent upfold is seen in Cwm Tryfan, visible from the A5 road. The younger geology of Gwynedd is largely represented by rocks of Carboniferous age, mainly limestones which occur along the Menai Strait.

Sudden changes in topographic character are a notable feature of many parts of Gwynedd. These are only the surface expression of great fractures or faults which penetrate deep into the Earth's crust. The Dinorwic Fault between Caernarfon and Bangor was largely responsible for the Menai Strait. A great zone of crushed rocks which extends from Corwen, *via* Bala Lake and the Dolgellau area, to Cardigan Bay gives rise to a series of spectacularly beautiful valleys including the Tal-y-Llyn Pass. Past movements on these faults caused frequent earthquakes during the geological history of Gwynedd. These occur occasionally at the present day.

(Gwynedd Council wishes to acknowledge the contribution of Dr. Margaret Wood, University of Wales Bangor towards the provision of geological information).

2.9.1 Soil Quality

The Soil Survey of England and Wales was carried out between 1978 and 1983 in order to determine the total content and extractable amount of biologically important trace elements in soil samples throughout England and Wales. The samples were expected to represent their principal soil series and to assess the toxicity and deficiency of some elements in some soils that could have the potential to affect both grazing animals and arable crop production.

The principal interest was in agricultural land, and no attempt was made to devise a sampling strategy to cover urban areas adequately. It was expected that the 5km grid would yield about 6,200 sites within England and Wales. In the event, 6,127 sites were visited, and 5,691 soil samples were collected. The results of this survey will be used by this Council in order to help determine remedial targets for contaminated soils.

2.9.2 Mines and Mineral Extraction

Most of the different types of geological deposits within Gwynedd have been economically exploited to some extent.

Within the County, non-ferrous metal mining has taken place for gold, arsenic, copper, lead, zinc, cadmium and manganese since the Bronze Age to the present day. The economic, social and cultural benefits of this activity have been vast. Following the post-industrial revolution decline and the eventual closures of metal mines in Wales, attention has turned towards the legacy now left by such activities.

The main industrial history of the area lies in the mountainous areas, where slate and stone quarries were prevalent. At the beginning of the last Century 18,000 people worked in the slate quarries, by the end of the 1990's only a few hundred were employed at the remaining operational quarries.

The quarries have left their mark on the area, with enormous 'mountains' of slate waste clearly visible in many places. This waste is present on a large part of the mountainous terrain within the area. The slate from the quarries was used for roofing on the majority of the properties within the area, and has been transported to other areas for similar use. This trade still carries on today with only a small number of larger quarries still functioning.

Some of the former quarries were used as landfill, which represents a particular problem for Gwynedd. A register of landfill sites was only introduced following The Control of Pollution Act 1974. However, former landfill sites were not included. These sites represent a particular area of concern in relation to contaminated land because of the risk to human health and controlled water from landfill gas and leachate.

The Environment Agency Wales Draft Metal Mine Strategy for Wales (January 2002) sets out key recommendations for an implementation phase, and the Agency has a specific project set up to deliver this implementation over a 2 year period.

Some of the metal mine sites within the Strategy may have the potential to be Special Sites or Contaminated Land on the basis of the surface water pollution resulting in a failure of river classifications or water quality standards. These sites relate to water quality failures within the specific remit of the Agency and may not include potential water quality failures in relation to private abstractions. It is anticipated that remediation of the majority of the top 50 metal mine sites within the Strategy will mainly be delivered through the development of a collaborative projects with other interested stakeholders.

Of these 50 sites, only one is located within the County of Gwynedd, namely the Gwynfynydd Gold Mine, near Dolgellau.

2.9.3 Radon

Radon is a naturally occurring radioactive gas produced by the radioactive decay of radium which, in turn, is derived from the radioactive decay of uranium. Uranium is found in small quantities in all soils and rocks, although the amount varies from place to place. Rocks of volcanic origin, such as granite, contain more uranium than sedimentary rocks. Radon can travel considerable distances from the uranium bearing rocks along fault lines, mines and even pipes in the ground, to the surface where it normally disperses. However, radon that enters poorly ventilated enclosed spaces, such as building basements, may reach high concentrations. The method of construction of the building and the degree of ventilation will influence the concentration of radon within that building.

Health studies from around the world link exposure to radon with an increased risk of lung cancer. Radon is measured in units of radioactivity (becquerels) per cubic metre of air ($Bq\text{m}^{-3}$). The average annual concentrations in UK homes is 20 units, and the Action Level is set at 200 units as the annual average concentration. Above the Action Level, the National Radiological Protection Board (NRPB) and the Government recommend that householders should act to reduce radon levels to as low as is reasonable possible.

The 1998 NRPB Report entitled Radon in Dwellings in Wales designated regions within Gwynedd as Radon Affected Areas, which are those areas (based on 5km x 5km squares) where 1 per cent or more homes are likely to have radon levels above the Action Level.

In order to ensure that consideration is given to the potential for radon exposure, Gwynedd Council's Building Regulations Unit now require developers to undertake a geological assessment within the identified Radon Affected Areas prior to any development, or to install full protection measures.

For existing dwellings in Gwynedd, the Pollution Control Unit will give advice to householders on how to test their properties for radon.

2.10 Known information on contamination

The Authority does have some information on land which may be contaminated within its region. If the Authority has sufficient reason to believe historic use of a site may have caused it to be contaminated, they will request a site investigation before a development can take place. Where a site is found to be contaminated, remedial works often have to be carried out to improve the condition of the site prior to, or as part of the development.

As a predominantly rural area, waste disposal in Gwynedd has traditionally been by landfill in numerous small tips, located near to the small communities and towns that they serve. In the past, sites were selected principally on their availability, and this tended to favour either disused mineral workings or marginal agricultural land. Many former landfill sites were situated on poor agricultural land, typically wet sites or sites where terrain made it difficult to improve them for agriculture.

It is anticipated that the main focus of the Council's assessment will be with regard to former landfill sites which may have problems such as leachate or methane gas emissions. Other anticipated sites include former military establishments, gas works, commercial garages, and light engineering sites.

2.11 Action already taken to deal with land contamination

Gwynedd Council has become aware of a number of sites that may have been or are contaminated by:

- applications for planning permission under the Town and Country Planning Acts;
- license controls over existing and closed waste management facilities;
- through local knowledge of Officers employed by the Authority.

As a result of the above the contaminated land:

- has been evaluated to determine the degree of contamination and the remedial work necessary to bring it to a condition suitable for its proposed use indicated by the planning proposal. Where development has occurred the land would have been decontaminated to the degree required.
- would be a known landfill site and the current or past extent of the site would be known together with the classification of the tipped waste.
- which is not subject to the points immediately above will have been noted and held on record in the Environmental Health Department.

3 GWYNEDD COUNCIL INSPECTION STRATEGY: OVERALL AIMS

Chapter 1 outlined the Council's duties with respect to Part IIA of The Environmental Protection Act 1990, and its commitment to achieving environmental improvement and sustainable development. Chapter 2 then described the unique characteristics of the Gwynedd environment. This Chapter draws these factors together into a coherent set of aims and objectives, which directly drive Gwynedd Council's Inspection Strategy.

3.1 Aims of the Strategy

The aims of Gwynedd Council's Strategy to deal with land contamination are:

- to adopt and execute proper procedures to deal with unacceptable risks to human health and the environment;
- to seek to bring damaged land back to beneficial use; and
- to seek to ensure that the cost burdens faced by individuals, companies and society as a whole are proportionate, manageable and economically sustainable.

To ensure that these aims are achieved, a set of related objectives have been set that must be accomplished as a direct result of the implementation of the Inspection Strategy.

3.3 Objectives of the Strategy

- To ensure compliance with and enforcement of Part IIA of The Environmental Protection Act 1990 (inserted by Section 57 of the Environment Act 1995).
- To ensure that where redevelopment of land takes place within Gwynedd, the planning process deals effectively with any land contamination so that the land is suitable for its intended use.
- To address the liability issues associated with the Council's existing and former land holdings, and avoid any new liabilities associated with land transactions.
- To be proportionate to the seriousness of any actual or potential risk.
- To ensure that the most pressing and serious problems are located first by ensuring that resources are concentrated on investigating area where the Council is most likely to identify contaminated land.
- Encourage a proactive approach amongst landowners and potential polluters towards the investigation of contamination.

4 LOCAL AUTHORITY PRIORITY ACTIONS AND TIMESCALES

This Chapter describes Gwynedd Council's specific approach to prioritisation of land for inspection. Throughout this process, if any sites are strongly suspected of causing significant harm, or if any site is referred by the Environment Agency for determination as a 'special site', then these will take priority and be dealt with as a matter of urgency.

4.1 The Prioritisation Process

The Inspection Strategy is part of the effective implementation of the EPA 1990 Part IIA legislation on contaminated land. The required contents of an inspection strategy are detailed in Statutory Guidance (paragraph 2.9) but the local authority is free to reflect its own priorities and the circumstances of its area in its inspection strategy, provided it meets these requirements.

4.1.2 Prioritisation of Geographical Areas

Gwynedd covers an area of 254,800 hectares, with an estimated population of 116,600. There is therefore a large land area and fairly dispersed population. Although it is anticipated that most of the sites with the potential to be designated as contaminated land will be within the environs of towns and larger villages, receptors may be present in most parts of Gwynedd. The 69 Electoral Wards in Gwynedd will therefore be prioritised in terms of the presence of receptors and potential sources of contamination as follows: -

- Human receptors;
- Ecological systems;
- Controlled waters;
- Groundwater;
- The other receptors in the form of property are present over most of Gwynedd and therefore it is not considered necessary to include these in the initial prioritisation;
- Known information on contamination.

Appendix V provides examples of the prioritisation methodology that will be employed. It is intended that the Electoral Wards will be investigated in their order of identified priority.

4.1.3 Prioritisation of Sub-areas or Sites

Following the prioritisation of Electoral Wards, Gwynedd Council intends to adopt a two-stage approach to identifying contaminated land: -

Stage 1 – Preliminary Assessment to identify possible pollutant linkages;

Stage 2 – Site Prioritisation and Detailed Inspection.

8 Stage 1

In order to identify contaminated land, the Authority is required to identify a pollutant linkage (the presence of a contaminant, pathway and receptor) having regard to the current use of the land. This will initially be a desk based study of old surveys, maps, geological information etc, which will identify the sites where there is a geographical coincidence of a current receptor with potential contaminants. From this initial desk based study sites will be identified which merit further research and inspection (see Chapter 6 for details on sources of information).

Stage 2

Following the initial Stage 1 Preliminary Assessment, there may be several sites where there is a potential *pollutant linkage*. A visit to the site may reduce this number further, because a potential receptor or pathway may not actually exist. However, there is the possibility that following the historic land use search and site visit that there may still be a number of sites where there is still the possibility of a *pollutant linkage*. Where this is the case we will have to

further prioritise land in order that resources can be targeted at those sites where we have the greatest probability of identifying contaminated land.

Methodologies for prioritisation can differ. At the present time there are no national guidelines which the Authority is required to follow in prioritising land for investigation. Sites may be ranked from high to low risk using qualitative judgements based on past historical land use and proximity to receptors etc. Alternatively some form of quantification can be used and a points score attributed to different previous uses, receptors, pathways etc. In Gwynedd, sites will be prioritised using a scoring system. Sites will be scored according to their previous use and potential receptors. Details of the scoring system, which places a higher priority to risks to human health than other potential receptors is discussed in Chapter 6.

The presence of possible pathways for contamination, the third requirement of a 'pollutant linkage' required to identify Contaminated Land will be considered as individual areas/sites are investigated.

The Council's priorities in order of importance will be: -

- To protect human health;
- To protect controlled waters;
- To protect designated ecosystems;
- To prevent damage to property;
- To prevent any further land contamination;
- To encourage voluntary remediation;
- To encourage the re-use of land considered to be 'brownfield' or contaminated.

4.2 Timescales

It is extremely difficult to assess the timescale to complete each individual Ward but it is envisaged that the preliminary assessment will take no longer than three years.

Objectives	Adopted Timescale
Establish Gwynedd Contaminated Land Working Group	November 2001
Production of Strategy	March 2002
Strategy Consultation	April – May 2002
Adoption and Publication of Strategy	September 2002
Open Contaminated Land Register	October 2002
Selection of Software tool for data management	September 2002
Acquisition of Ordnance Survey digitised historical maps	September 2002
Prioritise Wards for Preliminary Assessment	By January 2003
Collation of key datasets	
Identify and produce a GIS layers of Part IIA Receptors	June 2003
Collation of database on potentially contaminated land sites on GIS	December 2005
Prioritisation of Sites for Inspection	January 2006
Detailed Inspection	January 2006 onwards
Deal with Urgent Sites	As soon as possible after they become known to the Authority
Financial Review (Annual)	October 2003
Strategy Review (Annual)	October 2003

4.3 Resource Implications

4.3.1 Human

Internal management arrangements are discussed in section 5.1 of Chapter 5. The implementation of the Part IIA regime will be a continually evolving process, with a continuing requirement to interrogate data to ensure that changes are integrated within the system. As a result of uncertainty surrounding the exact workloads that will be created by the regime, at this stage of implementation the stated timescales are provisional.

4.3.2 Financial

The Authority has allocated a sum of £30k for identification of potentially contaminated land over the next three years, which will be used to purchase data sets, information systems etc.

Although the aim of this regime is for the costs to be borne by the person responsible for the contamination of land, the Authority will initially have to employ the service of specialist consultants to undertake the assessment of specific areas of land. The Local Authority may also, as a result of its land ownership and its responsibilities have to remediate so called 'orphan' sites where no appropriate person(s) can be found.

All avenues of funding available will be perused to finance such actions, which may include a combination of internal bids, assistance from the Welsh Assembly Government and other sources.

Where appropriate, Gwynedd Council will encourage owners, occupiers or developers to undertake investigation work themselves.

5 PROCEDURES

This Chapter details the internal arrangement which have been established to implement the Strategy, and the procedures that the Authority will follow to meet the requirements of the Statutory Guidance.

5.1 Internal management arrangements for inspection and identification

5.1.1 Pollution Control Unit – Housing and Public Protection Department

As stated earlier, the overall responsibility for the preparation of this corporate Strategy document and for the implementation of subsequent actions including the identification, inspection and securing remediation of contaminated land under Part IIA EPA 1990 lies with the Pollution Control Unit of the Housing and Public Protection Department. Contact details are included in Chapter 11.

Officers within the Housing and Public Protection Department have delegated authority from the Council to undertake the necessary investigations, samples and, where appropriate, enforcement.

The Pollution Officer will be the main point of contact, and will lead the initial inspection of the County. The Public Protection Manager of the Pollution Control Unit will oversee and review the work of the Pollution Officer, and will be responsible, in conjunction with Legal Services for the designation of Contaminated Land.

5.1.2 Contaminated Land Working Group

This Strategy is a corporate document and it is recognised that there are many sections of the Council that can contribute skills, knowledge and information essential to ensure that the content of this Strategy and its required actions are consistent with the advice contained within the Statutory Guidance. Gwynedd Council has therefore set up a Contaminated Land Working Group of all the relevant stakeholders within the Authority. The participants are detailed within Chapter 11. Whilst the Group primarily comprises of officers from the Authority, representatives of other agencies, for example, the Environment Agency Wales and the Snowdonia National Park, may also be involved from time to time. The Public Protection Manager (Pollution) chairs the Group.

5.1.3 Role of Elected Members

Following consultation and revisions arising from the consultation process, the Strategy was reported to the Council's Environment Scrutiny Committee, before adoption by the Council Board.

The appropriate Committee will be notified as soon as possible if the Authority proposes to designate as an area of Contaminated Land any land in its current or former ownership and where the Authority is the 'appropriate person'.

5.2 Outline of the Statutory Procedure

5.2.1 Determining land is contaminated

There are four possible grounds for determining land as contaminated:

- (a) Significant harm is being caused;
- (b) There is a significant possibility of significant harm being caused;
- (c) Pollution of controlled waters is being caused;
- (d) Pollution of controlled waters is likely to be caused.

In making any determination, Gwynedd Council will take all relevant information into account, carry out appropriate scientific assessments, and act in accordance with the Statutory Guidance. The determination will identify all three elements of pollutant linkage and explain their significance.

5.2.2 Where the significance of a pollutant linkage cannot be adequately determined

Situations may arise where, on the information available, it is not possible to determine whether a pollutant linkage is significant in accordance with the Statutory Guidance. In such cases, the Council will determine that, on the balance of probabilities, it would seem the land does not fall within the statutory definition of contaminated land, but the situation will be kept under review and reopened at any time should new information become available. Similarly, inspection may identify contamination that would form a significant pollutant linkage should new receptors be introduced. In such circumstances this information will be carefully recorded and the site monitored when the introduction of relevant new receptors seems likely. Should such a site be identified for future development the information obtained during the investigation will be made available to the Planning and Economic Development Department.

5.2.3 Land which may be a special site

Where the Council are aware that land it intends to investigate would, if declared contaminated land, be a 'special site', it will notify the Environment Agency Wales in writing, requesting any information it may have on the land and the likelihood of pollutant linkages. Where the Environment Agency Wales (or their agents) intend to carry out formal investigation on behalf of the Council, their officers will need to be appointed as 'suitable persons'. The Environment Agency Wales does not have the power under Part IIA to investigate land, which may be contaminated land, without the authorisation of the Council.

5.2.4 Powers of entry

Statutory powers of entry are conferred on the Council to enable it to carry out its functions under Part IIA. The Council will not use these powers to obtain information about the condition of land, where: -

- It can obtain the information from third parties without the need for entering the site; or
- A person offers to provide the information within a reasonable and specified time, and does so.

5.2.5 Written record of determination and formal notification

Once an area of land has been declared contaminated by statutory definition, the Council will prepare a written record to include: -

- a) a description of the pollutant linkage(s) confirmed, including a conceptual model;
- b) a summary of the evidence which confirms the existence of the pollutant linkage(s);
- c) a summary of the risk assessment(s) upon which the pollutant linkage(s) was considered to be significant;
- d) a summary of the way the requirements of the Statutory Guidance were satisfied.

The Council will then formally notify in writing all relevant parties that the land has been declared contaminated, to include:

- a) the owner(s);
- b) the occupier(s);
- c) those liable for remediation ('appropriate persons');
- d) the Environment Agency Wales.

At the notification stage, it may not be possible to identify all the relevant parties, particularly the appropriate persons. The Council will, however, act on the best information available to it at the time and keep the situation continually under review as more information comes to light.

If the Council is of the opinion that the contaminated land is a 'special site', it will also inform the Environment Agency Wales of that decision. The Agency will then consider whether it agrees that the land should form a 'special site'. If it does not agree, it will notify the Council and the Secretary of State within 21 days with a comprehensive statement explaining its reasons. The Council will then refer the decision to the Secretary of State.

If the Environment Agency Wales agrees with Council, or it fails to notify the Council that it disagrees within 21 days, the land will be designated a special site. The responsibility for securing remediation then passes to the Agency, although the Council must complete the formal notification process.

The legislation and Statutory Guidance has been designed to try to encourage *voluntary remediation* (without the need for enforcement action). The formal notification procedure commences the process of consultation on what remediation might be most appropriate. To aid this process the Council will provide as much information to the relevant parties as possible, including, where available: -

- a) a copy of the written record of determination;
- b) copies of site investigation reports (or details of their availability);
- c) an explanation of why the appropriate persons have been chosen;
- d) details of all other parties notified.

It may be at this stage that the Council will need further information on the condition of the site to characterise any significant pollutant linkages identified. If that is the case, an informal attempt will be made to obtain this information from the appropriate persons already identified.

5.3 Liability

Land may be declared contaminated upon the identification of only one significant pollutant linkage. Full liability cannot therefore be determined until all significant pollutant linkages on the site have been identified. When all significant pollutant linkages have been identified the procedure relating to the apportionment of liability must commence. This has five distinct stages as follows: -

- i) Identifying potential appropriate persons and liability groups;
- ii) Characterising remediation actions;
- iii) Attributing responsibility to liability groups;
- iv) Excluding members of liability groups;
- v) Apportioning liability between members of a liability group.

These procedures are complex and cumbersome. The process commences with the establishment of liability groups. All appropriate persons for any one linkage are a 'liability group'. These may be class 'A' or class 'B' persons. Appropriate persons - Class 'A' - These are generally speaking the polluters, but also included are persons who 'knowingly permit'. This includes developers who leave contamination on a site, which subsequently results in the land being declared contaminated.

Appropriate persons - Class 'B' - Where no class 'A' persons can be found, liability reverts to the owner or the occupier. These are known as Class 'B' persons. The Council will make all reasonable enquiries to identify Class 'A' persons before liability reverts to owners or occupiers.

The matter of appropriate persons must be considered for each significant pollutant linkage. Therefore, where a site has had a series of contaminative uses over the years, each significant pollutant linkage will be identified separately and liability considered for each.

5.3.1 Apportionment of costs

Generally speaking, the members of a liability group will have the total costs falling on the group as a whole apportioned between them. It may also be necessary to apportion costs between liability groups. There are three basic principles, which apply to exclusion and apportionment tests:

- i) The financial circumstances of those concerned have **no relevance**;

- ii) The Council must consult persons affected to obtain information (on a reasonable basis having regard to the cost). If someone is seeking to establish exclusion or influence an apportionment to their benefit, then the burden of providing such supporting information to the Council lies with them.
- iii) Where there are agreements between appropriate persons, the local authority has to give effect to these agreements.

5.3.2 Limitations on costs to be born by appropriate persons

There are six tests specified to identify Class 'A' groups who should be excluded from liability. These will be applied in sequence and separately for each pollutant linkage. The exclusion of Class 'B' persons is much less complex, the single test merely excludes those who do not have an interest in the capital value of the land. Tenants are therefore excluded. When the Council has apportioned the costs of each remediation action, it will consider whether any of those liable may not be able to afford it before serving remediation notices. If, after taking into consideration the Statutory Guidance, it decides that one or more of the parties cannot afford the cost, it will not serve a remediation notice on any of the parties. The Council will, instead, consider carrying out the work itself and produce and publish a remediation statement.

5.4 The Enforcement Process

Before remediation notices are served, the extensive consultation process will be completed and ample encouragement given to arrive at an informal solution. The Council will do all in its power to consult the appropriate person(s), owners, occupiers etc. about their views on the state of the land. This could be a difficult and protracted process and cause delay. Where a housing estate is affected, for example, it would be reasonable to expect house owners, land owners, developers, lenders, insurers, surveyors, geotechnical engineers, residents groups etc, all to have differing views depending on their position. Remediation notices are served only as a last resort (not withstanding urgent cases), and then only after this lengthy consultation process has been exhausted. Notices will be authorised after two tests are satisfied: -

- That the remediation actions will not be carried out otherwise;
- That the Council has no power to carry out the work itself.

If these are met the Council will serve a remediation notice on each appropriate person. The remediation notice cannot be served less than three months after formal notification that the land is contaminated, unless urgent action is deemed necessary (where there is imminent risk of serious harm).

5.4.1 Specifying remediation

Officers of the Pollution Control Unit will specify what remediation measures are to be carried out in the remediation notice. These will be both appropriate and cost effective, employing what the Statutory Guidance terms 'best practicable techniques'. The aim of the remediation will be to ensure that the land is no longer contaminated, taking the shortest or most sustainable and economical route. This means that in most cases attention will be focussed on the pathway, rather than the contaminant or receptor. The 'reasonableness' of the requirements are paramount - a concept which is considered at some length in the guidance. Reasonableness is determined in relation to the cost of carrying out the remediation against the cost of failing to do so (i.e. the costs, or potential costs, resulting from the continuing pollution). A series of consultations must also be carried out at each stage with the ultimate aim of securing voluntary remediation (without the need for enforcement action). Where the land does fall within the definition of a 'special site', the Environment Agency Wales becomes the enforcing authority. In these cases however, the local authority must still make the determination and formally notify the interested parties. What may or may not constitute the various categories of harm is described in the Statutory Guidance. Controlled waters include inland freshwater, groundwater and coastal waters.

Where the local authority are satisfied that significant harm is occurring, or there is a significant possibility of such harm, or pollution of controlled waters, they must declare that a significant pollutant linkage exists and that the land is therefore contaminated land by definition. In every case where the land does not fall within the category of a 'special site', they must commence regulatory action. In certain circumstances the local authority may carry out the remedial works itself. In general terms it has this power where: -

- Urgent action is necessary (see section 5.4.2);
- There is no appropriate person;

- The authority is precluded from taking enforcement action (specified reasons);
- The authority agrees to carry out the works on behalf of an appropriate person;
- A remediation notice has not been complied with.

In non-urgent cases where a remediation notice is necessary and all the required consultations have been completed, the notice must be served on the appropriate person(s) no sooner than three months after the contaminated land has been determined or declared a 'special site'. The notice itself may require further investigation of the site and as a result more pollutant linkages may be identified. Where this is the case, the enforcing authority must go through the same processes again to identify appropriate persons and remedial actions.

The enforcing authority must at all times consider the potential for hardship and undertake a cost benefit analysis in respect of all remedial actions. Where remedial actions are undertaken in default of a notice, the enforcing authority has the power to recover costs in certain circumstances.

5.4.2 Urgent action

Urgent action must be implemented where the Council is satisfied that there is imminent danger of serious harm or serious pollution of controlled waters being caused as a result of contaminated land. In such circumstances, the procedures identified in the Statutory Guidance will be followed, which may involve forced entry into the premises. The terms 'imminent' and 'serious' are not defined; local authorities are advised to use the normal meaning of the words. There is, however, guidance on what may constitute 'seriousness' when assessing the reasonableness of remediation. The Council will undertake the remediation in urgent cases where it is the enforcing authority if it is of the opinion that the risk would not be mitigated by enforcement action. In the case of a 'special site', the Council will declare the land contaminated land in accordance with the statutory procedure and notify the Environment Agency Wales, who will then be responsible for the remediation. In appropriate cases the Council will seek to recover costs of remediation works it has completed.

5.4.3 Land under ownership of the local authority

Where land owned by a local authority is found to be contaminated land, unless it is a 'special site', there will be no enforcing authority. Local Councils must, however, carry out their duties as though they were the enforcing authority, undertake the same consultations, assessments and seek appropriate remedial works as necessary. In order to establish the Council's interests, it will be necessary to ascertain areas of land which: -

- are or have been owned by the Council;
- are or have been occupied by the Council;
- are areas where the Council may be the 'appropriate person' responsible for remediation under the legislation.

To this end, a formal relationship must be maintained between the Department responsible for enforcement of the new regime and that responsible for Council owned land. All information relating to the identification, assessment and remediation of Council owned land must be fully reported to satisfy the needs for transparency.

5.4.4 Remediation by the Local Authority

Before the Council can serve a remediation notice, it will first determine whether it has the power to carry out any of the remediation actions itself. There are five specified circumstances where this may be the case: -

- Where urgent action is required;
- Where no appropriate person can be found;
- Where one or more appropriate persons are excluded (on grounds of hardship);
- Where the local authority has made an agreement with the appropriate person(s) that it should carry out the remediation;

- In default of a remediation notice.

5.4.5 Orphan linkages

Orphan sites are those where it is not possible after 'reasonable' enquiries, to find anyone (Class A or Class B persons) responsible for them, or where persons can be found but they are exempted from liability for specified reasons. These are described in the Statutory Guidance as '**orphan linkages**'.

Exemptions apply where: -

- The land is contaminated by reason of pollution of controlled waters **only** and no Class A persons can be found (this means Class B persons **cannot** be held liable for polluting water from land).
- The land is contaminated by reason of the escape of a pollutant from one piece of land to another and no class A persons can be found. The land is contaminated land by reason of pollution of controlled waters from an abandoned mine.
- The person was acting in a 'relevant capacity' (insolvency practitioner / official receiver etc).

In such cases, the enforcing authority may bear the cost of the remediation in accordance with the Secretary of State's guidance.

6 INFORMATION COLLECTION

Implementation of this Strategy will result in the collation of a significant amount of information. This Chapter identifies the sources of information that will be accessed, and sets out the arrangements and procedures for dealing with it.

Paragraph 2.15 of the Statutory Guidance requires suitable arrangements and procedures to be in place for obtaining information on:

- Actual harm or pollution of controlled waters;
- Information on receptors;
- Information on the possible presence of contaminants and their effects.

6.1 Actual harm or pollution of controlled waters

The North Wales Health Authority covers the Gwynedd Council area, and will be consulted on any available information concerning actual harm to human health. It should be noted that such harm might be very difficult to identify and quantify. It is anticipated that information of known or suspected water pollution incidents will be identified either through current monitoring programmes or site specific consultation between Gwynedd Council, Environment Agency Wales and Dŵr Cymru Welsh Water.

6.2 Receptors

A key element in making the assessment of the presence of contaminated land is the accurate identification of receptors. These can take various forms, as listed below:

6.2.1 Human

The estimated resident population of the County in 2000 was 116,600. The potential for persons living on or frequenting a potentially contaminated site will be considered in every case, but priority will be given to sites where infants or the elderly are at risk.

6.2.2 Buildings

All buildings, and underground services within the footprint of the building, are potential receptors and will be considered in every case where contamination and buildings co-exist.

6.2.3 Ancient Monuments

Sites of contamination may co-exist with archaeological remains or landscapes of historic interest, especially with regards to areas of past industrial activity. Planning Policy Wales 2002, Chapter 6, identifies the finite and non-renewable nature of archaeological remains as part of the historical and cultural identity of Wales. The advice of Gwynedd Archaeological Trust (Garth Road, Bangor, LL57 2RP) and Cadw will be sought prior to intrusive site investigations or remediation works, and where appropriate a formal archaeological assessment will be undertaken in order to devise and determine proposals. When nationally important remains exist, there will be a presumption in favour of preservation in situ. Prior scheduled monument consent from the Welsh Assembly Government is required for investigations or works at scheduled ancient monuments.

6.2.4 Agricultural and horticultural crops

Whilst Gwynedd Council is predominantly a rural Authority, it is not our intention to detail crop-growing areas. However, agricultural land will be considered in the systematic approach where there may be evidence of possible previous contamination or successive poor crop yields. The Agricultural Land Classification surveys carried out by the former MAFF will be consulted in such cases. Information on the specific receptor will need to be obtained to evaluate possible contaminant uptake.

6.2.5 Timber crops

There are significant areas of commercial timber growing in Gwynedd. Trees have been planted in many cases on land unsuitable for agriculture or industry. It is considered unlikely therefore that they will be adversely affected, but the Forest Enterprise will be consulted in such cases.

6.2.6 Produce grown domestically

Allotments within Gwynedd and their potential for contamination will be considered as a result of previous uses or activities. Similarly any domestic garden areas with previous possible contaminative uses will be identified and assessed.

6.2.7 Agricultural livestock, game and other owned animals

The presence of livestock in the rural parts of the County will not be specifically identified but will be taken into consideration where possible contact with contaminated agricultural land is occurring. It should be noted that livestock might take up contaminants both through the plants they eat and through soil on the roots of those plants.

6.2.8 Ecological receptors (see Table A, Appendix I, for definitions)

All such receptors will be identified as part of the Inspection Strategy. Whilst contamination is unlikely, all areas will be thoroughly examined to ensure that any risks are quantified. The Countryside Council for Wales and the Environment Agency Wales will be consulted when considering such sites.

6.2.9 Aquifers

The area does not rely on the groundwater aquifers for water supplies. However, all aquifers will be specifically identified with their location, depth and vulnerability. Potential risks to all groundwater from identified sources of contamination will be considered carefully with the Environment Agency Wales.

6.2.10 Public water supplies

All public water supply abstraction points will be identified with their location, quality and volume of supply. Close liaison with the Environment Agency and Dŵr Cymru Welsh Water will be made to ensure the accuracy of this data.

6.2.11 Private water supplies

A large number of properties in the rural areas have private water supplies. Gwynedd Council already monitors these supplies as part of its duties under the Private Water Supplies Regulations 1991, and keeps a register of the results of the analysis. Properties with private water supplies located in the vicinity of potentially contaminated land will be considered as a priority.

6.2.12 Other authorised abstraction points

All authorised abstraction points have been identified, such as those for agricultural or recreational use. These will be evaluated periodically to ensure there is no risk of water and land contamination through this process.

6.2.13 Other specified water receptors

All other water receptors such as rivers, reservoirs, lakes, freshwater fisheries, shellfishery designations and bathing water designations will be identified as part of the Inspection Strategy.

6.3 Contaminants

Once the type and location of receptors has been identified, the possible presence of contaminants will be evaluated, as detailed below:

6.3.1 Industrial history

A list of potentially contaminative uses is given in Appendix III. The first step in the process of identifying potentially contaminated sites will be to examine historical data in the form of old Ordnance Survey maps, records and various trade directories, etc. Some past industry will be within recent memory so local knowledge may also be helpful at this stage.

6.3.2 Current industry

The present industrial areas of Gwynedd may be potential sources of contamination and these will be inspected in accordance with the Statutory Guidance to establish whether contamination exists, and if it does, whether it is controlled by another agency or regime. We do, however, envisage that the current mechanism for regulating industry is satisfactory in preventing any further land or water contamination.

6.3.3 Environmental Protection Act 1990 Part I

There are currently no 'Part A' processes authorised by the Environment Agency Wales under the Integrated Pollution Control regime in Gwynedd. Close liaison with the Environment Agency Wales will be maintained to ensure the successful application of these controls, if needed, both in the short and long-term.

There are currently 60 'Part B' processes authorised by Gwynedd Council for air pollution control (LAPC). There is a very wide range of processes authorised under LAPC, ranging from concrete batching plants to petrol stations. Some of these processes could also have the potential to pollute the land.

6.3.4 Hazardous Substances

The Planning (Hazardous Substances) Act 1990 and the Planning (Hazardous Substances) Regulations 1992, requires consent to allow the presence on land of hazardous substances above a specified quantity. These regulations were recently amended by the Planning (Control of Major Accident Hazards) Regulations 1999 to take account of the new Control of Major Accident Hazards (COMAH) Regulations (see below). There are currently no authorised sites in Gwynedd.

6.3.5 COMAH sites

The Planning (Control of Major Accident Hazards) Regulations 1999 are enforced by the Environment Agency Wales and the Health and Safety Executive (joint competent authorities) to control both on and off-site risks from industries with a high potential for disaster from dangerous substances (flammable, toxic or explosive). Details of COMAH sites are held on the Hazardous Substances Register. There are currently 5 sites in Gwynedd.

6.3.6 NIHHS sites

All sites notified to the HSE under the Notification of Installations Handling Hazardous Substances Regulations 1982 are held on the Hazardous Substances Register. There are currently 3 sites in Gwynedd.

6.3.7 Explosives

These are controlled by the Health and Safety Executive and Gwynedd Council's Trading Standards Section under the Explosives Act 1875. Any licensed sites will be identified and assessed to ascertain the risk of land or water contamination.

6.3.8 Current landfill and waste processing sites

These are licensed by the Environment Agency Wales under the provisions of Part II of the EPA 1990. Details of all these sites have already been provided by the Agency for this purpose.

6.3.9 Closed landfill sites

Closed landfill sites are a potentially significant source of risk, especially those that operated before the licensing requirements of the Control of Pollution Act 1974. Every endeavour will be made to identify closed landfills in Gwynedd and their association with any specified receptors considered in detail. Information on the majority of such sites is already captured on the Authority's Corporate Geographical Information System (GIS).

6.3.10 Sewage works and land used for the disposal of sewage sludge

Land used for the disposal of sewage sludge is notified to the Environment Agency Wales under the Sludge (Use in Agriculture) Regulations 1989. This land, together with all operating and redundant sewage works, will be identified and assessed.

6.3.11 Mines and mineral extraction

The geology of the County has resulted in large areas being used for the extraction of non ferrous metal and slate. Some of these quarries were filled with refuse or other materials following closure. All past quarrying and mining sites will be assessed for the risks they may present.

6.3.12 Waste or derelict land

Land of a derelict or wasted nature is often owned by the utilities, railways or Local Authorities. It is left seemingly abandoned because it has no particular use or is difficult to access. Such areas have often been used for the illegal disposal of waste. In such circumstances, waste regulation powers will be enforced when required to remove the waste and deal with the consequences of it. All derelict land will be identified and assessed for potential contamination risks in line with the Statutory Guidance.

6.3.13 Ministry of Defence land

Defence Agencies will be consulted on areas within the County as necessary. These areas will be investigated in association with the Environment Agency Wales as required, in accordance with the Statutory Guidance.

6.3.14 Previously developed contaminated sites

The inspection of the County may identify potentially contaminated sites that have already been redeveloped. The methods and extent of remediation may be unknown. Such sites will be re-assessed in line with the Statutory Guidance.

6.4 Other information

It is imperative that the information collected is sufficient, in terms of its degree and accuracy, in order that it can feed into the risk prioritisation procedure, which will in turn allow sites to be prioritised for detailed inspection and determination.

Existing information held by the Authority will be evaluated, which will enable any information gaps to be identified. The attainment of all the key datasets will facilitate the initial identification and prioritisation of sites using the Corporate Geographical Information System (GIS).

Further information will then need to be sourced that will be pertinent to the actual site determination. This is likely to be undertaken on a site-specific basis. The whole programme of information collection will be subject to an ongoing review in order that the information held remains up to date and relevant.

Information will need to be obtained from both internal and external sources. Key contacts have been identified for internal information providers through the Gwynedd Contaminated Land Working Group. External information providers have also been identified and these will be approached when required.

The acquisition of information will remain a live process in order to ensure its accuracy and completeness.

6.5 Information and Complaints

In addition to its programmed work with regard to Part IIA of the EPA 1990, the Authority will receive complaints of land contamination from members of the public.

Complaints will be dealt with in the following manner:

- In accordance with the Pollution Control Unit's performance targets, complainants can expect a response to their complaints within 3 working days of receipt.

- Additionally they can expect their complaints to be dealt with confidentially in compliance with the general policy of Gwynedd Council. Confidentiality will be protected subject only to any condition of disclosure imposed by Law.
- All complaint details will be recorded on the Public Protection Section's complaints database.
- Complainants will be kept informed of progress with respect to investigation and resolution of their complaint.

All information or complaints should be sent in writing or via e-mail and include:

- The name and address of the informant/complainant
- The site address
- Specific details of the complaint/information being provided

All correspondence should be addressed to the Pollution Officer (contact details are provided in Chapter 11).

6.6 Anonymously provided information

There may be occasions where the Authority receives information from sources that may wish to remain anonymous. This information will be logged on the database (ITECS), and noted as anonymously provided. However, the Authority is aware that such information may be malicious in nature, mischievous or otherwise without foundation in fact. Such information provided will therefore be treated with the appropriate level of caution.

6.7 Anecdotal Evidence

Anecdotal evidence can be very important to the collation of information, and can prove invaluable when information is not documented elsewhere. Again, the Authority is aware that such information may not be correct in fact. Any information provided will therefore be treated with the appropriate level of caution.

6.7 Confidentiality

Only if information provided by a company or individual is designated 'confidential' upon receipt will it be treated as such. Enquirers will be provided with the informants name and address only, and no other detail in any report, correspondence etc. shall be disclosed.

6.8 Information Evaluation

6.8.1 Evaluating information on actual harm or pollution

It is the intention of Gwynedd Council to fully utilise the capabilities of its Corporate Geographical Information System to store and evaluate data. The data can be displayed spatially on an Ordnance Survey map in the form of 'digital layers'. In this way the location of areas of potential contamination can be viewed in geographical coincidence with areas where there are sensitive receptors.

In order to evaluate all the relevant information for the purposes of this Inspection Strategy, the Authority intends to develop a prioritisation procedure based upon an assessment of the risk from any land that may be contaminated.

This procedure, which will take into account the seriousness of potential pollution sources and the sensitivity of receptors is explained further below. Once the key datasets have been examined, the procedure will be followed for each site identified as posing risk. This will give a risk score and will facilitate further investigation in an ordered, rational and efficient approach.

Evaluation of all water receptors will be made in accordance with the *Environment Agency Technical Advice to Third Parties on Pollution of Controlled Waters for Part IIA of the Environmental Protection Act 1990* and other relevant published guidance. Further advice from the Environment Agency Wales will be sought as and when required on a site-specific basis.

6.8.2 Risk Prioritisation Methodology

The Authority intends to adopt a risk prioritisation methodology that will enable it to move from a situation where it is considering the entire area for which it is responsible, to considering small sub-areas, or sites. The scoring system methodology has yet to be finalised, but is anticipated to include the format: -

- **Classification of sites**

A scheme has been devised to classify each potential contaminative site use. Industrial processes have been categorised following a review of the Government's Department of Environment Industry Profiles. Each category has been scored on a scale from 5 to 25 according to its potential to cause contamination. The scoring is based on an appraisal of likely contaminants and professional judgement. The scheme is presented in full in Appendix III

- **Classification of Receptors**

A scheme has been devised to classify the receptors. Based on the Statutory Guidance, five categories have been defined. Each category has then been scored from 10 (high risk) to 1 (low risk), taking account of both its environmental sensitivity and the Authority's priorities for environmental protection. The scheme is presented in full in Appendix IV.

- **Existence of pathways**

Initial prioritisation will not confirm the existence of a pathway, nor provide information about its nature or integrity. Lateral migration pathways are not considered at this stage either. These issues will be considered on a site-specific basis during the detailed inspection stage.

- **Preliminary Site Prioritisation**

Areas considered to have the potential to give rise to contamination and identified receptors will be defined and recorded within the GIS by a polygon (boundary line). These polygons will create a conceptual site model from which a risk score based on the classifications described above will be assigned. The methodology will then be used to establish prioritised risk table of all the sites requiring further investigation.

6.8.3 Site-specific Risk Assessment

When making the determination we will follow relevant guidance on risk assessment, ensuring that it is relevant to the circumstances of the pollutant linkage and land in question, and that any appropriate allowances have been made for particular circumstances.

Contaminated land risk has in the past been assessed in relation to generic guidelines issued by the Interdepartmental Committee on Redevelopment of Contaminated Land (ICRCL). The ICRCL guideline values only cover a small number of contaminants and do not take into account site-specific circumstances. Some other countries have developed their own guideline values for other contaminants. However, these may have been developed using different assumptions which do not apply to the UK, either because of different ground conditions or policy objectives.

The UK has developed a site-specific risk assessment tool called the Contaminated Land Exposure Assessment Model or CLEA. Information on contaminants that may cause actual harm or pollution will be evaluated against the CLEA model, which uses probability techniques to assess the risks to receptors from a contaminant(s) taking into account long-term exposure, ground conditions etc.

Some contaminants may not be covered by CLEA or ICRCL. In these cases reference may be made to occupational exposure levels issued by the Health & Safety Executive or other authoritative sources of information such as guidelines adopted in other countries. If such guidelines are referred to, it will be important to bear in mind the significant difference in remediation standards between the UK and these other countries.

7 GENERAL LIAISON AND COMMUNICATION PROCEDURES

The implementation of the Inspection Strategy will result in the collation of a large quantity of information which may be useful to other parties. This may be site-specific in nature or may refer to the whole of Gwynedd. The need to gather and exchange information between organisations in order to make decisions is, therefore inherent within the overall process. It is the aim of Gwynedd Council to achieve consensus, where possible, through effective consultation and engagement.

This Chapter outlines how other parties can access this information and in what format it will be available. It also sets out details of which parties the Council will routinely notify.

7.1 Internal Liaison and Communication

As the Pollution Control Unit of the Housing and Public Protection Department has the overall responsibility for implementation and enforcement of the regime, they will deal with all enquiries from interested parties, whether the enquiry is from an internal or external source. Additionally, all information collated relating to contaminated land will be held and dealt with by this Unit, and they will be responsible for maintaining the Contaminated Land Public Register, designating land as Contaminated Land and carrying out the inspection stage of the Strategy.

As stated previously, Gwynedd Council has established a Contaminated Land Working Group to facilitate liaison and communication within the Council. See Chapter 11 for contact details. Many of the participants within this Group hold additional information within their own departments that has contributed to the preparation of this Strategy and/or will assist in its implementation.

Good communication will be maintained within this Group, by such means as minuted meetings, exchanges on the Council's e-mail system or by memoranda, and placing information on the Council's GIS. The Group will also steer and monitor the implementation of the Strategy and assist the identification, investigation and remediation of land in Council ownership.

7.2 External Liaison with Statutory Bodies

The Statutory Guidance requires Gwynedd Council to consult with a number of public bodies in developing its strategic approach to inspection.

During the course of Detailed Inspection it may be necessary for the Council to liaise with and/or consult other parties for the following reasons:

- to determine whether the site is being or could be investigated under another regulatory regime;
- to find out or request site-specific information;
- to request assistance or advice for the site visit or intrusive site investigation;
- to discuss findings and/or request assistance in assessment of facts if a site crosses the boundary of two local authorities;
- to arrange site access.

As it carries out Detailed Inspection, the Council is likely to be in regular consultation with the Environment Agency Wales, the Countryside Council for Wales, Cadw and the Welsh Assembly Government's Department of Agriculture and Rural Affairs. Section 11.2 lists Gwynedd Council's external partners and contact points. These bodies will be consulted about sites for which they have some responsibility (either as a regulator, owner or occupier) or involvement (for instance, because they have designated the site as a protected area). Consultation will ensure the avoidance of unnecessary duplication of investigation or overlaps in regulatory activity.

They will be asked to provide any relevant site-specific information they may hold, and particularly that which may assist in the characterisation of potential or identified pollutant linkages. It is considered likely that, in particular, these bodies will be able to provide specific information about receptors, their sensitivity and hence potential impact from exposure to contaminants or potential damage which may result from intrusive site investigations. In recognition of their knowledge and areas of expertise these statutory bodies will also be asked to provide advice or assistance for the site visit and intrusive site investigation aspects of the Detailed Inspection.

For any particular site, the Council will keep the relevant statutory body informed of its activities on a regular basis. They will be consulted as part of the decision-making process and specifically when determining the existence of a pollutant linkage and/or its significance.

Part IIA requires the Environment Agency Wales to provide information and advice, including site-specific guidance, to local authorities. As indicated in previous sections, the Agency will be consulted specifically about sites where pollution of controlled waters is a concern or where the site may be defined as a Special Site. For the former, the Agency will also be asked to assist in the assessment of any laboratory data and the determination of the existence and significance of pollutant linkages.

7.3 Liaison with other Local Authorities

It is possible that a pollutant linkage may exist across Gwynedd's administrative boundary. Gwynedd has mutual boundaries with Conwy County Borough Council, Denbighshire Council, Powys Council and Ceredigion County Council. Where this situation arises, the Council will work with the neighbouring authority to agree a mutually acceptable method of assessing and if necessary, remediating the site.

If the Authority suspects that a trans-boundary pollutant linkage may exist, then it will notify the appropriate neighbouring authority within 10 working days. If the authority considers that urgent action may be required then this notification will take place without undue delay. The enforcing authority will be the authority in whose area the source is situated.

7.4 Liaison with Stakeholders

The Council will routinely contact the owner/occupier or other interested parties (such as site neighbours, users or those who could in some way be affected by contaminants at the site) of each site undergoing inspection for further site-specific information. They will be advised if information obtained and evaluated as part of the desk study strongly indicates the presence of potential pollutant linkages at a site. This will ensure that they are aware of the Council's statutory role with respect to contaminated land, and to encourage their co-operation and exchange further relevant information.

7.5 Risk Communication

The Council is aware of the need to avoid alarm and potential blight due to the creation of unnecessarily high perceptions of risks when communicating with the public about land contamination issues. The reasons for the request for information and the Council's statutory duties will be clearly explained and all communication will be made in line with the guidance presented in the Scotland & Northern Ireland Forum for Environmental Research (SNIFFER) publication 'Communicating Understanding of Contaminated Land Risks' (2000).

7.6 Arranging Site Access

At all times, the Council will take measures to ensure that its procedures for gaining site access are reasonable in all ways and fully compliant with the requirements of the Environment Act 1995 and the Human Rights Act 1998.

The Council will give at least seven days' notice of proposed entry into residential premises or onto sites where an intrusive site investigation using heavy equipment (excavators, drilling rigs etc.) is to take place. If the occupier fails to grant consent for inspection, the Council will seek to obtain a Magistrate's warrant in order to gain access.

7.7 Liaison with Other Interested Parties

During the course of detailed inspection it may be necessary for the Council to liaise with and/or consult other parties.

7.8 Press and Media

Any representatives from the press and other media who wish to discuss contaminated land issues, including this Strategy should contact Gwynedd Council's Communications Unit on 01286 679503.

8 PROGRAMME FOR INSPECTION

Previous chapters of this Strategy have described the approach that the Authority will adopt in identifying areas and sites where there is potential for contamination to arise. The aim of this Chapter is to outline how the Authority intends to carry out detailed inspections of these sites and thereby comply with paragraphs 2.18 to 2.25 of the guidance on 'Inspecting Particular Areas of Land'.

8.1 Local issues

It is anticipated that the main focus of Council assessments will be with regard to former landfill sites which may have problems such as leachate or methane gas emissions. The Public Protection Section hold details of the locations of many of these sites. However, records are scant with regard to the type of waste used for landfilling. Other anticipated sites include former military establishments, gas works, commercial garages, and light engineering sites. Previously contaminated sites addressed through the Planning process will be reassessed to ensure all receptors have been considered as part of the site redevelopment.

8.2 Criteria for selecting areas and individual sites

As indicated previously, wards will be prioritised according to the presence of receptors as outlined in section 4.1. Sites identified as requiring detailed investigation will be prioritised using a more detailed risk scoring system with emphasis on the protection of human health (See Chapter 6). Pollution of controlled waters will be prioritised in accordance with the *Environment Agency Technical Advice to Third Parties on Pollution of Controlled Waters for Part IIA of the Environmental Protection Act 1990*. Further advice from the Environment Agency Wales will be requested on a site-specific basis.

8.3 Activities

The Pollution Officer of the Housing and Public Protection Department will orchestrate day-to-day activities within the initial programme for inspection. Any policy decisions will be agreed through the Gwynedd Contaminated Land Working Group before being placed before the appropriate committee.

8.4 Timetable

Below is Gwynedd Council's proposed timetable for the implementation of Part IIA of the EPA 1990.

Activity	Year
Consultation on draft Strategy	April/May 2002
Publication of statutory contaminated land Strategy	By 1 st October 2002
Preliminary Assessment of Gwynedd on a ward-by-ward basis	2002 – 2005 (to be kept under review)
Detailed inspection	January 2006 onwards
Urgent sites	As soon as possible after they become known to the Authority

8.4.1 Assess Local Authority Financial Implications

Once potentially contaminated sites have been prioritised for further inspection, an assessment of financial implications facing the Council as an enforcing authority, landowner and polluter will be made.

8.5 Arrangements for carrying out detailed inspection

Gwynedd Council will carry out detailed inspection of sites where it has been found through the preliminary assessment that there is potential for contamination to arise, in order:

- To determine, in accordance with the guidance whether that land appears to be contaminated land; and

- To decide whether any such land falls within the definition of a special site prescribed in the Contaminated Land (Wales) Regulations 2001, and is therefore required to be designated as a special site.

8.5.1 Methods of inspection

The nature of the detailed inspection will vary from site to site, and may include one or all of the three steps indicated below. Insufficient information to determine whether land appears to be contaminated land at any one stage will generally trigger the next phase of inspection:

1. The collation and assessment of documentary information, and other information, from other bodies and organisations relating to the particular site;
2. A visual inspection of the site and, in some cases, limited sampling; or
3. Intrusive investigation of the land involving the sampling and analysis of site soils and/or groundwater.

All investigations undertaken will have regard to authoritative published guidance and codes of practice.

When sufficient information is known that at least one pollutant link (i.e. source, pathway or receptor) is not present, detailed inspection for that site will be terminated. All three parameters are required to be present for a site to be within the definition of contaminated land. Therefore if at least one is not present, the site cannot be dealt with under these regulations.

8.6 Site Specific Liaison

In undertaking detailed site inspection, Gwynedd Council will adopt an interactive approach of liaison and consultation will all relevant persons and agencies concerned.

8.6.1 Consultation with Owners and appropriate persons

It is the intention of Gwynedd Council to liaise with current site owners/occupiers at an early stage of its investigative process. In identifying the current owner/occupier the Authority shall use local knowledge, local contacts and thorough reference to directories and other sources of information.

As part of the initial contact with both owners and occupiers, the Authority will define its role under the regulations; outline the process of assessment and request specific details of the site. In order to maintain consistency, quality and an auditable record of the assessment process, information will be requested using a standard questionnaire.

The owner will also be asked to give agreement for an on-site walkover inspection. However, if necessary, the Authority will exercise its statutory powers of entry to complete any inspections required.

8.6.2 Consultation with the Environment Agency Wales and other statutory bodies

As Gwynedd Council carries out detailed inspection, it is likely to be in regular consultation with the Environment Agency Wales, the Countryside Council for Wales, Cadw and the Welsh Assembly Government's Department of Agriculture and Rural Affairs. These bodies will be consulted on sites for which they have some responsibility (either as a regulator, owner or occupier) or involvement (if they have designated the site as a protected area for instance). Consultation and transparency will ensure the avoidance of unnecessary duplication of investigation or overlaps in regulatory activity.

8.7 Potential Special Sites

Where land is determined to be contaminated land and is also a 'special site' within the meaning of the Contaminated Land (Wales) Regulations 2001, then it is required to be designated as a special site. The Environment Agency Wales is the enforcing authority for special sites. In these circumstances it is prudent for the Agency to be advised at an early stage about such land, which will be formalised by the completion of the Standard Form For Inspection of potential Special Sites by the Authority.

Prior to authorising or carrying out any inspection of land using its statutory powers of entry, Gwynedd Council will consider whether, if the land is found to be contaminated, it would require designation as a special site. If the

Authority is already in possession of information indicating this then it will make arrangements for the Environment Agency Wales to carry out the inspection on their behalf.

Where necessary, Gwynedd Council will authorise a nominated person from the Environment Agency Wales to exercise the powers of entry under section 108 of the Environment Act 1995 and carry out inspections on its behalf. Before being provided with this authorisation, the Environment Agency Wales must satisfy Gwynedd Council that it has met the conditions for use of the statutory powers of entry outlined in paragraphs 2.22 to 2.25 of the Guidance.

8.8 Health and safety procedures

Health and safety is a key issue at all stages of contaminated land site inspection and assessment. Gwynedd Council staff and any contractors and consultants employed by the Authority will be required to maintain strict Health and Safety standards. Before undertaking any field work – either site inspection or intrusive investigations, the potential risks to health and safety will be considered and a risk assessment undertaken to identify the potential hazards and precautions to mitigate those hazards.

Regards shall be given to the guidance contained within:

- HSE, Precaution of Workers and the General Public during the Development of Contaminated Land (1991);
- CIRIA Report 132, A guide for safe working on contaminated sites (1996).

8.9 Appointment of Consultants

The Council will, when deemed necessary, engage external consultants and specialists to assist in the discharge of its statutory duties. This will be subject to normal budgetary restrictions and in accordance with standing orders. When engaging such services, Gwynedd Council will ensure that the nominated parties have appropriate training, experience and expertise commensurate to the service required.

The Council will maintain a list of contractors who are capable of undertaking a quality assured investigation strategy. Invitations to tender will be advertised and a suitable contractor appointed.

9 REVIEW MECHANISMS

Previous chapters have outlined the Strategy itself, the work programme for its implementation and the procedures the Authority will follow to carry it out. Gwynedd Council acknowledges that some of the procedures contained within this Strategy may require reviewing or updating.

This Chapter explains why, when and how Gwynedd Council will review the Strategy and its procedures.

9.1 Triggers for reviewing inspection decisions

In addition to routine review of inspection findings, situations may arise when changes in the condition or circumstances of land or its surrounding environment prompt Gwynedd Council to revisit inspection findings for particular areas of land.

A review of inspection decisions will be triggered when one or more of the following types of circumstances or events occur:

- Proposed changes in the use of surrounding land;
- Unplanned changes in the use of the land (e.g. persistent, unauthorised use of the land by children);
- Unplanned events, e.g. localised flooding, landslides, accidents, fires, spillages where consequences cannot be addressed through other relevant environmental protection legislation;
- Reports of localised health effects which appear to relate to a particular area of land;
- Verifiable reports of unusual or abnormal site conditions received from business, members of the public or voluntary organisations;
- Responding to information from other statutory bodies;
- Responding to information from owners or occupiers of land, and other relevant interested parties.

Gwynedd Council will consider whether such information warrants an immediate review of inspection findings outside the routine review cycle.

9.2 Review of Inspection Strategy

Gwynedd Council considers it appropriate to carry out the first review of the Strategy after one full year's implementation i.e. October 2003. Thereafter, reviews will be undertaken on an annual basis until the routine detailed inspection of Gwynedd is complete.

This is considered to be the most efficient and effective way of not only making sure that the Strategy is up to date and reflects current practices, but also that it is realistic and achievable. An annual review will enable timescales and targets to be revised appropriately.

The review will be undertaken by those implementing the Strategy and in close collaboration with the Gwynedd Contaminated Land Working Group. Discussions will also be held with the Environment Agency Wales which, as part of its statutory duty under Part IIA, has to assess each local authority's strategy and its effectiveness in its report on the state of contaminated land. Any suggested changes to the Strategy will be considered and approved by the Gwynedd Contaminated Land Working Group. Significant alterations will be reported to the appropriate committee for approval.

9.3 Financial Review

In order to provide an up to date indication of the financial implications of the contaminated land inspection strategy, an annual assessment starting in October 2003 will be undertaken.

10 INFORMATION MANAGEMENT

Gwynedd Council already possesses significant information, held in paper systems and in electronic form about land. It continues to receive new information on a regular basis, in a variety of formats, regarding land in its area.

All information with respect to the contaminated land regime under Part IIA of the EPA 1990, will be held and maintained by the Pollution Control Unit of the Authority's Housing and Public Protection Department.

10.1 Storage Systems

The Contaminated Land Geographical Information System (GIS) will enable all digitised data about any one site to be viewed simultaneously. GIS data will be supported by a Contaminated Land database which will be used to log, reference and store site specific information in a standard format. In addition to this a dedicated site-specific paper file will be kept for all data such as reports and correspondence that cannot be stored electronically. Reference to these files will be made in the electronic site records.

10.2 Access to information

The UK Government in 1984 accepted a recommendation of the Royal Commission on Environmental Pollution that there "...should be presumption in favour of unrestricted access for the public to information which the pollution control authorities obtain or receive by virtue of their statutory powers". The activities of the Pollution Control Unit in respect of the contaminated land regime obviously fall within this category and, subject to any legal or confidentiality constraints, information held by the Pollution Control Unit will generally be accessible to the public. The following sub-sections detail this accessibility.

10.3 Public Register

In accordance with Part IIA of the EPA 1990 and the Contaminated Land (Wales) Regulations 2001, Gwynedd Council is required to maintain a Public Register. This is not a register of contaminated land, sites which may be contaminated land nor sites which the Council has investigated as part of detailed inspection.

This publicly accessible register serves as a permanent record of all regulatory action undertaken by the Council to ensure the remediation of Contaminated Land in Gwynedd. It does not serve as a record of the Council's activities under detailed inspection. The Register will also include action taken by the Environment Agency Wales with respect to designated Special Sites within the County.

The Public Register will be maintained by the Pollution Control Unit and will be available for inspection free of charge, during normal office hours at the area Offices located at Caernarfon, Pwllheli and Dolgellau.

A reasonable charge will be levied for copies of entries in the Public Register.

10.4 Environmental Information Regulations 1992

Under these regulation persons can apply to the Pollution Control Unit of Gwynedd Council for information on land. Factual site-specific data will be made available on request to members of the public, those undertaking conveyancing work or other interested parties. However, at the Council's discretion, certain information which may be confidential or may place a substantial and unreasonable burden on resources may be withheld. Interpretive information resulting from detailed inspection – such as the conceptual site model, identification of pollutant linkages, risk assessment findings etc. will not be made publicly available. We will, at all times comply with the legal requirements governing public access to information.

If the request is specific and does not fall within the restrictions contained within the Regulations, the information will be provided. In accordance with the Regulations, the Pollution Control Unit levy a charge for environmental information. The charge, subject to annual review, is intended to cover the reasonable costs of the Authority in collating and supplying the information. The information will be supplied as soon as possible, and normally within 10 working days. The information provided will be supplied with a disclaimer.

10.5 Local Land Charges Search Questionnaires

The questions with regards to Part IIA of the EPA 1990 are included on the standard search questionnaire. The Administrative Section of the Secretary and Solicitor's Department receive current questionnaires during the transfer of ownership of land and property, they then circulate the questions to the appropriate departments. Presently, any additional information with respect to land contamination which is required as part of a property transaction are directed to the Pollution Control Unit under the terms of the Environmental Information Regulations 1992.

10.6 Planning Files

Under the provisions of the Town and Country Planning (General Development Procedure) Act 1990, both Gwynedd Council and the National Park Authority have publicly accessible information contained within application-specific files. These files can be viewed by contacting the Planning Department's reception at the three Gwynedd Area Offices, or the Snowdonia National Park Office at Penrhyndeudraeth, during normal office hours. It is recommended that applicants telephone the relevant office reception prior to their visit, to ensure access to the required file.

10.7 Use by other Authority Departments

The primary route for exchange of information within the Council and the National Park Authority with regard to the contaminated land regime will be via the procedures established through the Gwynedd Contaminated Land Working Group.

In accordance with the Council's objectives and priorities for the Inspection Strategy, pertinent general and site-specific information acquired through the implementation of the Inspection Strategy will be made available to those carrying out other Council duties and activities.

10.8 Provision of information to the Environment Agency Wales

As detailed in previous chapters, site-specific information acquired during the implementation of the Inspection Strategy will be provided to the Environment Agency Wales under the following circumstances:

- when the Council considers the site is likely to be designated as a Special Site;
- when the Council considers there to be an issue with respect to pollution of controlled waters;
- where it is considering intrusive investigation which may have an impact on controlled waters;
- if the Council considers land contamination at the site should be dealt with by the Environment Agency Wales under another regulatory regime;
- when requested by the Environment Agency Wales.

Likewise the Environment Agency Wales will inform Gwynedd Council of any actual, or potential, water pollution which is arising from land within Gwynedd, or any other information which comes into its possession which will assist the Council in meeting its statutory duties under Part IIA of the EPA 1990.

Part IIA requires the Environment Agency Wales to prepare from time to time a report on the state of contaminated land in England and Wales. The Council will act in accordance with the Memorandum of Understanding drawn up between the Environment Agency Wales and the Local Government Association, and its requirements for local authorities to make information available to the Agency so that it may compile this report. The relevant information will be supplied by completing the SOCL/LA standard forms.

In all cases, the primary point of contact with the Environment Agency Wales will be the Area Contaminated Land Officer, Northern Area Region of Wales – see Chapter 11 for contact details.

11 OTHER SUPPORTING INFORMATION

11.1 Council Contacts

The principal contact with respect to Gwynedd Council's Contaminated Land Inspection Strategy is:

The Pollution Officer,
Housing and Public Protection Department,
Gwynedd Council,
Arfon Area Office,
Penrallt,
Caernarfon,
Gwynedd.
LL55 1BN.

Mr Alwyn M. Roberts, Pollution Officer, Tel (01286) 682874
E mail: AlwynMRoberts@gwynedd.gov.uk

Mr Tim J. Hughes, Public Protection Manager, Tel (01758) 704020
E mail: TimothyJHughes@gwynedd.gov.uk

The Contaminated Land Working Group comprises the following members: -

Name	Department/Authority
Emyr S. Jones, Assistant Director of Public Protection	Housing and Public Protection
Timothy J. Hughes, Public Protection Manager (Pollution)	Housing and Public Protection
Alwyn M. Roberts, Pollution Officer	Housing and Public Protection
Jeff Doherty, Senior Engineer	Highways and Engineering
Barry Davies, Maritime Officer	Education, Culture and Leisure
John Gwynedd Roberts, Solicitor	Secretary and Solicitor
Aled Davies, Policy Manager	Planning and Economic Development
Haydn Williams, Building Regulation Manager	Planning and Economic Development
Will Roberts, Principal Estates Officer	Secretary and Solicitor
Ieuan Lewis, Director of Corporate Policy	Chief Executive
Caren Rees Jones, Chief Accountant	Treasurers
Robert Goodman, G. I. S. Programmer	Treasurers
External partners Nichola Taylor,	

Tactical Planning Officer	Environment Agency Wales
Gareth Lloyd, Planning Officer	Snowdonia National Park

11.2 Statutory Consultees

Organisation	Contact Name	Telephone	Responsibilities
Environment Agency (Wales)	Steve Parkinson & Nichola Taylor	(01248) 670770 Ext. 4113	Tactical Planning Officers
Countryside Council for Wales	Dylan Williams	(01248) 385487	Soil Scientist/Policy Advisor
Cadw	S. Barattini	(02920) 823804	Ancient Monuments Administration
Welsh Development Agency	Jeff Porter	(01745) 586239	Land Reclamation & Environment Manager
Health and Safety Executive		(01978) 290500	
Welsh Assembly Government	Robert Templar		
Welsh Assembly Government - Agriculture Department	Noel Jones	(01286) 674144	Higher Executive Officer
DEFRA	Dafydd Pugh	(01286) 674144	Vetinary Officer
Food Standards Agency	Dr Sarah J. Rowes		CCAF Division
Snowdonia National Park	Gareth Lloyd	(01766) 770274	Planning Officer
Isle of Anglesey County Council Conwy County Borough Council Denbighshire Council Powys Council Ceredigion County Council	Caroline Storer Charles Phillips Graham Aveyard Martin Gregory Dewi Roberts	(01248) 750057 (01492) 575203 (01824) 706088 (01874) 612250 (01545) 570881	Neighbouring local authorities' Contaminated Land Lead Officers

11.3 Other Consultees

Organisation	Contact Name	Telephone	Responsibilities
NFU	Dafydd Jarret	(01824) 702455	Policy Officer
FUW	Gwynedd Watkin	(01286) 672541	County Executive Officer
Minsitry of Defence	Bob Berry	(01743) 262528	Estates Advisor
University of Wales Bangor	Prof. John Farrar	(01248) 382000	Institute of Environmental Science
North Wales Health Authority	Dr. R. Roberts	(01352) 700227	Public Health Consultant
Gwynedd Local Health Group	Grace L. Parry	(01352) 700227	General Manager
Friends of the Earth	Neil Crumpton		Area Representative
Federation of Small Businesses	Neil Taylor	(01745) 356393	Regional Organiser
Community and Town Councils	Secretary & Solicitors Department		
Gwynedd Archaeological Trust	Dave Thompson	(01248) 352535	
Forest Enterprise Wales	Terry O'Keefe	(01341) 422289	Forest District Manager

REFERENCES

- British Standards Institution (2001). *BS 10175: Investigation of potentially contaminated sites – Code of Practice*, London. BSI.
- Department of the Environment (DoE) (1995). *CLR Report No. 6 Prioritisation and Categorisation Procedure for Sites Which May Be Contaminated*, London. DoE.
- Department of the Environment Transport and the Regions (DETR) (2000). *Contaminated Land Inspection Strategies, Technical Advice for Local Authorities*, London. DETR.
- Environment Agency (2001). *Local Authority Guide to the Application of Part IIA Of the Environmental Protection Act 1990*. Environment Agency R&D Contract REG/CON-79 Working Draft 01.
- Hellawell, T. (2000). *Blackstones Guide to Contaminated Land*, London. Blackstones.
- HMSO, (1990). *The Environmental Protection Act 1990*, London. The Stationary Office.
- HMSO. (1995). *The Environment Act 1995*, London. The Stationary Office.
- Howarth, G. (2002). *Metal Mines Strategy for Wales – Draft for External Consultation*. Environment Agency Wales.
- Interdepartmental Committee on the Redevelopment of Contaminated Land (1987). *ICRCL Guidance Note 59/83 - Second Edition: July 1987 - Guidance on the assessment and redevelopment of contaminated land*, London. The Stationary Office.
- National Assembly for Wales (2001). *The Contaminated Land (Wales) Regulations 2001*. Welsh Statutory Instrument No 2197 (W.157), London. The Stationary Office.
- National Assembly for Wales (2001). *Remediation of Contaminated Land*, Cardiff, NAW.
- Roberts, A. M. (2000). *An Assessment of the Risk of Landfill Gas Migration from Closed Disposal Sites in Gwynedd, With Reference to Part IIA of the Environmental Protection Act 1990*. MSc in Environmental Protection dissertation. The University of Salford.
- Scotland and Northern Ireland Forum for Environmental Research (1999). *Communicating Understanding of Contaminated Land Risks*. SNIFFER Project No SR97(11)F.

APPENDIX I TABLE A – CATEGORIES OF SIGNIFICANT HARM

	Type of Receptor	Description of harm to that type of receptor that is to be regarded as significant harm
1	Human beings	<p>Death, disease, serious injury, genetic mutation, birth defects or the impairment of reproductive functions.</p> <p>For these purposes, disease is to be taken to mean an unhealthy condition of the body or a part of it and can include, for example, cancer, liver dysfunction or extensive skin ailments. Mental dysfunction is included only insofar as it is attributable to the effects of a pollutant on the body of the person concerned.</p> <p>In this Chapter, this description of significant harm is referred to as a “human health effect”.</p>
2	<p>Any ecological system, or living organism forming part of such a system, within a location which is:</p> <ul style="list-style-type: none"> • an area notified as an area of special scientific interest under section 28 of the Wildlife and Countryside Act 1981; • any land declared a national nature reserve under section 35 of that Act; • any area designated as a marine nature reserve under section 36 of that Act; • an Area of Special Protection for Birds, established under section 3 of that Act; • any European Site within the meaning of regulation 10 of the Conservation (Natural Habitats etc) Regulations 1994 (ie Special Areas of Conservation and Special Protection Areas); • any candidate Special Area of Conservation, potential Special Protection Area or listed Ramsar site; or • any nature reserve established under section 21 of the National Parks and Access to the Countryside Act 1949. 	<p>For any protected location:</p> <ul style="list-style-type: none"> • harm which results in an irreversible adverse change, or in some other substantial adverse change, in the functioning of the ecological system within any substantial part of that location; or • harm which affects any species of special interest within that location and which endangers the long-term maintenance of the population of that species at that location. <p>In addition, in the case of a protected location which is a European Site (or a candidate Special Area of Conservation or a potential Special Protection Area), harm which is incompatible with the favoured conservation status of natural habitats at that location or species typically found there.</p> <p>In determining what constitutes such harm, the local authority should have regard to the advice of the Countryside Council for Wales and to the requirements of the Conservation (Natural Habitats etc) Regulations 1994.</p> <p>In this Chapter, this description of significant harm is referred to as an “ecological system effect”.</p>
3	<p>Property in the form of:</p> <ul style="list-style-type: none"> • crops, including timber; • produce grown domestically, or on allotments, for consumption; • livestock; • other owned or domesticated animals; • wild animals which are the subject of shooting or fishing rights. 	<p>For crops, a substantial diminution in yield or other substantial loss in their value resulting from death, disease or other physical damage. For domestic pets, death, serious disease or serious physical damage. For other property in this category, a substantial loss in its value resulting from death, disease or other serious physical damage.</p> <p>The local authority should regard a substantial loss in value as occurring only when a substantial proportion of the animals or crops are dead or otherwise no longer fit for their intended purpose. Food should be regarded as being no longer fit for purpose when it fails to comply with the provisions of the Food Safety Act 1990. Where a diminution in yield or loss in value is caused by a pollutant linkage, a 20% diminution or loss should be regarded as a benchmark for what constitutes a substantial diminution or loss.</p> <p>In this Chapter, this description of significant harm is referred to as an “animal or crop effect”.</p>
4	<p>Property in the form of buildings.</p> <p>For this purpose, “building” means any structure or erection, and any part of a building including any part below ground level, but does not include plant or machinery comprised in a building.</p>	<p>Structural failure, substantial damage or substantial interference with any right of occupation.</p> <p>For this purpose, the local authority should regard substantial damage or substantial interference as occurring when any part of the building ceases to be capable of being used for the purpose for which it is or was intended.</p> <p>Additionally, in the case of a scheduled Ancient Monument, substantial damage should be regarded as occurring when the damage significantly impairs the historic, architectural, traditional, artistic or archaeological interest by reason of which the monument was scheduled.</p> <p>In this Chapter, this description of significant harm is referred to as a “building effect”.</p>

APPENDIX II TABLE B - SIGNIFICANT POSSIBILITY OF SIGNIFICANT HARM

	Descriptions Of Significant Harm (As Defined In Table A)	Conditions For There Being A Significant Possibility Of Significant Harm
1	<p>Human health effects arising from</p> <ul style="list-style-type: none"> • the intake of a contaminant, or • other direct bodily contact with a contaminant. 	<p>If the amount of the pollutant in the pollutant linkage in question:</p> <ul style="list-style-type: none"> • which a human receptor in that linkage might take in, or • to which such a human might otherwise be exposed, <p>as a result of the pathway in that linkage, would represent an unacceptable intake or direct bodily contact, assessed on the basis of relevant information on the toxicological properties of that pollutant.</p> <p>Such an assessment should take into account:</p> <ul style="list-style-type: none"> • the likely total intake of, or exposure to, the substance or substances which form the pollutant, from all sources including that from the pollutant linkage in question; • the relative contribution of the pollutant linkage in question to the likely aggregate intake of, or exposure to, the relevant substance or substances; and • the duration of intake or exposure resulting from the pollutant linkage in question. <p>The question whether an intake or exposure is unacceptable is independent of the number of people who might experience or be affected by that intake or exposure.</p> <p>Toxicological properties should be taken to include carcinogenic, mutagenic, teratogenic, pathogenic, endocrine-disrupting and other similar properties.</p>
2	<p>All other human health effects (particularly by way of explosion or fire).</p>	<p>If the probability, or frequency, of occurrence of significant harm of that description is unacceptable, assessed on the basis of relevant information concerning:</p> <ul style="list-style-type: none"> • that type of pollutant linkage, or • that type of significant harm arising from other causes. <p>In making such an assessment, the local authority should take into account the levels of risk which have been judged unacceptable in other similar contexts and should give particular weight to cases where the pollutant linkage might cause significant harm which:</p> <ul style="list-style-type: none"> • would be irreversible or incapable of being treated; • would affect a substantial number of people; • would result from a single incident such as a fire or an explosion; or • would be likely to result from a short-term (that is, less than 24-hour) exposure to the pollutant.
3	<p>All ecological system effects.</p>	<p>If either:</p> <ul style="list-style-type: none"> • significant harm of that description is more likely than not to result from the pollutant linkage in question; or • there is a reasonable possibility of significant harm of that description being caused, and if that harm were to occur, it would result in such a degree of damage to features of special interest at the location in question that they would be beyond any practicable possibility of restoration. <p>Any assessment made for these purposes should take into account relevant information for that type of pollutant linkage, particularly in relation to the ecotoxicological effects of the pollutant.</p>
4	<p>All animal and crop effects.</p>	<p>If significant harm of that description is more likely than not to result from the pollutant linkage in question, taking into account relevant information for that type of pollutant linkage, particularly in relation to the ecotoxicological effects of the pollutant.</p>
5	<p>All building effects</p>	<p>If significant harm of that description is more likely than not to result from the pollutant linkage in question during the expected economic life of the building (or, in the case of a scheduled Ancient Monument, the foreseeable future), taking into account relevant information for that type of pollutant linkage.</p>

APPENDIX III POTENTIAL OF SITES TO CAUSE CONTAMINATION

Category	Sub-categories to include	Class	Score
Animal & animal products processing works	abattoirs animal rendering glue works tanneries fellmongers	High	25
Asbestos Manufacture		High	25
Chemical Works	chemicals manufacture pharmaceuticals plastics explosives (not MoD) fertilisers pesticides cosmetics coatings soap works	High	25
Gas Works, Coke Works & Coal Carbonisation Works	charcoal manufacture gas lighting works gas purification gas holders (storage) gas distribution	High	25
Metal Works	metal manufacturing refining finishing smelting blacksmiths	High	25
Oil Refineries	processing of tar/bitumen manufacture of asphalt road coating manufacture	High	25
Petrol Filling Stations & Bulk Storage of Oil/Petrol Products	oil distribution depots	High	25
Waste Management Sites	landfill sites transfer stations scrapyards waste processing waste treatment recycling & recovery household waste sites incinerators	High	25
Engineering Works	mechanical engineering vehicle manufacture shipbuilding manufacturing processing	Medium/High	20

--	--	--	--

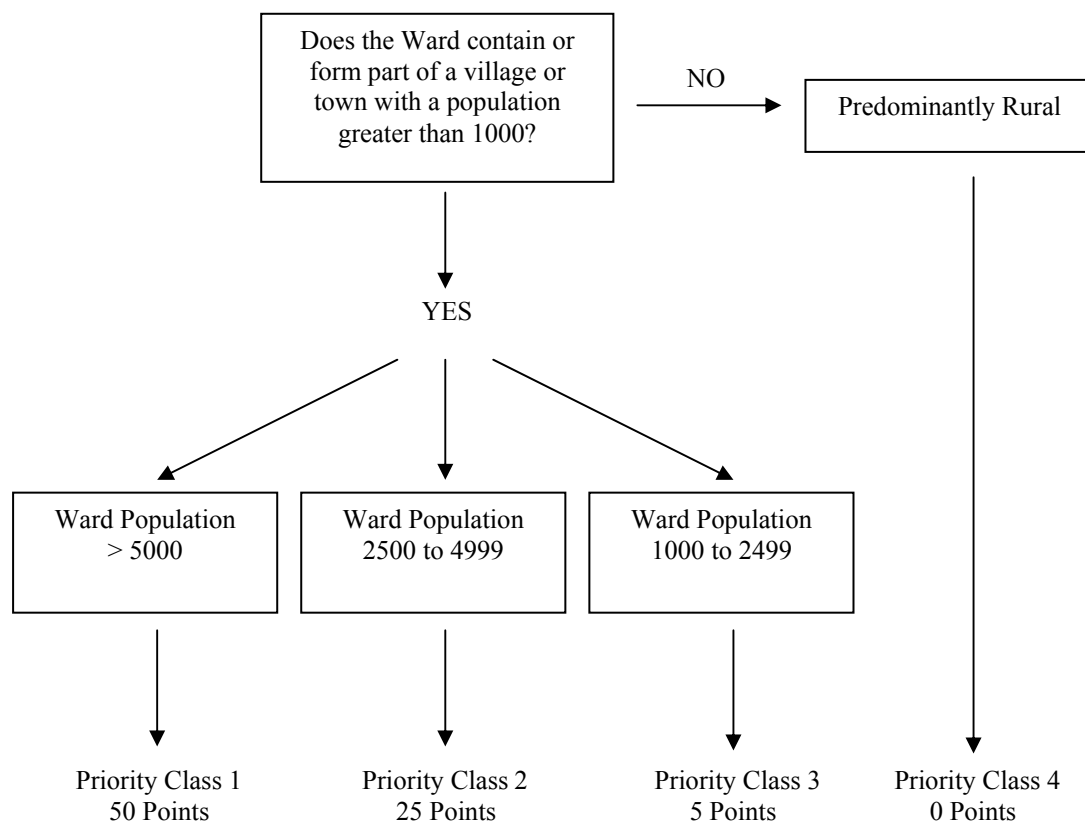
Category	Sub-categories to include	Class	Score
Railway Land sidings	depots stations railway lines goods yards maintenance	Medium/High	20
Timber Works	treatment works timber yards products manufacturing	Medium/High	20
Extraction Industries & quarries	slate mining (deep/open cast) collieries mineshafes cement works brick works gravel pits	Medium	15
Airport/airfields		Medium	15
Other (miscellaneous)	glass manufacture laundries dry-cleaning	Medium	15
Power Stations	electricity sub-stations	Medium	15
Pulp and Paper Works	manufacturing printing processing	Medium	15
Road Vehicle Maintenance	garages transport & haulage depots dismantling repair and service	Medium	15
Textile Industry	textile works mills dyeworks carpet mills rope works	Medium	15
Works (non-specified)		Medium	15
Hospitals & Cemeteries	crematoria burial grounds clinics	Low/Medium	10
Sewage Treatment	treatment works sewage farms incinerators other wastewater / effluent treatment	Low/Medium	10
Agricultural Land	Farms	Low	5
Food industry	food manufacture processing breweries bakeries	Low	5

APPENDIX IV POTENTIALLY SENSITIVE RECEPTORS

Category	Sub-categories to include	Score
HUMANS (Based on land use)	Residential properties with gardens [occupiers] Residential properties without gardens (flats, apartments)[occupiers] Allotments [users, consumers] Schools [pupils, teachers, workers, visitors] Children's play areas [children] Playing fields & sports grounds [users] Other educational establishments [students, workers, visitors] Parks & Open Spaces [users] Commercial premises [workers, visitors] Vacant Land [trespassers] Health Centres & Hospitals [patients, workers, visitors]	10
CONTROLLED WATERS	Surface Waters Drinking Water Abstractions Source Protection Zones Groundwater – Major Aquifers Groundwater – Private Abstractions All other Groundwater	4
ECOLOGICAL (Flora & Fauna)	SSSIs National nature reserves Marine nature reserves Areas of special protection for birds European sites (SACs, SPAs, candidate SACs and SPAs) Ramsar Sites Nature reserves	3
PROPERTY	Agricultural land Woodland (including Ancient Woodland) Trees with TPOs Crops Fishing ponds Fish farms Farm animals / grazing animals Game (estates) Kennels & catteries	2
PROPERTY	Scheduled & Ancient Monuments Listed Buildings Buildings	1

APPENDIX V

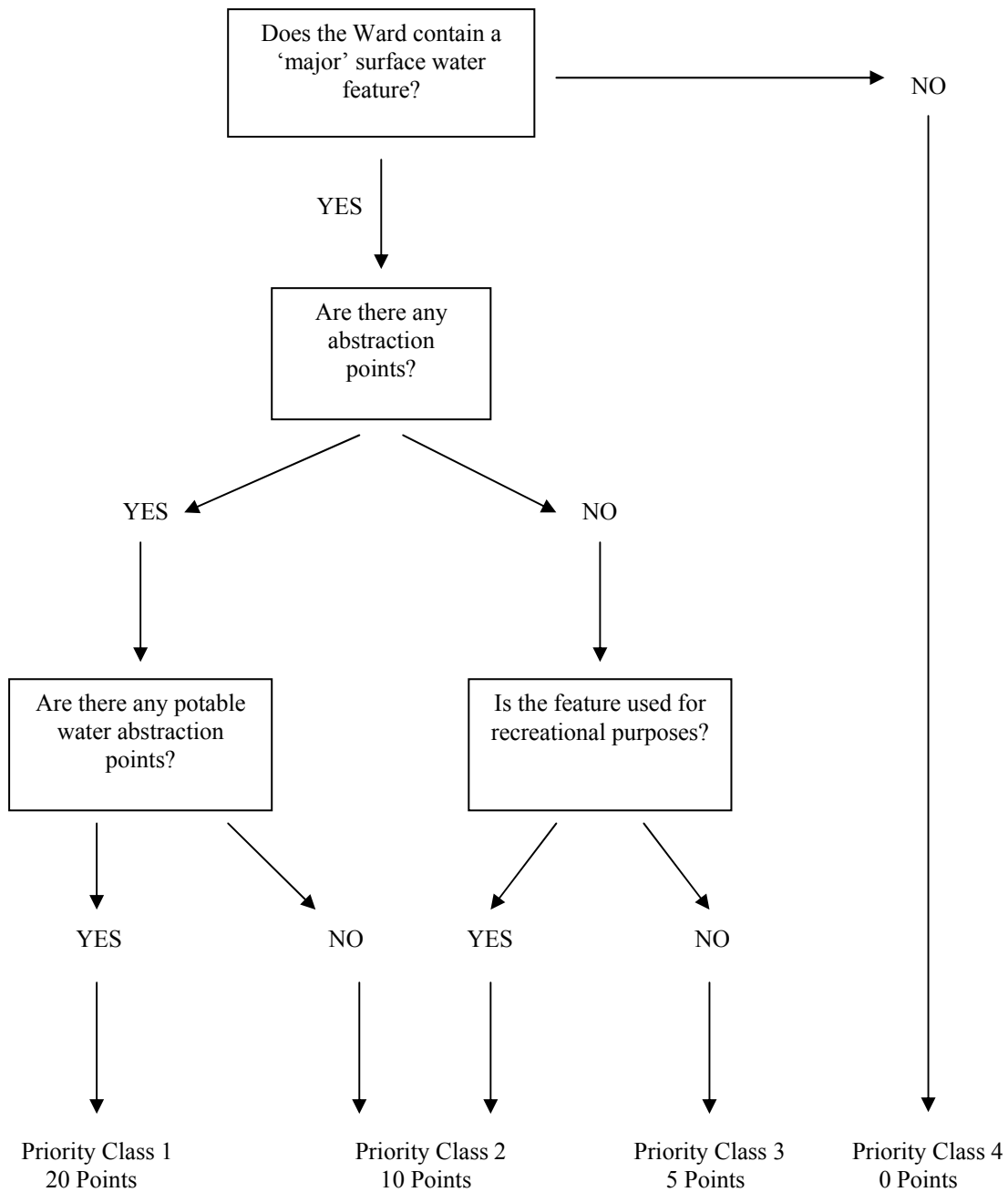
**PRIORITISATION OF ELECTORAL WARDS
HUMAN BEINGS**



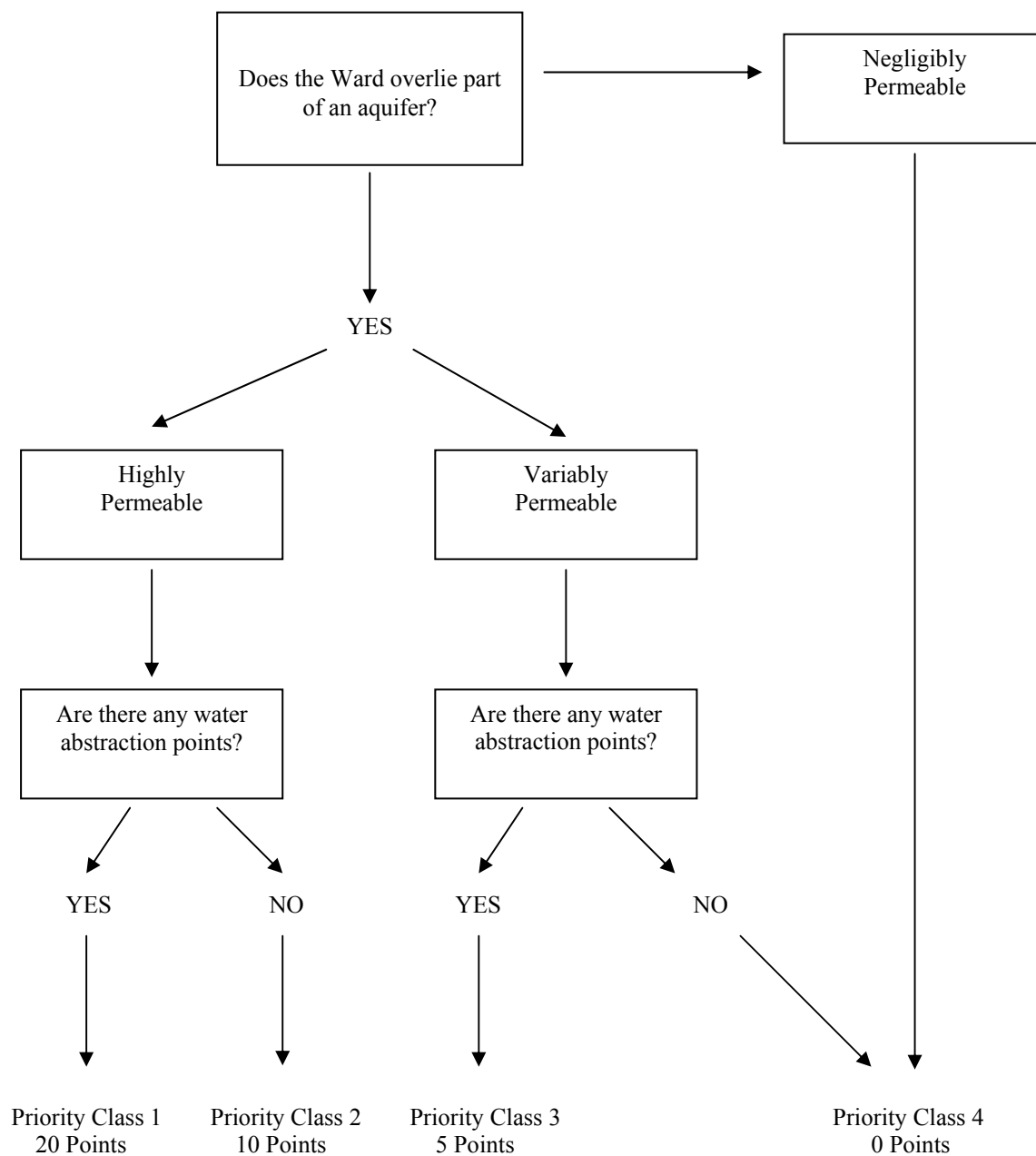
**PRIORITISATION OF ELECTORAL WARDS
ECOLOGICAL SYSTEMS**

Presence of an ecological site within the Ward	=	10 Points
No ecological site in the Ward	=	0 Points

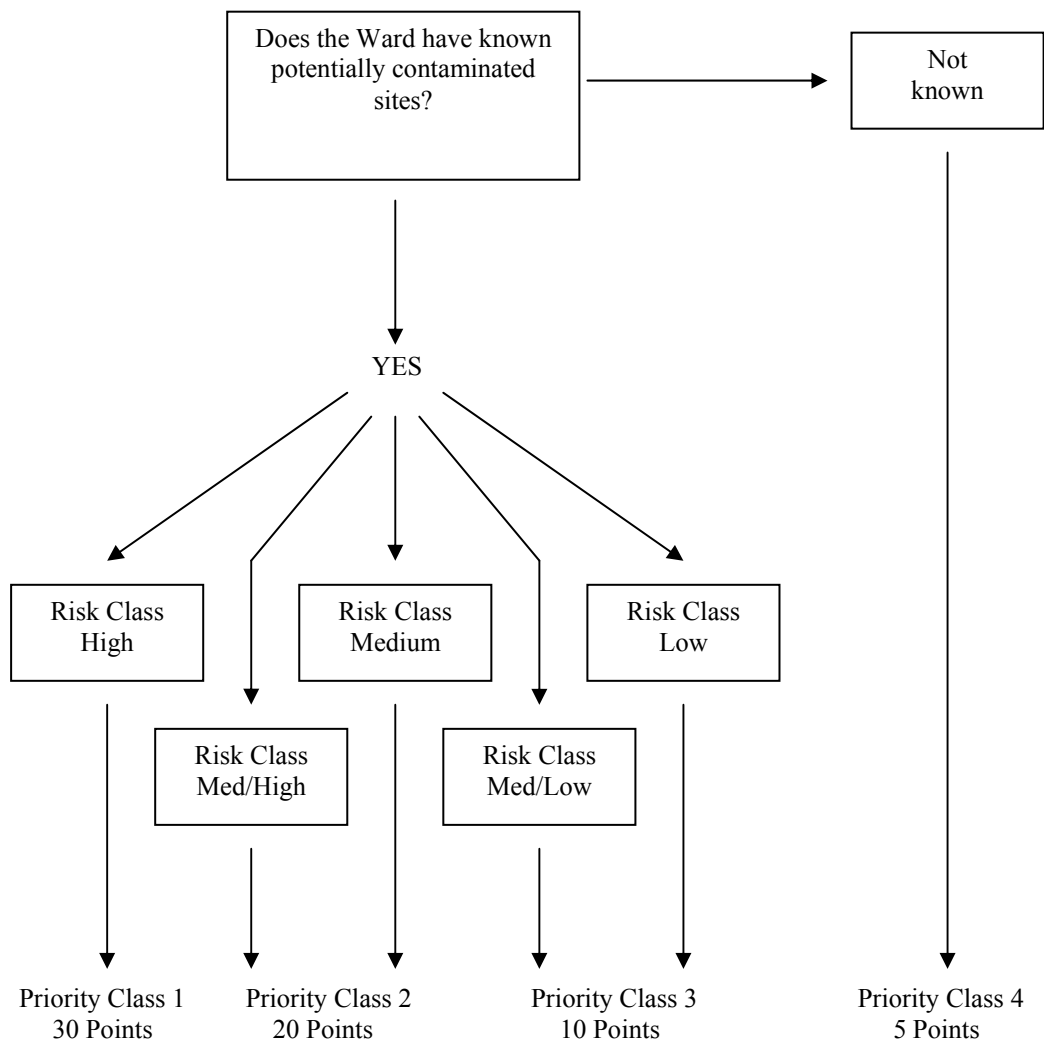
PRIORITISATION OF ELECTORAL WARDS SURFACE WATERS



PRIORITISATION OF ELECTORAL WARDS GROUNDWATER



PRIORITISATION OF ELECTORAL WARDS POTENTIALLY CONTAMINATED SITES



APPENDIX VI WORK SCHEDULE

APPENDIX VI GLOSSARY

Contaminant

A substance which is in, on or under the land and which has the potential to cause harm or to cause pollution of controlled waters.

Contaminated Land

Any land which appears to the local authority in whose area it is situated to be in such a condition, by reason of substances in, on or under the land, that:

- (a) significant harm is being caused or there is a significant possibility of such harm being caused, or;
- (b) pollution of controlled waters is being, or is likely to be, caused.

Controlled waters

Defined by reference to Part III (section 104) of the Water Resources Act 1991; this embraces territorial and coastal waters, inland fresh waters, and groundwaters.

Current use

Any use which is currently being made, or is likely to be made, of the land and which is consistent with any existing planning permission (or is otherwise lawful under town and country planning legislation). This definition is subject to the following qualifications:

- (c) the current use should be taken to include any temporary use, permitted under town and country planning legislation, to which the land is, or is likely to be, put from time to time;
- (d) the current use includes future uses or developments which do not require a new, or amended, grant of planning permission;
- (e) the current use should, nevertheless, be taken to include any likely informal recreational use of the land, whether authorised by the owners or occupiers or not, (for example, children playing on the land); however, in assessing the likelihood of any such informal use, the local authority should give due attention to measures taken to prevent or restrict access to the land; and
- (f) in the case of agricultural land, however, the current agricultural use should not be taken to extend beyond the growing or rearing of the crops or animals which are habitually grown or reared on the land.

Ecological system effect

Significant harm of a type listed in Table A (Appendix I).

Harm

Harm to the health of living organisms or other interference with the ecological systems of which they form part and, in the case of man, includes harm to his property.

Pathway

One or more routes or means by, or through, which a receptor:

- (a) is being exposed to, or affected by, a contaminant, or
- (b) could be so exposed or affected.

Pollutant

A contaminant which forms part of a pollutant linkage.

Pollutant linkage

The relationship between a contaminant, a pathway and a receptor.

Pollution of controlled waters

The entry into controlled waters of any poisonous, noxious or polluting matter or any solid waste matter.

Possibility of significant harm

A measure of the probability, or frequency, of the occurrence of circumstances which would lead to significant harm being caused.

Receptor

Either:

- (a) a living organism, a group of living organisms, an ecological system or a piece of property which:
 - (i) is in a category listed in Table A (See Appendix I) as a type of receptor, and
 - (ii) is being, or could be, harmed, by a contaminant; or
- (b) controlled waters which are being, or could be, polluted by a contaminant.

Risk

The combination of:

- (a) the probability, or frequency, of occurrence of a defined hazard (for example, exposure to a property of a substance with the potential to cause harm); and
- (b) the magnitude (including the seriousness) of the consequences.

Significant harm

Means any harm which is determined to be significant in accordance with Chapter 1 of the Statutory Guidance (that is, it meets one of the descriptions of types of harm in the second column of Table A - see Appendix I).

Significant pollutant linkage

A pollutant linkage, which forms the basis for a determination that a piece of land is Contaminated Land.

Significant possibility of significant harm

A possibility of significant harm being caused which is determined to be significant in accordance with Chapter 1 of the Statutory Guidance (Table B in Appendix II)

Special Site

A site defined as such in the Contaminated Land (Wales) Regulations 2001. These are sites which meet the definition of 'contaminated land' and fall within one of the descriptions given in the Regulations, which include:

- certain water pollution cases
- industrial cases
 - waste acid tar lagoons
 - oil refining
 - explosives

- certain IPC sites
- nuclear sites
- Land owned by the Ministry of Defence.

Substance

Any natural or artificial substance, whether in solid or liquid form or in the form of a gas or vapour.

Sustainable Development

A wide reaching concept of environmental policy with numerous definitions. The most commonly supported definition is 'development that meets the needs of the present without compromising the ability of future generations to meet their own needs'.